

ATTACHMENT 3-1 NYSDOT Short Count Data

New York State Department of Transportation

Traffic Count Hourly Report

ROUTE #: **NY 378** ROAD NAME: **MENANDS RD** FROM: **ACC RT 787I** TO: **ALBANY COUNTY LINE / RENSSSEL COUNTY:** **Albany**
 DIRECTION: Eastbound FACTOR GROUP: 30 REC. SERIAL #: 1517 FUNC. CLASS: 12 TOWN:
 STATE DIR CODE: 1 WK OF YR: 42 PLACEMENT: NB to EB Ramp NHS: no LION#: 1092371
 DATE OF COUNT: 10/19/2022 @ REF MARKER: JURIS: City BIN:
 NOTES LANE 1: ADDL DATA: Class Speed CC Stn: RR CROSSING:
 NOTES LANE 2: COUNT TYPE: VEHICLES BATCH ID: DOT-Output HPMS SAMPLE:
 COUNT TAKEN BY: ORG CODE: DOT INITIALS: ALH PROCESSED BY: ORG CODE: DOT INITIALS: ALH

DATE	DAY	12 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	DAILY TOTAL	DAILY HIGH COUNT	DAILY HIGH HOUR
		AM												PM														
1	S																											
2	S																											
3	M																											
4	T																											
5	W																											
6	T																											
7	F																											
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10	M																											
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12	W																											
13	T																											
14	F																											
15	S																											
16	S																											
17	M																											
18	T																											
19	W																											
20	T	119	83	45	53	76	151	447	1499	1339	1167	934	975	1006	1050	1119	1618	1796	1634	1070	847	614	497	321	249	18709	1796	16
21	F	121	86	63	48	85	159	508	1375	1192	978	871	962	1051	1037	1147	1533	1606	1488	1003	785	610	518	441	340	18007	1606	16
22	S	198	125	102	62	73	198	205	476	968	624	703	910	889	926	915	913	955	908	842	685	575	497	422	327	13498	968	8
23	S	185	165	103	65	56	44	192	440	847	430	578	704	812	840	815	754	817	724	677	571	439	302	244	189	10993	847	8
24	M	95	52	51	44	51	158	463	1360	1289	1083	897	923	975	800	1020	1448	1615	1510	924	689	505	383	285	197	16817	1615	16
25	T	114	66	30	50	63	175	445	1357	1304	1156	888	950	986	980	1094	1449	1859	1696	1108	772	541	428	318	224	18053	1859	16
26	W	125	60	40	46	57	174	453	1410	1363	1189	931	970	974	1006	1104	1504	1919	1650	1150	759	590	467	333	222	18496	1919	16
27	T	114	71	46	47	76	152	429	1451	1377	1081	940																
28	F																											
29	S																											
30	S																											
31	M																											

AVERAGE WEEKDAY HOURS (Axle Factored, Mon 6AM to Fri Noon)																				ADT				
119	73	45	49	71	162	458	1409	1311	1109	910	956	985	962	1073	1502	1804	1636	1059	757	570	442	316	224	18002
<u>DAYS Counted</u>	<u>HOURS Counted</u>	<u>WEEKDAYS Counted</u>	<u>WEEKDAY Hours</u>	<u>AVERAGE WEEKDAY</u>		<u>Axle Adj. Factor</u>	<u>Seasonal/Weekday Adjustment Factor</u>	<u>ESTIMATED</u>																
				High Hour	% of day																			
8	190	5	124	1804		10%	1.000	1.079	AADT 16684															

New York State Department of Transportation

Traffic Count Hourly Report

ROUTE #: **NY 378** ROAD NAME: **MENANDS RD** FROM: **ACC RT 787I** TO: **ALBANY COUNTY LINE / RENSSSEL COUNTY:** **Albany**
 DIRECTION: Westbound FACTOR GROUP: 30 REC. SERIAL #: QM36 FUNC. CLASS: 12 TOWN:
 STATE DIR CODE: 2 WK OF YR: 42 PLACEMENT: WB 378 to NB NHS: no LION#:
 DATE OF COUNT: 10/19/2022 @ REF MARKER: JURIS: City BIN: 1092371
 NOTES LANE 1: ADDL DATA: Class Speed CC Stn: RR CROSSING:
 NOTES LANE 2: COUNT TYPE: VEHICLES BATCH ID: DOT-Output HPMS SAMPLE:
 COUNT TAKEN BY: ORG CODE: DOT INITIALS: ALH PROCESSED BY: ORG CODE: DOT INITIALS: ALH

		12 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	DAILY TOTAL	DAILY HIGH COUNT	DAILY HIGH HOUR
DATE	DAY	AM												PM														
1	S																											
2	S																											
3	M																											
4	T																											
5	W																											
6	T																											
7	F																											
8	S																											
9	S																											
10	M																											
11	T																											
12	W																											
13	T																											
14	F																											
15	S																											
16	S																											
17	M																											
18	T																											
19	W														1153	1358	1404	1321	1183	966	677	566	418	259	175			
20	T	91	72	35	56	131	340	948	1514	1376	1092	917	1007	1162	1203	1312	1442	1400	1199	1066	738	537	375	295	194	18502	1514	7
21	F	118	70	54	53	131	358	861	1398	1352	1032	1005	1130	1233	1158	1270	1255	1246	1244	990	651	543	440	375	295	18262	1398	7
22	S	163	85	76	73	84	141	292	479	639	801	870	1141	1263	1028	1020	956	879	826	820	659	550	466	386	263	13960	1263	12
23	S	183	129	70	45	66	85	169	291	430	630	722	963	1024	1006	997	883	717	621	519	477	329	249	178	175	10958	1024	12
24	M	81	53	47	49	109	319	931	1436	1444	945	878	940	1143	1185	1439	1202	1211	1026	874	576	491	385	204	157	17125	1444	8
25	T	83	54	45	56	132	314	981	1491	1400	1022	946	958	1108	1204	1314	1398	1174	1141	923	716	549	549	252	165	17975	1491	7
26	W	103	56	40	44	137	366	960	1535	1424	1008	952	1107	1170	1228	1324	1350	1351	1128	962	768	526	463	241	209	18452	1535	7
27	T	105	67	48	58	142	323	949	1521	1411	1044	967																
28	F																											
29	S																											
30	S																											
31	M																											

AVERAGE WEEKDAY HOURS (Axle Factored, Mon 6AM to Fri Noon)																								ADT
100	64	44	53	135	340	938	1482	1401	1024	944	1028	1146	1195	1349	1359	1291	1135	958	695	534	438	250	180	18083
DAYS Counted	HOURS Counted	WEEKDAYS Counted	WEEKDAY Hours	AVERAGE WEEKDAY		Axle Adj. Factor	Seasonal/Weekday Adjustment Factor	ESTIMATED																AADT
8	190	5	124	1482	8%	1.000	1.079	16759																

ROUTE # **NY 378** ROAD NAME: **MENANDS RD** FROM: **ACC RT 787I** TO: **ALBANY COUNTY LINE / RENSSSEL COUNTY:** **Albany**
 STATION: **110129** STATE DIR CODE: **2** PLACEMENT: **WB 378 to NB** DATE OF COUNT: **10/19/2022**

HOURLY VOLUMES

[illegible][illegible][illegible][illegible]

HOURLY VOLUMES

[illegible][illegible][illegible][illegible]

PEAK HOUR FACTORS

[illegible][illegible][illegible][illegible]

HOURLY VOLUMES

[illegible][illegible][illegible][illegible]

PEAK HOUR FACTORS

[illegible][illegible][illegible][illegible]

HOURLY VOLUMES

[illegible][illegible][illegible][illegible]

NYSDOT Short Count: 14_0016 South 2016

HOURLY VOLUMES

Day	Date	Direction	12:00 AM	1:00 AM	2:00 AM	3:00 AM	4:00 AM	5:00 AM	6:00 AM	7:00 AM	8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	7:00 PM	8:00 PM	9:00 PM	10:00 PM	11:00 PM
Wednesday	6/22/2016	South	71	33	28	22	22	87	339	695	633	530	554	569	719	733	697	834	939	911	681	463	449	479	243	135
Tuesday	6/21/2016	South	0	0	0	0	0	0	0	0	0	0	0	0	0	634	688	869	936	859	613	486	403	306	186	98
Friday	6/24/2016	South	73	28	26	16	33	79	306	566	599	526	534	0	0	0	0	0	0	0	0	0	0	0	0	0
Thursday	6/23/2016	South	67	29	14	15	27	87	327	603	603	558	532	627	775	680	672	856	1005	956	738	586	459	362	361	144

Day	Date	Direction	12:15 AM	1:15 AM	2:15 AM	3:15 AM	4:15 AM	5:15 AM	6:15 AM	7:15 AM	8:15 AM	9:15 AM	10:15 AM	11:15 AM	12:15 PM	1:15 PM	2:15 PM	3:15 PM	4:15 PM	5:15 PM	6:15 PM	7:15 PM	8:15 PM	9:15 PM	10:15 PM	11:15 PM
Wednesday	6/22/2016	South	63	26	29	18	36	109	427	735	613	526	541	617	716	711	733	871	942	887	613	438	467	453	171	103
Tuesday	6/21/2016	South	0	0	0	0	0	0	0	0	0	0	0	0	183	611	733	922	891	822	555	473	388	271	158	71
Friday	6/24/2016	South	50	33	21	19	34	95	366	612	617	526	386	0	0	0	0	0	0	0	0	0	0	0	0	0
Thursday	6/23/2016	South	60	21	16	14	30	122	405	650	596	527	568	656	749	669	693	909	1006	946	661	568	434	344	321	100

Day	Date	Direction	12:30 AM	1:30 AM	2:30 AM	3:30 AM	4:30 AM	5:30 AM	6:30 AM	7:30 AM	8:30 AM	9:30 AM	10:30 AM	11:30 AM	12:30 PM	1:30 PM	2:30 PM	3:30 PM	4:30 PM	5:30 PM	6:30 PM	7:30 PM	8:30 PM	9:30 PM	10:30 PM	11:30 PM
Wednesday	6/22/2016	South	47	32	28	12	46	150	555	710	577	548	523	670	717	703	766	906	984	776	571	413	493	374	163	62
Tuesday	6/21/2016	South	0	0	0	0	0	0	0	0	0	0	0	0	338	607	772	946	912	745	523	462	361	230	135	47
Friday	6/24/2016	South	41	32	19	18	40	131	450	657	567	526	262	0	0	0	0	0	0	0	0	0	0	0	0	0
Thursday	6/23/2016	South	44	18	17	11	47	157	502	656	584	507	600	679	729	663	772	954	985	870	620	551	401	325	290	61

Day	Date	Direction	12:45 AM	1:45 AM	2:45 AM	3:45 AM	4:45 AM	5:45 AM	6:45 AM	7:45 AM	8:45 AM	9:45 AM	10:45 AM	11:45 AM	12:45 PM	1:45 PM	2:45 PM	3:45 PM	4:45 PM	5:45 PM	6:45 PM	7:45 PM	8:45 PM	9:45 PM	10:45 PM	11:45 PM
Wednesday	6/22/2016	South	43	26	26	15	60	212	673	667	548	567	518	700	725	717	794	902	981	725	505	431	501	291	167	17
Tuesday	6/21/2016	South	0	0	0	0	0	0	0	0	0	0	0	0	475	654	844	917	918	644	510	433	355	188	130	10
Friday	6/24/2016	South	38	30	13	22	55	189	527	661	532	532	130	0	0	0	0	0	0	0	0	0	0	0	0	0
Thursday	6/23/2016	South	36	14	17	17	61	217	571	642	564	516	616	736	709	649	830	967	990	791	608	509	370	362	215	21

PEAK HOUR FACTORS

Day	Date	Direction	12:00 AM	1:00 AM	2:00 AM	3:00 AM	4:00 AM	5:00 AM	6:00 AM	7:00 AM	8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	7:00 PM	8:00 PM	9:00 PM	10:00 PM	11:00 PM
Wednesday	6/22/2016	South	0.85	0.63	0.78	0.69	0.50	0.57	0.51	0.87	0.95	0.90	0.94	0.82	0.94	0.92	0.90	0.94	0.91	0.81	0.83	0.84	0.94	0.92	0.58	0.75
Tuesday	6/21/2016	South														0.87	0.89	0.85	0.91	0.91	0.87	0.96	0.88	0.85	0.85	0.66
Friday	6/24/2016	South	0.68	0.64	0.72	0.80	0.52	0.49	0.49	0.72	0.86	0.89	0.90			0.94	0.86	0.92	0.91	0.93	0.83	0.97	0.90	0.89	0.78	0.82
Thursday	6/23/2016	South	0.76	0.66	0.70	0.75	0.52	0.56	0.55	0.83	0.90	0.87	0.88	0.95	0.96	0.94	0.86	0.92	0.91	0.93	0.83	0.97	0.90	0.89	0.78	0.82

Day	Date	Direction	12:15 AM	1:15 AM	2:15 AM	3:15 AM	4:15 AM	5:15 AM	6:15 AM	7:15 AM	8:15 AM	9:15 AM	10:15 AM	11:15 AM	12:15 PM	1:15 PM	2:15 PM	3:15 PM	4:15 PM	5:15 PM	6:15 PM	7:15 PM	8:15 PM	9:15 PM	10:15 PM	11:15 PM
Wednesday	6/22/2016	South	0.83	0.59	0.81	0.56	0.53	0.70	0.65	0.92	0.98	0.92	0.92	0.87	0.93	0.89	0.94	0.96	0.92	0.79	0.91	0.86	0.90	0.88	0.87	0.57
Tuesday	6/21/2016	South													0.25	0.95	0.89	0.89	0.94	0.87	0.88	0.94	0.84	0.77	0.84	0.48
Friday	6/24/2016	South	0.78	0.75	0.58	0.68	0.53	0.59	0.58	0.78	0.89	0.89	0.73													
Thursday	6/23/2016	South	0.68	0.75	0.80	0.88	0.58	0.73	0.68	0.90	0.93	0.91	0.86	0.85	0.93	0.93	0.88	0.98	0.91	0.92	0.92	0.94	0.89	0.92	0.70	0.63

Day	Date	Direction	12:30 AM	1:30 AM	2:30 AM	3:30 AM	4:30 AM	5:30 AM	6:30 AM	7:30 AM	8:30 AM	9:30 AM	10:30 AM	11:30 AM	12:30 PM	1:30 PM	2:30 PM	3:30 PM	4:30 PM	5:30 PM	6:30 PM	7:30 PM	8:30 PM	9:30 PM	10:30 PM	11:30 PM
Wednesday	6/22/2016	South	0.73	0.73	0.88	0.75	0.68	0.71	0.77	0.89	0.92	0.96	0.89	0.94	0.93	0.88	0.94	0.95	0.88	0.90	0.87	0.92	0.95	0.75	0.83	0.34
Tuesday	6/21/2016	South													0.46	0.95	0.94	0.92	0.96	0.80	0.89	0.94	0.97	0.68	0.80	0.32
Friday	6/24/2016	South	0.64	0.73	0.53	0.64	0.63	0.73	0.72	0.84	0.88	0.89	0.50													
Thursday	6/23/2016	South	0.73	0.64	0.85	0.69	0.65	0.74	0.84	0.91	0.91	0.93	0.91	0.88	0.90	0.92	0.83	0.86	0.95	0.90	0.90	0.91	0.92	0.87	0.63	0.38

Day	Date	Direction	12:45 AM	1:45 AM	2:45 AM	3:45 AM	4:45 AM	5:45 AM	6:45 AM	7:45 AM	8:45 AM	9:45 AM	10:45 AM	11:45 AM	12:45 PM	1:45 PM	2:45 PM	3:45 PM	4:45 PM	5:45 PM	6:45 PM	7:45 PM	8:45 PM	9:45 PM	10:45 PM	11:45 PM
Wednesday	6/22/2016	South	0.67	0.72	0.81	0.63	0.75	0.65	0.84	0.89	0.90	0.96	0.91	0.98	0.94	0.90	0.89	0.95	0.88	0.88	0.88	0.93	0.96	0.70	0.85	0.25
Tuesday	6/21/2016	South													0.65	0.89	0.82	0.89	0.97	0.90	0.87	0.88	0.95	0.85	0.77	0.25
Friday	6/24/2016	South	0.59	0.83	0.81	0.79	0.63	0.59	0.84	0.84	0.90	0.90	0.25													
Thursday	6/23/2016	South	0.75	0.70	0.85	0.47	0.66	0.65	0.94	0.89	0.88	0.95	0.93	0.92	0.88	0.94	0.89	0.87	0.95	0.88	0.88	0.84	0.91	0.79	0.58	0.25

NYSDOT Short Count: 14_0016 North 2016

HOURLY VOLUMES

Day	Date	Direction	12:00 AM	1:00 AM	2:00 AM	3:00 AM	4:00 AM	5:00 AM	6:00 AM	7:00 AM	8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	7:00 PM	8:00 PM	9:00 PM	10:00 PM	11:00 PM
Wednesday	6/22/2016	North	45	29	16	22	56	158	463	837	722	501	632	659	683	631	638	752	825	857	695	467	380	322	191	125
Tuesday	6/21/2016	North	0	0	0	0	0	0	0	0	0	0	0	0	0	575	602	812	846	848	547	435	332	258	153	127
Friday	6/24/2016	North	40	22	21	20	54	167	430	684	659	587	612	0	0	0	0	0	0	0	0	0	0	0	0	0
Thursday	6/23/2016	North	40	24	15	28	51	154	480	754	743	596	549	625	671	641	582	766	884	855	648	510	414	271	308	149

Day	Date	Direction	12:15 AM	1:15 AM	2:15 AM	3:15 AM	4:15 AM	5:15 AM	6:15 AM	7:15 AM	8:15 AM	9:15 AM	10:15 AM	11:15 AM	12:15 PM	1:15 PM	2:15 PM	3:15 PM	4:15 PM	5:15 PM	6:15 PM	7:15 PM	8:15 PM	9:15 PM	10:15 PM	11:15 PM
Wednesday	6/22/2016	North	42	21	17	25	66	212	567	864	648	502	654	708	656	608	687	743	858	823	611	466	374	309	156	74
Tuesday	6/21/2016	North	0	0	0	0	0	0	0	0	0	0	0	0	165	571	656	767	912	780	475	423	327	240	137	82
Friday	6/24/2016	North	38	17	22	25	68	213	484	720	644	608	446	0	0	0	0	0	0	0	0	0	0	0	0	0
Thursday	6/23/2016	North	34	19	18	26	64	210	575	823	668	575	557	676	655	607	629	795	884	798	614	501	374	251	290	102

Day	Date	Direction	12:30 AM	1:30 AM	2:30 AM	3:30 AM	4:30 AM	5:30 AM	6:30 AM	7:30 AM	8:30 AM	9:30 AM	10:30 AM	11:30 AM	12:30 PM	1:30 PM	2:30 PM	3:30 PM	4:30 PM	5:30 PM	6:30 PM	7:30 PM	8:30 PM	9:30 PM	10:30 PM	11:30 PM
Wednesday	6/22/2016	North	39	16	18	33	89	264	682	874	553	535	643	732	645	600	720	768	869	785	546	441	359	284	145	41
Tuesday	6/21/2016	North	0	0	0	0	0	0	0	0	0	0	0	0	286	579	714	803	905	712	450	381	323	196	152	34
Friday	6/24/2016	North	27	20	20	35	82	266	560	751	586	640	284	0	0	0	0	0	0	0	0	0	0	0	0	0
Thursday	6/23/2016	North	31	17	21	34	77	297	631	833	636	538	598	675	656	601	662	820	892	761	570	443	377	273	247	46

Day	Date	Direction	12:45 AM	1:45 AM	2:45 AM	3:45 AM	4:45 AM	5:45 AM	6:45 AM	7:45 AM	8:45 AM	9:45 AM	10:45 AM	11:45 AM	12:45 PM	1:45 PM	2:45 PM	3:45 PM	4:45 PM	5:45 PM	6:45 PM	7:45 PM	8:45 PM	9:45 PM	10:45 PM	11:45 PM
Wednesday	6/22/2016	North	33	16	23	35	129	352	781	794	525	596	636	714	639	585	771	793	841	784	501	399	325	238	142	19
Tuesday	6/21/2016	North	0	0	0	0	0	0	0	0	0	0	0	0	450	578	753	846	880	601	461	348	291	176	140	11
Friday	6/24/2016	North	25	20	24	32	123	366	622	684	603	625	138	0	0	0	0	0	0	0	0	0	0	0	0	0
Thursday	6/23/2016	North	30	16	28	37	118	378	718	788	606	528	636	671	629	585	736	859	865	713	521	429	321	325	179	14

PEAK HOUR FACTORS

Day	Date	Direction	12:00 AM	1:00 AM	2:00 AM	3:00 AM	4:00 AM	5:00 AM	6:00 AM	7:00 AM	8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	7:00 PM	8:00 PM	9:00 PM	10:00 PM	11:00 PM
Wednesday	6/22/2016	North	0.75	0.60	0.67	0.61	0.54	0.72	0.70	0.88	0.86	0.96	0.83	0.89	0.85	0.91	0.80	0.94	0.93	0.94	0.90	0.79	0.90	0.81	0.56	0.61
Tuesday	6/21/2016	North														0.87	0.92	0.94	0.86	0.90	0.81	0.88	0.95	0.82	0.63	0.66
Friday	6/24/2016	North	0.71	0.61	0.75	0.45	0.61	0.63	0.72	0.81	0.88	0.91	0.92													
Thursday	6/23/2016	North	0.77	0.86	0.75	0.64	0.67	0.70	0.76	0.85	0.79	0.93	0.86	0.89	0.84	0.88	0.93	0.94	0.91	0.95	0.92	0.95	0.83	0.80	0.77	0.67

Day	Date	Direction	12:15 AM	1:15 AM	2:15 AM	3:15 AM	4:15 AM	5:15 AM	6:15 AM	7:15 AM	8:15 AM	9:15 AM	10:15 AM	11:15 AM	12:15 PM	1:15 PM	2:15 PM	3:15 PM	4:15 PM	5:15 PM	6:15 PM	7:15 PM	8:15 PM	9:15 PM	10:15 PM	11:15 PM
Wednesday	6/22/2016	North	0.88	0.75	0.71	0.69	0.63	0.74	0.81	0.91	0.77	0.97	0.86	0.88	0.94	0.95	0.86	0.95	0.96	0.90	0.80	0.79	0.89	0.90	0.76	0.56
Tuesday	6/21/2016	North													0.25	0.87	0.76	0.92	0.93	0.89	0.80	0.86	0.94	0.78	0.76	0.43
Friday	6/24/2016	North	0.68	0.61	0.79	0.57	0.71	0.76	0.81	0.85	0.86	0.92	0.69													
Thursday	6/23/2016	North	0.71	0.79	0.90	0.59	0.84	0.73	0.86	0.87	0.92	0.96	0.88	0.85	0.89	0.95	0.80	0.88	0.91	0.93	0.87	0.95	0.84	0.81	0.73	0.46

Day	Date	Direction	12:30 AM	1:30 AM	2:30 AM	3:30 AM	4:30 AM	5:30 AM	6:30 AM	7:30 AM	8:30 AM	9:30 AM	10:30 AM	11:30 AM	12:30 PM	1:30 PM	2:30 PM	3:30 PM	4:30 PM	5:30 PM	6:30 PM	7:30 PM	8:30 PM	9:30 PM	10:30 PM	11:30 PM
Wednesday	6/22/2016	North	0.81	0.67	0.75	0.75	0.65	0.77	0.85	0.92	0.88	0.90	0.84	0.91	0.93	0.94	0.90	0.96	0.97	0.86	0.71	0.75	0.85	0.83	0.71	0.47
Tuesday	6/21/2016	North													0.43	0.88	0.83	0.90	0.92	0.81	0.91	0.79	0.93	0.80	0.79	0.37
Friday	6/24/2016	North	0.75	0.71	0.71	0.63	0.73	0.82	0.89	0.89	0.88	0.96	0.49													
Thursday	6/23/2016	North	0.65	0.71	0.75	0.57	0.69	0.65	0.92	0.88	0.89	0.91	0.94	0.85	0.90	0.94	0.84	0.91	0.92	0.88	0.85	0.88	0.85	0.69	0.62	0.36

Day	Date	Direction	12:45 AM	1:45 AM	2:45 AM	3:45 AM	4:45 AM	5:45 AM	6:45 AM	7:45 AM	8:45 AM	9:45 AM	10:45 AM	11:45 AM	12:45 PM	1:45 PM	2:45 PM	3:45 PM	4:45 PM	5:45 PM	6:45 PM	7:45 PM	8:45 PM	9:45 PM	10:45 PM	11:45 PM
Wednesday	6/22/2016	North	0.69	0.67	0.64	0.80	0.63	0.63	0.82	0.89	0.88	0.78	0.86	0.89	0.92	0.97	0.96	0.90	0.94	0.86	0.85	0.95	0.82	0.69	0.70	0.25
Tuesday	6/21/2016	North													0.68	0.89	0.88	0.86	0.93	0.85	0.94	0.91	0.91	0.72	0.73	0.25
Friday	6/24/2016	North	0.69	0.71	0.55	0.57	0.63	0.61	0.74	0.89	0.90	0.94	0.25													
Thursday	6/23/2016	North	0.63	0.67	0.64	0.62	0.54	0.69	0.80	0.83	0.94	0.94	0.90	0.84	0.86	0.91	0.91	0.89	0.96	0.88	0.95	0.85	0.72	0.81	0.80	0.25

HOURLY VOLUMES

	Date	Direction	12:00 AM	1:00 AM	2:00 AM	3:00 AM	4:00 AM	5:00 AM	6:00 AM	7:00 AM	8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	7:00 PM	8:00 PM	9:00 PM	10:00 PM	11:00 PM	
Wednesday	10/2/2019	West	0	0	0	0	0	0	0	0	0	0	215	206	192	289	359	305	346	298	223	121	112	81	69	53	
Thursday	10/3/2019	West	34	16	6	20	17	81	228	364	318	230	173	193	218	216	250	335	486	335	290	193	121	89	71	54	
Friday	10/4/2019	West	25	11	10	22	24	59	218	320	250	231	178	227	161	0	0	0	0	0	0	0	0	0	0	0	
Day	Date	Direction	12:15 AM	1:15 AM	2:15 AM	3:15 AM	4:15 AM	5:15 AM	6:15 AM	7:15 AM	8:15 AM	9:15 AM	10:15 AM	11:15 AM	12:15 PM	1:15 PM	2:15 PM	3:15 PM	4:15 PM	5:15 PM	6:15 PM	7:15 PM	8:15 PM	9:15 PM	10:15 PM	11:15 PM	
Wednesday	10/2/2019	West	0	0	0	0	0	0	0	0	0	62	200	208	200	312	331	355	343	279	180	110	107	78	64	40	
Thursday	10/3/2019	West	28	16	5	18	32	103	254	407	269	220	168	202	225	218	280	407	423	336	245	170	125	71	60	47	
Friday	10/4/2019	West	23	10	8	23	23	101	225	361	217	219	167	251	101	0	0	0	0	0	0	0	0	0	0	0	
Day	Date	Direction	12:30 AM	1:30 AM	2:30 AM	3:30 AM	4:30 AM	5:30 AM	6:30 AM	7:30 AM	8:30 AM	9:30 AM	10:30 AM	11:30 AM	12:30 PM	1:30 PM	2:30 PM	3:30 PM	4:30 PM	5:30 PM	6:30 PM	7:30 PM	8:30 PM	9:30 PM	10:30 PM	11:30 PM	
Wednesday	10/2/2019	West	0	0	0	0	0	0	0	0	0	100	207	205	224	340	310	353	351	253	147	124	95	74	59	27	
Thursday	10/3/2019	West	19	15	10	14	48	138	294	387	247	196	180	226	212	222	284	457	387	344	208	161	110	72	58	28	
Friday	10/4/2019	West	20	10	8	24	25	138	255	346	204	212	177	264	40	0	0	0	0	0	0	0	0	0	0	0	
Day	Date	Direction	12:45 AM	1:45 AM	2:45 AM	3:45 AM	4:45 AM	5:45 AM	6:45 AM	7:45 AM	8:45 AM	9:45 AM	10:45 AM	11:45 AM	12:45 PM	1:45 PM	2:45 PM	3:45 PM	4:45 PM	5:45 PM	6:45 PM	7:45 PM	8:45 PM	9:45 PM	10:45 PM	11:45 PM	
Wednesday	10/2/2019	West	0	0	0	0	0	0	0	0	0	156	207	196	250	396	268	346	334	224	147	120	84	69	60	12	
Thursday	10/3/2019	West	16	12	15	15	58	176	312	379	225	197	181	228	224	229	295	492	354	327	184	158	91	72	57	13	
Friday	10/4/2019	West	17	9	11	25	43	179	282	306	219	194	197	232	4	0	0	0	0	0	0	0	0	0	0	0	
PEAK HOUR FACTORS																											
Day	Date	Direction	12:00 AM	1:00 AM	2:00 AM	3:00 AM	4:00 AM	5:00 AM	6:00 AM	7:00 AM	8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	7:00 PM	8:00 PM	9:00 PM	10:00 PM	11:00 PM	
Wednesday	10/2/2019	West											0.87	0.89	0.89	0.78	0.70	0.82	0.85	0.75	0.70	0.82	0.82	0.92	0.91	0.88	
Thursday	10/3/2019	West	0.71	0.67	0.50	0.71	0.61	0.68	0.70	0.68	0.75	0.74	0.80	0.73	0.85	0.92	0.91	0.77	0.75	0.85	0.73	0.86	0.86	0.62	0.85	0.71	
Friday	10/4/2019	West	0.89	0.55	0.63	0.42	0.50	0.53	0.81	0.76	0.68	0.88	0.93	0.76	0.66												
Day	Date	Direction	12:15 AM	1:15 AM	2:15 AM	3:15 AM	4:15 AM	5:15 AM	6:15 AM	7:15 AM	8:15 AM	9:15 AM	10:15 AM	11:15 AM	12:15 PM	1:15 PM	2:15 PM	3:15 PM	4:15 PM	5:15 PM	6:15 PM	7:15 PM	8:15 PM	9:15 PM	10:15 PM	11:15 PM	
Wednesday	10/2/2019	West										0.25	0.85	0.90	0.88	0.84	0.64	0.87	0.87	0.87	0.80	0.81	0.79	0.89	0.84	0.67	
Thursday	10/3/2019	West	0.58	0.67	0.63	0.64	0.53	0.70	0.77	0.76	0.91	0.71	0.78	0.77	0.88	0.91	0.78	0.63	0.94	0.84	0.76	0.76	0.87	0.89	0.71	0.62	
Friday	10/4/2019	West	0.82	0.63	0.67	0.44	0.48	0.57	0.84	0.86	0.92	0.83	0.87	0.84	0.41												
Day	Date	Direction	12:30 AM	1:30 AM	2:30 AM	3:30 AM	4:30 AM	5:30 AM	6:30 AM	7:30 AM	8:30 AM	9:30 AM	10:30 AM	11:30 AM	12:30 PM	1:30 PM	2:30 PM	3:30 PM	4:30 PM	5:30 PM	6:30 PM	7:30 PM	8:30 PM	9:30 PM	10:30 PM	11:30 PM	
Wednesday	10/2/2019	West										0.40	0.88	0.88	0.85	0.90	0.60	0.87	0.89	0.79	0.66	0.91	0.79	0.97	0.78	0.45	
Thursday	10/3/2019	West	0.68	0.63	0.36	0.58	0.63	0.64	0.78	0.72	0.85	0.63	0.83	0.86	0.91	0.93	0.79	0.71	0.86	0.86	0.84	0.72	0.76	0.86	0.76	0.47	
Friday	10/4/2019	West	0.71	0.63	0.67	0.46	0.52	0.78	0.87	0.82	0.86	0.80	0.92	0.88	0.28												
Day	Date	Direction	12:45 AM	1:45 AM	2:45 AM	3:45 AM	4:45 AM	5:45 AM	6:45 AM	7:45 AM	8:45 AM	9:45 AM	10:45 AM	11:45 AM	12:45 PM	1:45 PM	2:45 PM	3:45 PM	4:45 PM	5:45 PM	6:45 PM	7:45 PM	8:45 PM	9:45 PM	10:45 PM	11:45 PM	
Wednesday	10/2/2019	West										0.63	0.88	0.84	0.86	0.77	0.77	0.85	0.84	0.70	0.66	0.88	0.95	0.91	0.79	0.25	
Thursday	10/3/2019	West	0.67	0.50	0.54	0.54	0.76	0.80	0.83	0.71	0.77	0.63	0.84	0.86	0.95	0.87	0.82	0.76	0.86	0.82	0.84	0.71	0.63	0.86	0.75	0.25	
Friday	10/4/2019	West	0.61	0.56	0.69	0.48	0.47	0.70	0.77	0.73	0.83	0.80	0.72	0.77	0.25												

HOURLY VOLUMES

[illegible][illegible]

Day	Date
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[illegible][illegible]

HOURLY VOLUMES

[illegible]

HOURLY VOLUMES

[illegible]

HOURLY VOLUMES

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HOURLY VOLUMES

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HOURLY VOLUMES

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HOURLY VOLUMES

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Day	Date
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HOURLY VOLUMES

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PEAK HOUR FACTORS

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HOURLY VOLUMES

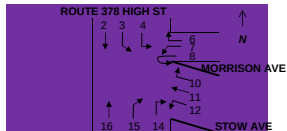
Day	Date	Direction	12:00 AM	1:00 AM	2:00 AM	3:00 AM	4:00 AM	5:00 AM	6:00 AM	7:00 AM	8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	7:00 PM	8:00 PM	9:00 PM	10:00 PM	11:00 PM	
Wednesday	10/2/2019	East	0	0	0	0	0	0	0	0	0	539	557	498	483	473	576	842	1104	1036	723	403	330	287	219	168	
Thursday	10/3/2019	East	88	42	40	33	25	79	265	712	624	765	453	552	605	544	617	888	1213	1698	718	451	371	293	223	155	
Friday	10/4/2019	East	90	61	48	26	32	66	241	646	546	527	401	487	0	0	0	0	0	0	0	0	0	0	0	0	
Day	Date	Direction	12:15 AM	1:15 AM	2:15 AM	3:15 AM	4:15 AM	5:15 AM	6:15 AM	7:15 AM	8:15 AM	9:15 AM	10:15 AM	11:15 AM	12:15 PM	1:15 PM	2:15 PM	3:15 PM	4:15 PM	5:15 PM	6:15 PM	7:15 PM	8:15 PM	9:15 PM	10:15 PM	11:15 PM	
Wednesday	10/2/2019	East	0	0	0	0	0	0	0	0	112	559	540	509	452	497	634	895	1171	921	664	358	319	277	206	124	
Thursday	10/3/2019	East	70	48	35	28	32	95	353	728	628	735	449	656	518	571	655	1046	1174	1657	577	425	380	253	209	106	
Friday	10/4/2019	East	78	67	37	24	43	79	329	653	526	509	432	372	0	0	0	0	0	0	0	0	0	0	0	0	
Day	Date	Direction	12:30 AM	1:30 AM	2:30 AM	3:30 AM	4:30 AM	5:30 AM	6:30 AM	7:30 AM	8:30 AM	9:30 AM	10:30 AM	11:30 AM	12:30 PM	1:30 PM	2:30 PM	3:30 PM	4:30 PM	5:30 PM	6:30 PM	7:30 PM	8:30 PM	9:30 PM	10:30 PM	11:30 PM	
Wednesday	10/2/2019	East	0	0	0	0	0	0	0	0	231	599	496	522	437	543	651	989	1183	896	517	344	309	249	192	80	
Thursday	10/3/2019	East	63	38	39	21	48	120	486	716	608	697	466	673	510	571	720	1096	1326	1461	510	382	359	231	206	58	
Friday	10/4/2019	East	67	53	40	26	49	120	425	647	508	469	446	269	0	0	0	0	0	0	0	0	0	0	0	0	
Day	Date	Direction	12:45 AM	1:45 AM	2:45 AM	3:45 AM	4:45 AM	5:45 AM	6:45 AM	7:45 AM	8:45 AM	9:45 AM	10:45 AM	11:45 AM	12:45 PM	1:45 PM	2:45 PM	3:45 PM	4:45 PM	5:45 PM	6:45 PM	7:45 PM	8:45 PM	9:45 PM	10:45 PM	11:45 PM	
Wednesday	10/2/2019	East	0	0	0	0	0	0	0	0	383	577	480	522	459	555	737	1046	1182	771	442	332	292	231	186	43	
Thursday	10/3/2019	East	49	35	36	24	68	163	628	699	695	531	486	656	533	589	813	1127	1482	1159	469	368	338	221	186	25	
Friday	10/4/2019	East	62	51	25	34	51	177	558	597	514	423	450	153	0	0	0	0	0	0	0	0	0	0	0	0	
PEAK HOUR FACTORS																											
Day	Date	Direction	12:00 AM	1:00 AM	2:00 AM	3:00 AM	4:00 AM	5:00 AM	6:00 AM	7:00 AM	8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	7:00 PM	8:00 PM	9:00 PM	10:00 PM	11:00 PM	
Wednesday	10/2/2019	East										0.86	0.88	0.81	0.94	0.87	0.91	0.83	0.88	0.87	0.70	0.82	0.86	0.83	0.90	0.95	
Thursday	10/3/2019	East	0.85	0.66	0.71	0.83	0.63	0.71	0.54	0.84	0.80	0.68	0.91	0.73	0.74	0.91	0.87	0.87	0.89	0.76	0.69	0.82	0.94	0.71	0.88	0.79	
Friday	10/4/2019	East	0.75	0.80	0.71	0.59	0.80	0.69	0.68	0.80	0.90	0.83	0.86	0.80													
Day	Date	Direction	12:15 AM	1:15 AM	2:15 AM	3:15 AM	4:15 AM	5:15 AM	6:15 AM	7:15 AM	8:15 AM	9:15 AM	10:15 AM	11:15 AM	12:15 PM	1:15 PM	2:15 PM	3:15 PM	4:15 PM	5:15 PM	6:15 PM	7:15 PM	8:15 PM	9:15 PM	10:15 PM	11:15 PM	
Wednesday	10/2/2019	East									0.25	0.90	0.85	0.83	0.88	0.91	0.90	0.88	0.94	0.79	0.65	0.81	0.83	0.81	0.84	0.70	
Thursday	10/3/2019	East	0.70	0.75	0.73	0.70	0.73	0.85	0.72	0.85	0.80	0.65	0.91	0.80	0.92	0.95	0.89	0.77	0.87	0.75	0.71	0.78	0.92	0.87	0.93	0.55	
Friday	10/4/2019	East	0.65	0.88	0.54	0.55	0.77	0.73	0.72	0.81	0.87	0.81	0.93	0.61													
Day	Date	Direction	12:30 AM	1:30 AM	2:30 AM	3:30 AM	4:30 AM	5:30 AM	6:30 AM	7:30 AM	8:30 AM	9:30 AM	10:30 AM	11:30 AM	12:30 PM	1:30 PM	2:30 PM	3:30 PM	4:30 PM	5:30 PM	6:30 PM	7:30 PM	8:30 PM	9:30 PM	10:30 PM	11:30 PM	
Wednesday	10/2/2019	East									0.49	0.94	0.91	0.85	0.95	0.85	0.92	0.92	0.94	0.77	0.78	0.90	0.90	0.85	0.79	0.47	
Thursday	10/3/2019	East	0.63	0.68	0.81	0.58	0.63	0.68	0.69	0.84	0.78	0.62	0.94	0.82	0.92	0.95	0.91	0.80	0.83	0.66	0.92	0.97	0.87	0.92	0.92	0.44	
Friday	10/4/2019	East	0.70	0.70	0.59	0.59	0.77	0.53	0.69	0.80	0.84	0.74	0.96	0.44													
Day	Date	Direction	12:45 AM	1:45 AM	2:45 AM	3:45 AM	4:45 AM	5:45 AM	6:45 AM	7:45 AM	8:45 AM	9:45 AM	10:45 AM	11:45 AM	12:45 PM	1:45 PM	2:45 PM	3:45 PM	4:45 PM	5:45 PM	6:45 PM	7:45 PM	8:45 PM	9:45 PM	10:45 PM	11:45 PM	
Wednesday	10/2/2019	East									0.63	0.91	0.88	0.85	0.84	0.87	0.79	0.90	0.94	0.75	0.90	0.86	0.85	0.79	0.76	0.25	
Thursday	10/3/2019	East	0.77	0.63	0.75	0.67	0.61	0.57	0.74	0.84	0.61	0.66	0.89	0.80	0.93	0.91	0.80	0.83	0.84	0.52	0.86	0.96	0.82	0.88	0.83	0.25	
Friday	10/4/2019	East	0.82	0.75	0.63	0.77	0.80	0.64	0.69	0.85	0.81	0.77	0.97	0.25													

ATTACHMENT 3-2 Turning Movement Counts

Intersection Turning Movement Data Summary

Location: Route 378 High Street and Morrison Avenue

Date: 11/3/2022



	SBH	SBB	SBT	SBU	WBL	WBT	WBR	WBU	EBL	EBT	EBR	EBU	NBL	NBT	NBR	NBU	sum	
	ROUTE 378 HIGH ST Southbound				MORRISON AVE Westbound				ROUTE 378 HIGH ST Eastbound				STOW AVE Northbound					
	Hard Left	Bear Left	Thru	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Total	Rolling Hourly
Start Time	4	3	2	0	8	7	6	0	0	16	15	14	12	11	10	0		
8:00 AM	1	2	186	0	0	125	0	0	0	105	204	12	29	6	0	0	670	2729
8:15 AM	1	4	187	0	0	116	3	0	0	138	201	12	15	5	2	0	684	2769
8:30 AM	5	1	236	0	0	120	2	0	0	110	214	3	22	1	0	0	714	2787
8:45 AM	1	4	153	0	0	129	3	0	0	108	234	13	13	3	0	0	661	2715

5:00 PM	4	7	147	0	0	116	2	0	0	171	219	13	28	3	0	0	710	2665
5:15 PM	6	7	140	0	1	115	0	0	0	197	207	16	9	3	1	0	702	1955
5:30 PM	5	1	130	0	0	134	1	0	0	136	201	20	11	3	0	0	642	1253
5:45 PM	1	7	116	0	1	108	4	0	0	156	189	19	8	2	0	0	611	611

Peak Hour: **8:00** - **9:00**

Total	8	11	762	0	0	490	8	0	0	461	853	40	79	15	2	0	2729
HV	1	2	42	0	0	17	0	0	0	36	18	1	1	1	0	0	119
HV%	13%	18%	6%	0%	0%	3%	0%	0%	0%	8%	2%	3%	1%	7%	0%	0%	4%
PHF	0.40	0.69	0.81	0.00	0.00	0.95	0.67	0.00	0.00	0.84	0.91	0.77	0.68	0.63	0.25	0.00	0.97

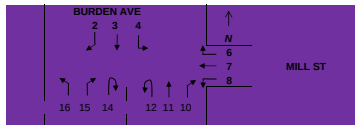
Peak Hour: **17:00** - **18:00**

Total	16	22	533	0	2	473	7	0	0	660	816	68	56	11	1	0	2665
HV	1	2	6	0	0	4	0	0	0	5	1	0	0	0	0	0	19
HV%	6%	9%	1%	0%	0%	1%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	1%
PHF	0.67	0.79	0.91	0.00	0.50	0.88	0.44	0.00	0.00	0.84	0.93	0.85	0.50	0.92	0.25	0.00	0.92

Intersection Turning Movement Data Summary

Location: Route 4 Mill Street and Burden Avenue

Date: 10/12/2022



	SBL	SBT	SBR	SBU	WBL	WBT	WBR	WBU	EBL	EBT	EBR	EBU	NBL	NBT	NBR	NBU	sum	
	BURDEN AVE Southbound				MILL ST Westbound				WATER ST Eastbound				BURDEN AVE Northbound				Total	Rolling Hourly
	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn		
Start Time	4	3	2	0	8	7	6	0	16	15	14	0	12	11	10	0		
8:00 AM	38	74	5	0	140	0	20	0	0	3	0	0	0	84	96	0	460	1614
8:15 AM	36	74	5	0	139	0	19	0	0	2	4	0	0	55	55	0	389	1629
8:30 AM	43	74	1	0	108	0	29	0	0	0	6	0	0	43	57	0	361	1778
8:45 AM	41	73	0	0	107	0	28	0	2	2	1	0	3	59	88	0	404	1851
5:00 PM	29	75	0	0	109	0	39	0	0	0	0	0	0	104	119	0	475	1814
5:15 PM	29	74	0	0	109	0	38	0	0	0	2	0	1	141	144	0	538	1339
5:30 PM	31	71	1	0	67	0	34	0	0	1	1	0	0	108	120	0	434	801
5:45 PM	30	69	0	0	67	0	33	0	0	0	0	0	0	78	90	0	367	367

Peak Hour: **8:00** - **9:00**

Total	158	295	11	0	494	0	96	0	2	7	11	0	3	241	296	0	1614
HV	11	35	0	0	11	0	7	0	1	6	6	0	3	34	20	0	134
HV%	7%	12%	0%	0%	2%	0%	7%	0%	50%	86%	55%	0%	100%	14%	7%	0%	8%
PHF	0.92	1.00	0.55	0.00	0.88	0.00	0.83	0.00	0.25	0.58	0.46	0.00	0.25	0.72	0.77	0.00	0.88

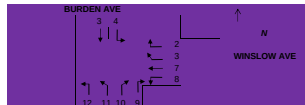
Peak Hour: **17:00** - **18:00**

Total	119	289	1	0	352	0	144	0	0	1	3	0	1	431	473	0	1814
HV	3	2	0	0	2	0	3	0	0	1	1	0	1	20	1	0	34
HV%	3%	1%	0%	0%	1%	0%	2%	0%	0%	100%	33%	0%	100%	5%	0%	0%	2%
PHF	0.96	0.96	0.25	0.00	0.81	0.00	0.92	0.00	0.00	0.25	0.38	0.00	0.25	0.76	0.82	0.00	0.84

Intersection Turning Movement Data Summary

Location: Route 4 Burden Avenue and Main Street

Date: 11/3/2022



	SWL	SWT	SWR	SWU	SBB	SBT	SBR	SBU	WBL	WBT	WBB	WBR	NBL	NBB	NBT	NBR	EBL	EBB	EBT	EBR	0	0	0
	BURDEN AVE Southwestbound				1ST ST Southbound				WINSLOW AVE Westbound				BURDEN AVE Northbound				MAIN ST Eastbound				Total	Rolling Hourly	
	Left	Thru	Right	U-Turn	Bear Left	Thru	Right	U-Turn	Left	Thru	Bear Right	Right	Left	Bear Left	Thru	Right	Left	Bear Left	Thru	Right			
Start Time	8	7	6	5	4	3	2		8	7	11	10	12	11	10	9	16	15	14	13			
8:00 AM	0	1	0	1	0	118	4	0	2	1	3	0	17	78	0	1	1	1	0	9	237	825	
8:15 AM	0	1	1	0	0	93	3	0	2	0	1	2	18	75	0	1	1	0	0	11	209	797	
8:30 AM	0	0	0	0	0	105	0	0	2	0	2	0	11	72	1	2	0	0	0	12	207	829	
8:45 AM	0	0	0	0	0	84	5	0	1	0	0	0	16	56	0	1	1	0	0	8	172	849	
5:00 PM	0	0	2	0	0	77	2	0	1	0	1	0	5	104	2	0	3	0	0	12	209	873	
5:15 PM	0	0	0	0	0	97	5	0	3	0	2	0	6	113	4	1	2	0	0	8	241	664	
5:30 PM	0	1	0	0	1	88	3	0	3	0	0	0	9	101	3	3	7	1	0	7	227	423	
5:45 PM	0	2	0	0	1	86	0	0	0	0	5	1	6	88	1	1	0	0	0	5	196	196	

Peak Hour: 8:00 - 9:00

Total	0	2	1	1	0	400	12	0	7	1	6	2	62	281	1	5	3	1	0	40	825	
HV	0	0	0	0	0	24	3	0	0	0	1	0	22	19	0	0	2	0	0	16	87	
HV%	0%	0%	0%	0%	0%	6%	25%	0%	0%	0%	17%	0%	35%	7%	0%	0%	67%	0%	0%	40%	11%	
PHF	0.00	0.50	0.25	0.25	0.00	0.85	0.60	0.00	0.88	0.25	0.50	0.25	0.86	0.90	0.25	0.63	0.75	0.25	0.00	0.83	0.87	

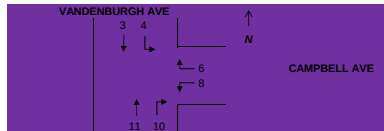
Peak Hour: 17:00 - 18:00

Total	0	3	2	0	2	348	10	0	7	0	8	1	26	406	10	5	12	1	0	32	873	
HV	0	0	0	0	0	9	0	0	0	0	0	0	11	9	0	0	0	0	0	2	31	
HV%	0%	0%	0%	0%	0%	3%	0%	0%	0%	0%	0%	0%	42%	2%	0%	0%	0%	0%	0%	6%	4%	
PHF	0.00	0.38	0.25	0.00	0.50	0.90	0.50	0.00	0.58	0.00	0.40	0.25	0.72	0.90	0.63	0.42	0.43	0.25	0.00	0.67	0.91	

Intersection Turning Movement Data Summary

Location: Route 4 Vandenburg Avenue and Campbell Avenue

Date: 10/12/2022



	SBL	SBT	SBR	SBU	WBL	WBT	WBR	WBU	NBL	NBT	NBR	NBU	EBL	EBT	EBR	EBU	sum	
	VANDENBURGH AVE Southbound				CAMPBELL AVE Westbound				VANDENBURGH AVE Northbound				CAMPBELL AVE Eastbound				Total	Rolling Hourly
	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn		
Start Time	4	3			8		6			11	10							
8:00 AM	63	68	0	0	47	0	116	0	0	58	33	0	0	0	0	0	385	1359
8:15 AM	42	39	0	0	33	0	126	0	0	54	21	0	0	0	0	0	315	1409
8:30 AM	42	67	0	0	46	0	111	0	0	31	18	0	0	0	0	0	315	1549
8:45 AM	46	80	0	0	47	0	84	0	0	61	26	0	0	0	0	0	344	1595
5:00 PM	108	37	0	0	42	0	71	0	0	103	74	0	0	0	0	0	435	1567
5:15 PM	128	59	0	0	45	0	71	0	0	69	83	0	0	0	0	0	455	1132
5:30 PM	100	47	0	0	29	0	71	0	0	47	67	0	0	0	0	0	361	677
5:45 PM	86	33	0	0	39	0	54	0	0	40	64	0	0	0	0	0	316	316

Peak Hour: **8:00** - **9:00**

Total	193	254	0	0	173	0	437	0	0	204	98	0	0	0	0	0	1359
HV	10	17	0	0	10	0	14	0	0	13	6	0	0	0	0	0	70
HV%	5%	7%	0%	0%	6%	0%	3%	0%	0%	6%	6%	0%	0%	0%	0%	0%	5%
PHF	0.77	0.79	0.00	0.00	0.92	0.00	0.87	0.00	0.00	0.84	0.74	0.00	0.00	0.00	0.00	0.00	0.88

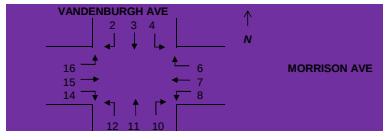
Peak Hour: **17:00** - **18:00**

Total	422	176	0	0	155	0	267	0	0	259	288	0	0	0	0	0	1567
HV	0	5	0	0	1	0	0	0	0	8	0	0	0	0	0	0	14
HV%	0%	3%	0%	0%	1%	0%	0%	0%	0%	3%	0%	0%	0%	0%	0%	0%	1%
PHF	0.82	0.75	0.00	0.00	0.86	0.00	0.94	0.00	0.00	0.63	0.87	0.00	0.00	0.00	0.00	0.00	0.86

Intersection Turning Movement Data Summary

Location: Route 4 Vandenburg Avenue and Morrison Avenue

Date: 10/12/2022



	SBL	SBT	SBR	SBU	WBL	WBT	WBR	WBU	NBL	NBT	NBR	NBU	EBL	EBT	EBR	EBU	sum	
	VANDENBURGH AVE Southbound				MORRISON AVE Westbound				VANDENBURGH AVE Northbound				MORRISON AVE Eastbound				Total	Rolling Hourly
	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn		
Start Time	4	3	2		8	7	6		12	11	10		16	15	14			
8:00 AM	0	128	12	0	1	0	1	0	113	61	0	0	19	2	232	0	569	2183
8:15 AM	0	74	9	0	3	0	1	0	100	42	0	0	17	0	211	0	457	2223
8:30 AM	1	92	6	0	2	2	1	0	129	80	1	0	4	0	246	0	564	2388
8:45 AM	1	121	10	0	2	0	1	0	128	68	0	0	9	1	252	0	593	2339
5:00 PM	2	67	14	0	2	1	5	0	111	168	1	0	27	1	210	0	609	2261
5:15 PM	1	88	17	0	2	0	5	0	124	124	2	0	36	3	220	0	622	1652
5:30 PM	3	62	9	0	4	2	2	0	119	91	2	0	27	0	194	0	515	1030
5:45 PM	2	67	8	0	9	2	3	0	113	91	3	0	24	2	191	0	515	515

Peak Hour: **8:00** - **9:00**

Total	2	415	37	0	8	2	4	0	470	251	1	0	49	3	941	0	2183
HV	0	19	4	0	1	1	0	0	11	14	0	0	5	0	10	0	65
HV%	0%	5%	11%	0%	13%	50%	0%	0%	2%	6%	0%	0%	10%	0%	1%	0%	3%
PHF	0.50	0.81	0.77	0.00	0.67	0.25	1.00	0.00	0.91	0.78	0.25	0.00	0.64	0.38	0.93	0.00	0.92

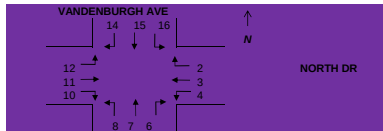
Peak Hour: **17:00** - **18:00**

Total	8	284	48	0	17	5	15	0	467	474	8	0	114	6	815	0	2261
HV	1	5	1	0	0	0	1	0	4	9	0	0	0	0	3	0	24
HV%	13%	2%	2%	0%	0%	0%	7%	0%	1%	2%	0%	0%	0%	0%	0%	0%	1%
PHF	0.67	0.81	0.71	0.00	0.47	0.63	0.75	0.00	0.94	0.71	0.67	0.00	0.79	0.50	0.93	0.00	0.91

Intersection Turning Movement Data Summary

Location: Route 4 Vandenburg Avenue and North Drive HVCC

Date: 10/12/2022



	SBL	SBT	SBR	SBU	WBL	WBT	WBR	WBU	NBL	NBT	NBR	NBU	EBL	EBT	EBR	EBU	sum	
	VANDENBURGH AVE Southbound				NORTH DR Westbound				VANDENBURGH AVE Northbound				PARKING LOT Eastbound				Total	Rolling Hourly
	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn		
Start Time	16	15	14		4	3	2		8	7	6		12	11	10			
8:00 AM	62	301	3	0	3	1	10	0	1	165	7	0	4	1	1	0	559	2185
8:15 AM	38	266	4	0	1	0	2	0	1	159	3	0	3	0	1	0	478	2194
8:30 AM	85	228	4	0	4	1	8	0	2	144	10	0	1	0	1	0	488	2288
8:45 AM	131	268	9	0	4	1	22	0	10	186	18	0	6	2	3	0	660	2304
5:00 PM	15	243	3	0	10	1	33	0	0	256	2	0	2	0	3	0	568	2112
5:15 PM	16	297	5	0	5	0	15	0	2	216	8	0	7	0	1	0	572	1544
5:30 PM	34	234	2	0	6	0	10	0	1	207	7	0	2	0	1	0	504	972
5:45 PM	31	217	1	0	11	1	17	0	1	176	5	0	6	1	1	0	468	468

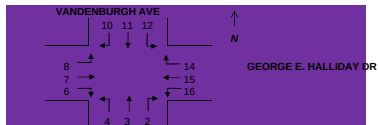
Peak Hour:	8:00	-	9:00															
Total	316	1063	20	0	12	3	42	0	14	654	38	0	14	3	6	0	2185	
HV	0	36	0	0	2	0	0	0	0	30	1	0	0	0	0	0	69	
HV%	0%	3%	0%	0%	17%	0%	0%	0%	0%	5%	3%	0%	0%	0%	0%	0%	3%	
PHF	0.60	0.88	0.56	0.00	0.75	0.75	0.48	0.00	0.35	0.88	0.53	0.00	0.58	0.38	0.50	0.00	0.83	

Peak Hour:	17:00	-	18:00															
Total	96	991	11	0	32	2	75	0	4	855	22	0	17	1	6	0	2112	
HV	0	9	0	0	0	0	0	0	0	11	0	0	0	0	0	0	20	
HV%	0%	1%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	1%	
PHF	0.71	0.83	0.55	0.00	0.73	0.50	0.57	0.00	0.50	0.83	0.69	0.00	0.61	0.25	0.50	0.00	0.92	

Intersection Turning Movement Data Summary

Location: Route 4 Vandenberg Avenue and George E Halliday Drive

Date: 10/12/2022



	SBL	SBT	SBR	SBU	WBL	WBT	WBR	WBU	NBL	NBT	NBR	NBU	EBL	EBT	EBR	EBU	sum	
	VANDENBURGH AVE Southbound				GEORGE E. HALLIDAY DR Westbound				VANDENBURGH AVE Northbound				PARKING LOT Eastbound				Total	Rolling Hourly
	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn		
Start Time	12	11	10		16	15	14		4	3	2		8	7	6			
8:00 AM	21	160	11	0	7	1	10	0	3	110	49	0	10	1	2	0	385	1781
8:15 AM	26	210	12	0	1	0	10	0	7	99	52	0	6	0	4	0	427	1920
8:30 AM	57	162	16	0	10	0	29	0	15	100	97	0	8	1	1	0	496	2059
8:45 AM	36	182	25	0	6	0	18	0	9	112	72	0	9	0	4	0	473	2029
5:00 PM	11	204	51	0	0	1	16	0	17	94	68	0	45	0	17	0	524	1983
5:15 PM	10	215	58	0	1	2	14	0	25	103	68	0	45	3	22	0	566	1459
5:30 PM	12	173	35	0	0	1	12	0	18	85	59	0	43	3	25	0	466	893
5:45 PM	16	162	39	0	0	1	11	0	17	78	54	0	36	1	12	0	427	427

Peak Hour: **8:00** - **9:00**

Total	140	714	64	0	24	1	67	0	34	421	270	0	33	2	11	0	1781
HV	1	9	0	0	1	0	3	0	1	17	16	0	0	0	0	0	48
HV%	1%	1%	0%	0%	4%	0%	4%	0%	3%	4%	6%	0%	0%	0%	0%	0%	3%
PHF	0.61	0.85	0.64	0.00	0.60	0.25	0.58	0.00	0.57	0.94	0.70	0.00	0.83	0.50	0.69	0.00	0.90

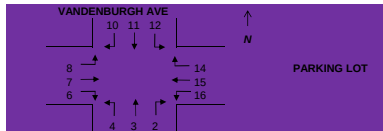
Peak Hour: **17:00** - **18:00**

Total	49	754	183	0	1	5	53	0	77	360	249	0	169	7	76	0	1983
HV	1	1	1	0	0	0	2	0	8	22	21	0	1	0	1	0	58
HV%	2%	0%	1%	0%	0%	0%	4%	0%	10%	6%	8%	0%	1%	0%	1%	0%	3%
PHF	0.77	0.88	0.79	0.00	0.25	0.63	0.83	0.00	0.77	0.87	0.92	0.00	0.94	0.58	0.76	0.00	0.88

Intersection Turning Movement Data Summary

Location: Route 4 Vandenburg Avenue and South Drive HVCC

Date: 10/12/2022



	SBL	SBT	SBR	SBU	WBL	WBT	WBR	WBU	NBL	NBT	NBR	NBU	EBL	EBT	EBR	EBU	sum	
	VANDENBURGH AVE Southbound				SOUTH DR Westbound				VANDENBURGH AVE Northbound				PARKING LOT Eastbound				Total	Rolling Hourly
	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn		
Start Time	16	15	14		4	3	2		8	7	6		12	11	10			
8:00 AM	61	217	13	0	5	0	3	0	10	150	20	0	11	3	5	0	498	1754
8:15 AM	41	148	13	0	3	2	7	0	14	136	9	0	11	2	1	0	387	1750
8:30 AM	39	141	15	0	3	0	3	0	17	144	22	0	15	1	6	0	406	1848
8:45 AM	57	144	14	0	4	3	7	0	10	179	22	0	17	1	5	0	463	1888
5:00 PM	12	213	10	0	16	0	25	0	13	182	3	0	9	1	10	0	494	1817
5:15 PM	15	224	15	0	3	0	13	0	14	170	2	0	20	2	7	0	485	1323
5:30 PM	16	201	13	0	3	0	14	0	10	155	4	0	15	6	9	0	446	838
5:45 PM	24	160	14	0	3	0	10	0	6	143	9	0	14	0	9	0	392	392

Peak Hour: **8:00** - **9:00**

Total	198	650	55	0	15	5	20	0	51	609	73	0	54	7	17	0	1754
HV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HV%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PHF	0.81	0.75	0.92	0.00	0.75	0.42	0.71	0.00	0.75	0.85	0.83	0.00	0.79	0.58	0.71	0.00	0.88

Peak Hour: **17:00** - **18:00**

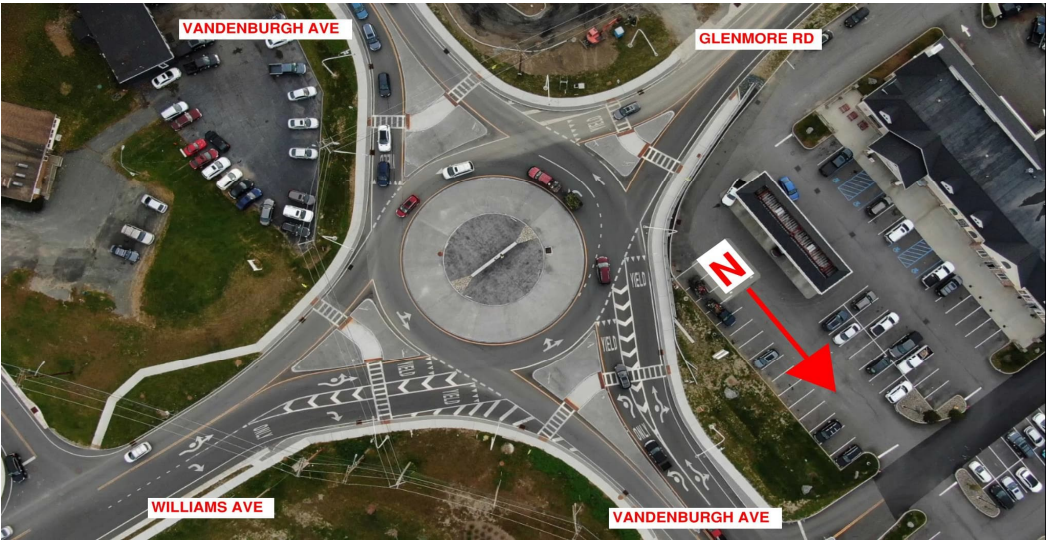
Total	67	798	52	0	25	0	62	0	43	650	18	0	58	9	35	0	1817
HV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HV%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PHF	0.70	0.89	0.87	0.00	0.39	0.00	0.62	0.00	0.77	0.89	0.50	0.00	0.73	0.38	0.88	0.00	0.92

VANDENBURGH AVE (SB)	
TO VANDENBURGH AVE (SB)	
PASS. VEHICLES:	440
TRUCKS:	12
BUSES:	9
TO WILLIAMS AVE	
PASS. VEHICLES:	163
TRUCKS:	12
BUSES:	0
TO GLENMORE RD	
PASS. VEHICLES:	29
TRUCKS:	1
BUSES:	0
TO VANDENBURGH AVE (NB)	
PASS. VEHICLES:	6
TRUCKS:	1
BUSES:	4

VANDENBURGH AVE (NB)	
TO VANDENBURGH AVE (SB)	
PASS. VEHICLES:	0
TRUCKS:	0
BUSES:	0
TO WILLIAMS AVE	
PASS. VEHICLES:	27
TRUCKS:	5
BUSES:	1
TO GLENMORE RD	
PASS. VEHICLES:	20
TRUCKS:	1
BUSES:	1
TO VANDENBURGH AVE (NB)	
PASS. VEHICLES:	301
TRUCKS:	8
BUSES:	3

GLENMORE RD	
TO VANDENBURGH AVE (SB)	
PASS. VEHICLES:	23
TRUCKS:	0
BUSES:	1
TO WILLIAMS AVE	
PASS. VEHICLES:	19
TRUCKS:	2
BUSES:	0
TO GLENMORE RD	
PASS. VEHICLES:	0
TRUCKS:	0
BUSES:	0
TO VANDENBURGH AVE (NB)	
PASS. VEHICLES:	31
TRUCKS:	0
BUSES:	2

WILLIAMS AVE	
TO VANDENBURGH AVE (SB)	
PASS. VEHICLES:	62
TRUCKS:	4
BUSES:	1
TO WILLIAMS AVE	
PASS. VEHICLES:	1
TRUCKS:	0
BUSES:	0
TO GLENMORE RD	
PASS. VEHICLES:	41
TRUCKS:	1
BUSES:	2
TO VANDENBURGH AVE (NB)	
PASS. VEHICLES:	350
TRUCKS:	8
BUSES:	4

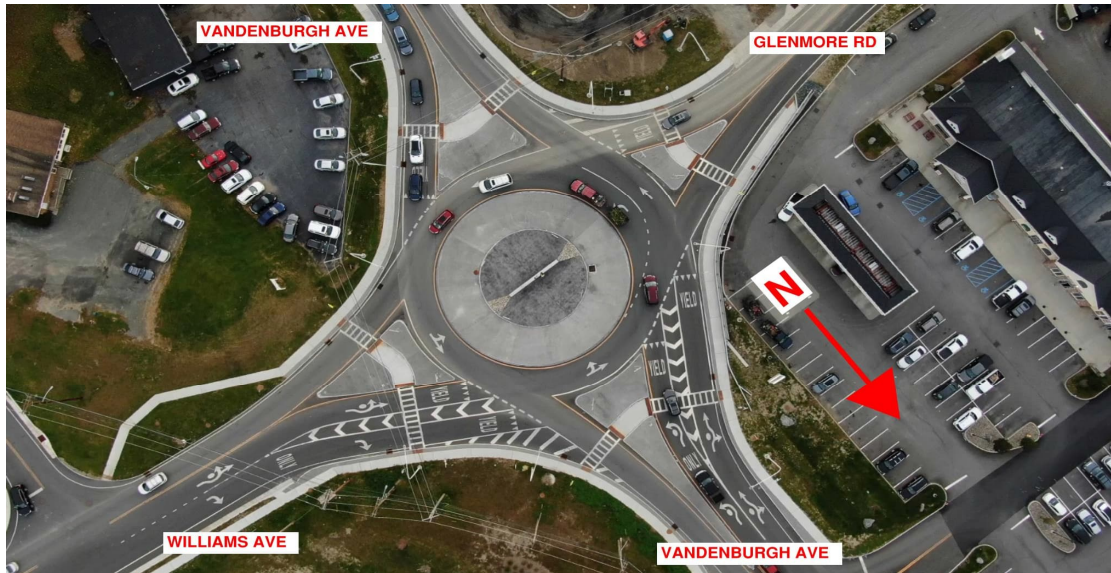


VANDENBURGH AVE (SB)	
TO VANDENBURGH AVE (SB)	
PASS. VEHICLES:	345
TRUCKS:	2
BUSES:	2
TO WILLIAMS AVE	
PASS. VEHICLES:	462
TRUCKS:	1
BUSES:	0
TO GLENMORE RD	
PASS. VEHICLES:	9
TRUCKS:	0
BUSES:	0
TO VANDENBURGH AVE (NB)	
PASS. VEHICLES:	6
TRUCKS:	0
BUSES:	3

VANDENBURGH AVE (NB)	
TO VANDENBURGH AVE (SB)	
PASS. VEHICLES:	6
TRUCKS:	0
BUSES:	0
TO WILLIAMS AVE	
PASS. VEHICLES:	87
TRUCKS:	1
BUSES:	1
TO GLENMORE RD	
PASS. VEHICLES:	46
TRUCKS:	1
BUSES:	0
TO VANDENBURGH AVE (NB)	
PASS. VEHICLES:	393
TRUCKS:	2
BUSES:	2

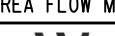
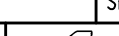
GLENMORE RD	
TO VANDENBURGH AVE (SB)	
PASS. VEHICLES:	28
TRUCKS:	0
BUSES:	0
TO WILLIAMS AVE	
PASS. VEHICLES:	49
TRUCKS:	0
BUSES:	0
TO GLENMORE RD	
PASS. VEHICLES:	0
TRUCKS:	0
BUSES:	0
TO VANDENBURGH AVE (NB)	
PASS. VEHICLES:	34
TRUCKS:	3
BUSES:	0

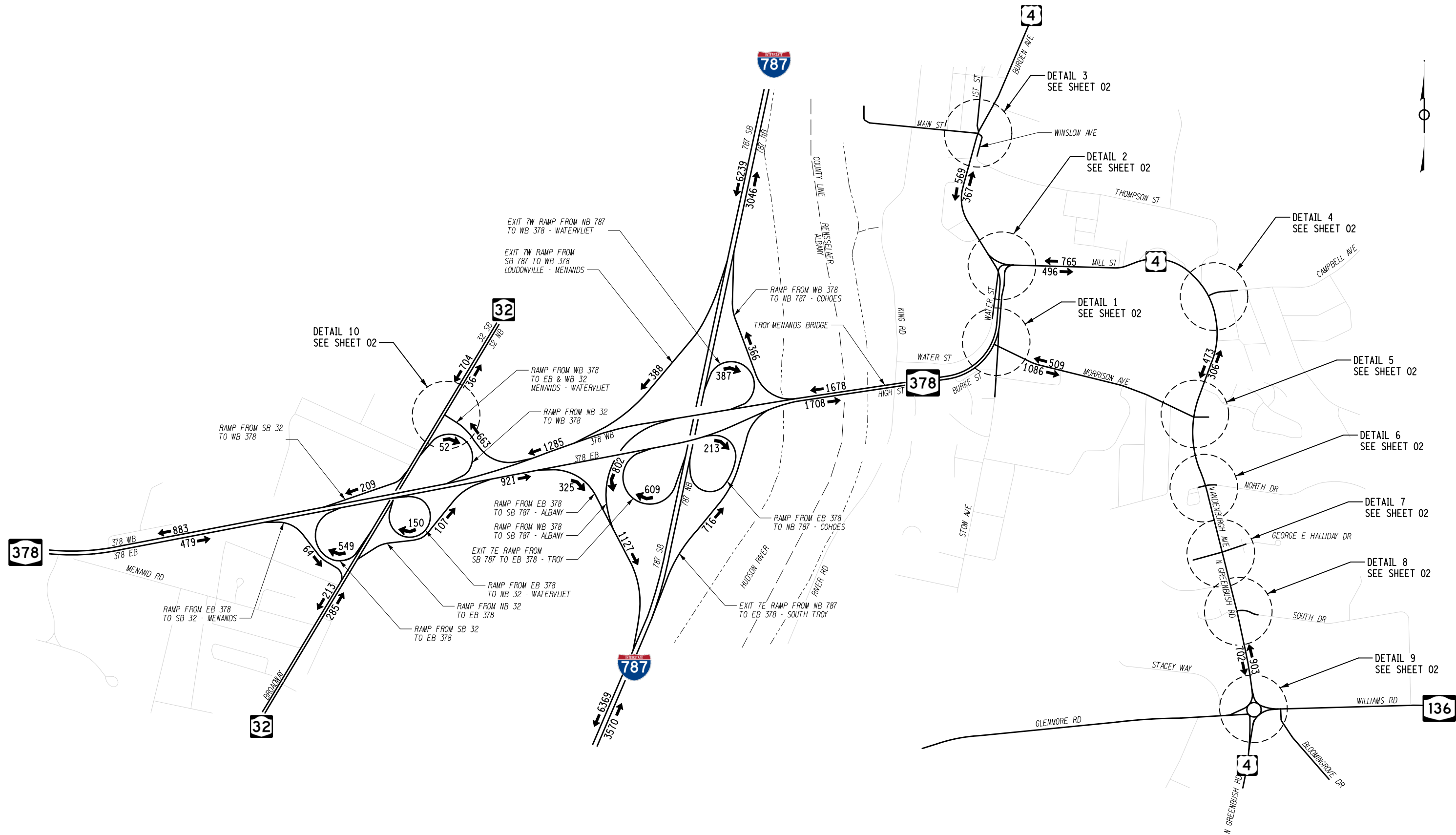
WILLIAMS AVE	
TO VANDENBURGH AVE (SB)	
PASS. VEHICLES:	84
TRUCKS:	1
BUSES:	0
TO WILLIAMS AVE	
PASS. VEHICLES:	1
TRUCKS:	0
BUSES:	0
TO GLENMORE RD	
PASS. VEHICLES:	52
TRUCKS:	2
BUSES:	0
TO VANDENBURGH AVE (NB)	
PASS. VEHICLES:	257
TRUCKS:	4
BUSES:	0



ATTACHMENT 3-3 Traffic Flow Maps

NOT TO SCALE

AS-BUILT REVISIONS DESCRIPTION OF ALTERATIONS:	ROUTE 378 PEL STUDY		PIN X731.52	BRIDGES	CULVERTS	ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED		CONTRACT NUMBER	
						TRAFFIC FLOW MAPS EXISTING (2019)		D038105	
						AM PEAK HOUR (7:30 - 8:30 AM)		DRAWING NO.	
						STUDY AREA FLOW MAP		SHEET NO. 01	
	COUNTY: RENSSELAER					REGION: --			
<div><div>wsp</div><div>NEW YORK STATE OF OPPORTUNITY.</div><div>Department of Transportation</div></div>									



FILE NAME = DGNSSPEC
DATE/TIME = DGNSSYTIME
USER = DGNUSERNAME

DESIGN SUPERVISOR

JOB MANAGER

DESIGN

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PROJECT MANAGER

NOT TO SCALE

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

ROUTE 378 PEL STUDY

PIN X731.52

BRIDGES

CULVERTS

ALL DIMENSIONS IN FT UNLESS OTHERWISE NOTED

CONTRACT NUMBER

D038105

TRAFFIC FLOW MAPS
EXISTING (2019)
AM PEAK HOUR (7:30 - 8:30 AM)
INTERSECTION FLOW MAPS

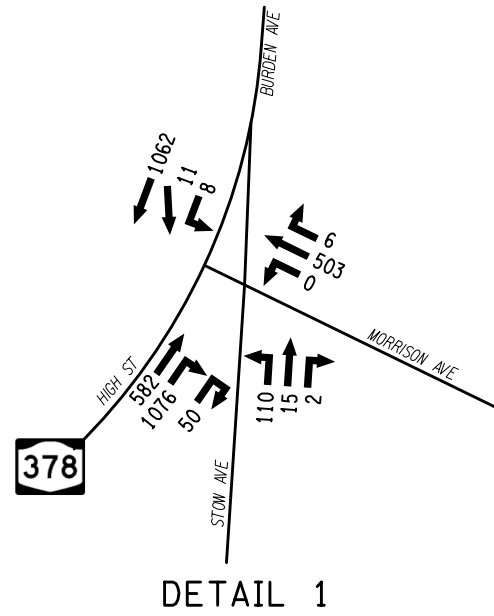
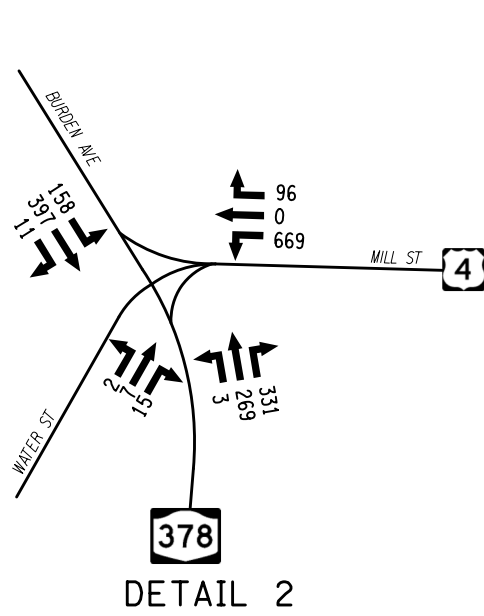
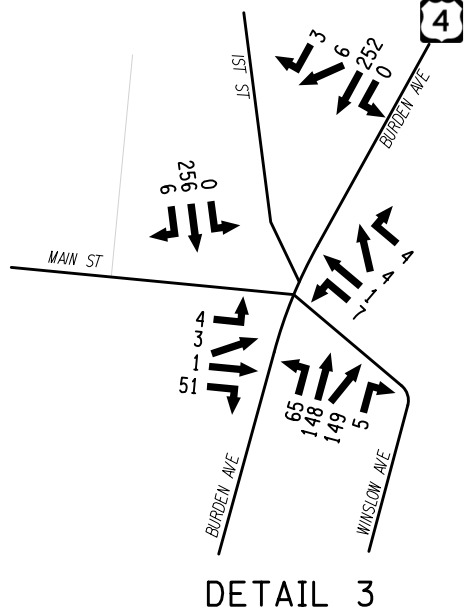
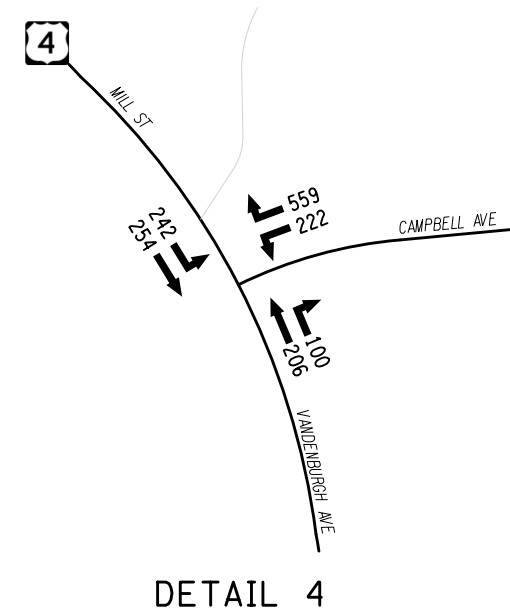
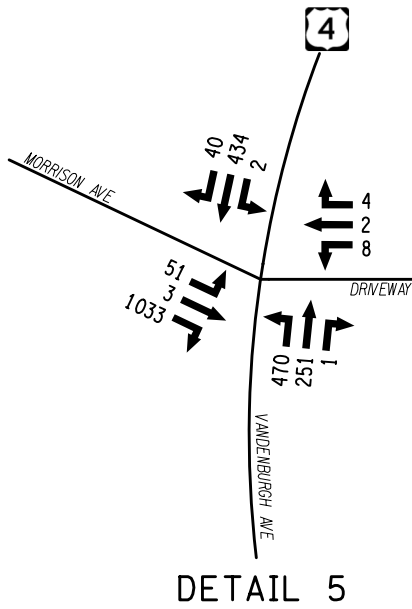
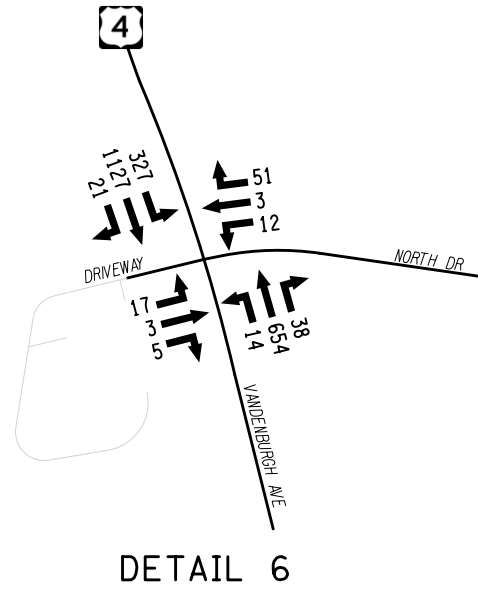
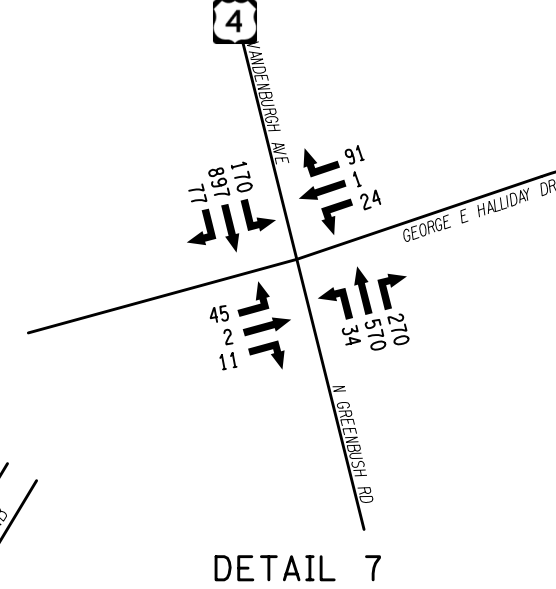
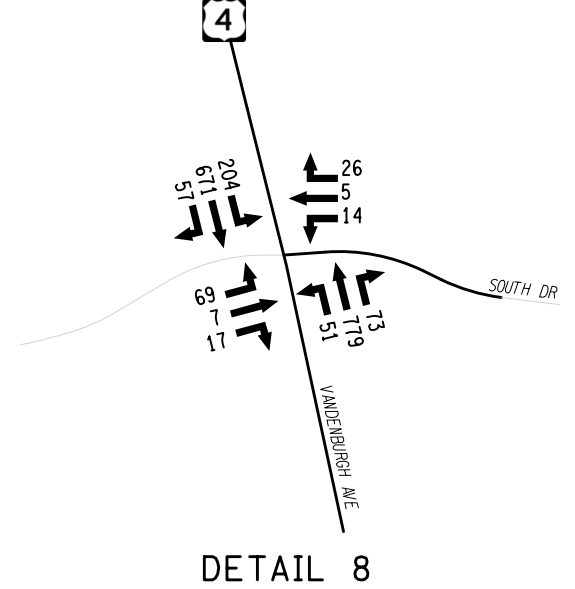
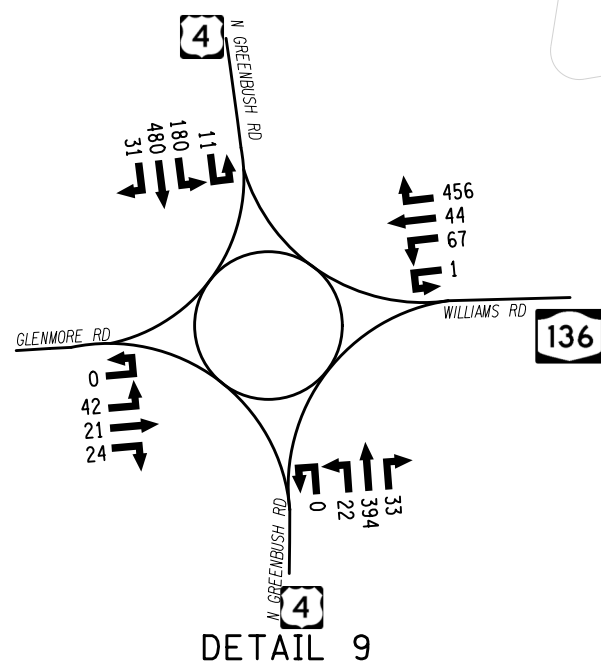
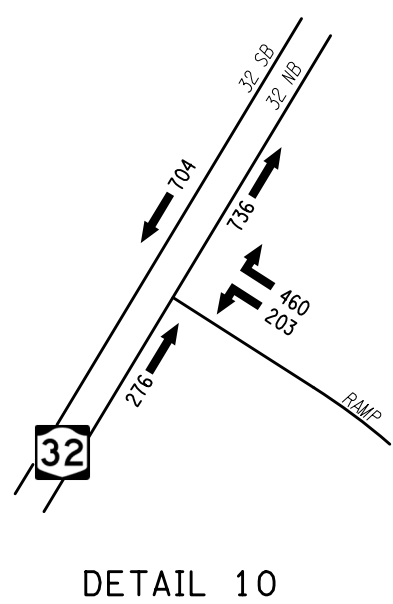
DRAWING NO.

SHEET NO. 02

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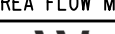
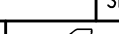
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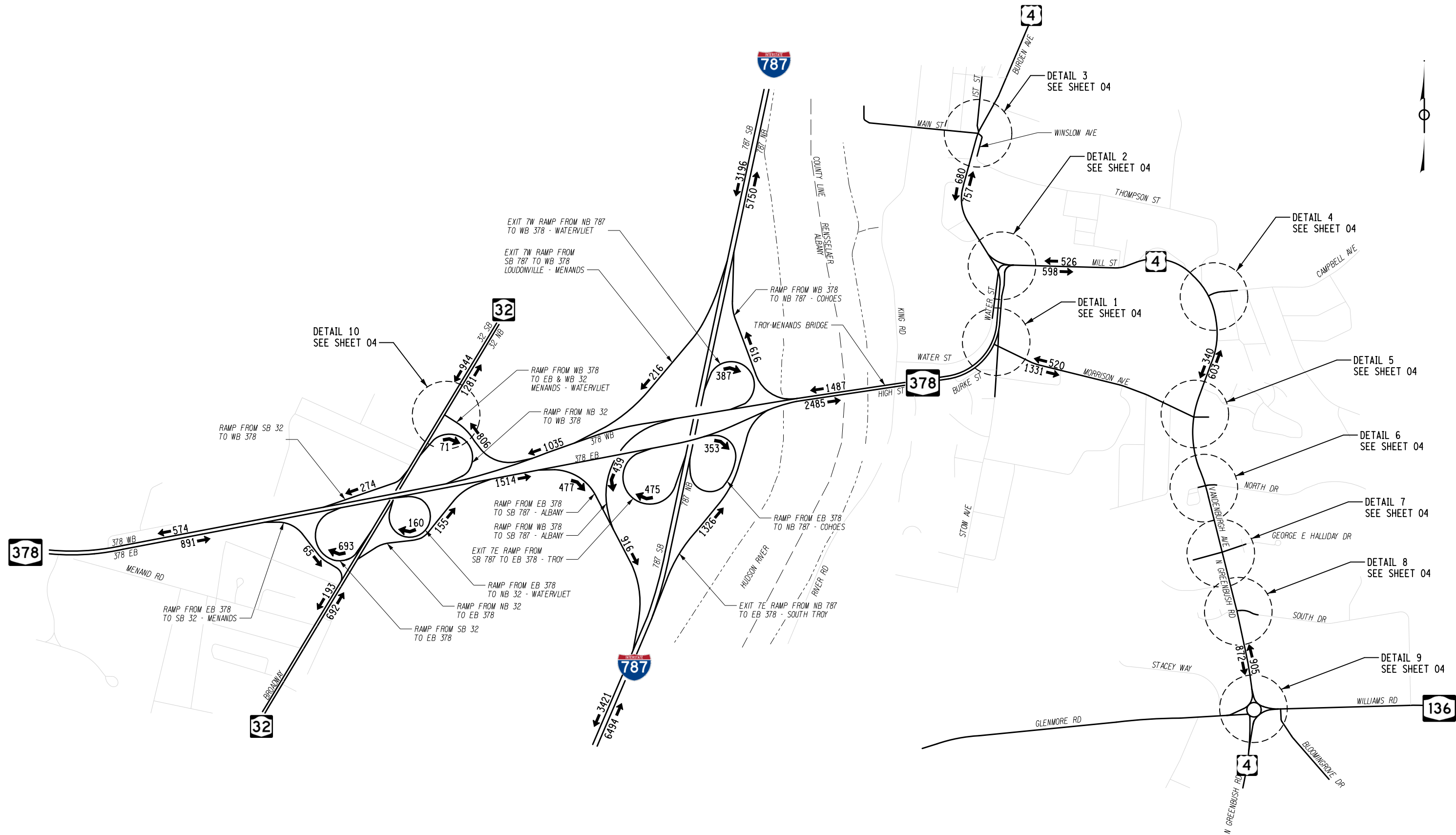
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PROJECT MANAGER

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						PM PEAK HOUR (4:30 - 5:30 PM)		DRAWING NO.	
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	COUNTY: RENSSELAER					REGION: --			
<div><div>wsp</div><div>NEW YORK STATE OF OPPORTUNITY.</div><div>Department of Transportation</div></div>									



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DESIGN SUPERVISOR

JOB MANAGER

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AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

ROUTE 378 PEL STUDY

PIN X731.52

BRIDGES

CULVERTS

ALL DIMENSIONS IN FT UNLESS OTHERWISE NOTED

CONTRACT NUMBER

D038105

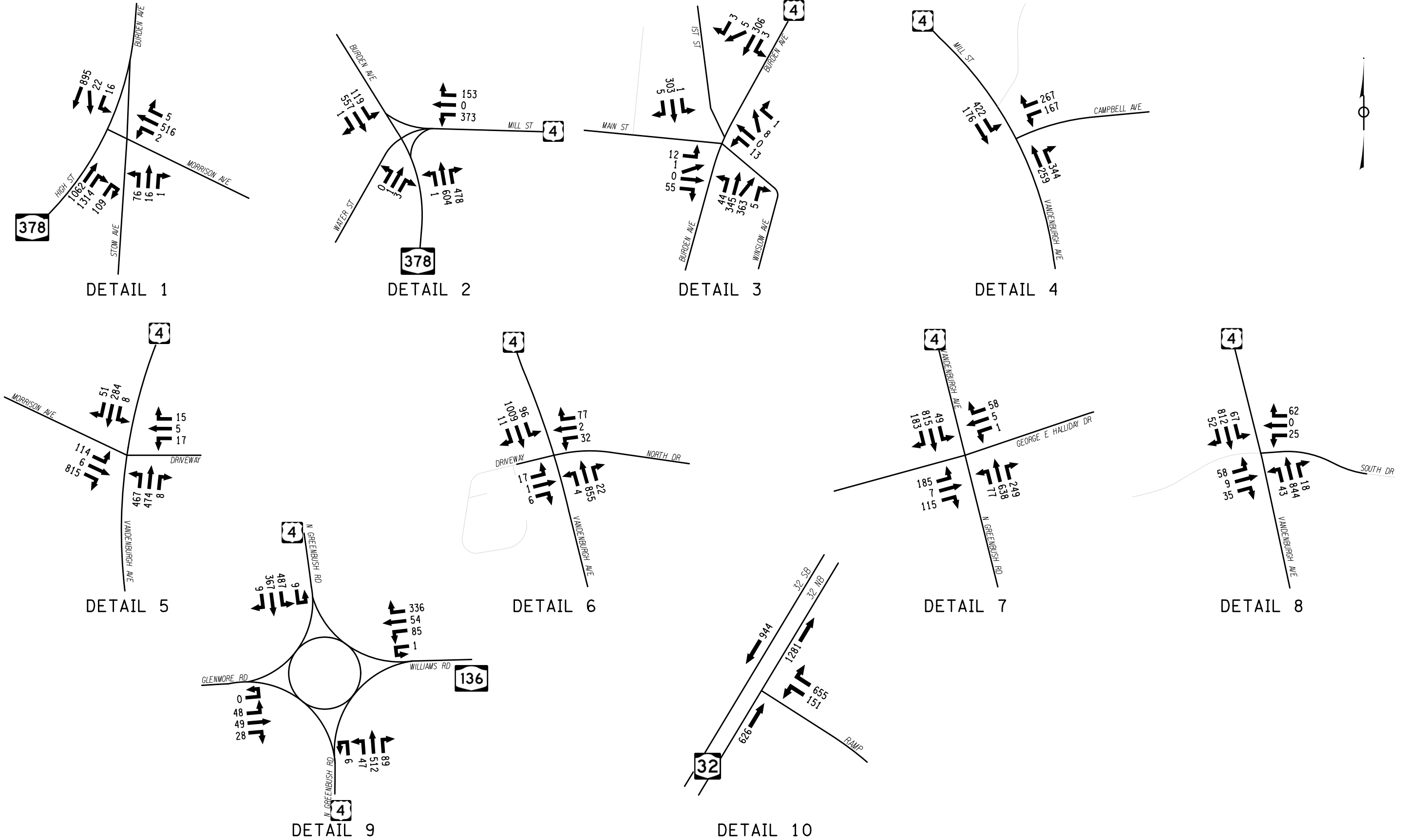
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TRAFFIC FLOW MAPS
EXISTING (2019)
PM PEAK HOUR (4:30 - 5:30 PM)
INTERSECTION FLOW MAPS



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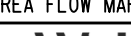
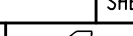
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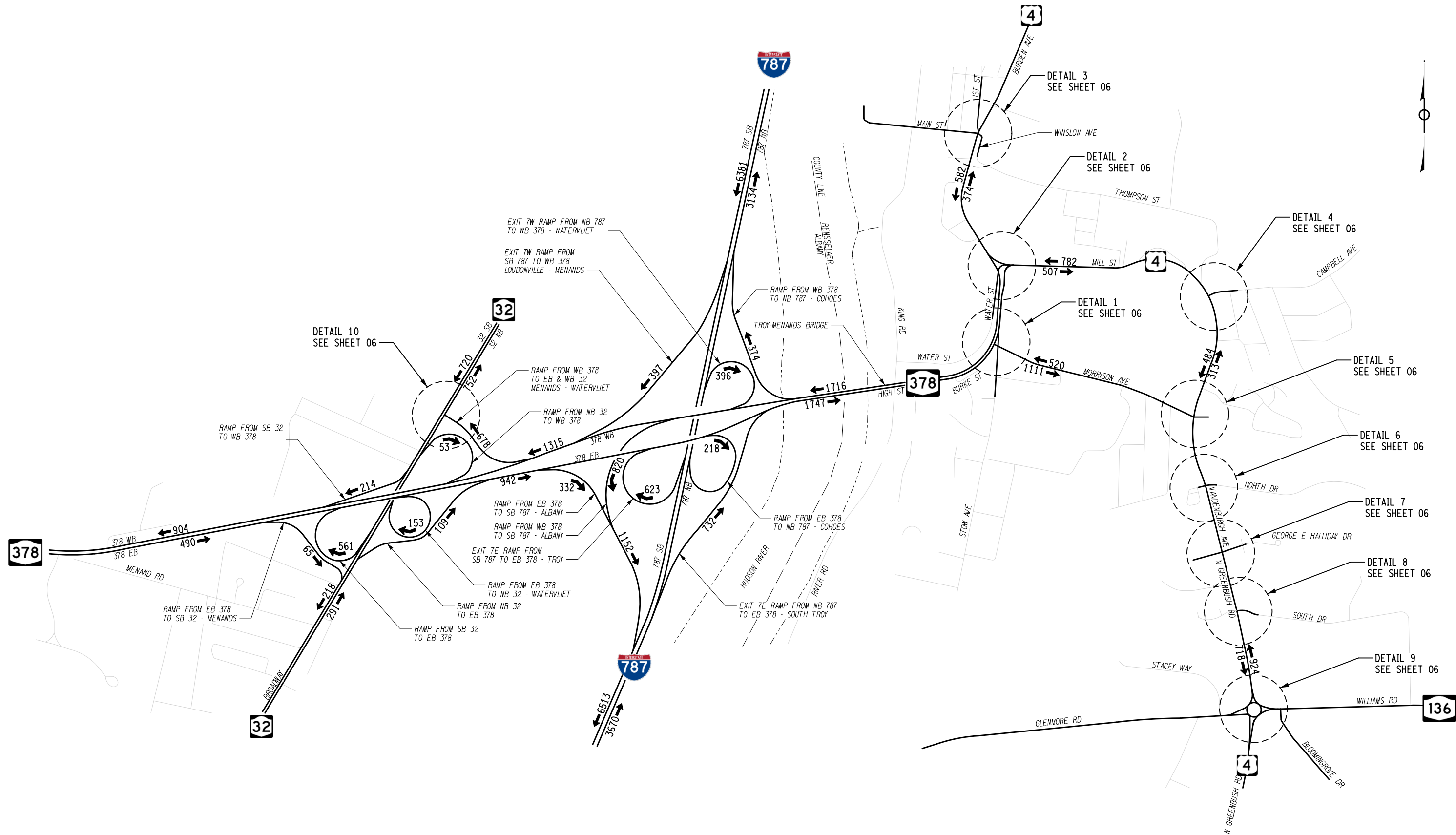
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PROJECT MANAGER

NOT TO SCALE

AS-BUILT REVISIONS DESCRIPTION OF ALTERATIONS:	ROUTE 378 PEL STUDY		PIN X731.52	BRIDGES	CULVERTS	ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED		CONTRACT NUMBER	
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								DRAWING NO.	
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<div><div></div><div> NEW YORK STATE OF OPPORTUNITY.</div><div>Department of Transportation</div></div>									



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DESIGN SUPERVISOR

JOB MANAGER

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PROJECT MANAGER

NOT TO SCALE

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

ROUTE 378 PEL STUDY

PIN X731.52

BRIDGES

CULVERTS

ALL DIMENSIONS IN FT UNLESS OTHERWISE NOTED

CONTRACT NUMBER

D038105

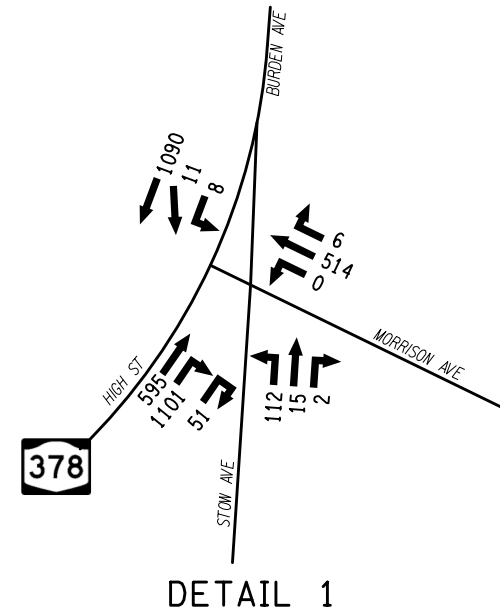
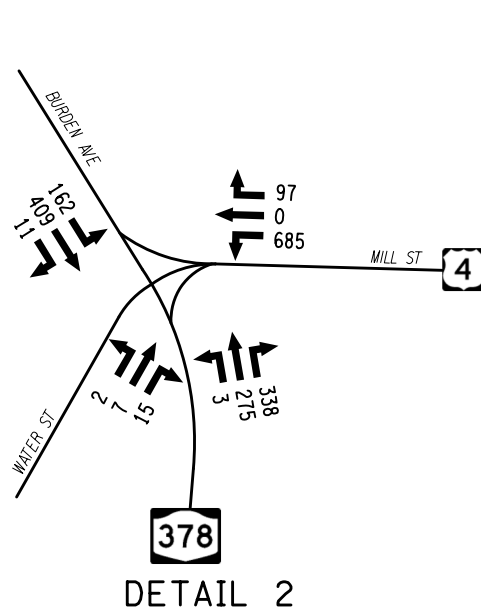
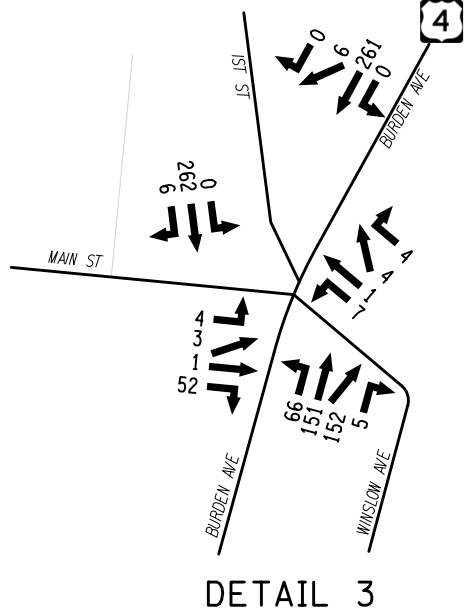
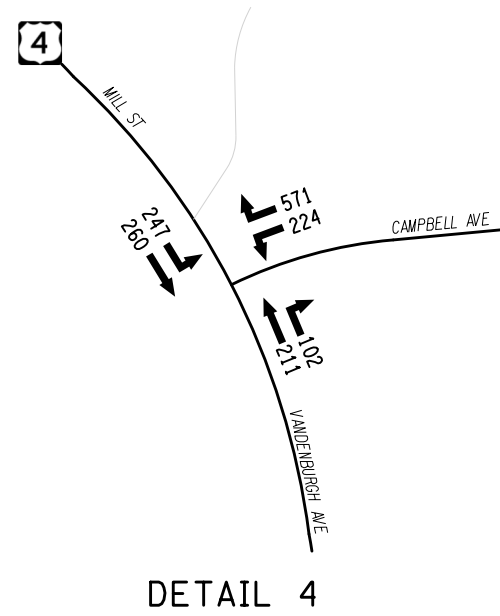
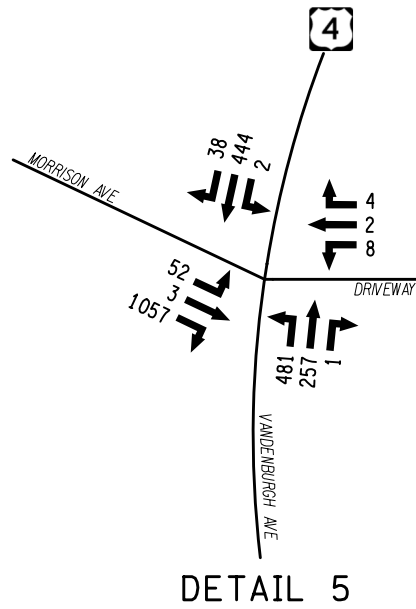
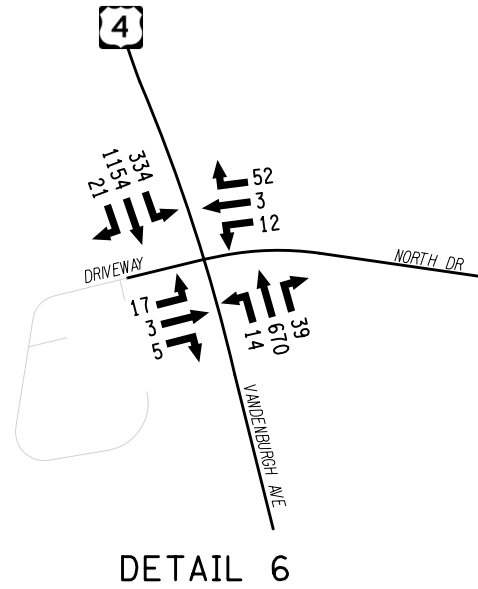
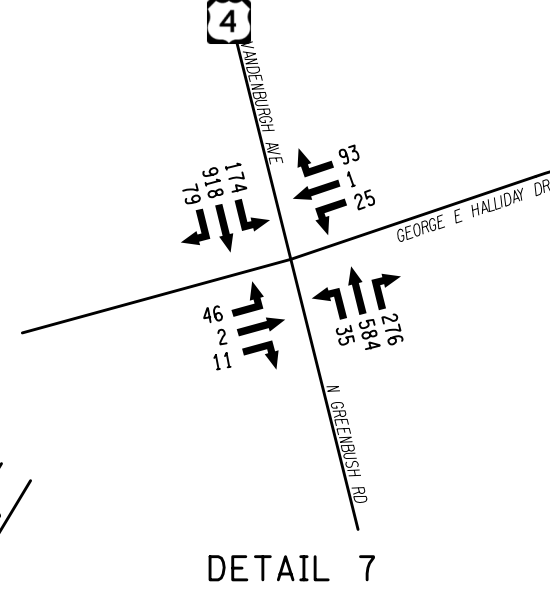
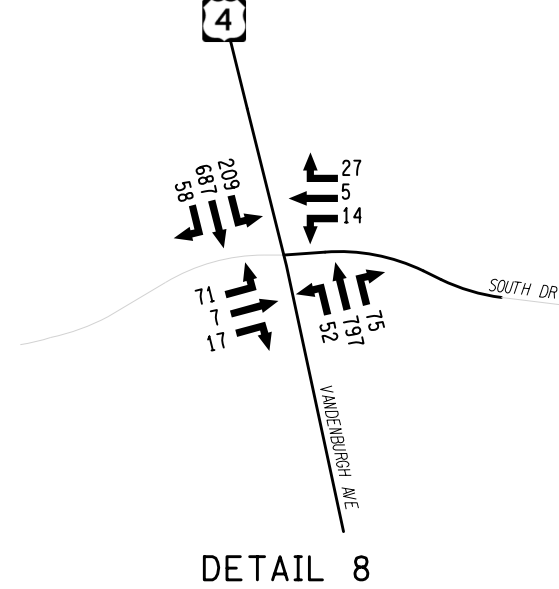
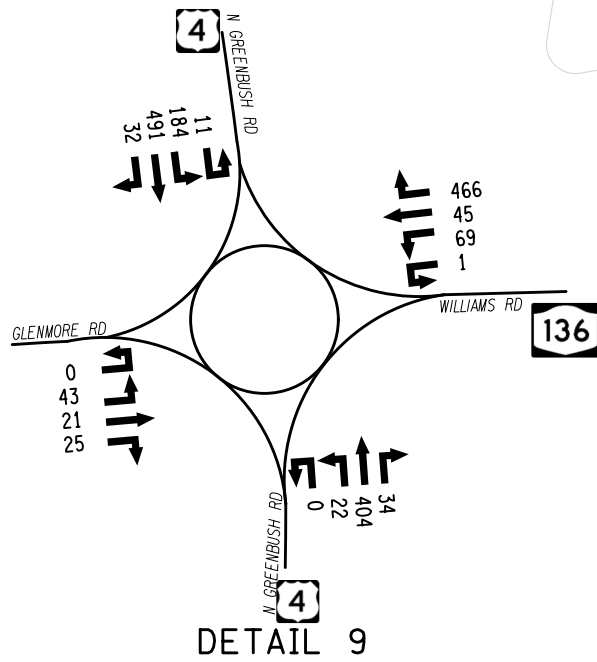
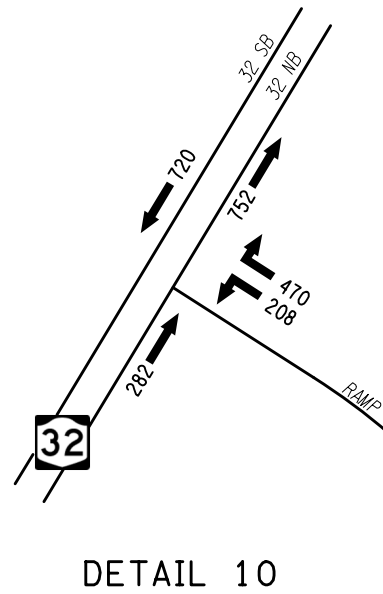
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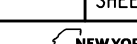
TRAFFIC FLOW MAPS
NO BUILD ETC (2025)
AM PEAK HOUR (6:00 - 7:00 AM)
INTERSECTION FLOW MAPS

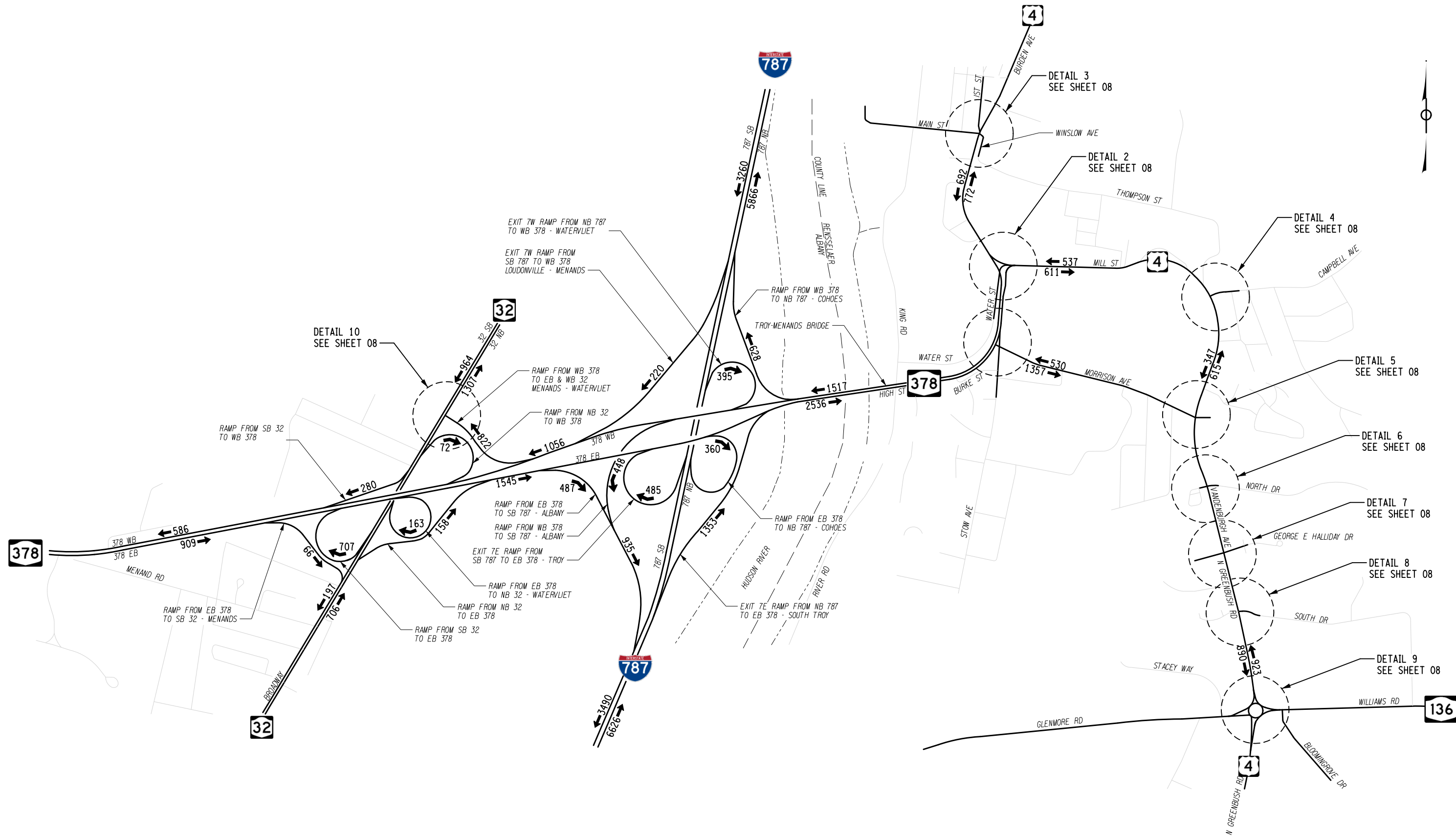


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						STUDY AREA FLOW MAP			
		COUNTY: RENSSELAER	REGION: --						
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AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

ROUTE 378 PEL STUDY

PIN X731.52

BRIDGES

CULVERTS

ALL DIMENSIONS IN FT UNLESS OTHERWISE NOTED

CONTRACT NUMBER

D038105

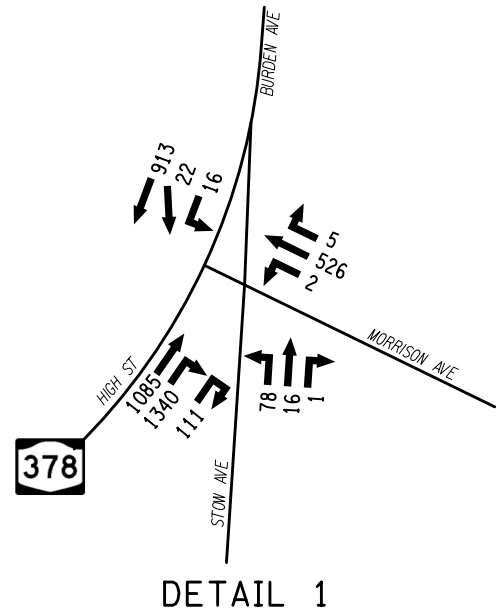
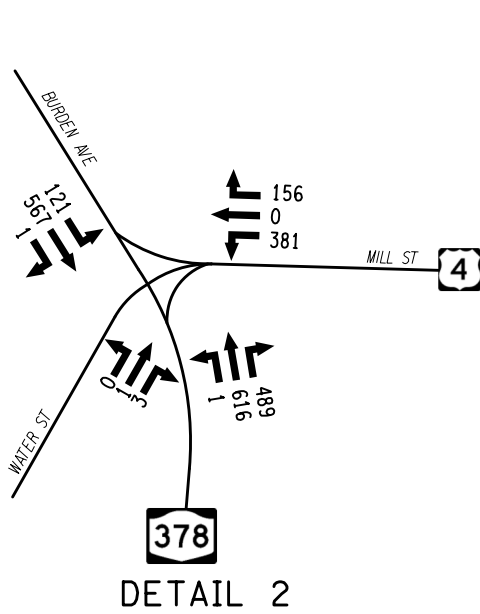
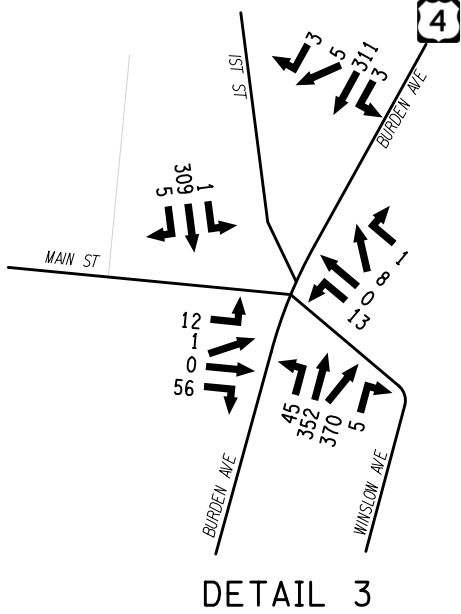
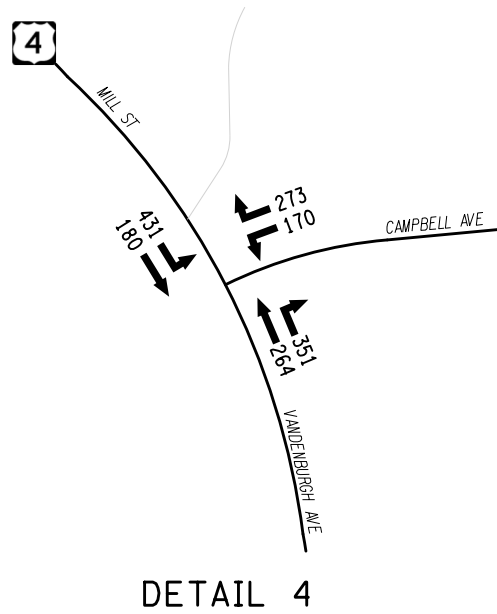
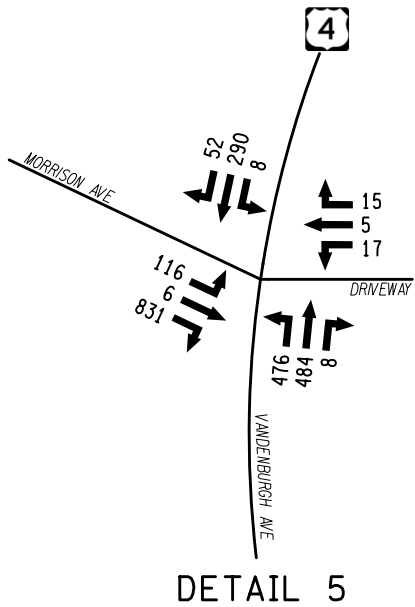
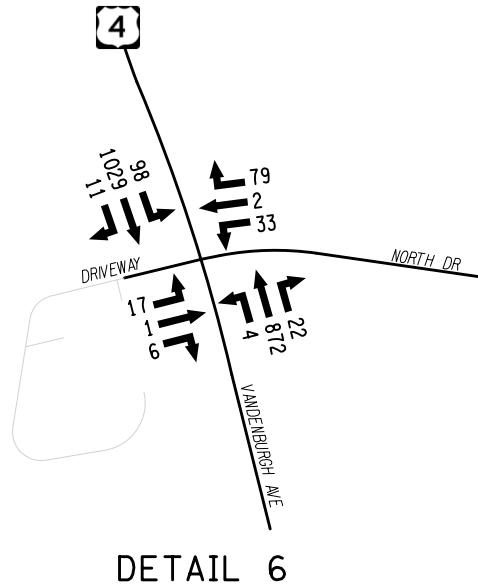
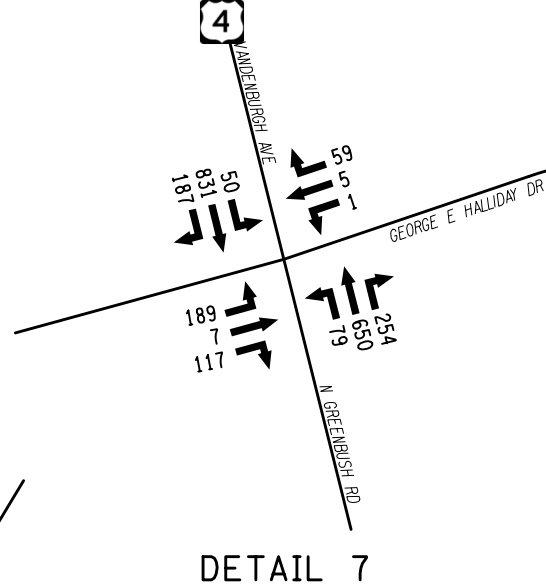
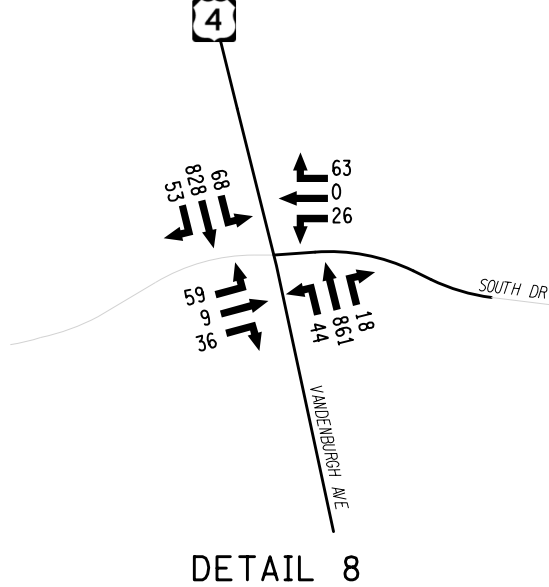
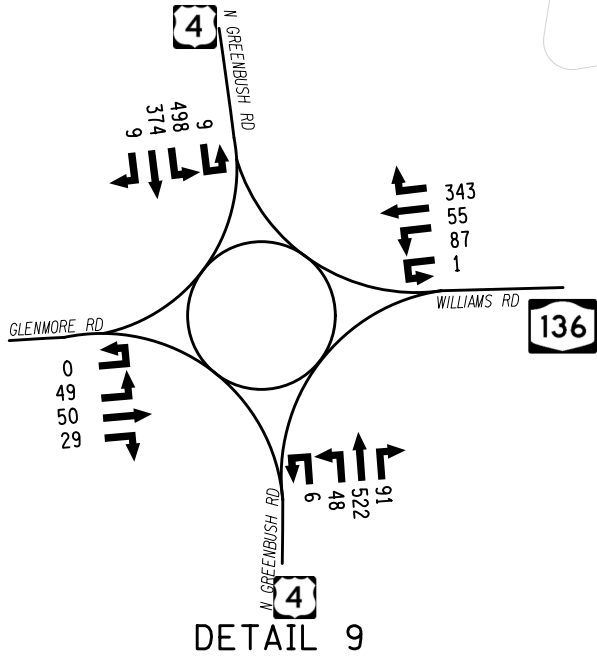
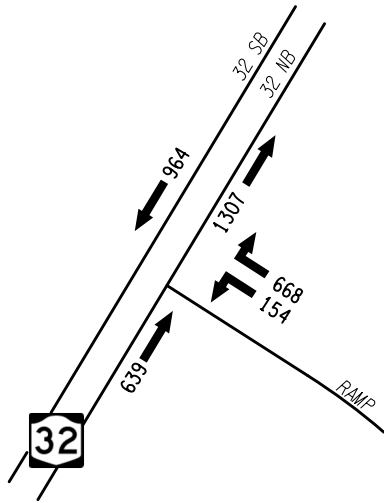
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TRAFFIC FLOW MAPS
NO BUILD ETC (2025)
PM PEAK HOUR (4:00 - 5:00 PM)
INTERSECTION FLOW MAPS



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AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

ROUTE 378 PEL STUDY

PIN X731.52

BRIDGES

CULVERTS

ALL DIMENSIONS IN FT UNLESS OTHERWISE NOTED

CONTRACT NUMBER

D038105

DRAWING NO.

SHEET NO. 09

TRAFFIC FLOW MAPS
NO BUILD ETC +20 (2045)
AM PEAK HOUR (6:00 - 7:00 AM)
STUDY AREA FLOW MAP

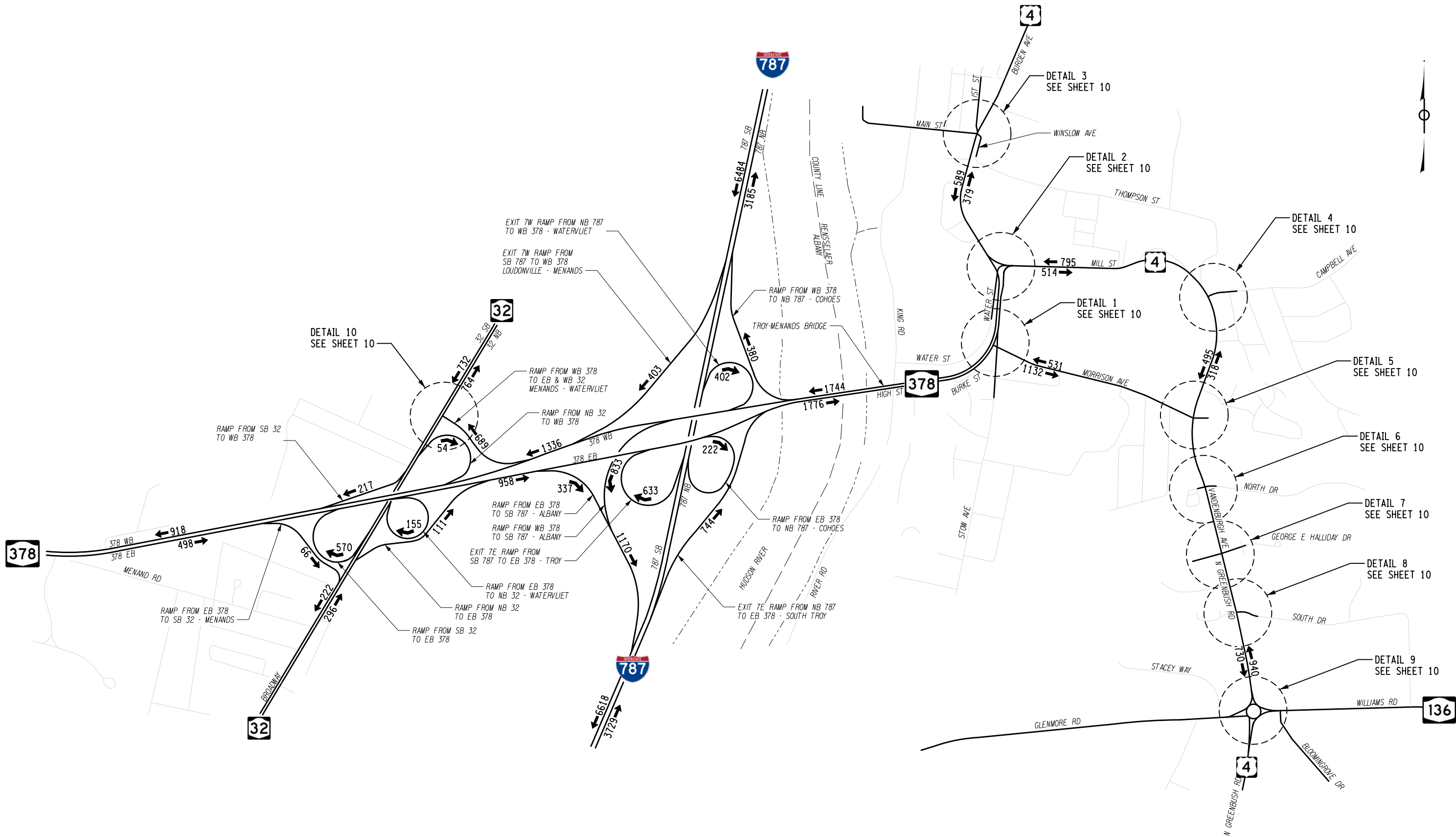
COUNTY: RENSSELAER

REGION: --

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STATE OF
OPPORTUNITY

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Transportation



NOT TO SCALE

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

ROUTE 378 PEL STUDY

PIN X731.52

BRIDGES

CULVERTS

ALL DIMENSIONS IN FT UNLESS OTHERWISE NOTED

CONTRACT NUMBER

D038105

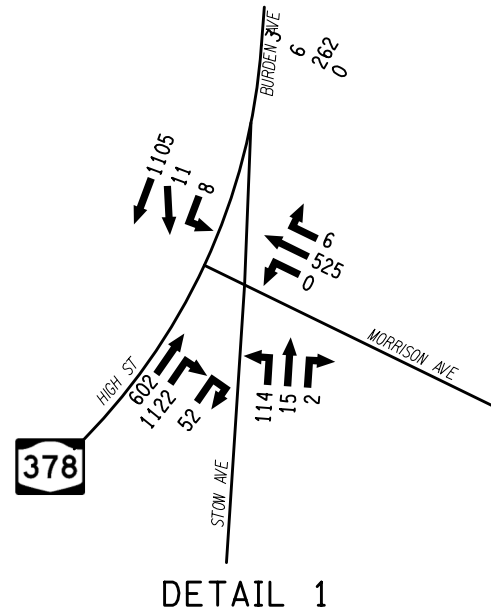
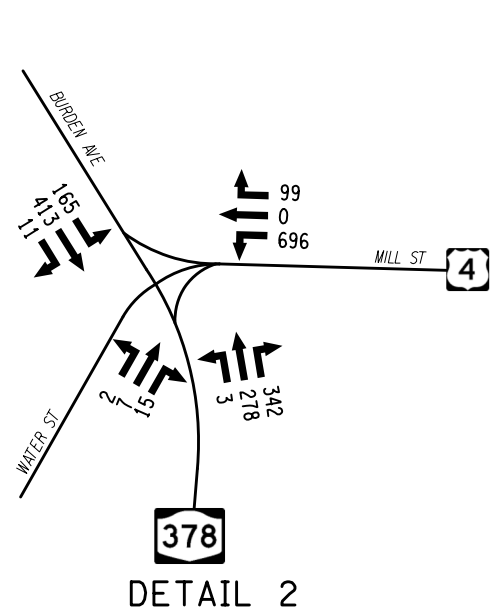
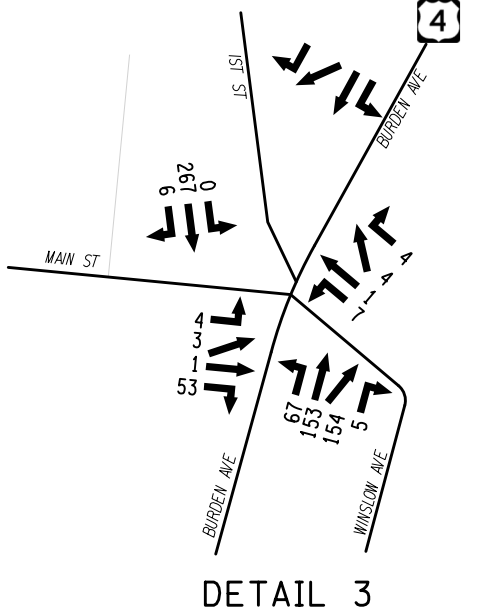
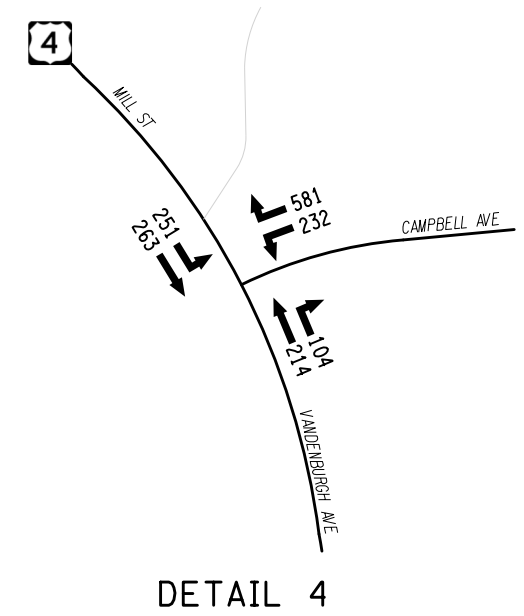
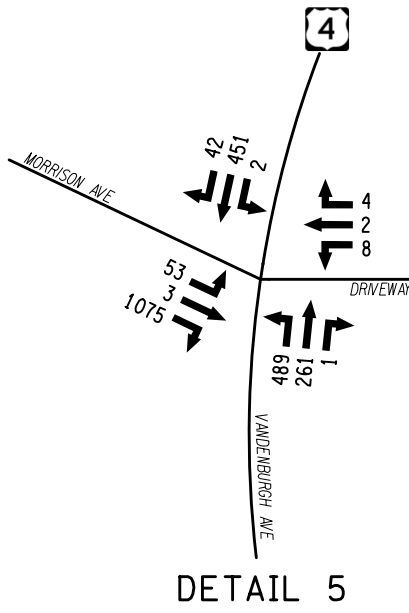
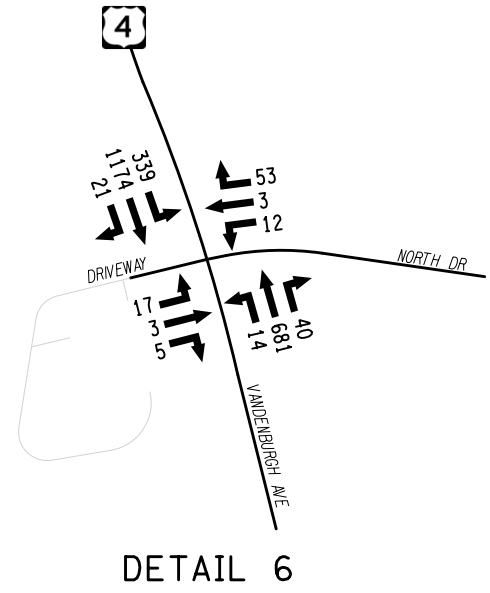
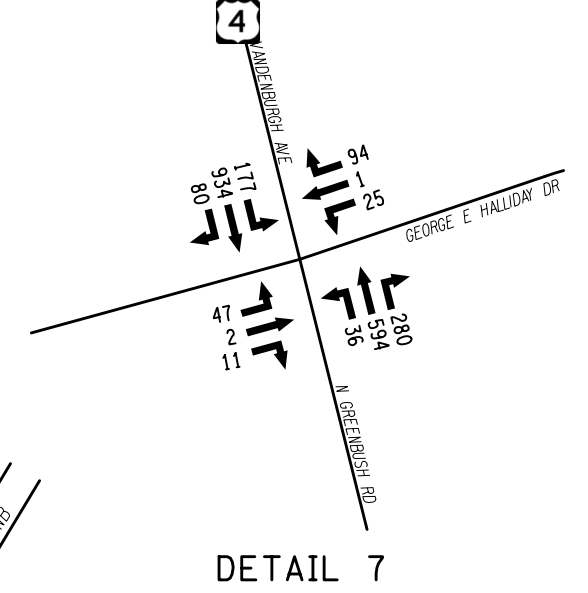
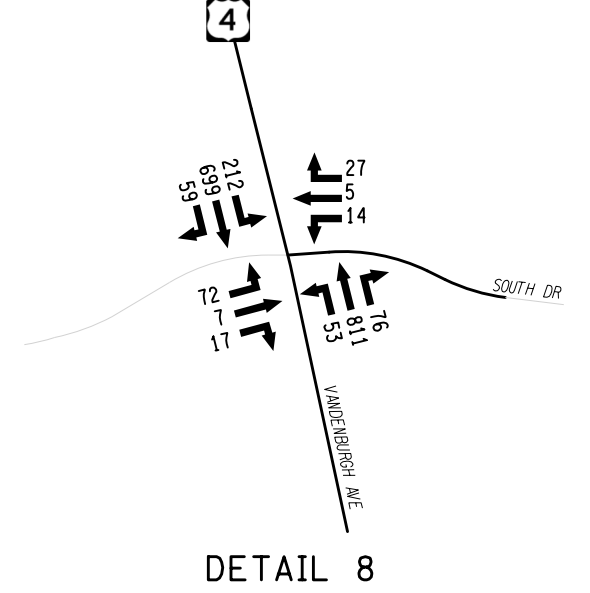
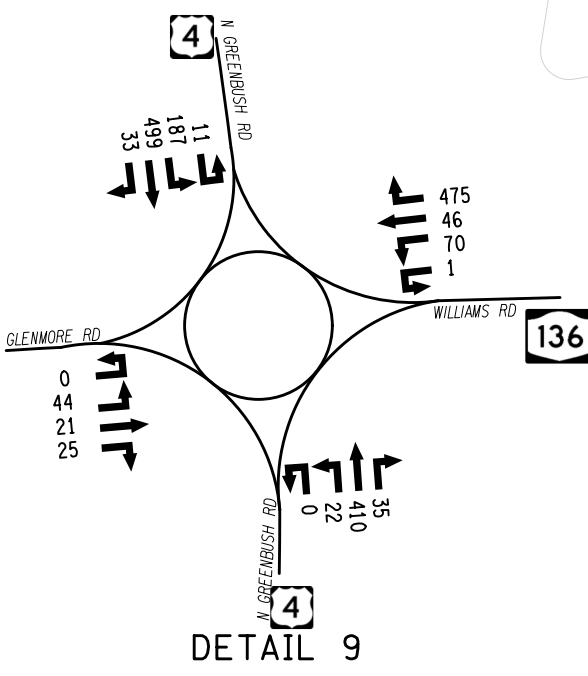
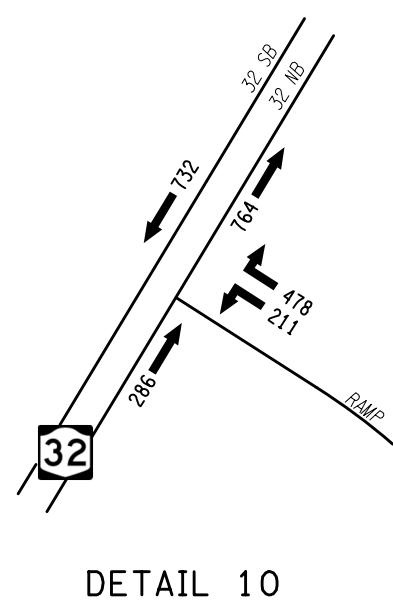
DRAWING NO.

SHEET NO. 10

TRAFFIC FLOW MAPS
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AM PEAK HOUR (6:00 - 7:00 AM)
INTERSECTION FLOW MAPS



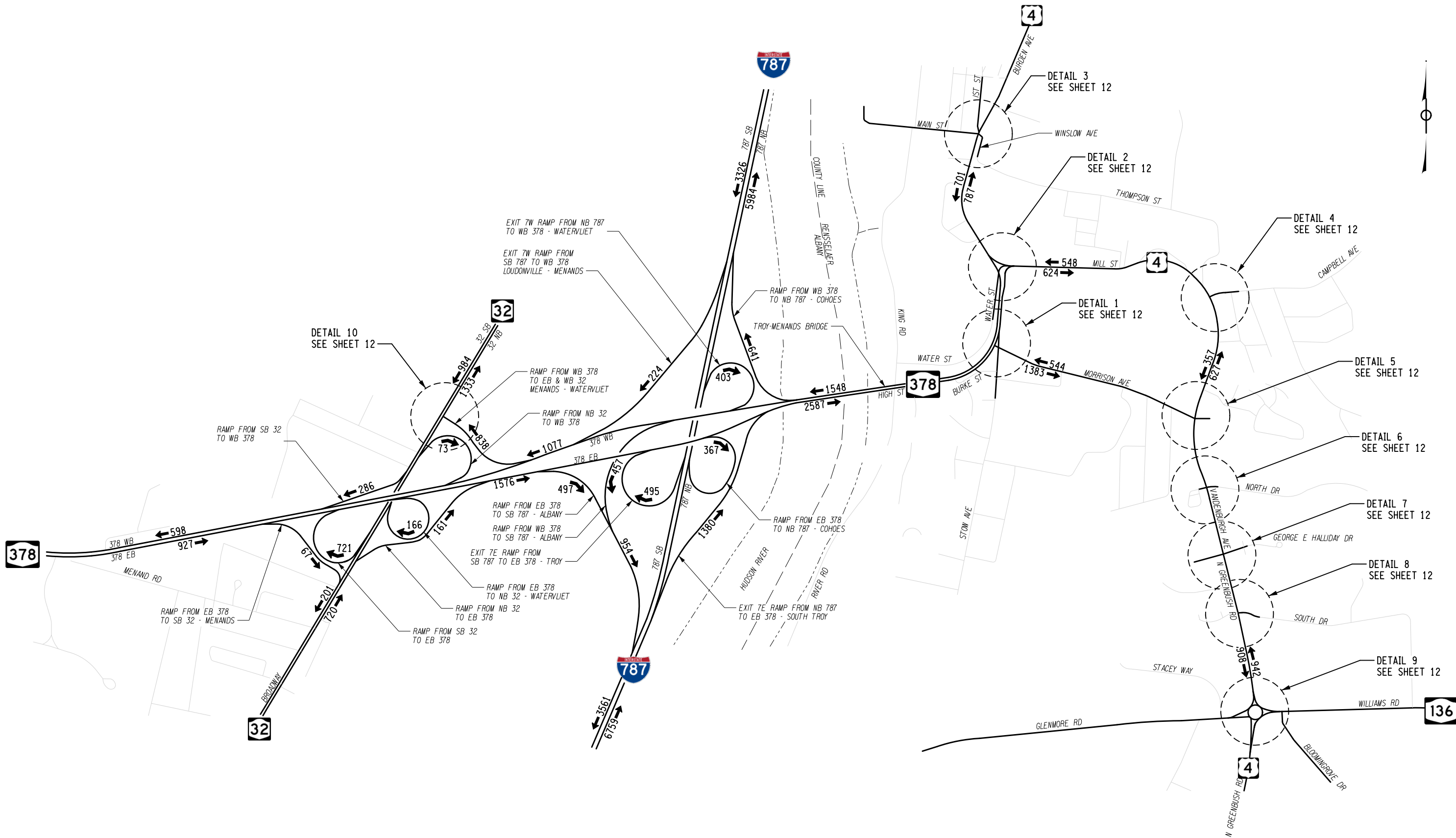
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AS-BUILT REVISIONS DESCRIPTION OF ALTERATIONS:	ROUTE 378 PEL STUDY	PIN X731.52	BRIDGES	CULVERTS	ALL DIMENSIONS IN FT UNLESS OTHERWISE NOTED	CONTRACT NUMBER
					TRAFFIC FLOW MAPS NO BUILD ETC +20 (2045) PM PEAK HOUR (4:00 - 5:00 PM) STUDY AREA FLOW MAP	D038105
COUNTY: RENSSELAER	REGION: --					DRAWING NO. SHEET NO. 11





NOT TO SCALE

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

ROUTE 378 PEL STUDY

PIN X731.52

BRIDGES

CULVERTS

ALL DIMENSIONS IN FT UNLESS OTHERWISE NOTED

CONTRACT NUMBER

D038105

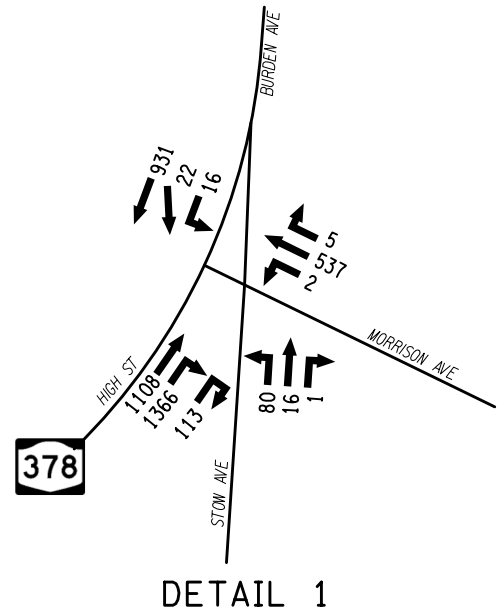
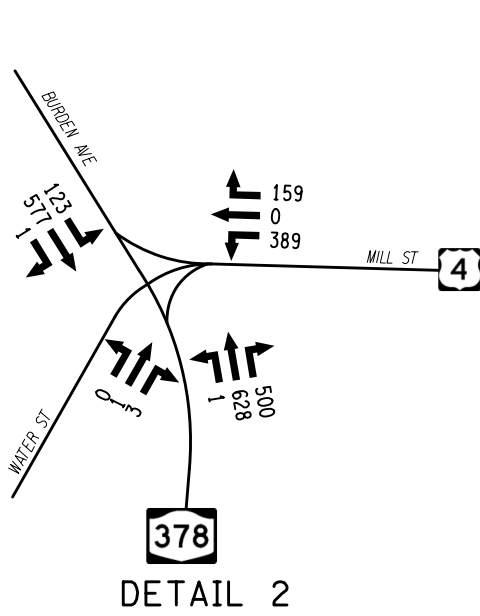
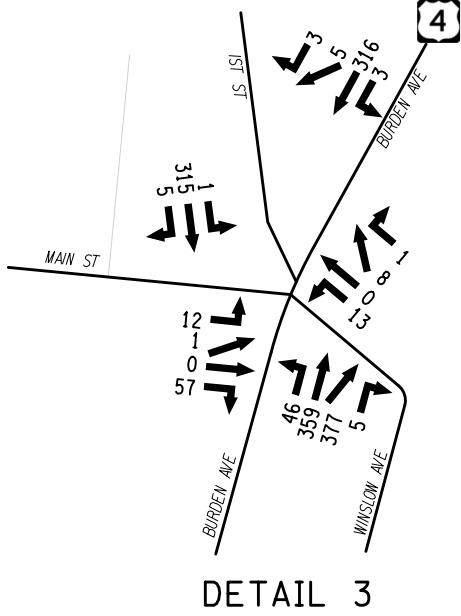
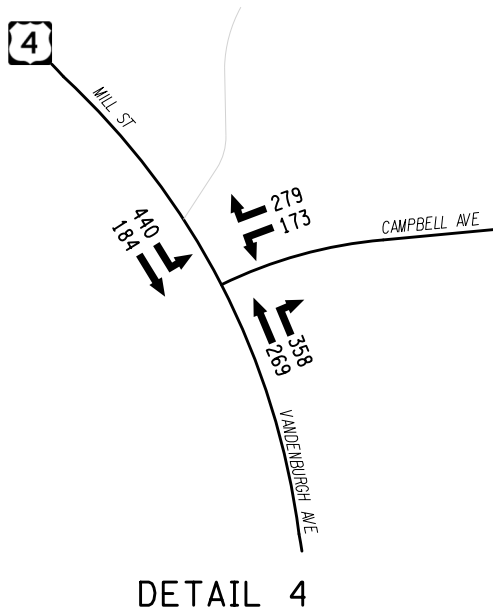
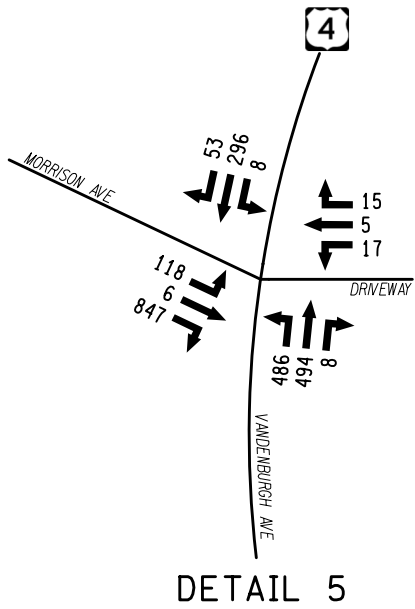
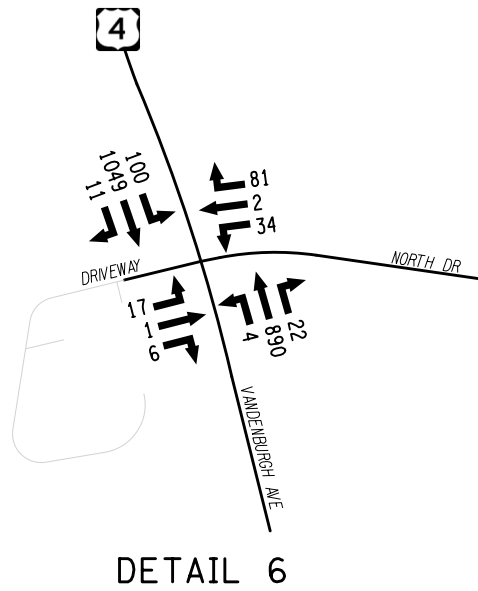
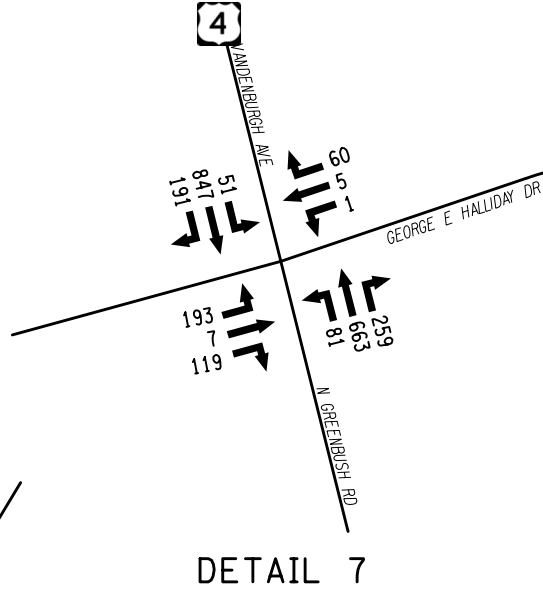
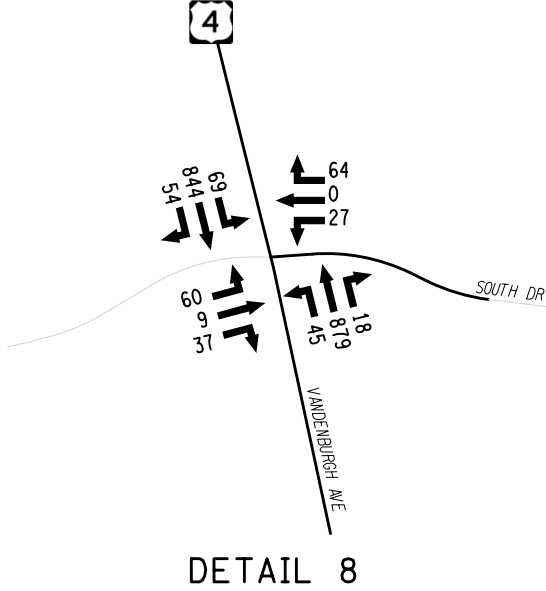
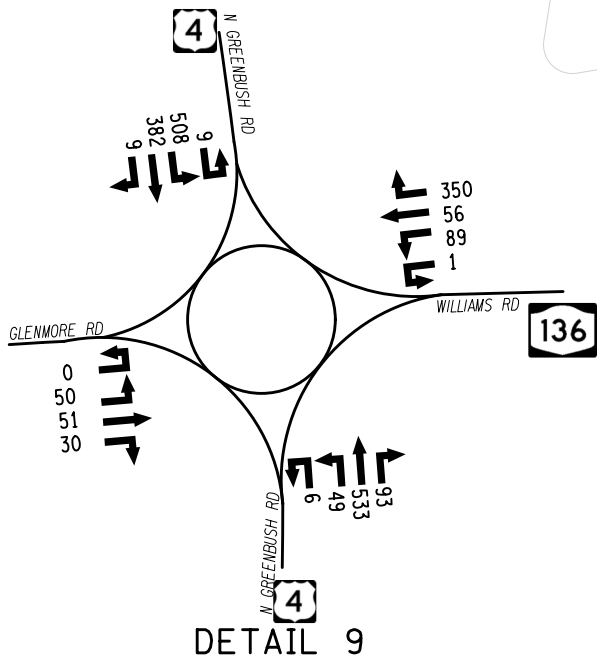
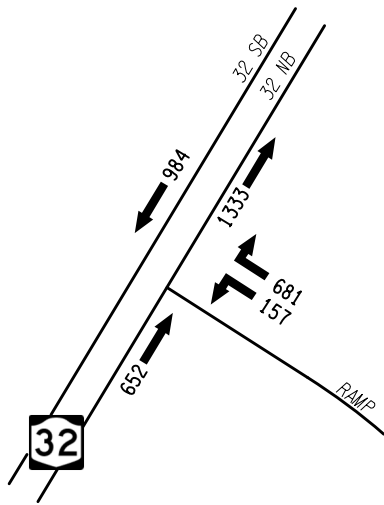
DRAWING NO.

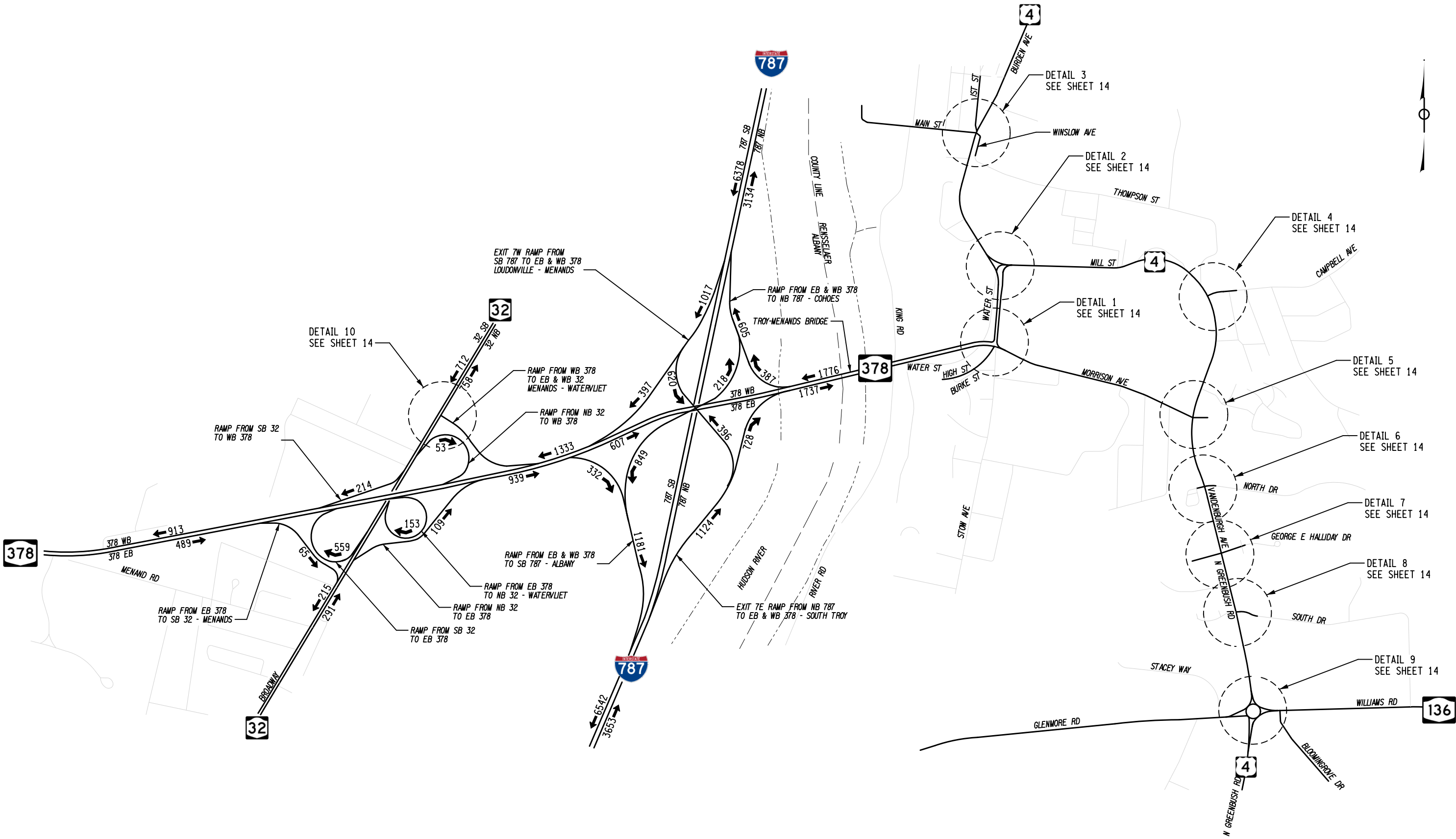
SHEET NO. 12

TRAFFIC FLOW MAPS
NO BUILD ETC +20 (2045)
PM PEAK HOUR (4:00 - 5:00 PM)
INTERSECTION FLOW MAPS

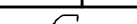


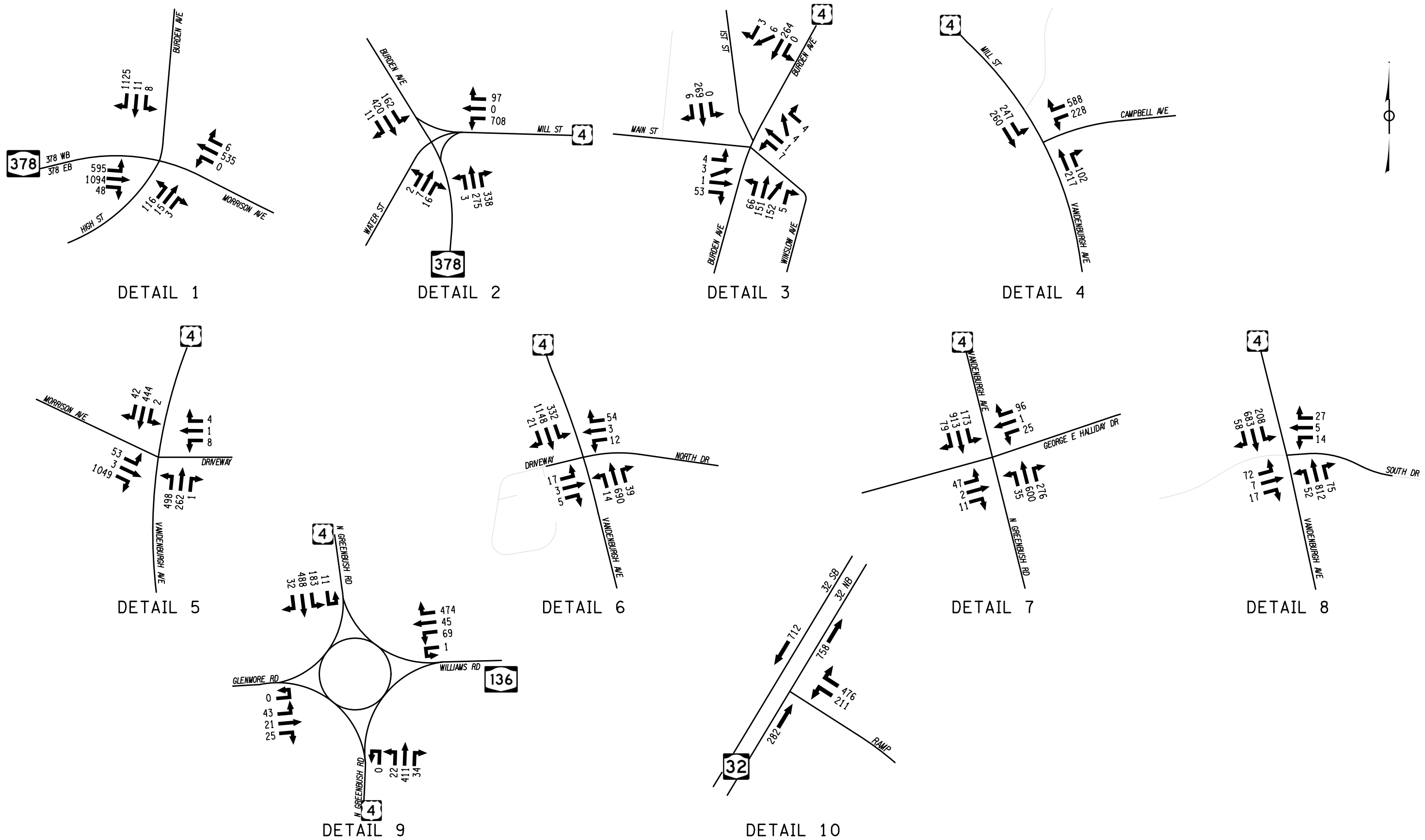
Department of
Transportation



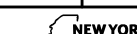


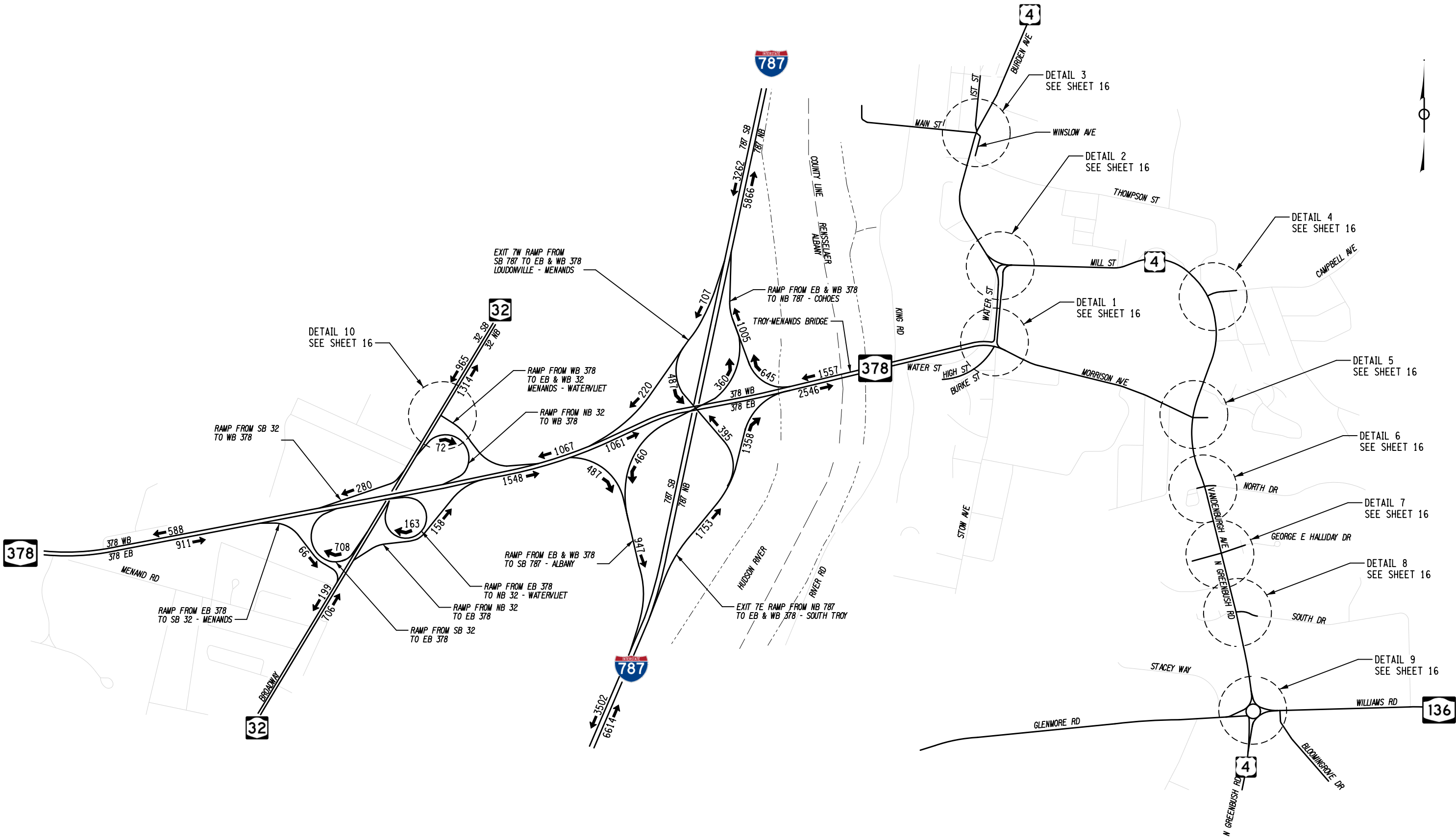
NOT TO SCALE

AS-BUILT REVISIONS DESCRIPTION OF ALTERATIONS:	ROUTE 378 PEL STUDY		PIN X731.52	BRIDGES	CULVERTS	ALL DIMENSIONS IN FT UNLESS OTHERWISE NOTED		CONTRACT NUMBER	
						TRAFFIC FLOW MAPS CONCEPT 3 (2025)		D038105	
						AM PEAK HOUR (7:30 - 8:30 AM)		DRAWING NO.	
						STUDY AREA FLOW MAP		SHEET NO. 13	
	COUNTY: RENSSELAER REGION: --								
								 Department of Transportation	

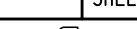


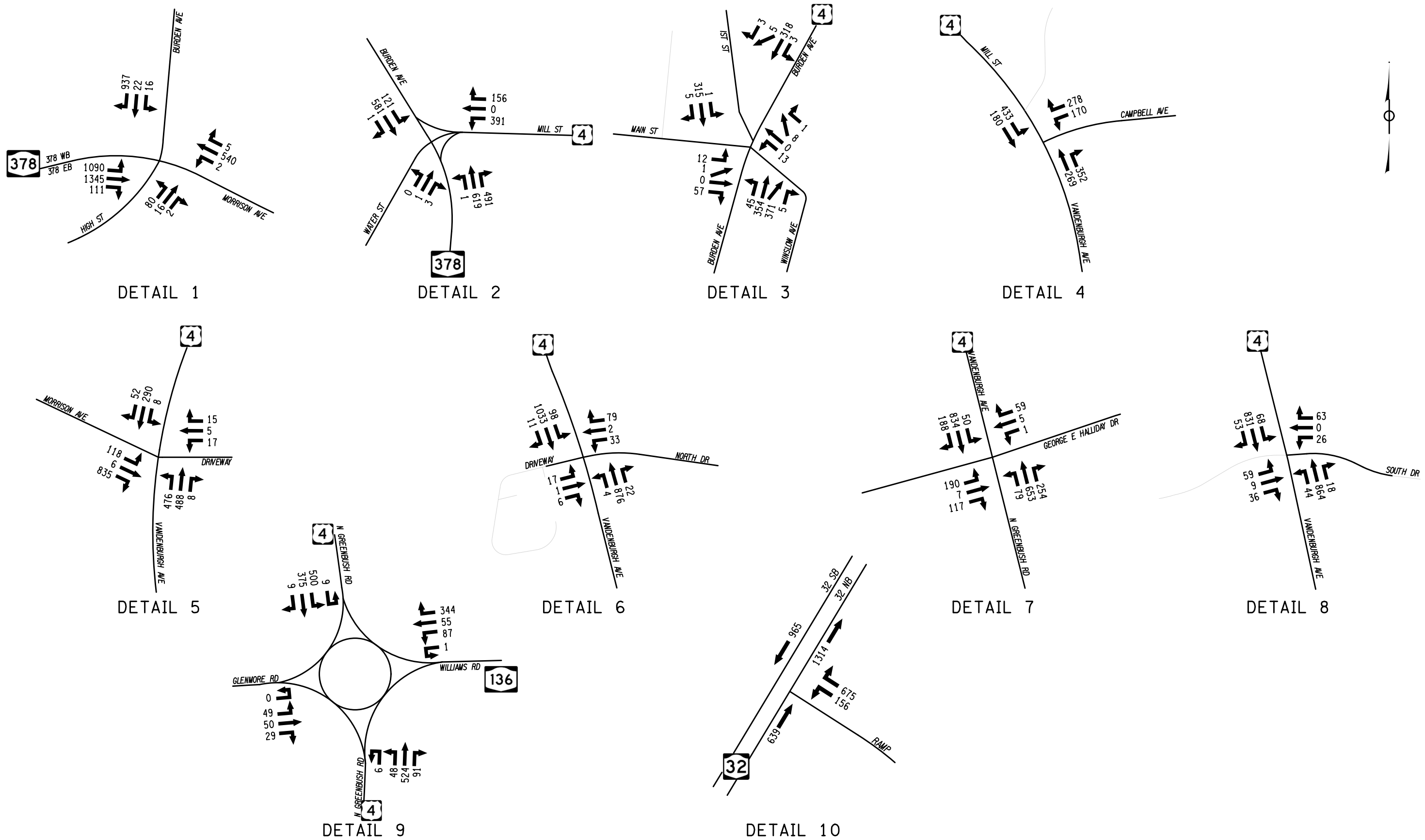
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						SHEET NO. 14	
	COUNTY: RENSSELAER				REGION: --		
						 NEW YORK STATE OF OPPORTUNITY.	Department of Transportation



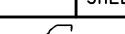
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						DRAWING NO.
						SHEET NO. 15
	COUNTY: RENSSELAER				REGION: --	
						 Department of Transportation



NOT TO SCALE

AS-BUILT REVISIONS DESCRIPTION OF ALTERATIONS:	ROUTE 378 PEL STUDY	PIN X731.52	BRIDGES	CULVERTS	ALL DIMENSIONS IN FT UNLESS OTHERWISE NOTED	CONTRACT NUMBER
					TRAFFIC FLOW MAPS CONCEPT 3 (2025) PM PEAK HOUR (4:30 - 5:30 PM) INTERSECTION FLOW MAPS	D038105
						DRAWING NO.
						SHEET NO. 16
	COUNTY: RENSSELAER					REGION: --

**Department of Transportation**

FILE NAME = DGNSSPEC
DATE/TIME = DGNSSYTIME
USER = PLOTTED BY: Hermis

DESIGN SUPERVISOR X

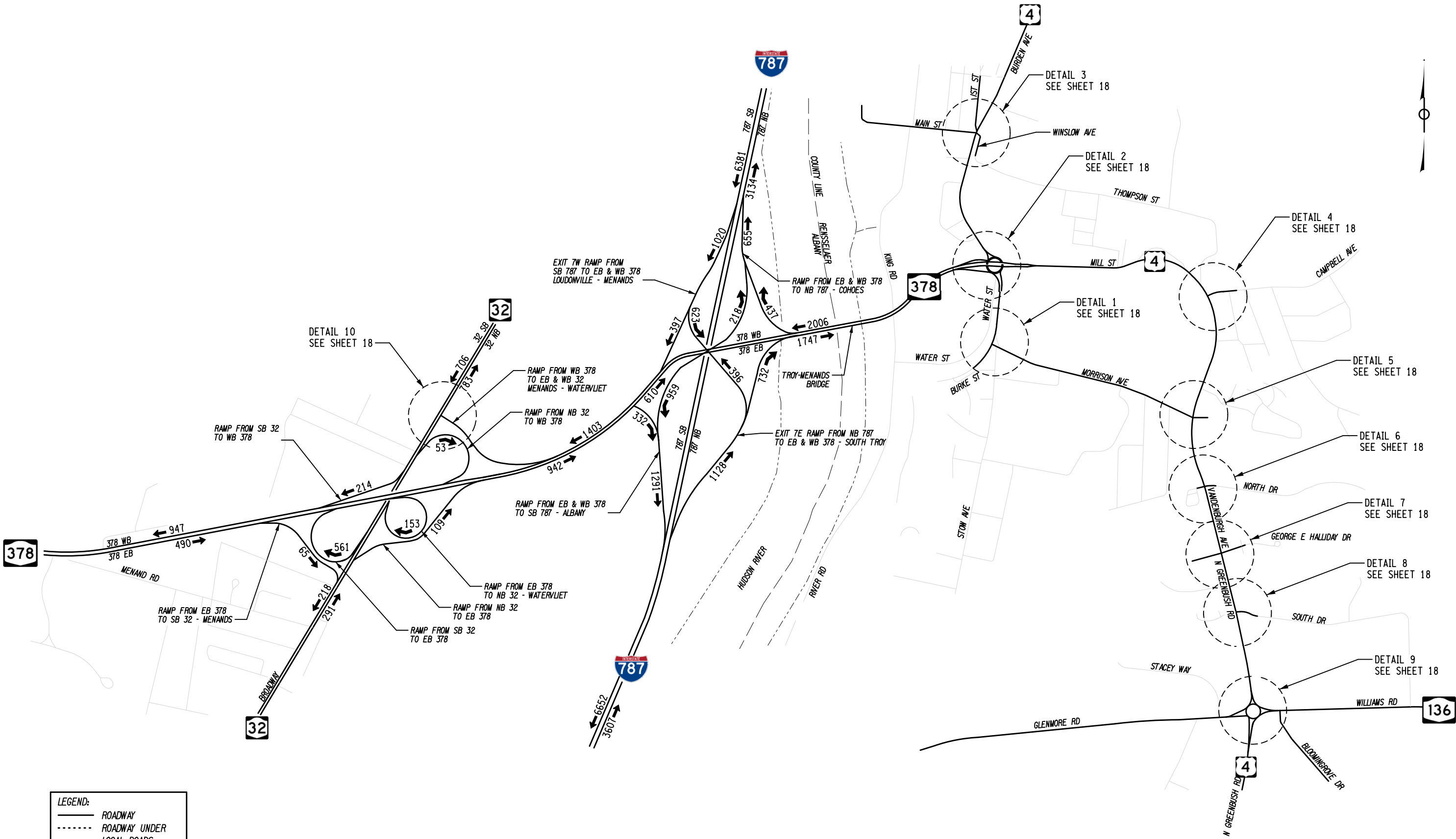
DESIGN

CHECK

DRAFTING

CHECK

PROJECT MANAGER X



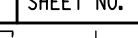
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- ROADWAY
- ROADWAY UNDER
- LOCAL ROADS
- TRAFFIC FLOW

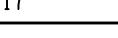
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	COUNTY: RENSSELAER				REGION: --	

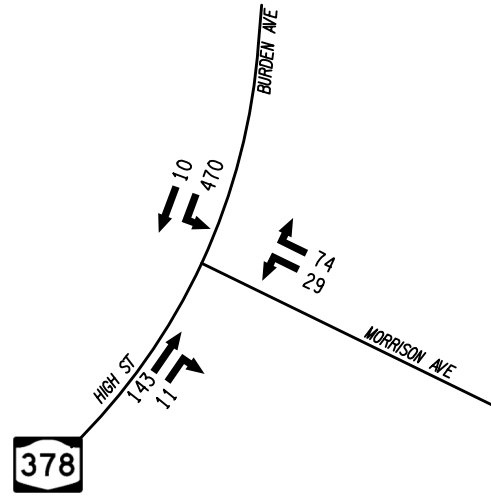




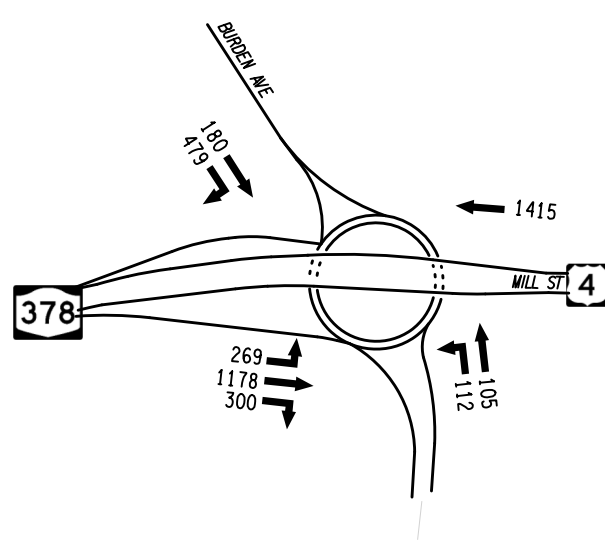
NEW YORK
STATE OF
OPPORTUNITY.



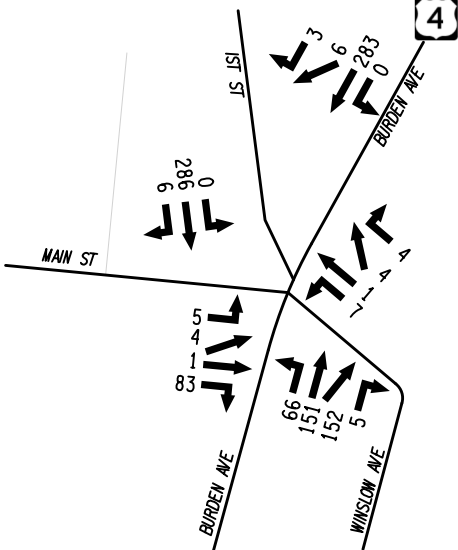
Department of
Transportation



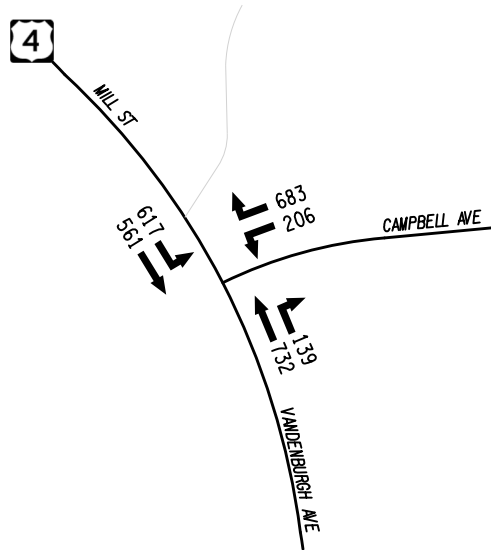
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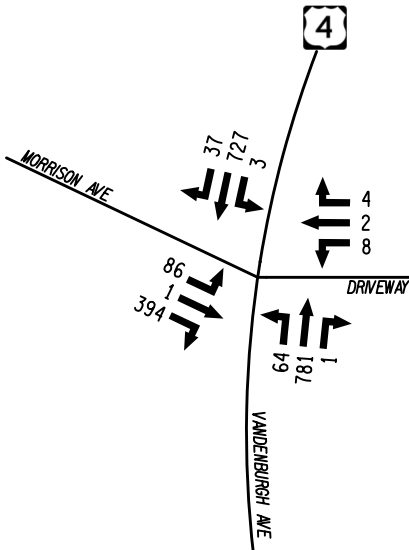
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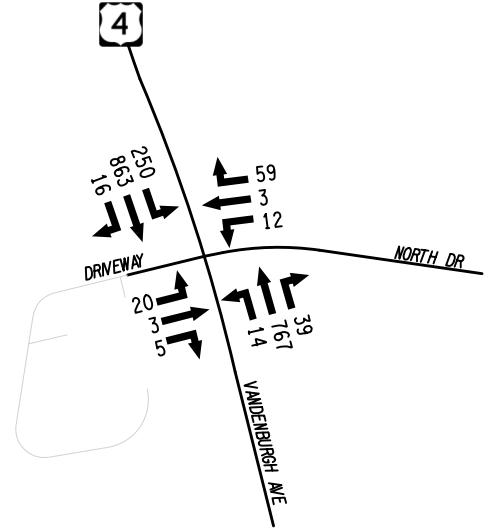
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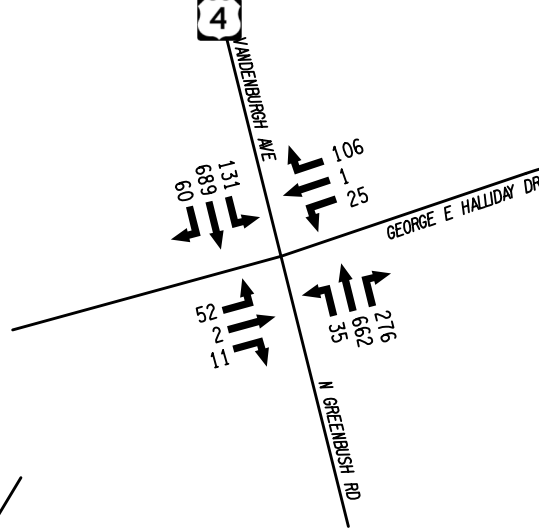
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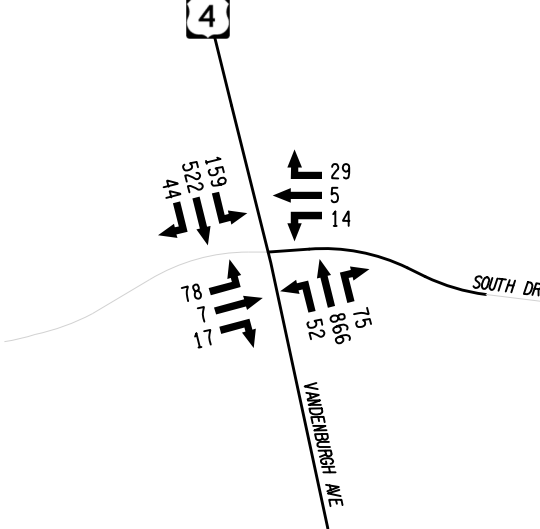
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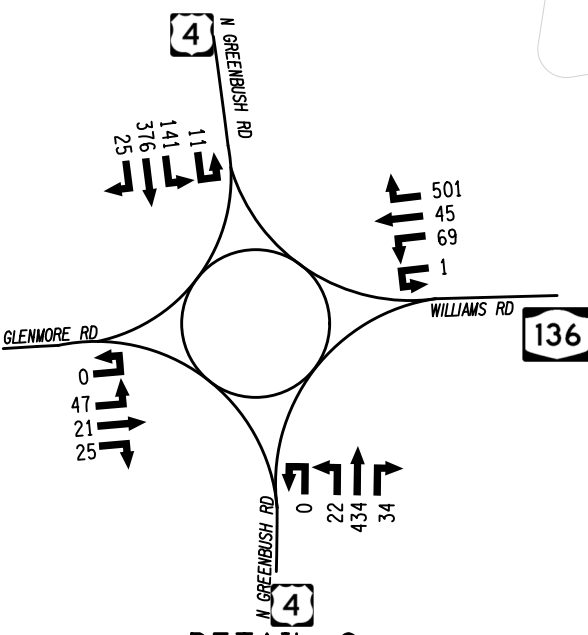
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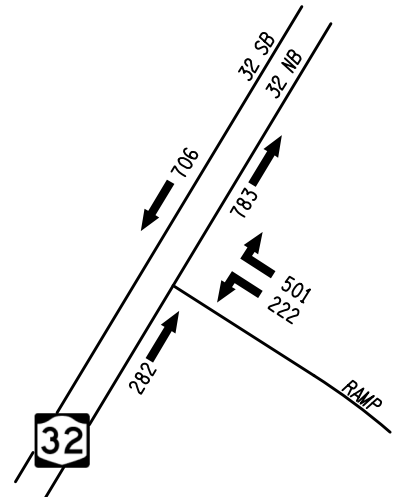
DETAIL 7



DETAIL 8



DETAIL 9



DETAIL 10

LEGEND:

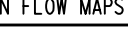
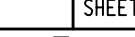
ROADWAY

ROADWAY UNDER

LOCAL ROADS

TRAFFIC FLOW

NOT TO SCALE

AS-BUILT REVISIONS DESCRIPTION OF ALTERATIONS:	ROUTE 378 PEL STUDY	PIN X731.52	BRIDGES	CULVERTS	ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED	CONTRACT NUMBER
					TRAFFIC FLOW MAPS CONCEPT 4 (2025)	D038105
					AM PEAK HOUR (7:30 - 8:30 AM)	DRAWING NO.
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<div><div></div><div><div>NEW YORK STATE OF OPPORTUNITY.</div></div><div>Department of Transportation</div></div>						

FILE NAME = DGNSSPEC
DATE/TIME = DGNSSYTIME
USER = PLOTTED BY: Hermis

DESIGN SUPERVISOR X

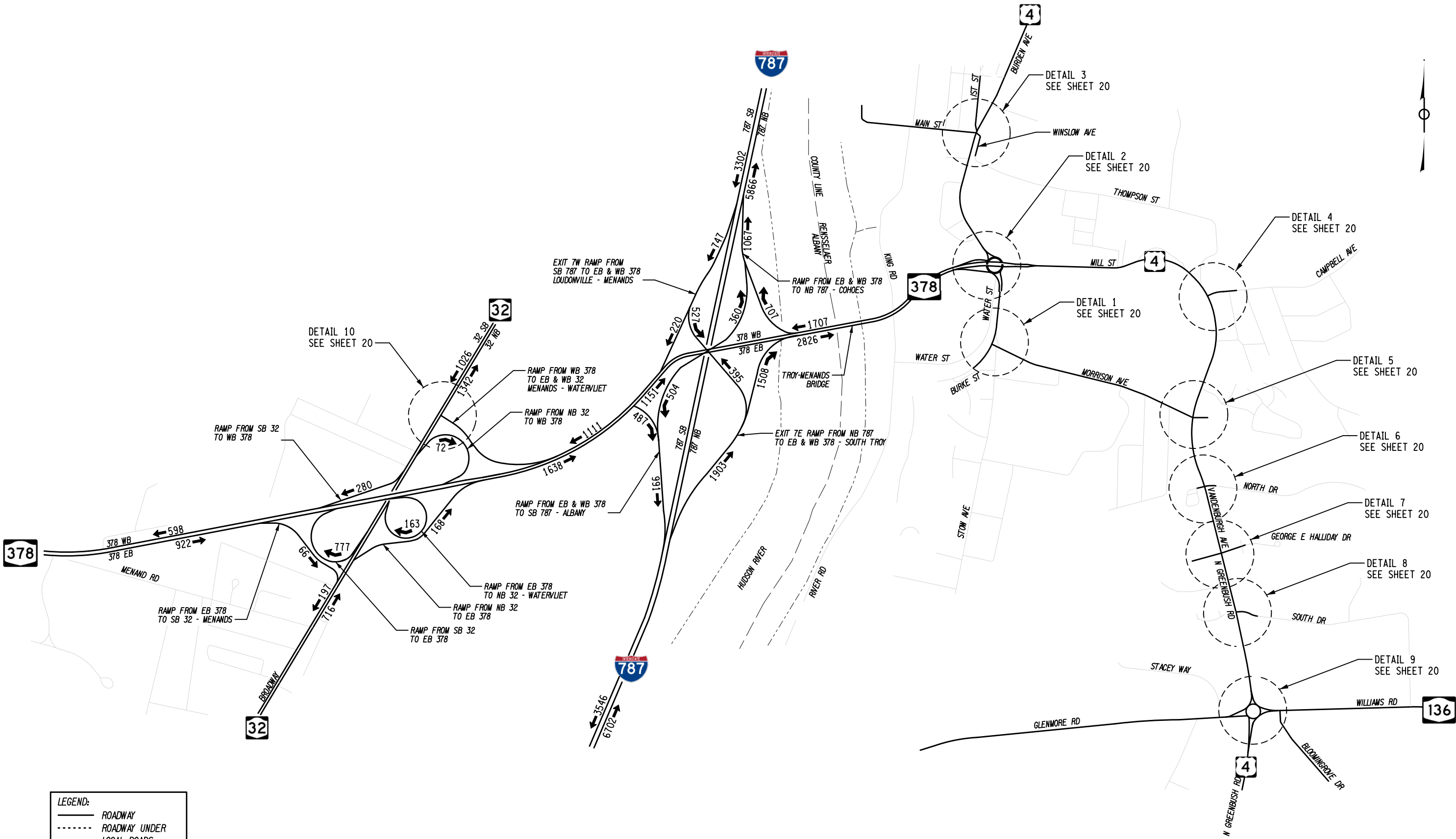
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DRAFTING

CHECK

PROJECT MANAGER X

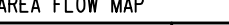


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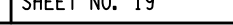
- ROADWAY
- ROADWAY UNDER
- LOCAL ROADS
- TRAFFIC FLOW

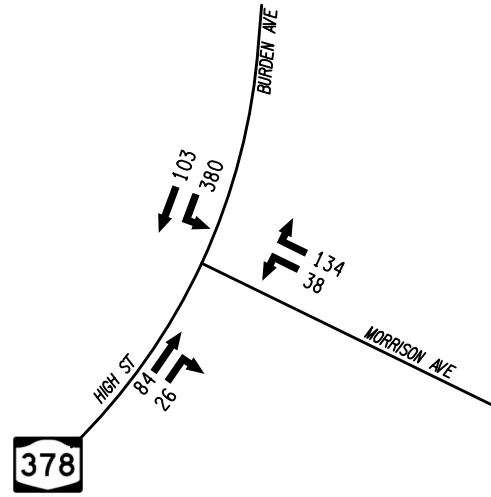
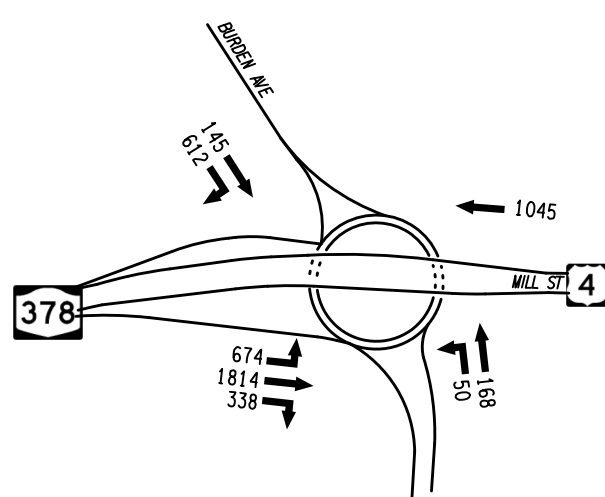
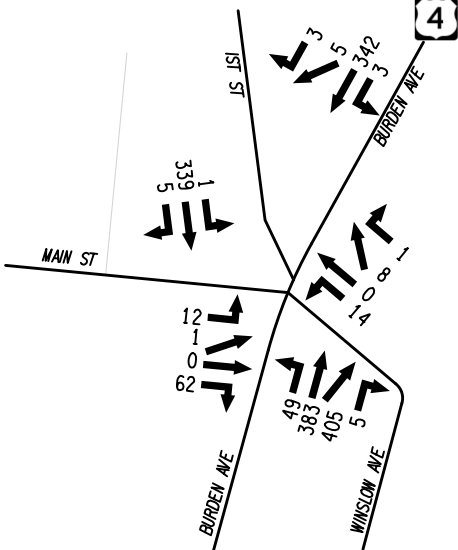
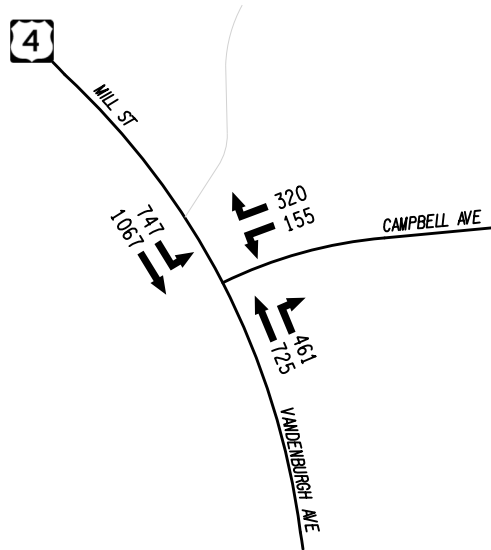
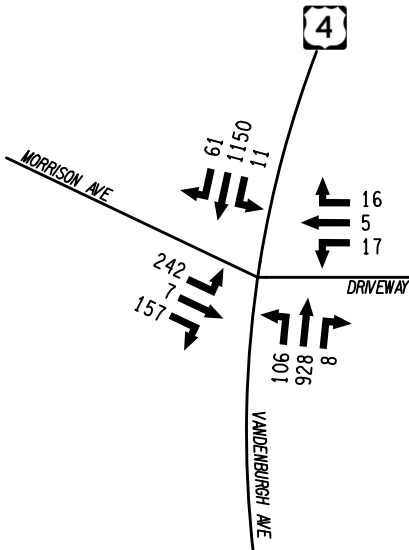
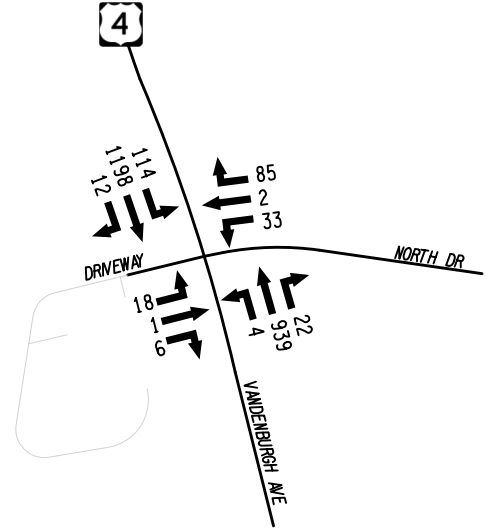
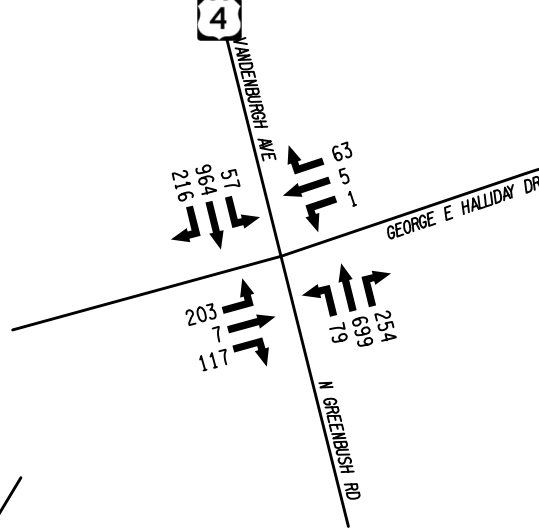
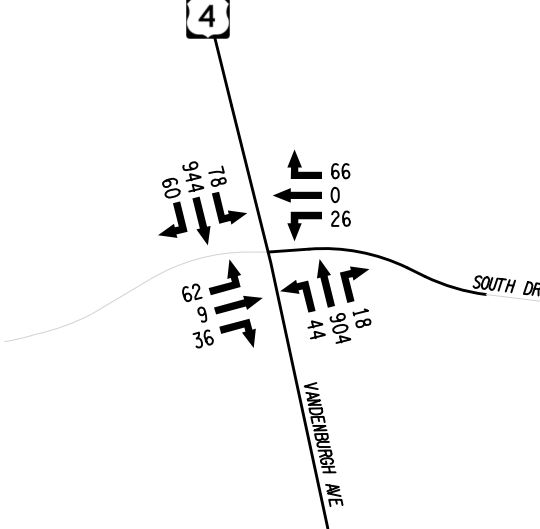
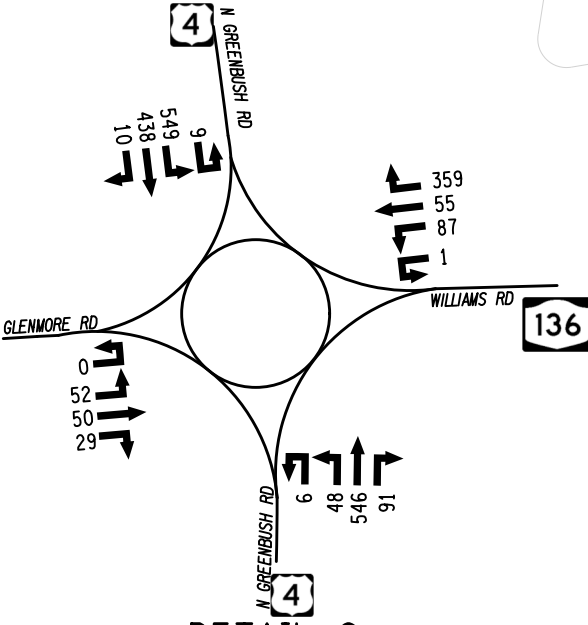
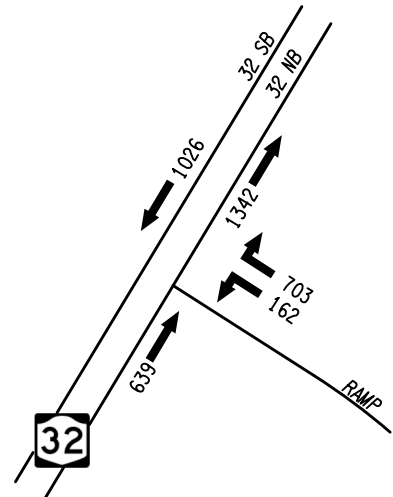
NOT TO SCALE

AS-BUILT REVISIONS DESCRIPTION OF ALTERATIONS:	ROUTE 378 PEL STUDY		PIN X731.52	BRIDGES	CULVERTS	ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED		CONTRACT NUMBER	
						TRAFFIC FLOW MAPS CONCEPT 4 (2025) PM PEAK HOUR (4:30 - 5:30 PM) STUDY AREA FLOW MAP		D038105	
								DRAWING NO.	
								SHEET NO. 19	
	COUNTY: RENSSELAER					REGION: --			



NEW YORK
STATE OF
OPPORTUNITY.

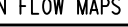
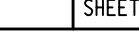


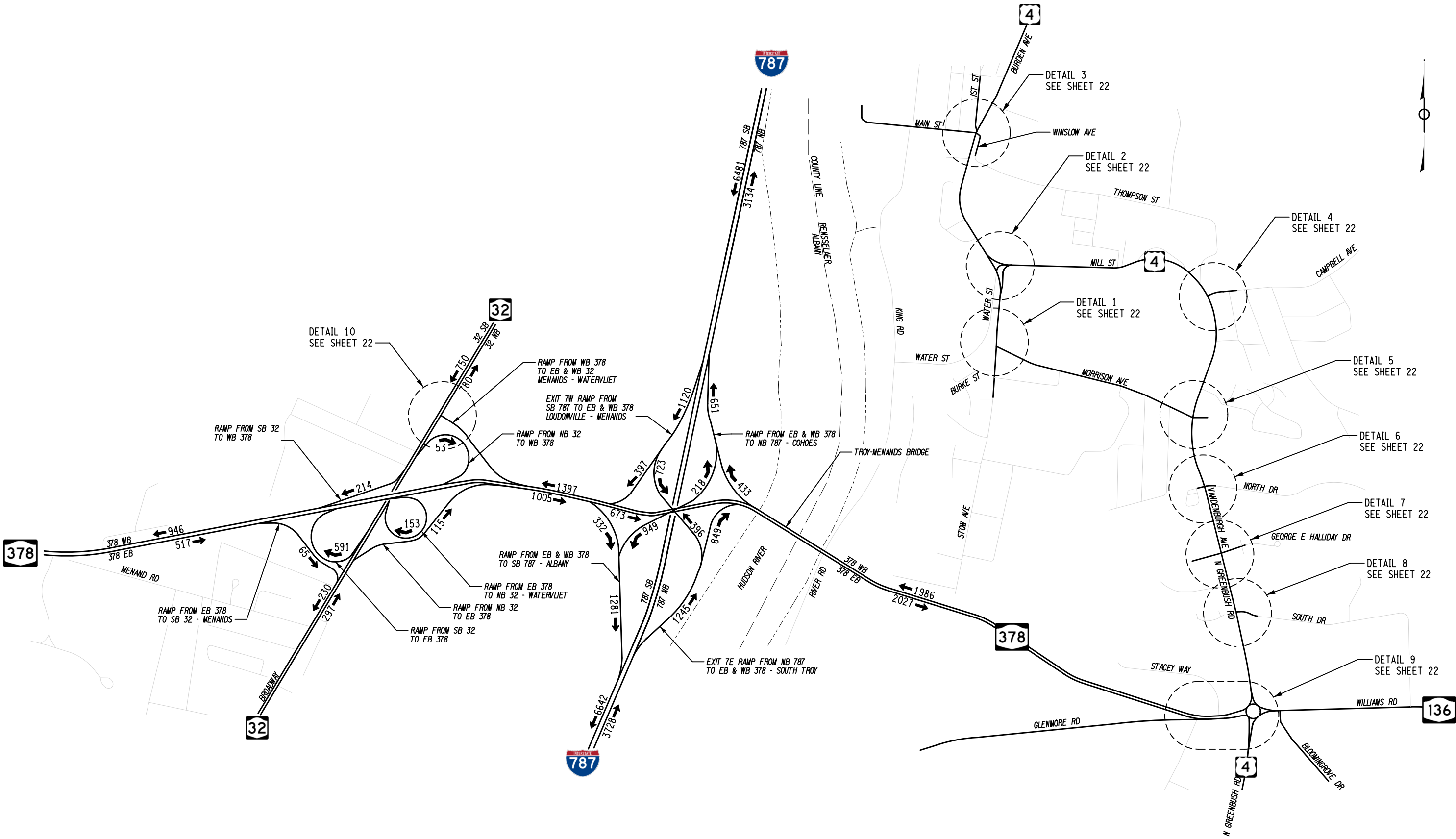


LEGEND:

- ROADWAY
- ROADWAY UNDER
- LOCAL ROADS
- TRAFFIC FLOW

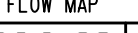
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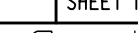
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					TRAFFIC FLOW MAPS CONCEPT 4 (2025)	D038105
					PM PEAK HOUR (4:30 - 5:30 PM)	DRAWING NO.
					INTERSECTION FLOW MAPS	SHEET NO. 20
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<div><div>wsp</div><div>NEW YORK STATE OF OPPORTUNITY.</div><div>Department of Transportation</div></div>						



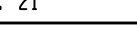
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						AM PEAK HOUR (7:30 - 8:30 AM)		DRAWING NO.	
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	COUNTY: RENSSELAER REGION: --								

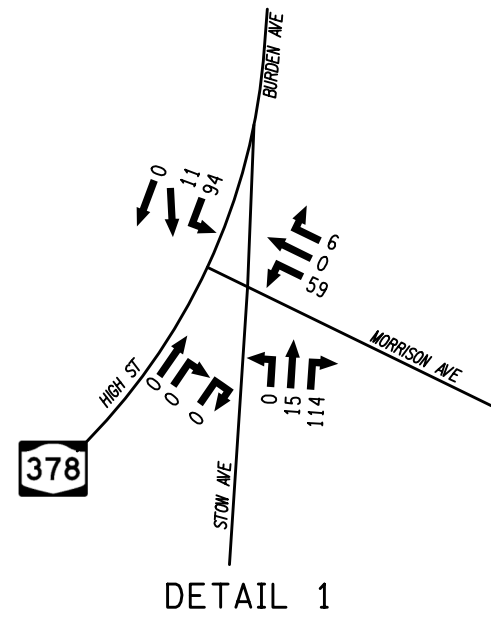
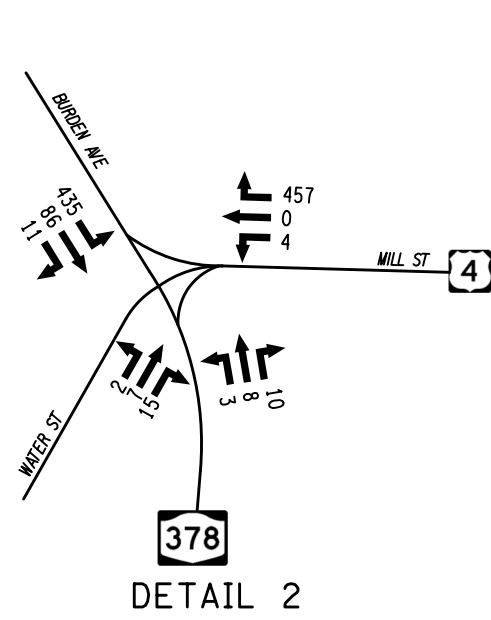
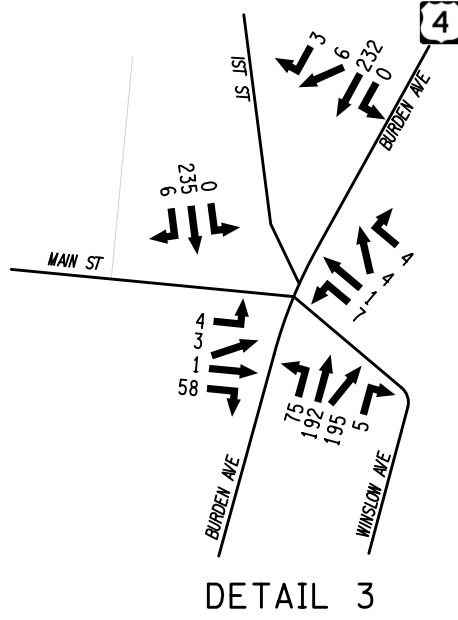
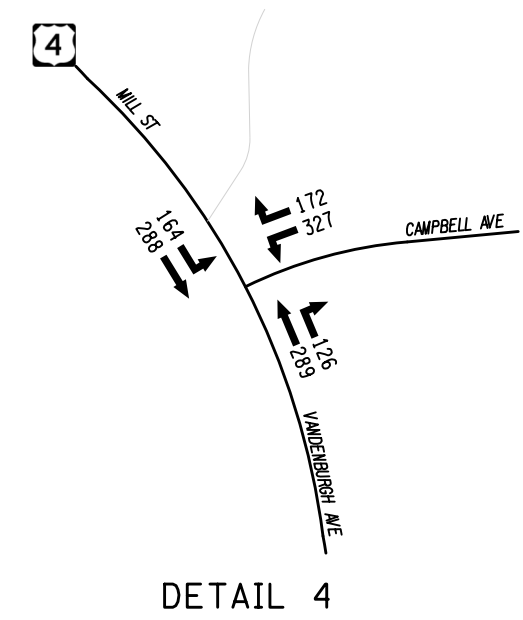
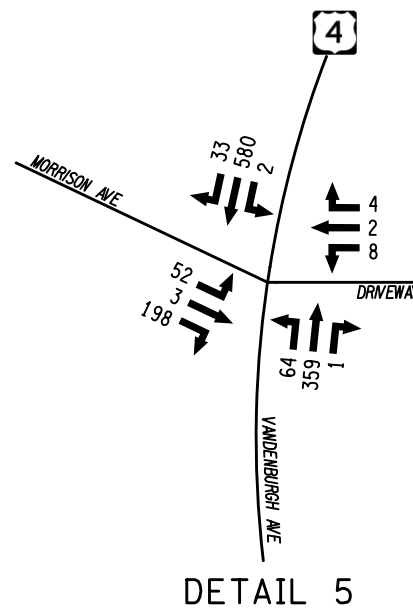
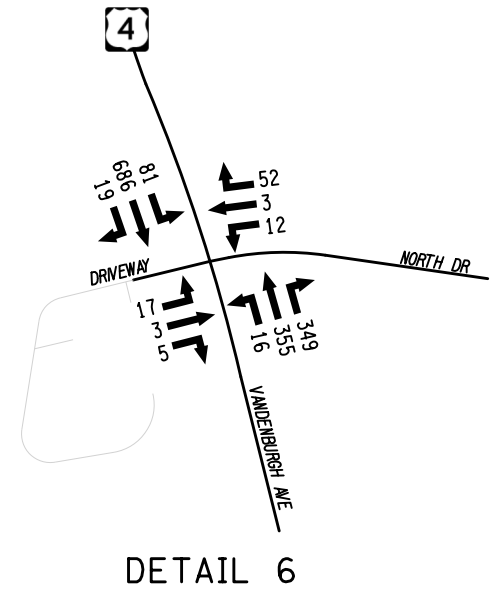
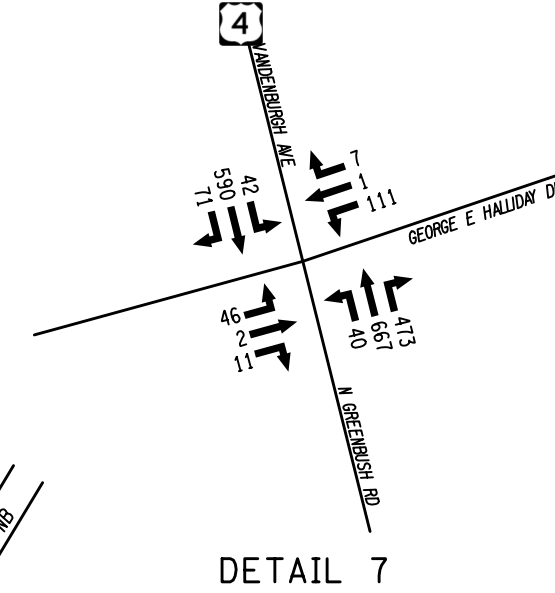
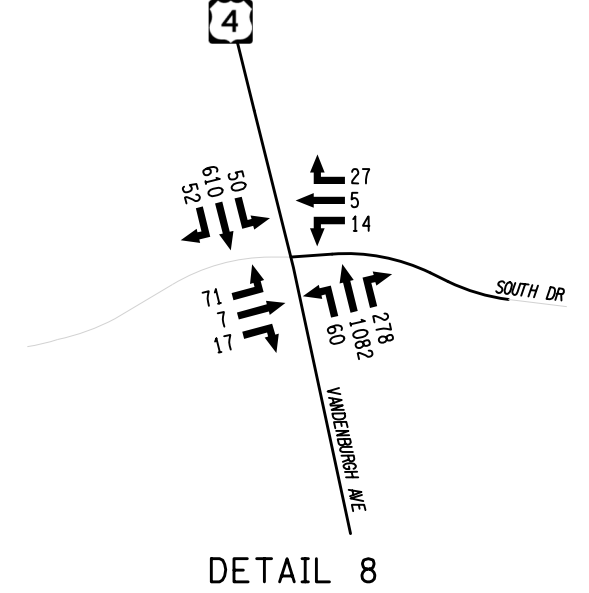
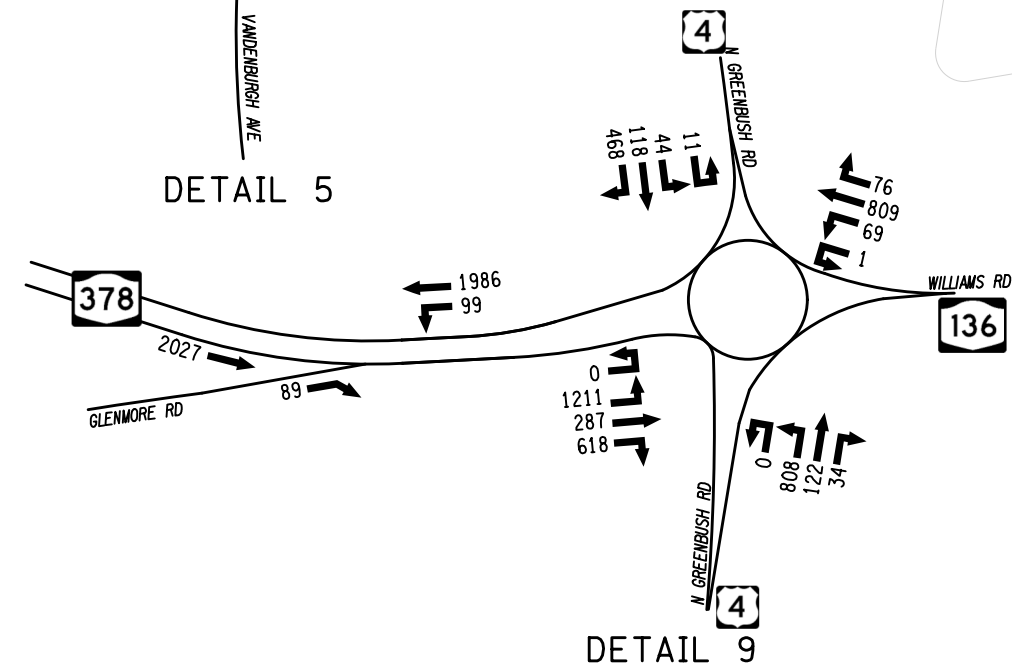
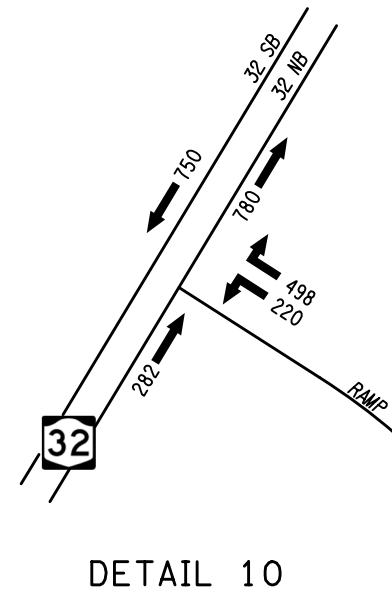




NEW YORK
STATE OF
OPPORTUNITY.



Department of
Transportation



NOT TO SCALE

AS-BUILT REVISIONS DESCRIPTION OF ALTERATIONS:	ROUTE 378 PEL STUDY	PIN X731.52	BRIDGES	CULVERTS	ALL DIMENSIONS IN FT UNLESS OTHERWISE NOTED	CONTRACT NUMBER D038105
					TRAFFIC FLOW MAPS CONCEPT 6 (2025) AM PEAK HOUR (7:30 - 8:30 AM) INTERSECTION FLOW MAPS	DRAWING NO.
						SHEET NO. 22
COUNTY: RENSSELAER	REGION: --					

FILE NAME = DGNSSPEC
DATE/TIME = DGNSSYTIME
USER = PLOTTED BY: Hermis

DESIGN SUPERVISOR X

JOB MANAGER

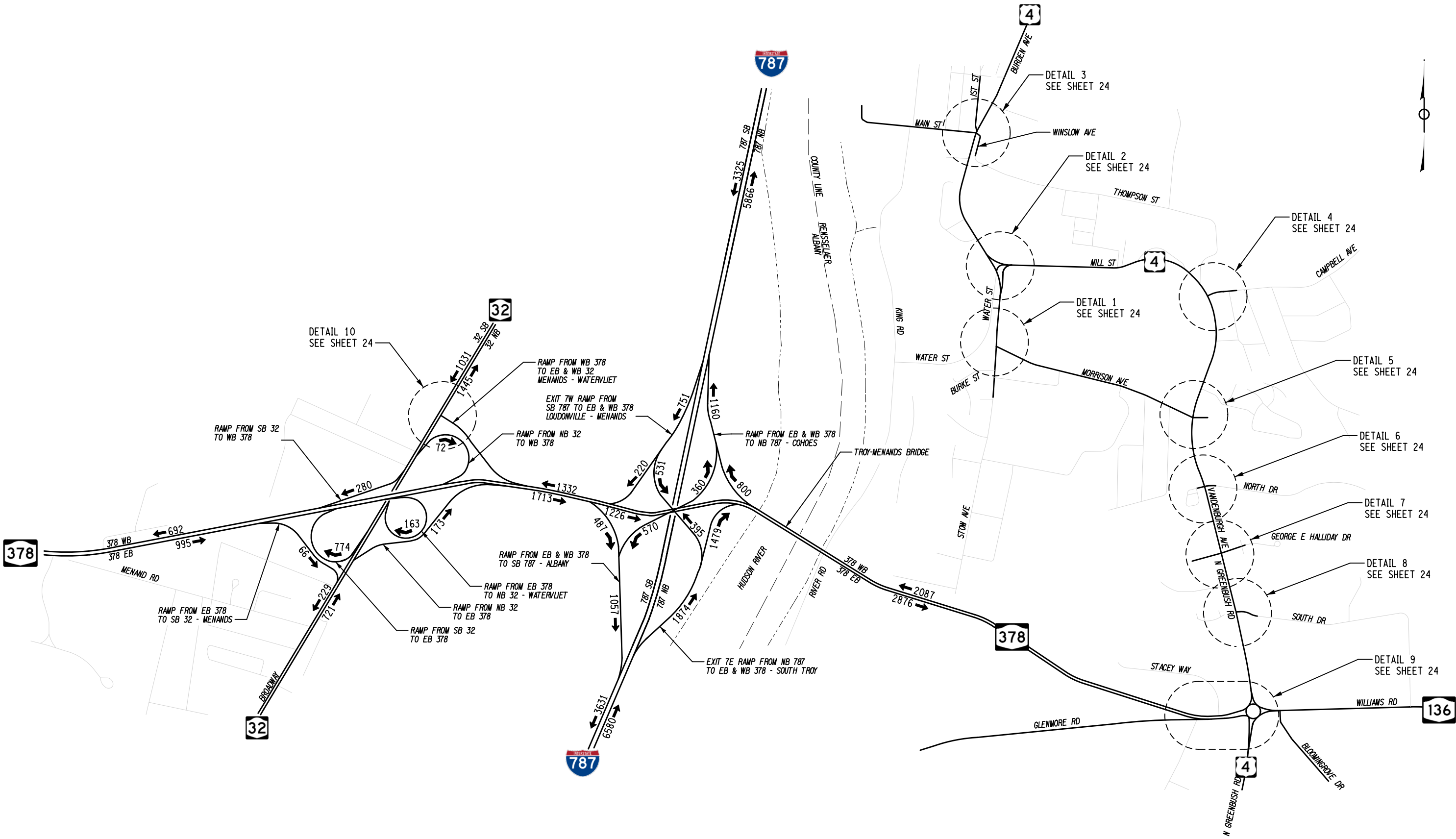
DESIGN

CHECK

DRAFTING

CHECK

PROJECT MANAGER X



NOT TO SCALE

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

ROUTE 378 PEL STUDY

PIN X731.52

BRIDGES

CULVERTS

ALL DIMENSIONS IN FT UNLESS OTHERWISE NOTED

CONTRACT NUMBER

D038105

DRAWING NO.

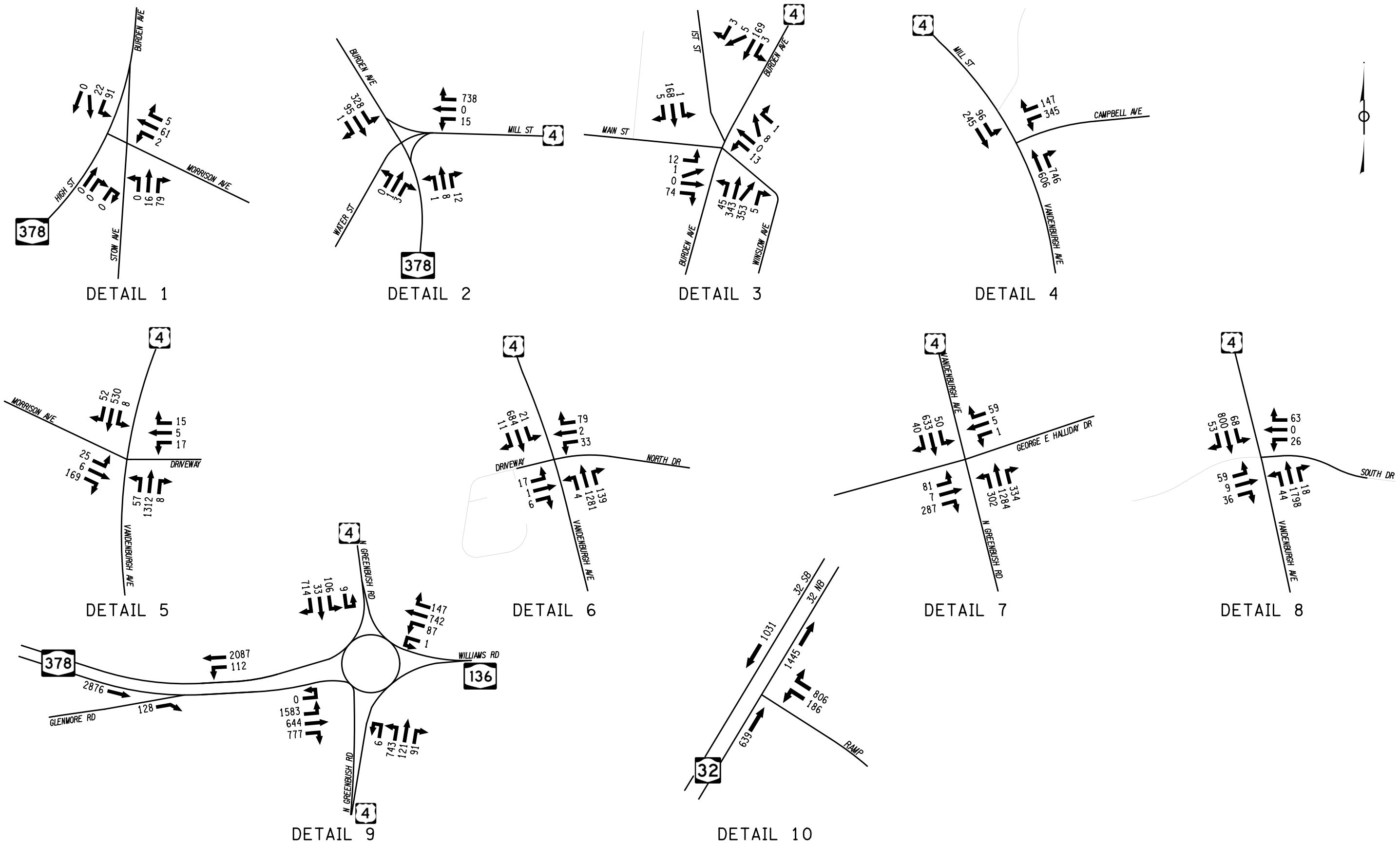
SHEET NO. 23

TRAFFIC FLOW MAPS
CONCEPT 6 (2025)
PM PEAK HOUR (4:30 - 5:30 PM)
STUDY AREA FLOW MAP

wsp

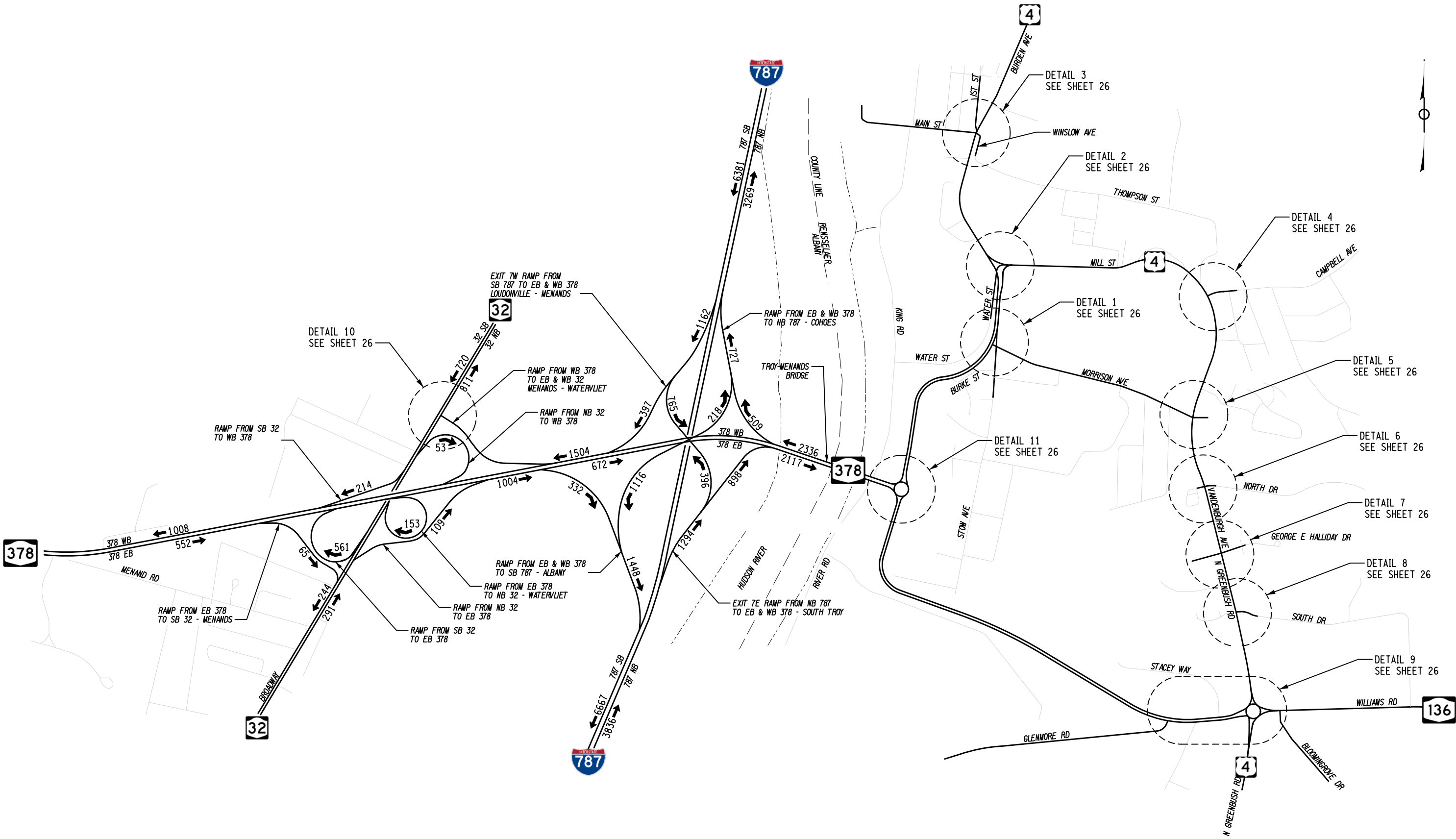
NEW YORK
STATE OF
OPPORTUNITY

Department of
Transportation

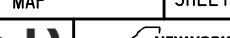


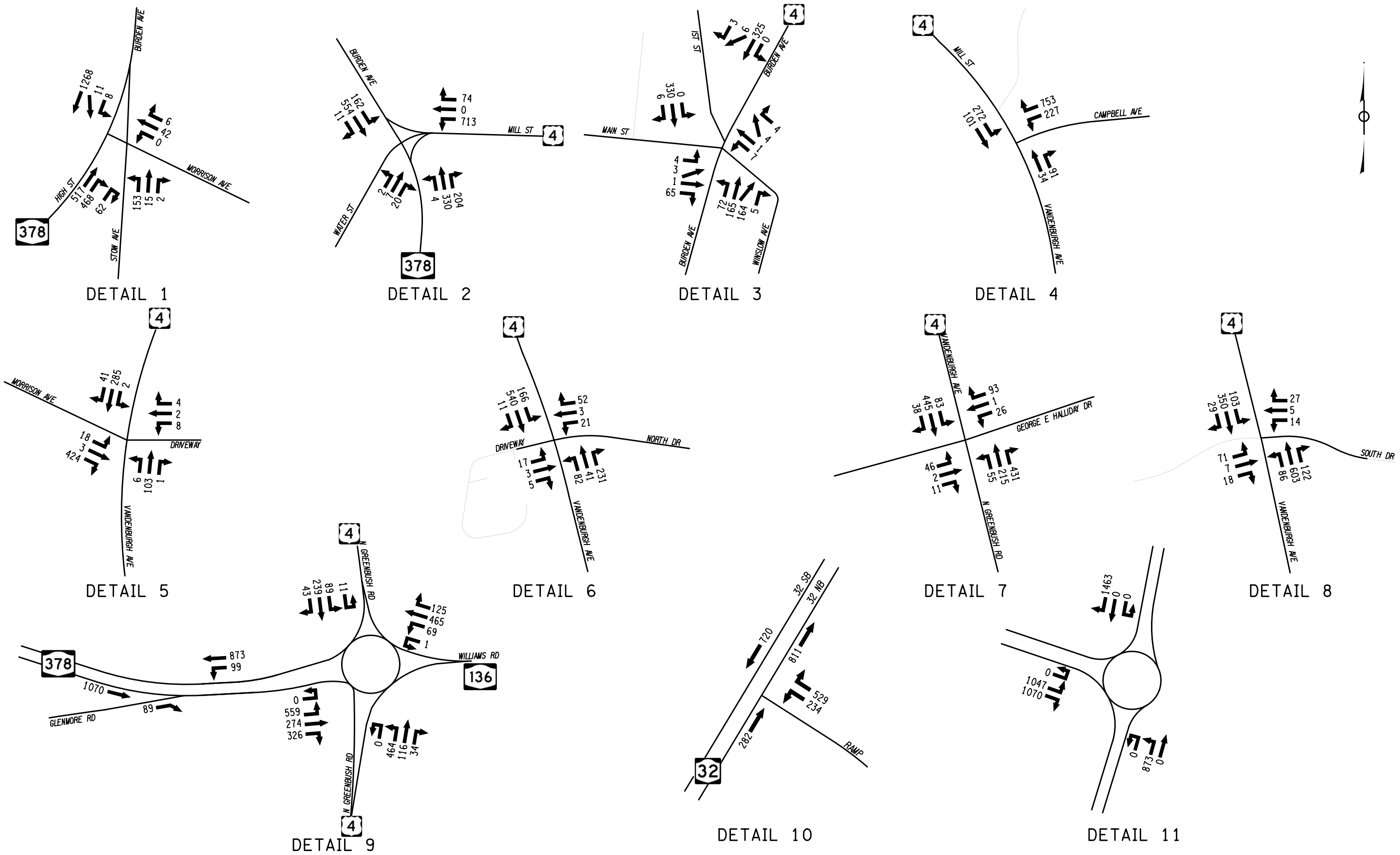
NOT TO SCALE

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						DRAWING NO.
						SHEET NO. 24
	COUNTY: RENSSELAER					



NOT TO SCALE

AS-BUILT REVISIONS DESCRIPTION OF ALTERATIONS:	ROUTE 378 PEL STUDY		PIN X731.52	BRIDGES	CULVERTS	ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED		CONTRACT NUMBER	
						TRAFFIC FLOW MAPS		D038105	
						CONCEPT 7 (2025)		DRAWING NO.	
						AM PEAK HOUR (7:30 - 8:30 AM)		SHEET NO. 25	
						STUDY AREA FLOW MAP			
		COUNTY: RENSSELAER	REGION: --						
<div><div>wsp</div><div>NEW YORK STATE OF OPPORTUNITY.</div><div>Department of Transportation</div></div>									



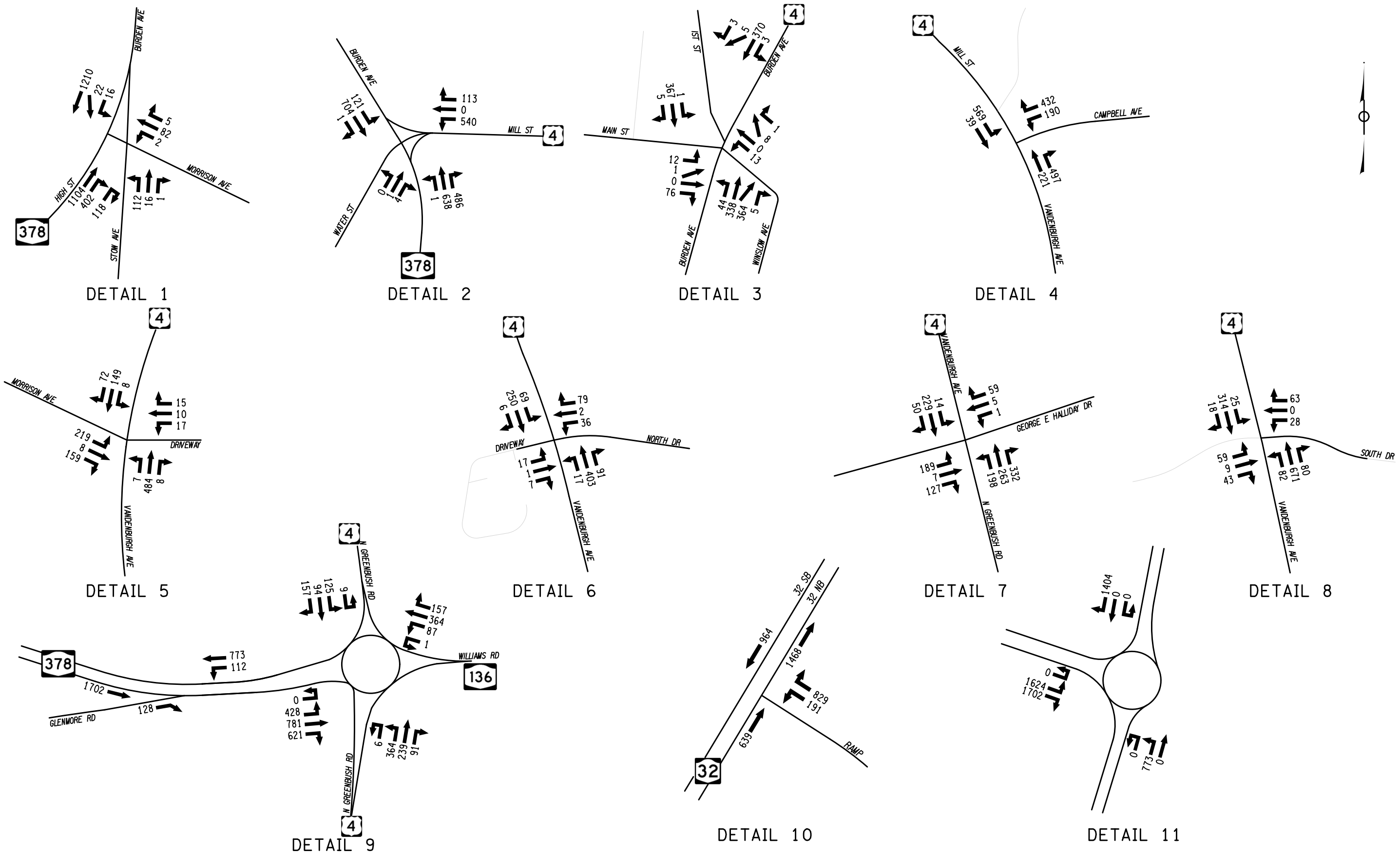
NOT TO SCALE

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					TRAFFIC FLOW MAPS CONCEPT 7 (2025) AM PEAK HOUR (7:30 - 8:30 AM) INTERSECTION FLOW MAPS	D038105
COUNTY: RENSSELAER	REGION: --					DRAWING NO. SHEET NO. 26
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AS-BUILT REVISIONS DESCRIPTION OF ALTERATIONS:	ROUTE 378 PEL STUDY	PIN X731.52	BRIDGES	CULVERTS	ALL DIMENSIONS IN FT UNLESS OTHERWISE NOTED	CONTRACT NUMBER
					TRAFFIC FLOW MAPS	D038105
					CONCEPT 7 (2025)	DRAWING NO.
					PM PEAK HOUR (4:30 - 5:30 PM)	SHEET NO. 27
					STUDY AREA FLOW MAP	
	COUNTY: RENNELAER REGION: --					

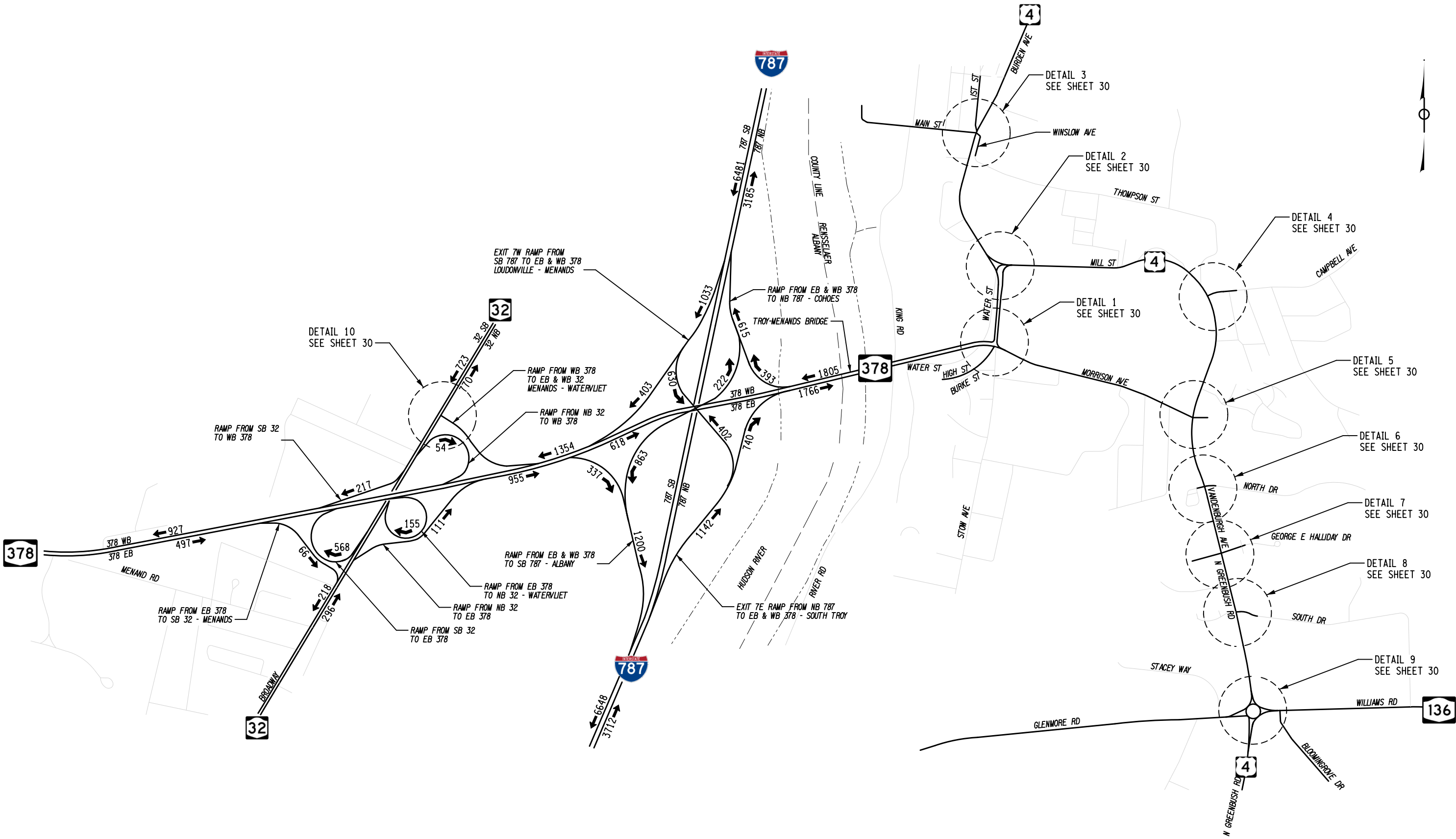
NEW YORK
STATE OF
OPPORTUNITY.

**Department of
Transportation**



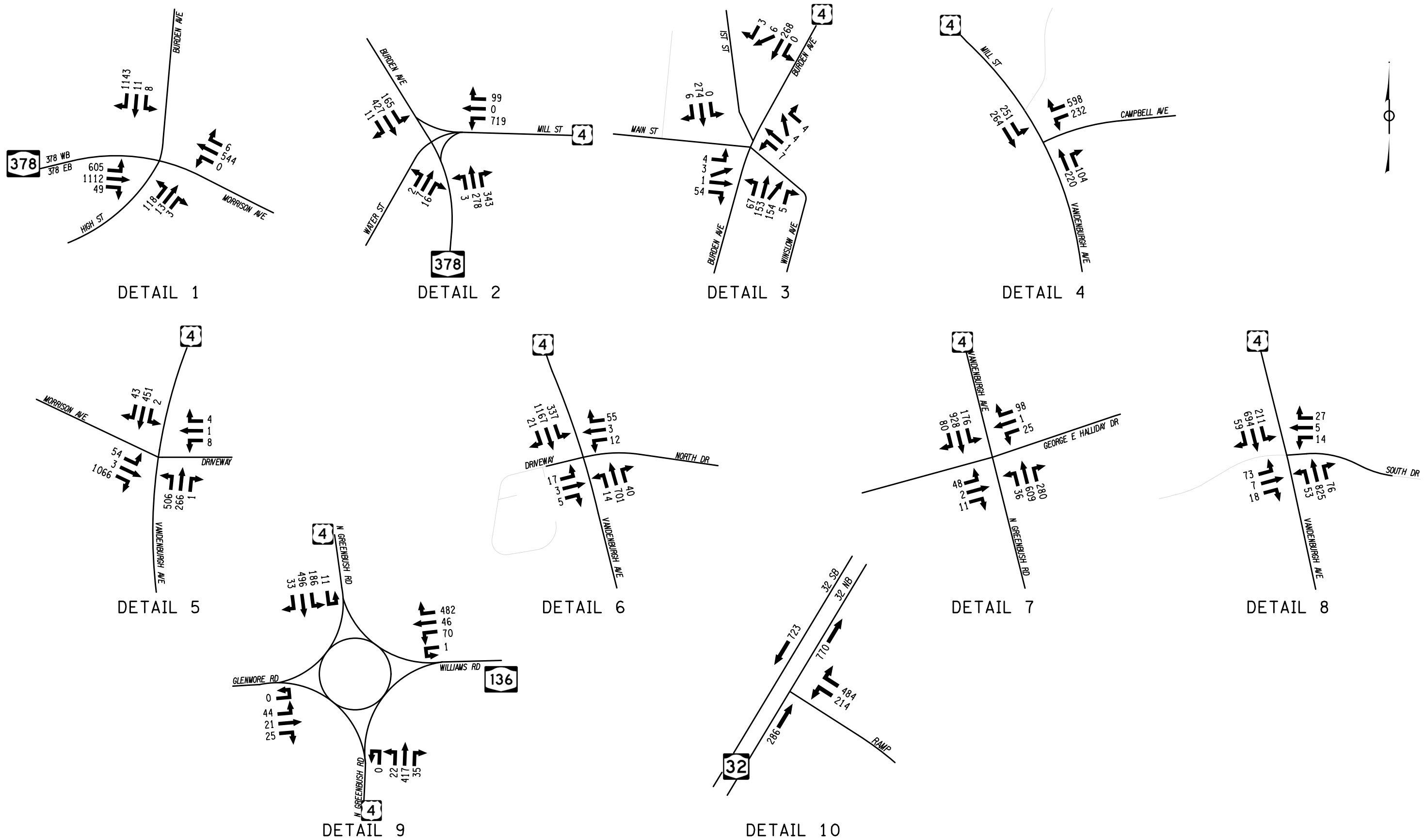
NOT TO SCALE

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	COUNTY: RENSSELAER	REGION: --			TRAFFIC FLOW MAPS CONCEPT 7 (2025) PM PEAK HOUR (4:30 - 5:30 PM) INTERSECTION FLOW MAPS	DRAWING NO. SHEET NO. 28
						 Department of Transportation



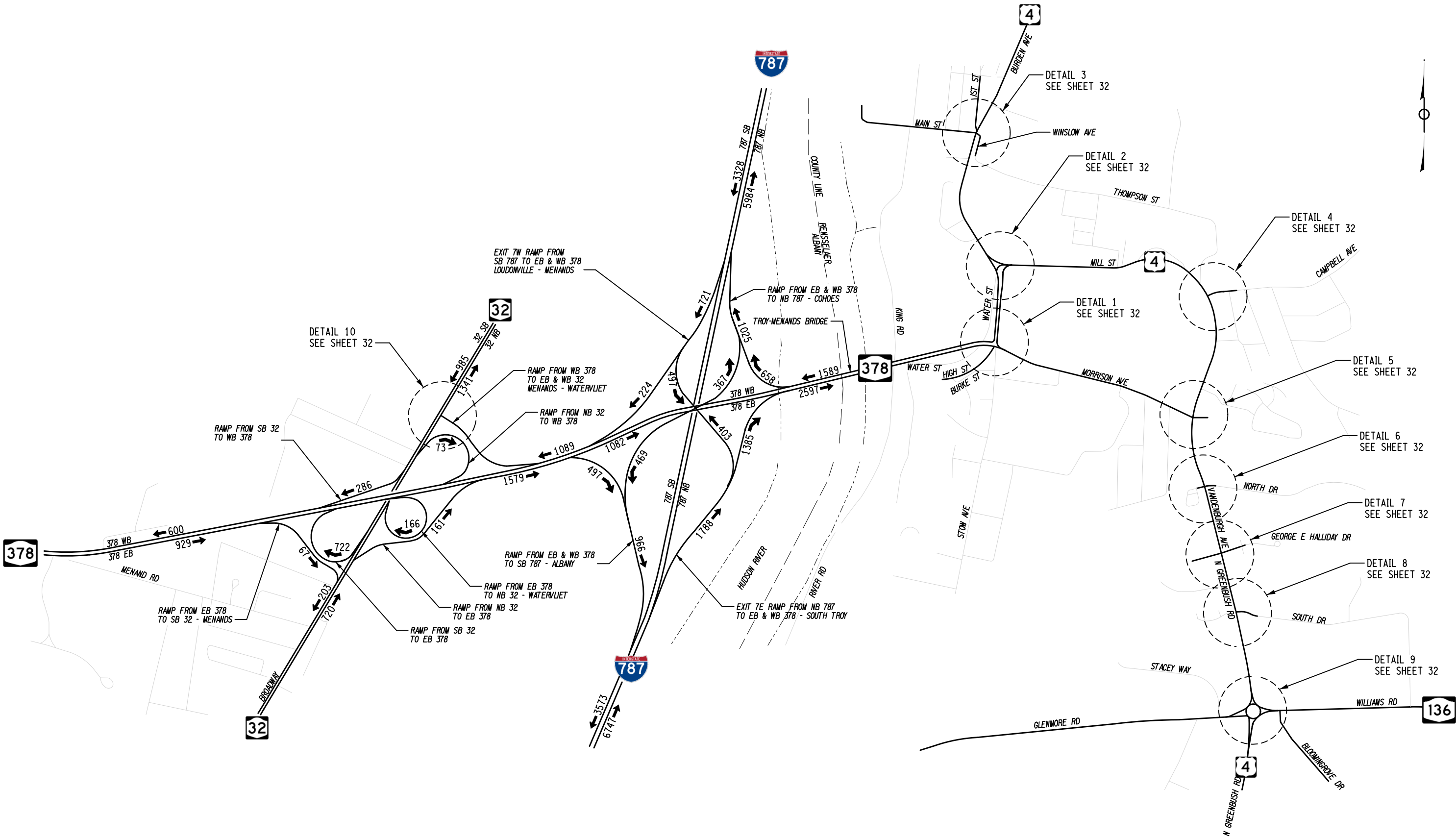
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					TRAFFIC FLOW MAPS CONCEPT 3 (2045) AM PEAK HOUR (7:30 - 8:30 AM) STUDY AREA FLOW MAP	D038105	
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						SHEET NO. 29	
	COUNTY: RENSSELAER				REGION: --		
						 NEW YORK STATE OF OPPORTUNITY.	Department of Transportation

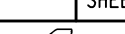


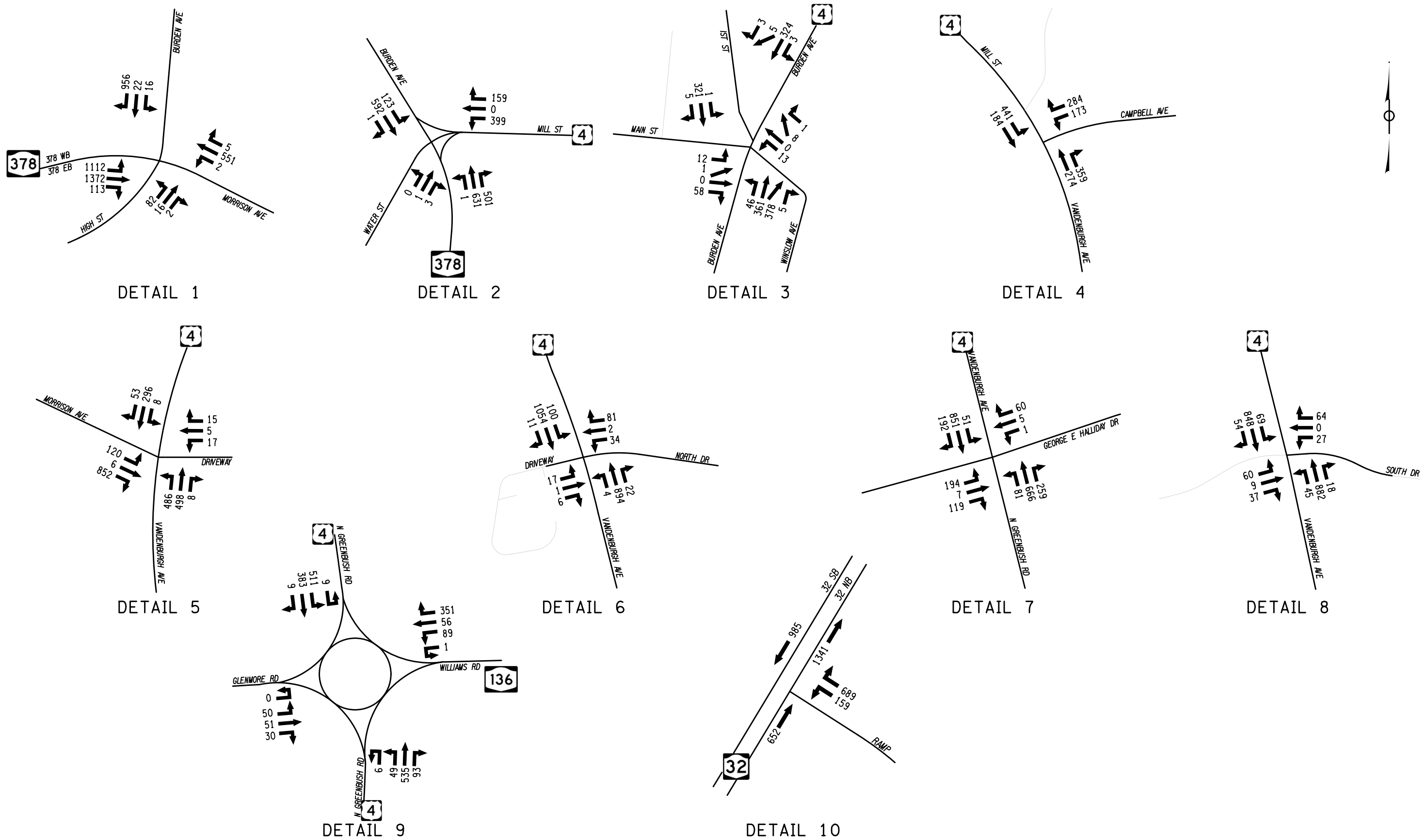
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						DRAWING NO.	
						SHEET NO. 30	
	COUNTY: RENSSELAER				REGION: --		
						 NEW YORK STATE OF OPPORTUNITY.	Department of Transportation



NOT TO SCALE

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						TRAFFIC FLOW MAPS CONCEPT 3 (2045) PM PEAK HOUR (4:30 - 5:30 PM) STUDY AREA FLOW MAP		D038105	
								DRAWING NO.	
								SHEET NO. 31	
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<div><div></div><div><div>NEW YORK STATE OF OPPORTUNITY.</div></div><div>Department of Transportation</div></div>									



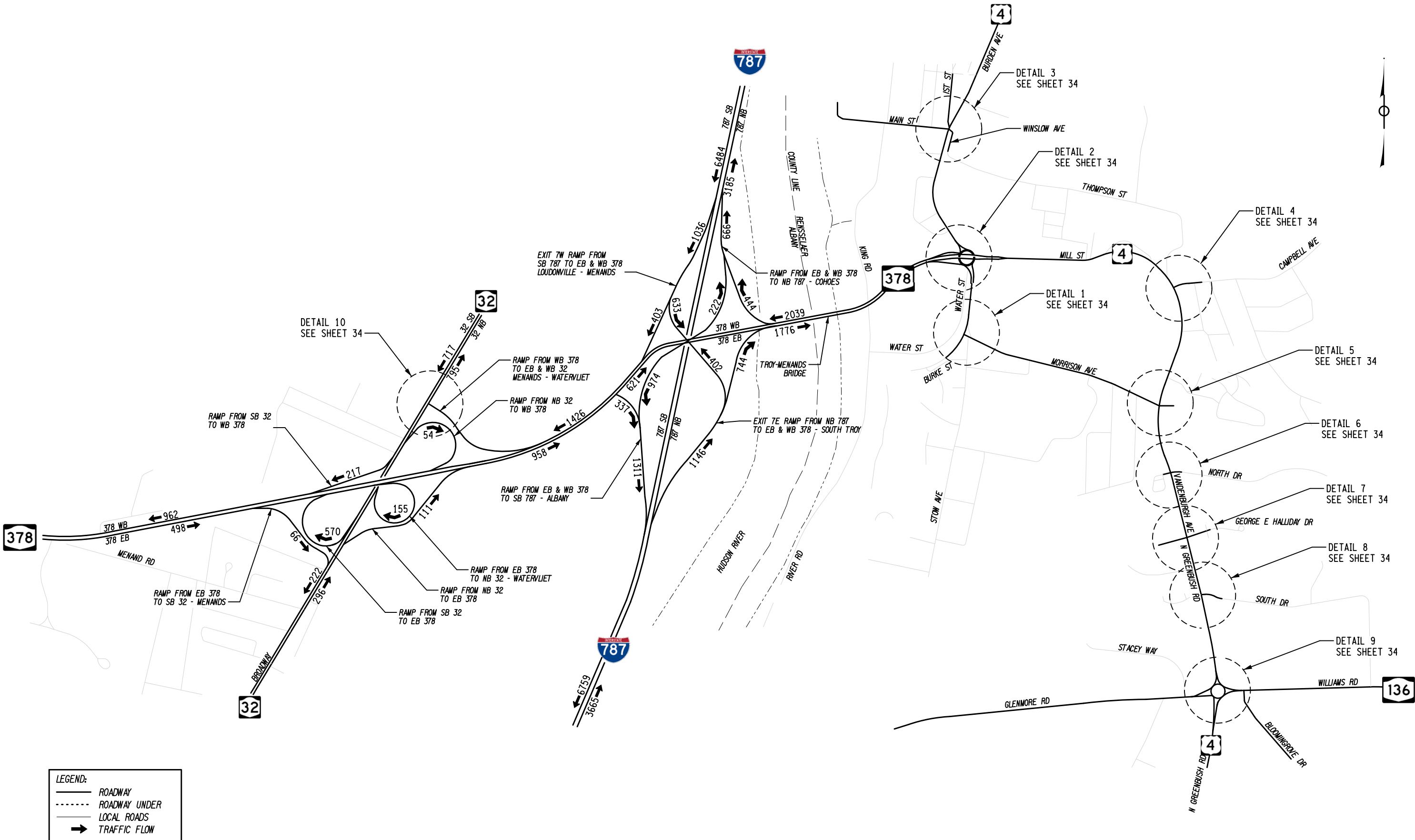
NOT TO SCALE

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						DRAWING NO.	
							SHEET NO. 32
	COUNTY: RENSSELAER REGION: --						

wsp

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STATE OF
OPPORTUNITY.

Department of
Transportation



LEGEND:

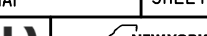
ROADWAY

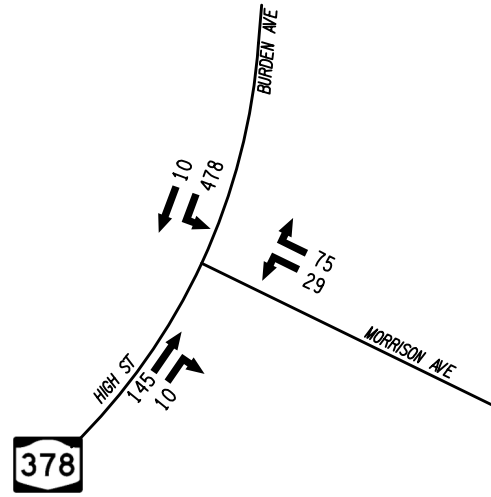
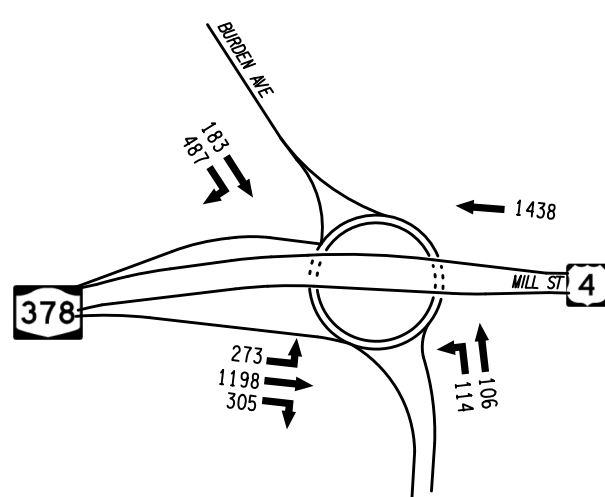
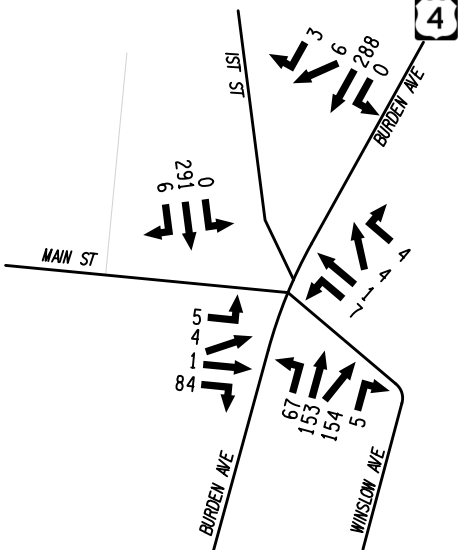
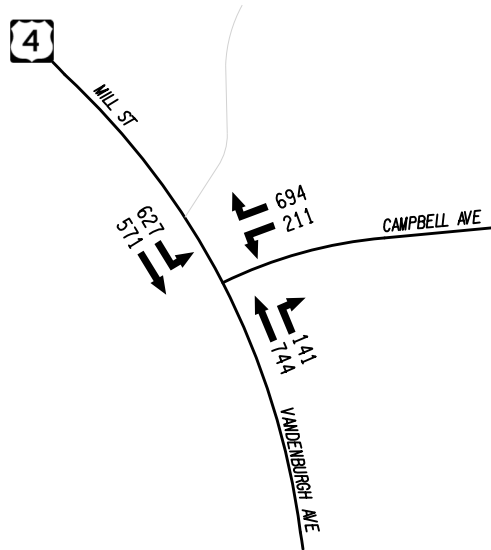
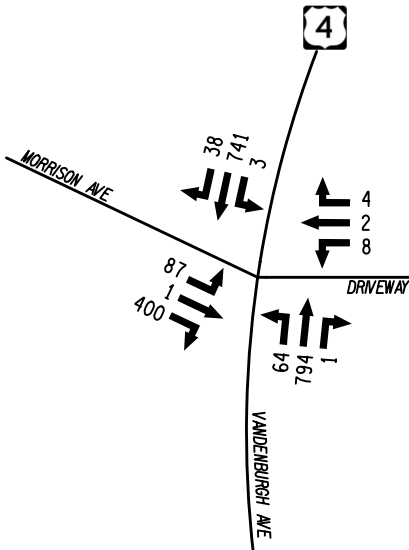
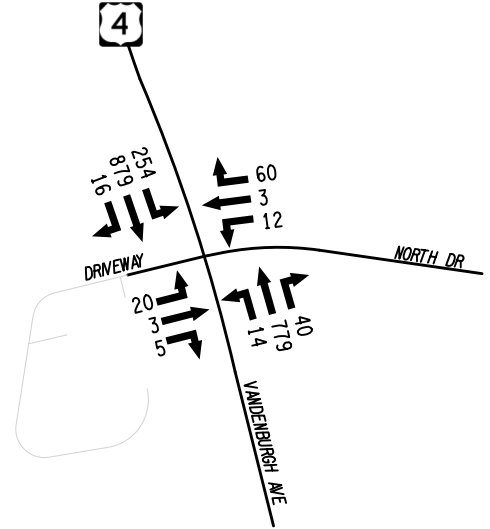
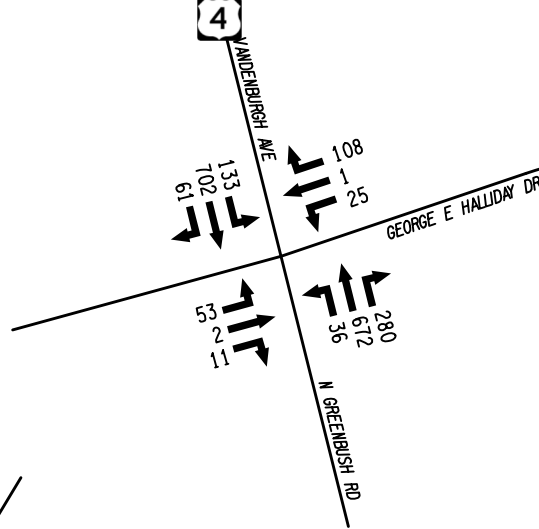
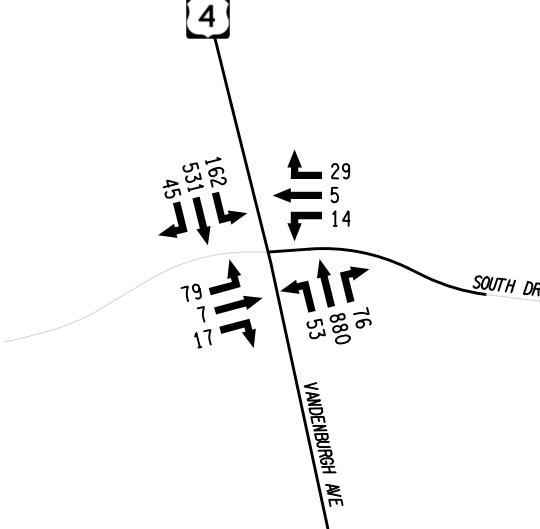
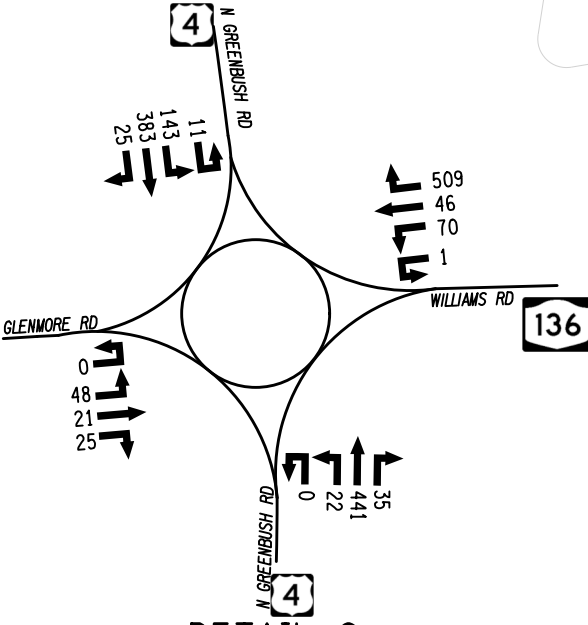
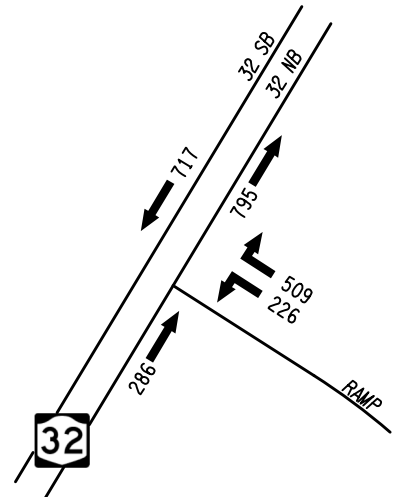
ROADWAY UNDER

LOCAL ROADS

TRAFFIC FLOW

NOT TO SCALE

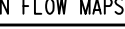
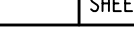
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					TRAFFIC FLOW MAPS CONCEPT 4 (2045)	D038105
					AM PEAK HOUR (7:30 - 8:30 AM)	DRAWING NO.
					STUDY AREA FLOW MAP	SHEET NO. 33
	COUNTY: RENSSELAER				REGION: --	
						 Department of Transportation



LEGEND:

- ROADWAY
- ROADWAY UNDER
- LOCAL ROADS
- TRAFFIC FLOW

NOT TO SCALE

AS-BUILT REVISIONS DESCRIPTION OF ALTERATIONS:	ROUTE 378 PEL STUDY	PIN X731.52	BRIDGES	CULVERTS	ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED	CONTRACT NUMBER
					TRAFFIC FLOW MAPS CONCEPT 4 (2045)	D038105
					AM PEAK HOUR (7:30 - 8:30 AM)	DRAWING NO.
					INTERSECTION FLOW MAPS	SHEET NO. 34
	COUNTY: RENSSELAER				REGION: --	
<div><div></div><div><div>Department of Transportation</div></div></div>						

FILE NAME = DGNSSPEC
DATE/TIME = DGNSSYTIME
USER = PLOTTED BY: Hermis

DESIGN SUPERVISOR X

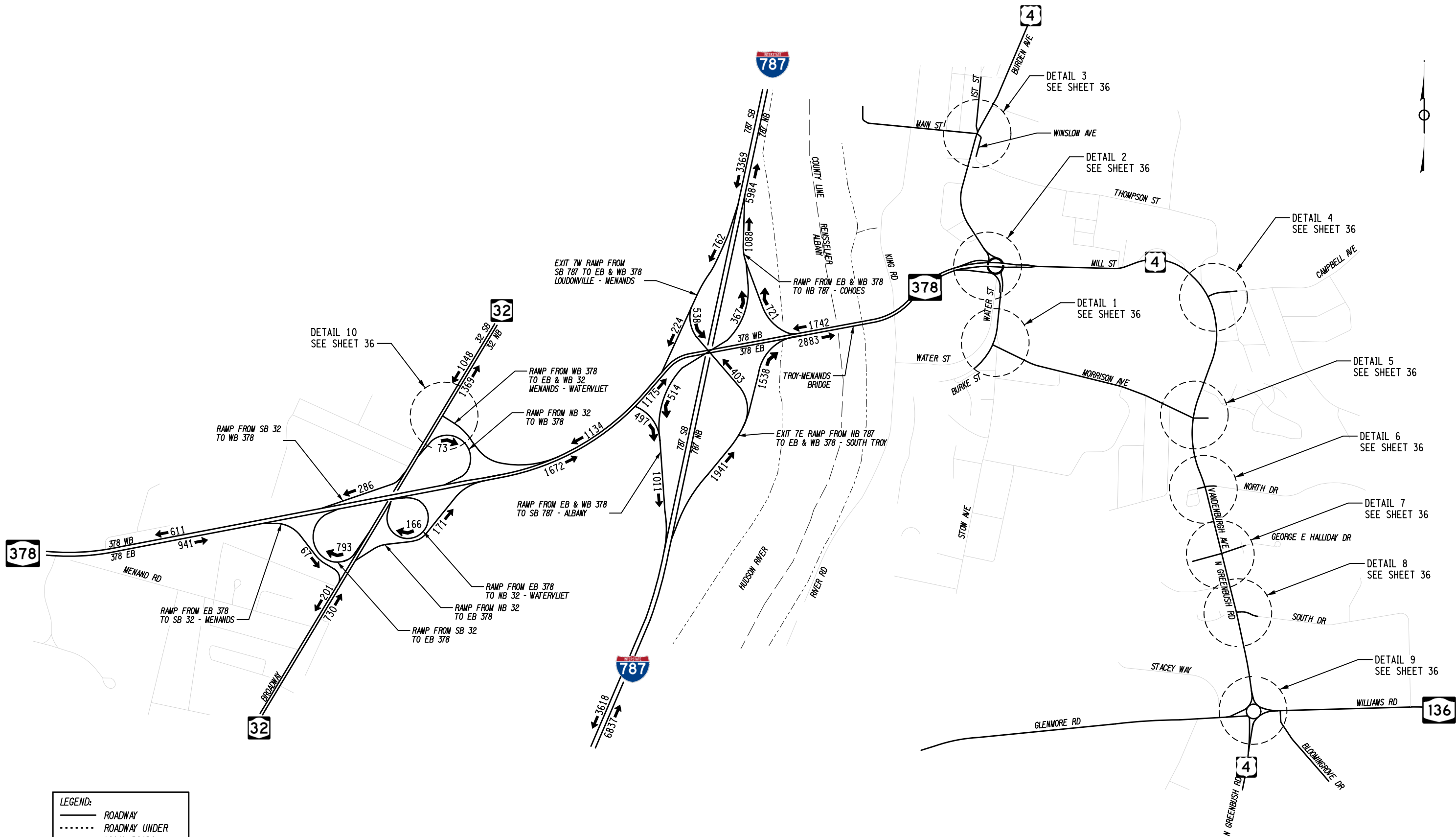
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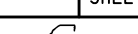
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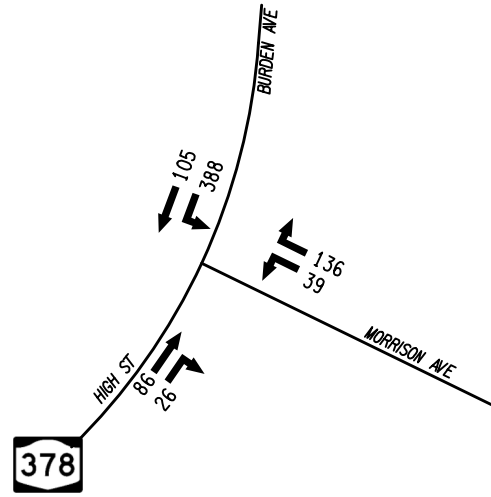
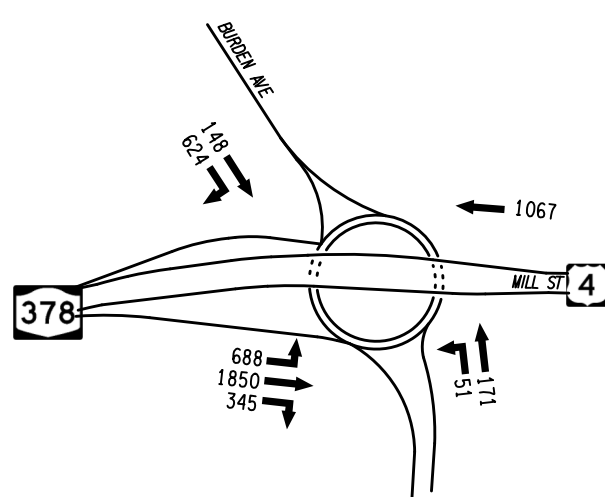
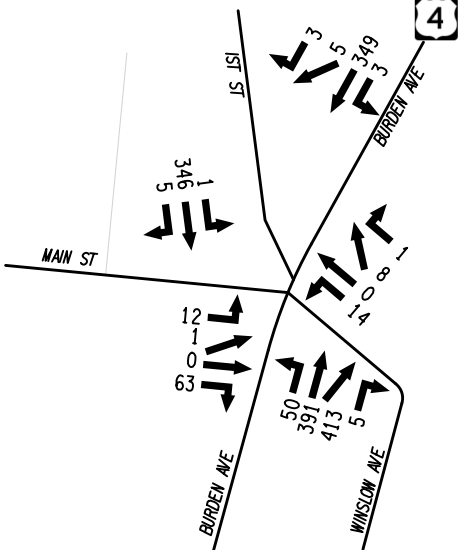
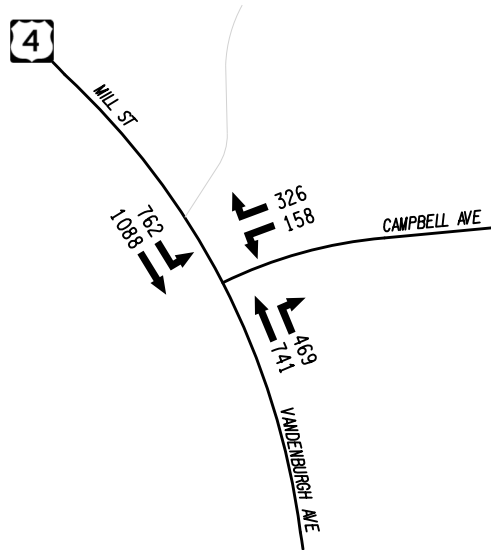
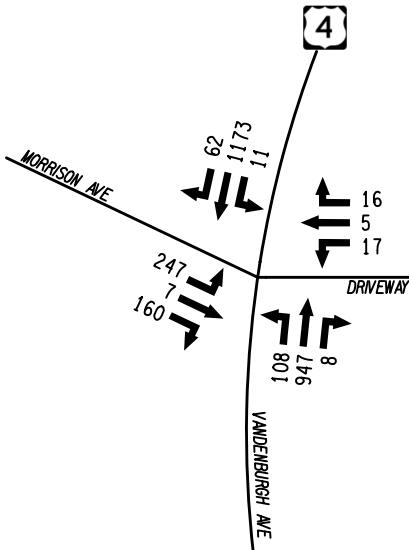
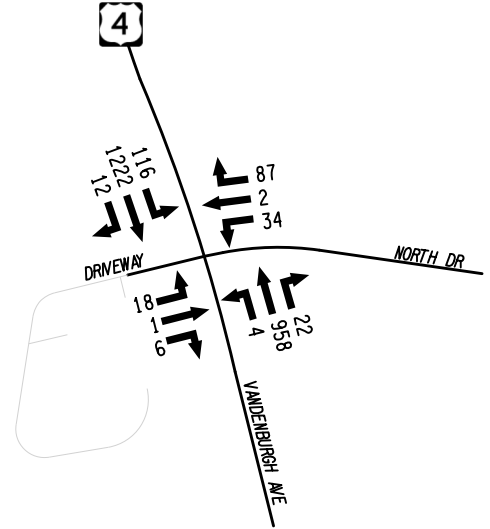
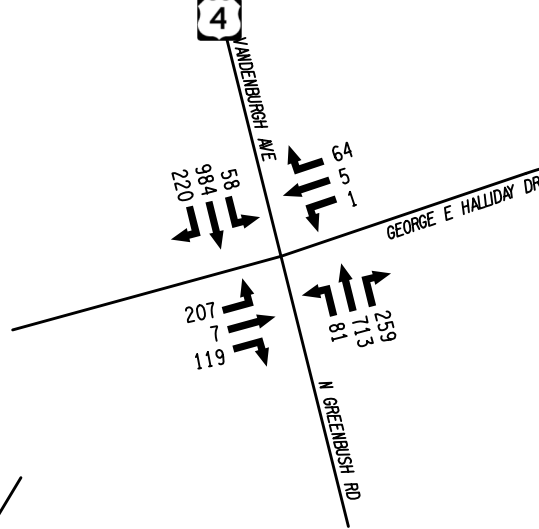
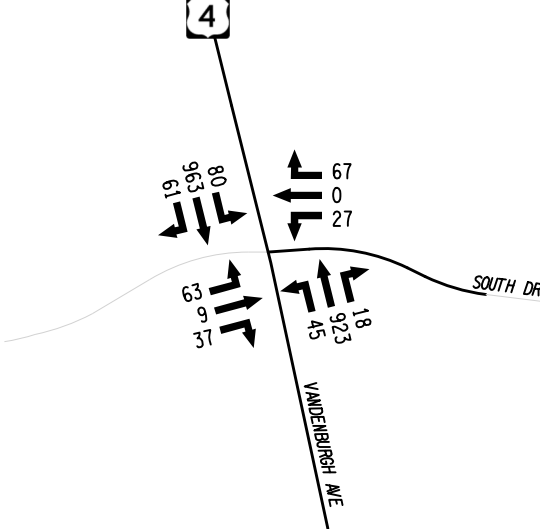
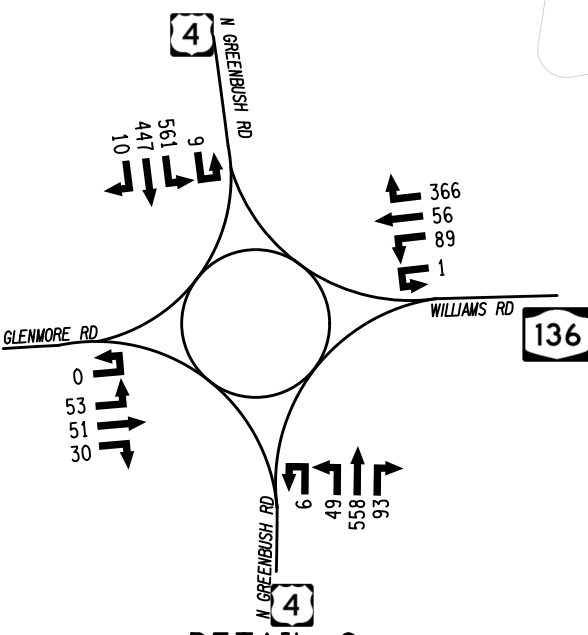
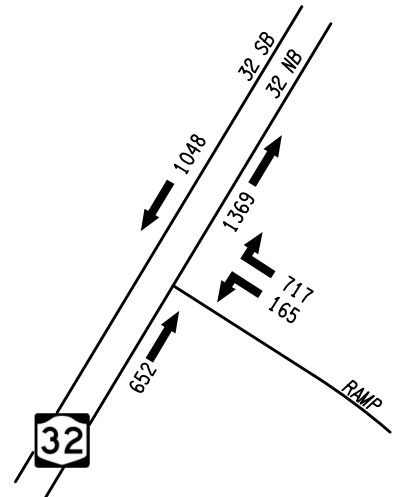
DRAFTING

CHECK

PROJECT MANAGER X



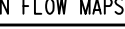
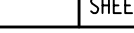
AS-BUILT REVISIONS DESCRIPTION OF ALTERATIONS:	ROUTE 378 PEL STUDY	PIN X731.52	BRIDGES	CULVERTS	ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED	CONTRACT NUMBER
					TRAFFIC FLOW MAPS CONCEPT 4 (2045) PM PEAK HOUR (4:30 - 5:30 PM) STUDY AREA FLOW MAP	D038105
						DRAWING NO.
						SHEET NO. 35
	COUNTY: RENSSELAER				REGION: --	
						 Department of Transportation



LEGEND:

- ROADWAY
- ROADWAY UNDER
- LOCAL ROADS
- TRAFFIC FLOW

NOT TO SCALE

AS-BUILT REVISIONS DESCRIPTION OF ALTERATIONS:	ROUTE 378 PEL STUDY	PIN X731.52	BRIDGES	CULVERTS	ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED	CONTRACT NUMBER
					TRAFFIC FLOW MAPS CONCEPT 4 (2045)	D038105
					PM PEAK HOUR (4:30 - 5:30 PM)	DRAWING NO.
					INTERSECTION FLOW MAPS	SHEET NO. 36
	COUNTY: RENSSELAER				REGION: --	
<div><div></div><div><div>Department of Transportation</div></div></div>						

FILE NAME = DGNSSPEC
DATE/TIME = DGNSSYTIME
USER = PLOTTED BY: Hermis

DESIGN SUPERVISOR

JOB MANAGER

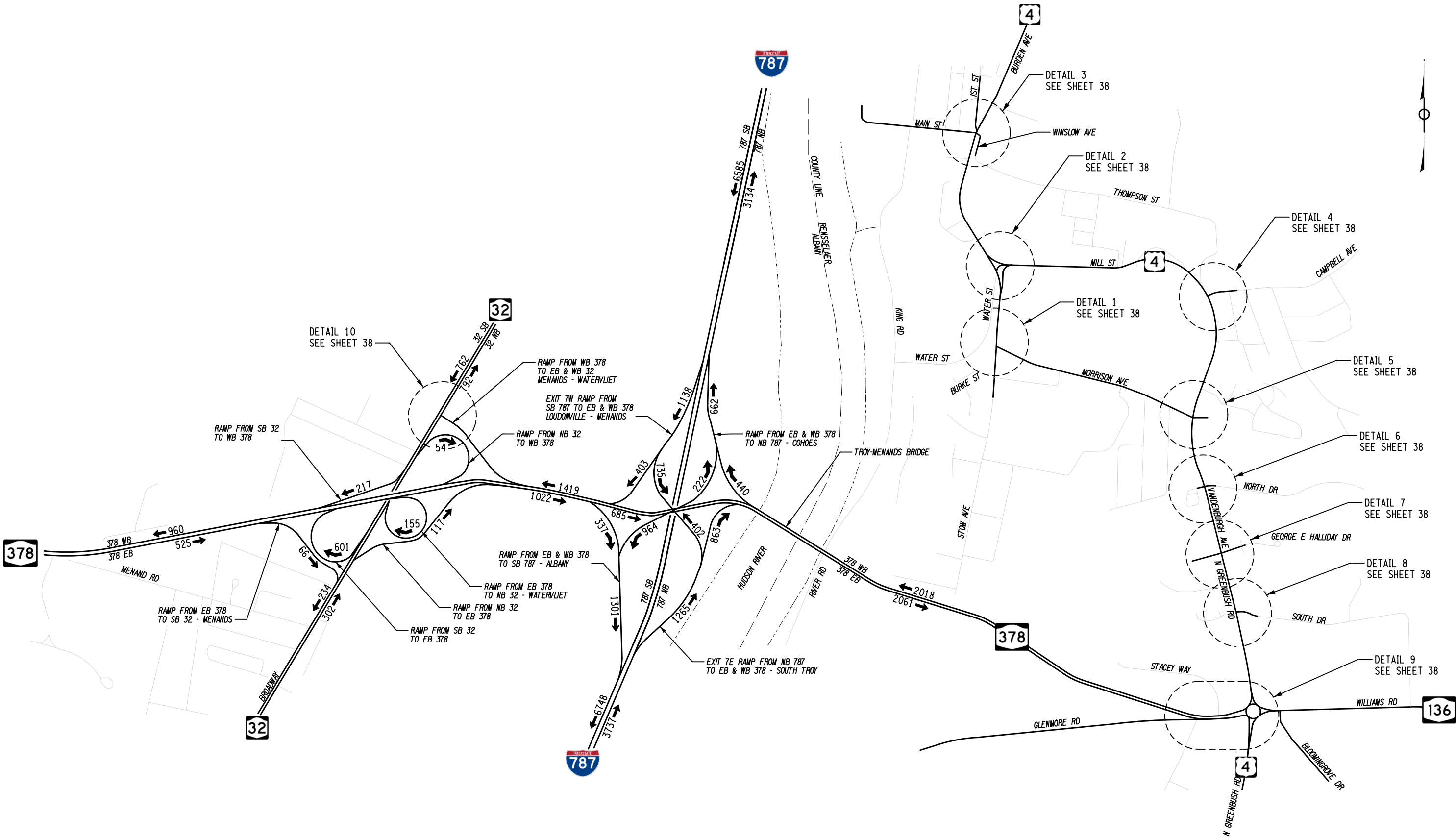
DESIGN

CHECK

DRAFTING

CHECK

PROJECT MANAGER



NOT TO SCALE

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

ROUTE 378 PEL STUDY

PIN X731.52

BRIDGES

CULVERTS

ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED

CONTRACT NUMBER

D038105

TRAFFIC FLOW MAPS
CONCEPT 6 (2045)
AM PEAK HOUR (7:30 - 8:30 AM)
STUDY AREA FLOW MAP

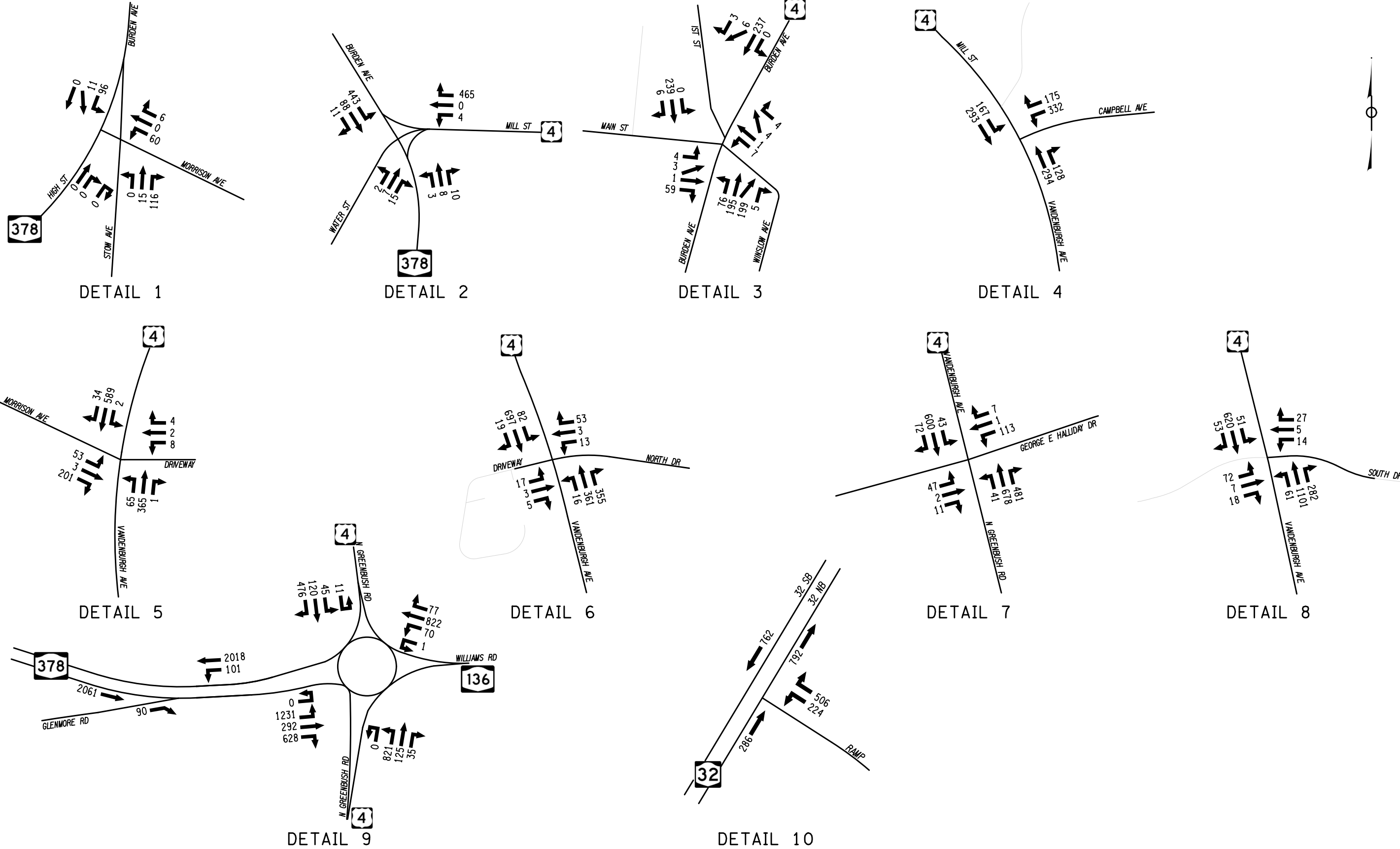
DRAWING NO.
SHEET NO. 37

COUNTY: RENSSELAER

REGION: --

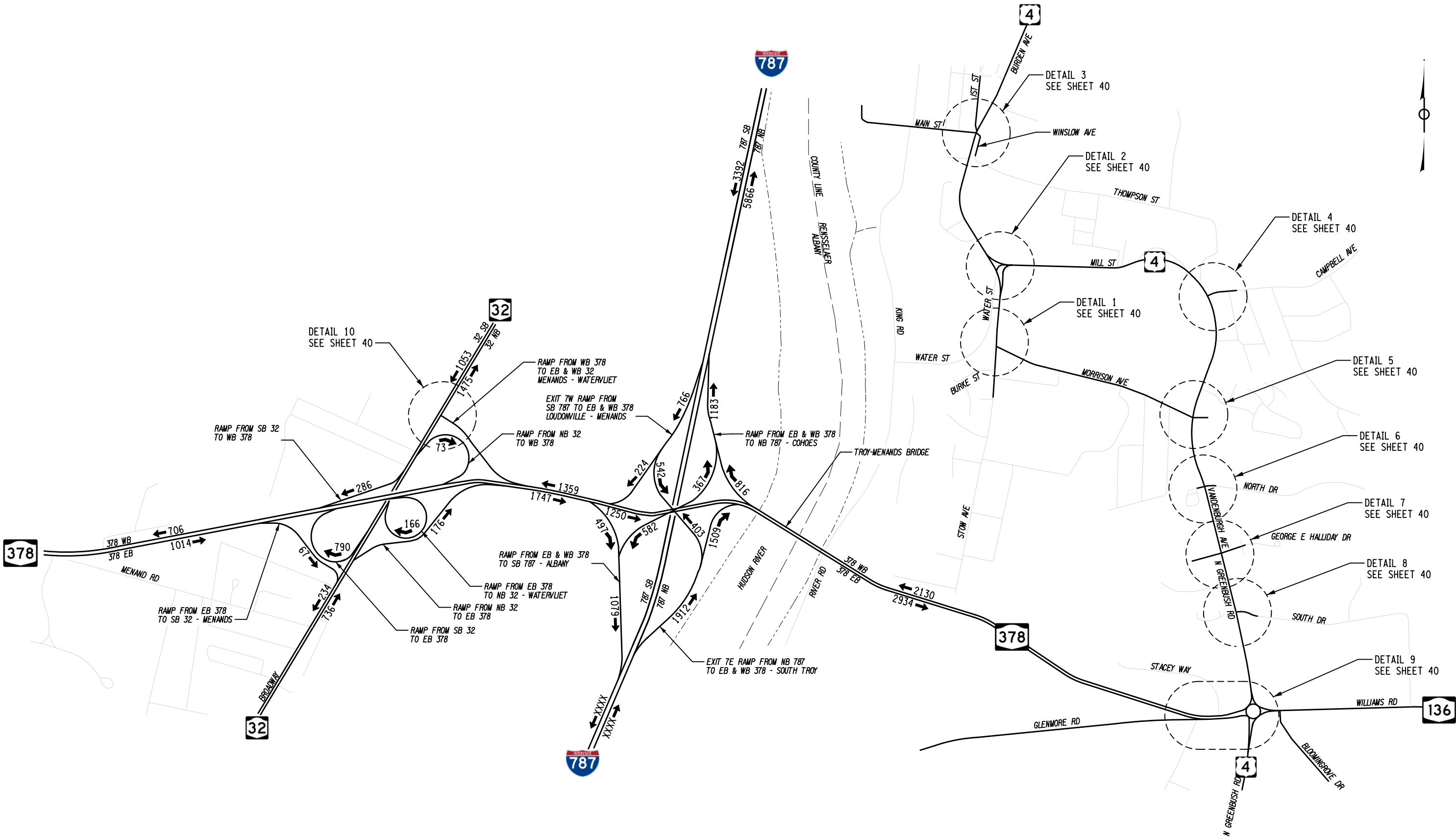


Department of
Transportation



NOT TO SCALE

AS-BUILT REVISIONS DESCRIPTION OF ALTERATIONS:	ROUTE 378 PEL STUDY	PIN X731.52	BRIDGES	CULVERTS	ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED	CONTRACT NUMBER
					TRAFFIC FLOW MAPS CONCEPT 6 (2045) AM PEAK HOUR (7:30 - 8:30 AM) INTERSECTION FLOW MAPS	D038105
						DRAWING NO.
						SHEET NO. 38
	COUNTY: RENSSELAER				REGION: --	
						 Department of Transportation



NOT TO SCALE

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

ROUTE 378 PEL STUDY

PIN X731.52

BRIDGES

CULVERTS

ALL DIMENSIONS IN FT UNLESS OTHERWISE NOTED

CONTRACT NUMBER

COUNTY: RENSSELAER

REGION: --

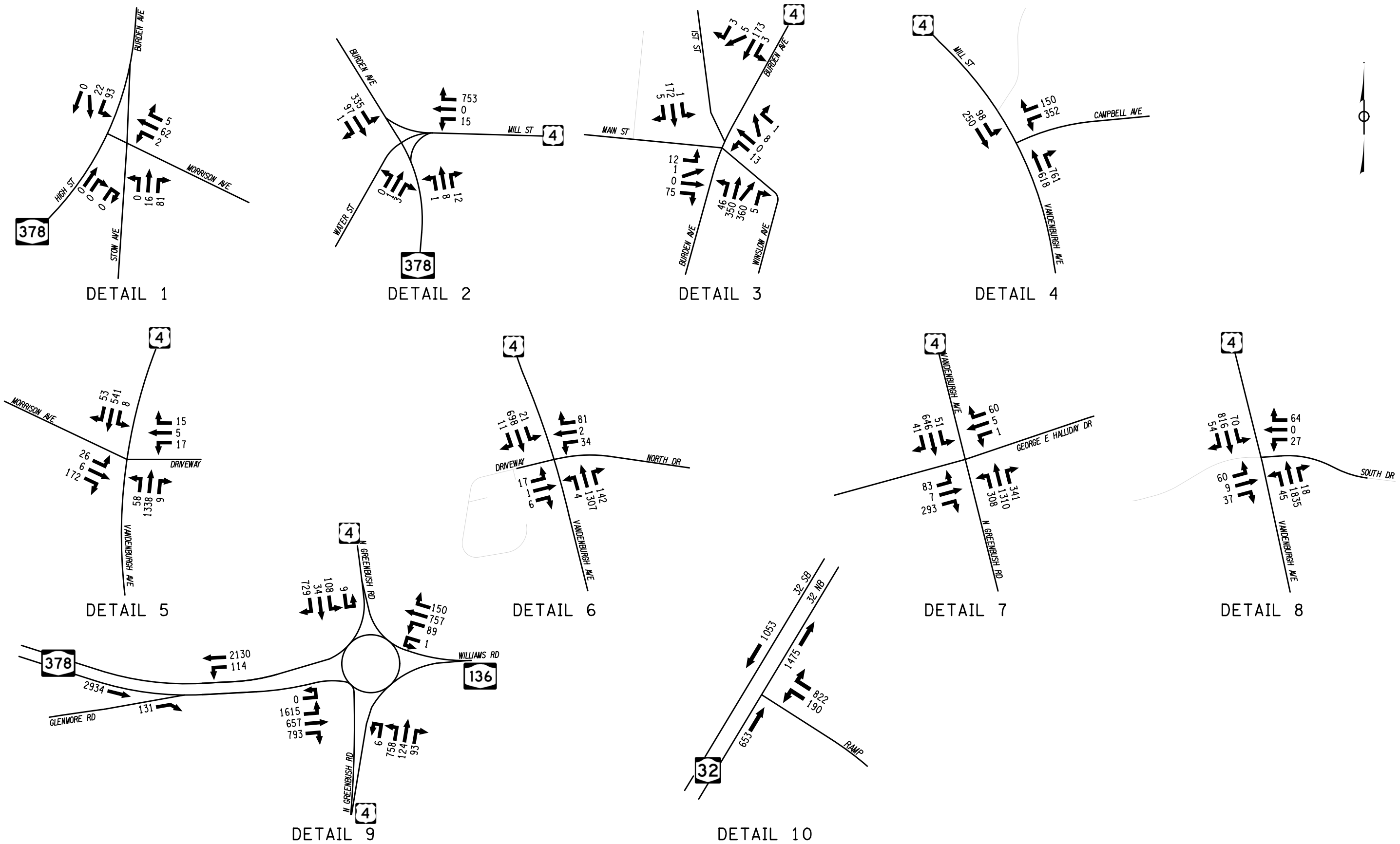
TRAFFIC FLOW MAPS
CONCEPT 6 (2045)
PM PEAK HOUR (4:30 - 5:30 PM)
STUDY AREA FLOW MAP

D038105

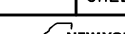
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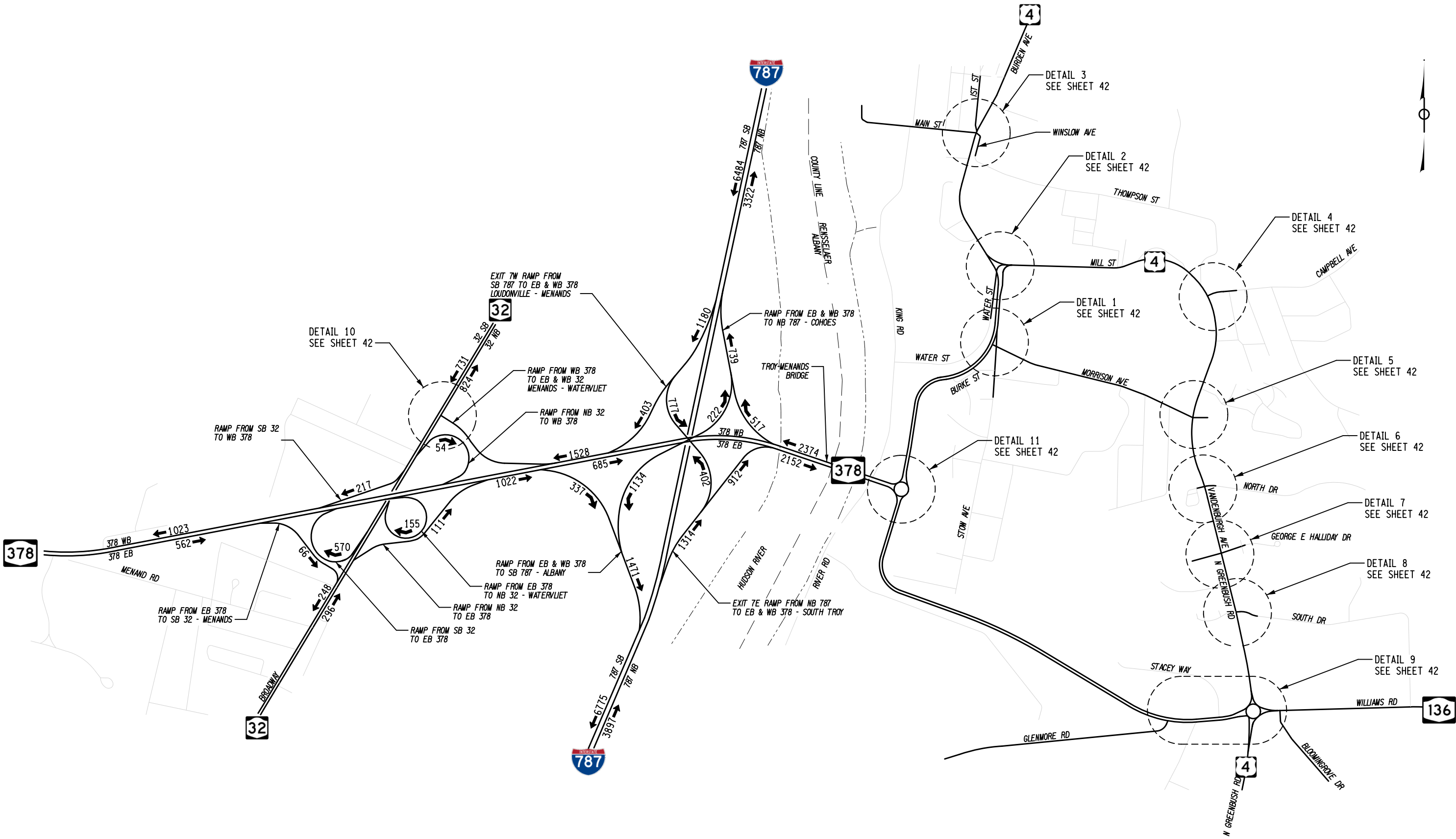


Department of
Transportation



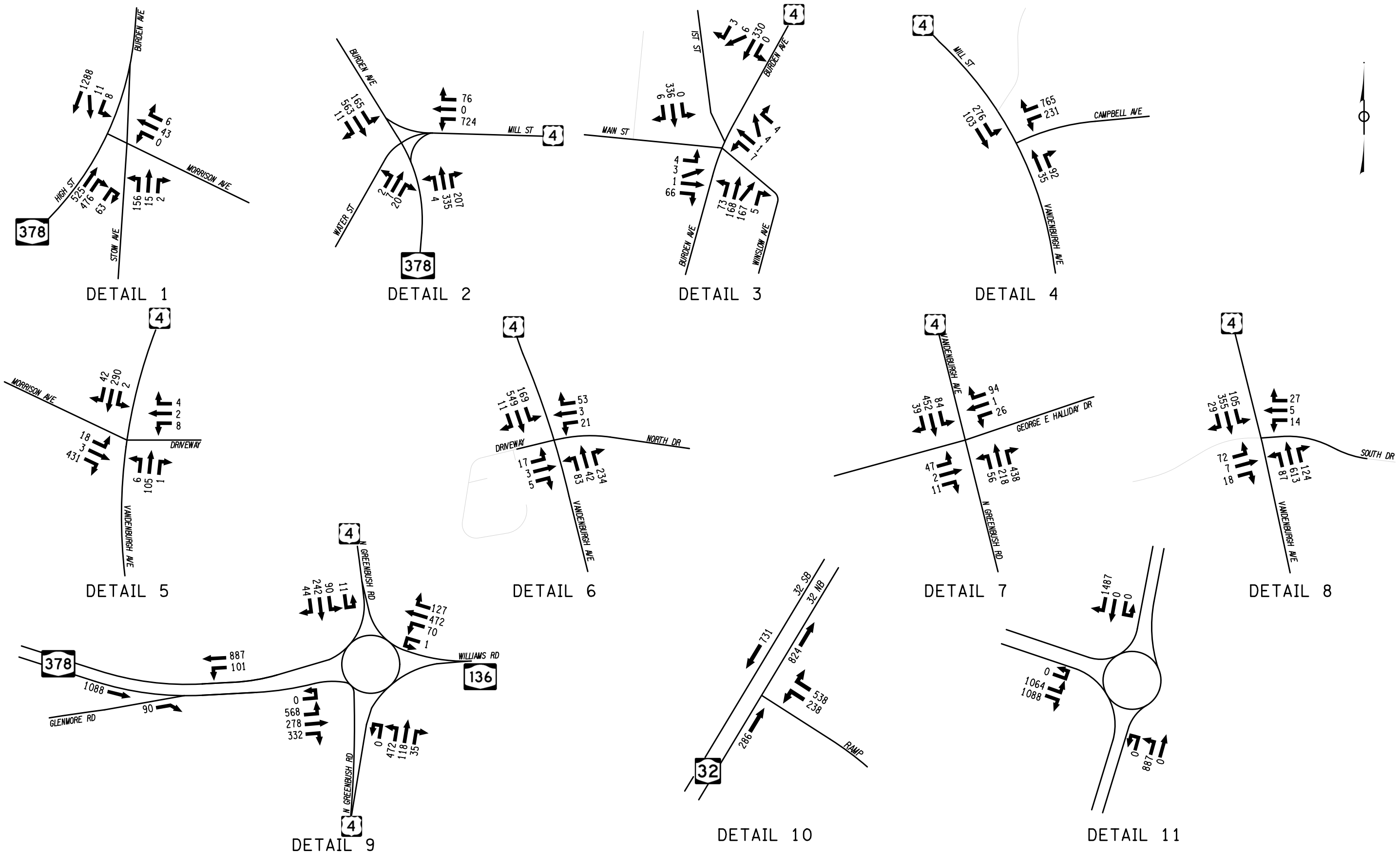
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					TRAFFIC FLOW MAPS CONCEPT 6 (2045) PM PEAK HOUR (4:30 - 5:30 PM) INTERSECTION FLOW MAPS	D038105	
						DRAWING NO.	
						SHEET NO. 40	
	COUNTY: RENSSELAER				REGION: --		
						 NEW YORK STATE OF OPPORTUNITY.	Department of Transportation



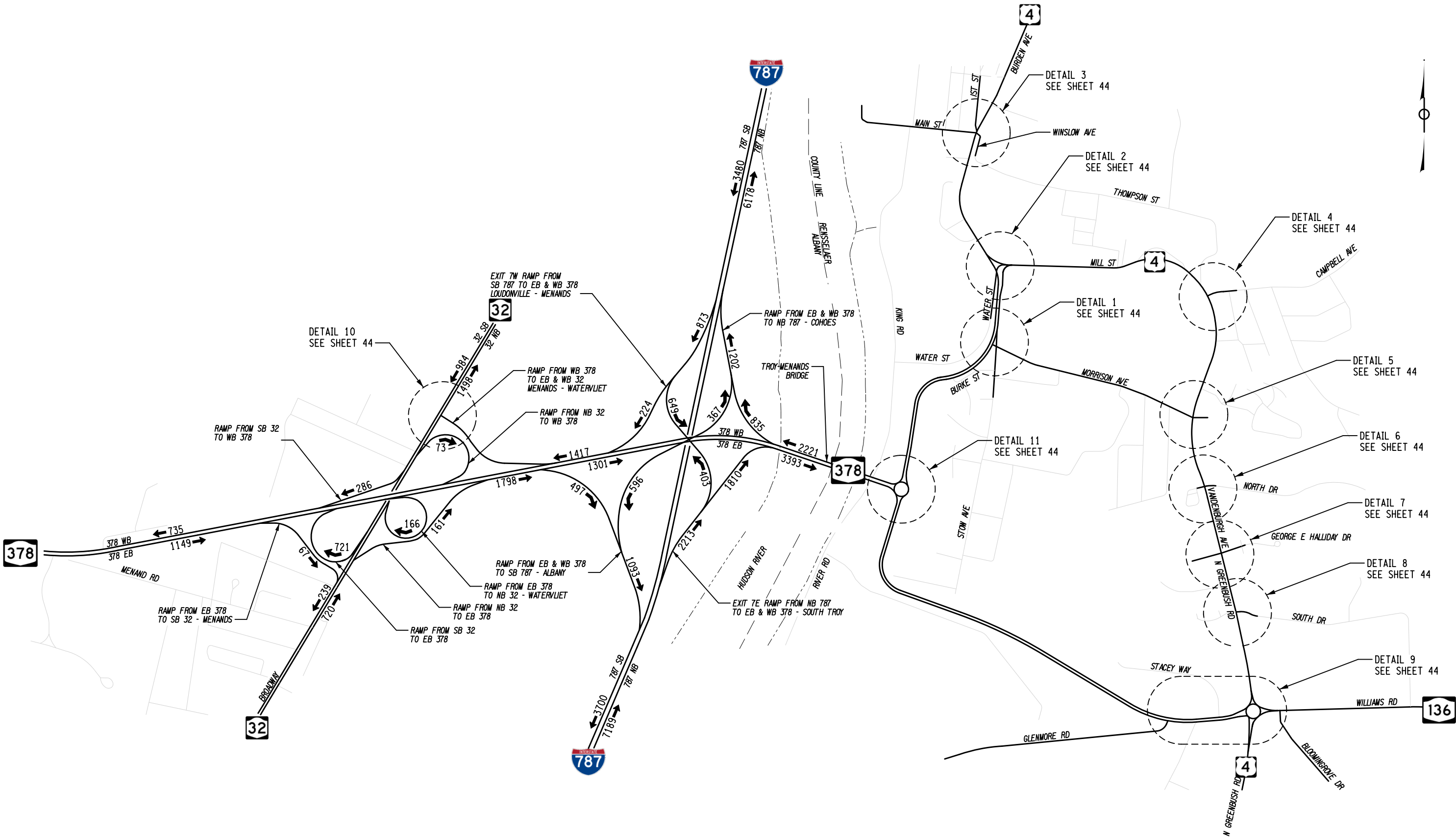
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						TRAFFIC FLOW MAPS		D038105	
						CONCEPT 7 (2045)		DRAWING NO.	
						AM PEAK HOUR (7:30 - 8:30 AM)		SHEET NO. 41	
						STUDY AREA FLOW MAP			
		COUNTY: RENSSELAER	REGION: --						
<div><div></div><div> Department of Transportation</div></div>									



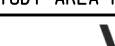
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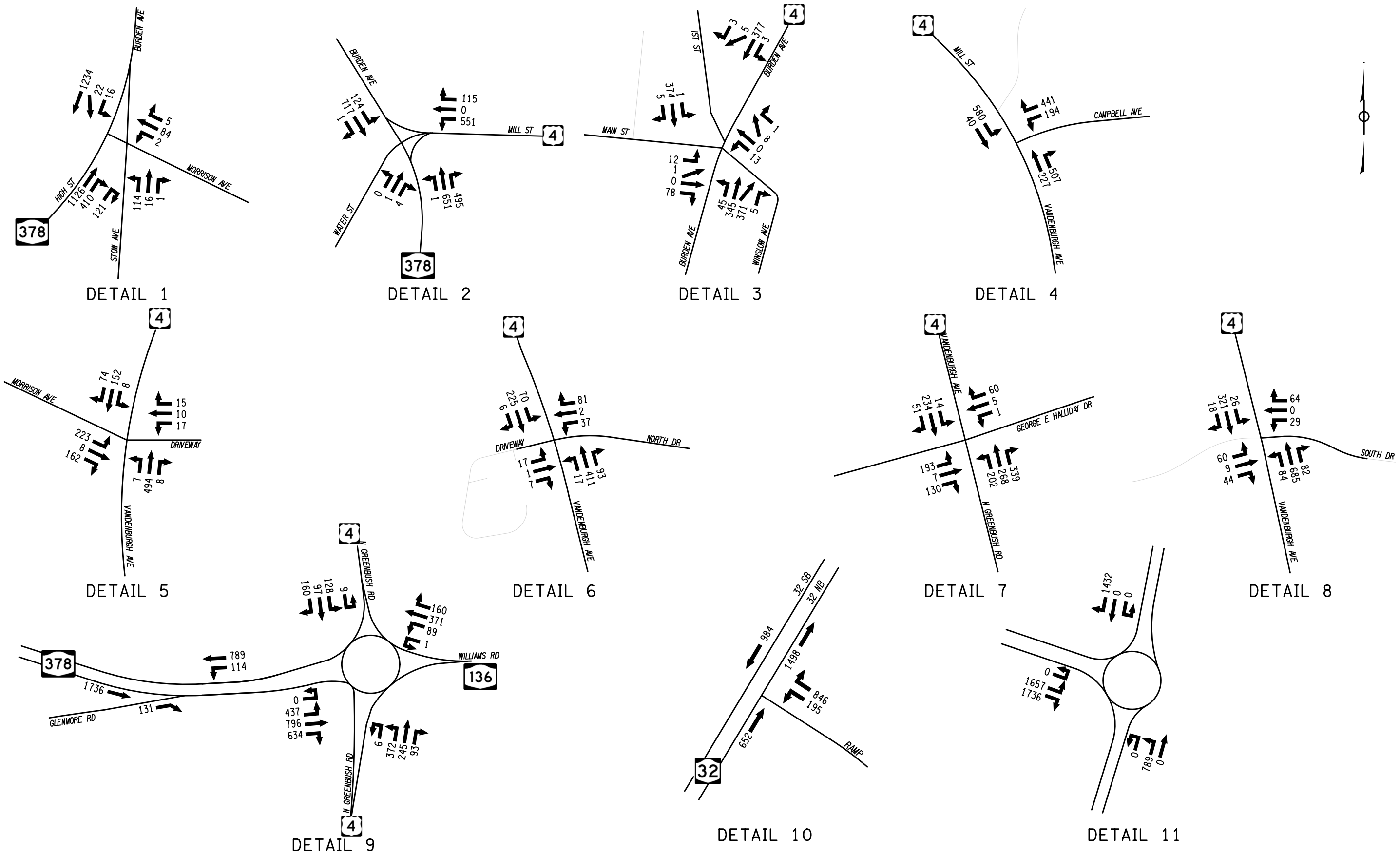
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					TRAFFIC FLOW MAPS	D038105
					CONCEPT 7 (2045)	
					AM PEAK HOUR (7:30 - 8:30 AM)	DRAWING NO.
					INTERSECTION FLOW MAPS	SHEET NO. 42
	COUNTY: RENSSELAER	REGION: --				
						  Department of Transportation



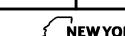
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					TRAFFIC FLOW MAPS CONCEPT 7 (2045) PM PEAK HOUR (4:30 - 5:30 PM) STUDY AREA FLOW MAP	D038105
						DRAWING NO.
						SHEET NO. 43
	COUNTY: RENSSELAER					REGION: --

**Department of Transportation**



NOT TO SCALE

AS-BUILT REVISIONS DESCRIPTION OF ALTERATIONS:	ROUTE 378 PEL STUDY	PIN X731.52	BRIDGES	CULVERTS	ALL DIMENSIONS IN FT UNLESS OTHERWISE NOTED	CONTRACT NUMBER	
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						DRAWING NO.	
						SHEET NO. 44	
	COUNTY: RENSSELAER				REGION: --		
						 NEW YORK STATE OF OPPORTUNITY.	Department of Transportation

ATTACHMENT 3-4 Speed Studies

SPOT-SPEED FIELD STUDY

Date:	10/12/22	SPEED (mph)	NUMBER OF OBSERVATIONS			
Time:	11:01:00 AM		PASS VEHS	TRUCKS	BUSES	TOTAL
Observer(s):	NL	15				0
	RM	16				0
		17				0
		18				0
		19				0
		20				0
		21				0
		22				0
Hwy Designation:	Route 378 (High St)	23				0
County:	Rensselaer County	24				0
Location:	Troy-Menands Bridge	25				0
		26				0
		27				0
		28				0
Direction of Travel:	Eastbound	29				0
Posted Speed:	30 MPH	30				0
		31	1			1
		32	1			1
		33			1	1
Weather:	Sunny	34				0
Pav't Conditions:	Poor	35	1			1
		36	3			3
		37		1		1
		38		2		2
		39	3	1		4
Speed Detection	Radar Gun	40				0
Device Used:	Decatur Electronics Scout	41	1			1
Unit ID:	HTRCR-1KD	42	3			3
	S/N: SHD-04639	43	2			2
		44	4			4
Comments:		45	5			5
		46	5			5
		47	7			7
		48	3			3
		49	2			2
		50	1			1
		51	3			3
		52	1			1
		53	1			1
		54				0
		55				0
		56				0
		57	1			1
		58				0
		59				0
		60				0
		61				0
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		68				0
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		70				0
		71				0
		72				0
		73				0
		74				0
		75				0
		76				0
		77				0
		78				0
		79				0
		80				0
Total Vehicles:			48	4	1	53

Ver 4.

** Complete only the cells highlighted yellow. **



Date:	10/12/22	Hwy:	Route 378 (High St)	Direction:	Eastbound	SUMMARY OF VEHICLES BY TYPE:	
Time:	11:01 AM	Location:	Troy-Menands Bridge	Posted Speed:	30 MPH		
Observer(s):	NL			Weather:	Sunny		
	RM			Pav't Condition:	Poor		
		County:	Rensselaer County			Passenger =	90.6%
						Trucks =	7.5%
						Buses =	1.9%

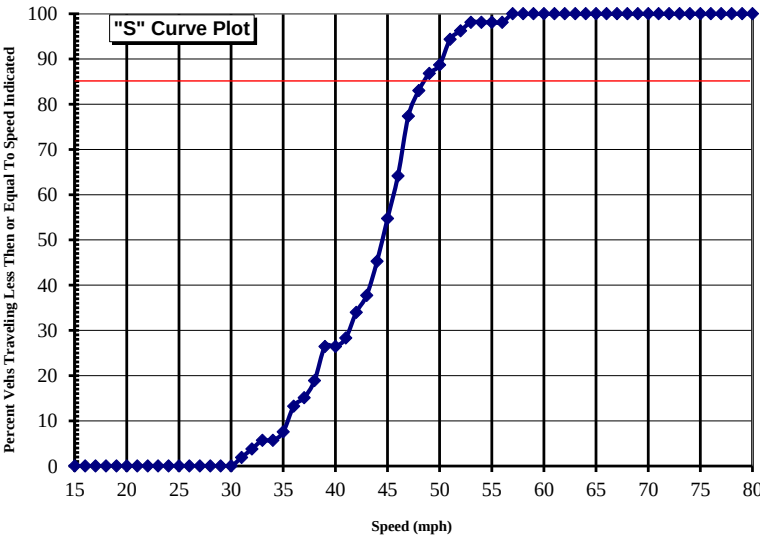
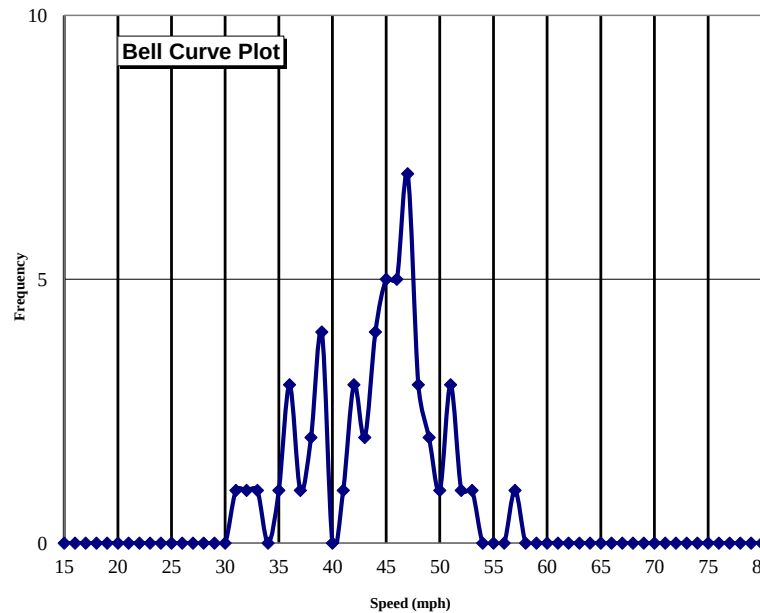
SPEED RANGE	No. VEHICLES (f)	Speed * #	CUMM No. VEHICLES	CUMM %
15	0	0	0	0.0
16	0	0	0	0.0
17	0	0	0	0.0
18	0	0	0	0.0
19	0	0	0	0.0
20	0	0	0	0.0
21	0	0	0	0.0
22	0	0	0	0.0
23	0	0	0	0.0
24	0	0	0	0.0
25	0	0	0	0.0
26	0	0	0	0.0
27	0	0	0	0.0
28	0	0	0	0.0
29	0	0	0	0.0
30	0	0	0	0.0
31	1	31	1	1.9
32	1	32	2	3.8
33	1	33	3	5.7
34	0	0	3	5.7
35	1	35	4	7.5
36	3	108	7	13.2
37	1	37	8	15.1
38	2	76	10	18.9
39	4	156	14	26.4
40	0	0	14	26.4
41	1	41	15	28.3
42	3	126	18	34.0
43	2	86	20	37.7
44	4	176	24	45.3
45	5	225	29	54.7
46	5	230	34	64.2
47	7	329	41	77.4
48	3	144	44	83.0
49	2	98	46	86.8
50	1	50	47	88.7
51	3	153	50	94.3
52	1	52	51	96.2
53	1	53	52	98.1
54	0	0	52	98.1
55	0	0	52	98.1
56	0	0	52	98.1
57	1	57	53	100.0
58	0	0	53	100.0
59	0	0	53	100.0
60	0	0	53	100.0
61	0	0	53	100.0
62	0	0	53	100.0
63	0	0	53	100.0
64	0	0	53	100.0
65	0	0	53	100.0
66	0	0	53	100.0
67	0	0	53	100.0
68	0	0	53	100.0
69	0	0	53	100.0
70	0	0	53	100.0
71	0	0	53	100.0
72	0	0	53	100.0
73	0	0	53	100.0
74	0	0	53	100.0
75	0	0	53	100.0
76	0	0	53	100.0
77	0	0	53	100.0
78	0	0	53	100.0
79	0	0	53	100.0
80	0	0	53	100.0

53

STUDY RESULTS

AVERAGE SPEED	50th PERCENTILE	85th PERCENTILE	PACE SPEED RANGE
43.9	44.5	48.5	42.0 to 51.0

% In Pace = 66.0%
% Over Pace = 5.7%
% Under Pace = 28.3%



SPOT-SPEED FIELD STUDY

Date:	10/12/22	SPEED (mph)	NUMBER OF OBSERVATIONS			
Time:	10:51:00 AM		PASS VEHS	TRUCKS	BUSES	TOTAL
Observer(s):	NL	15				0
	RM	16				0
		17				0
		18				0
		19				0
		20				0
		21				0
Hwy Designation:	Route 378 (High St)	22				0
County:	Rensselaer County	23				0
Location:	Troy-Menands Bridge	24				0
		25				0
		26				0
		27				0
		28				0
Direction of Travel:	Westbound	29				0
Posted Speed:	30 MPH	30				0
		31				0
		32				0
		33				0
Weather:	Sunny	34				0
Pav't Conditions:	Poor	35				0
		36		1		1
		37		1		1
		38	1			1
Speed Detection	Radar Gun	39	4	1		5
Device Used:	Decatur Electronics Scout	40	2			2
Unit ID:	HTRCR-1KD	41	2	2		4
	S/N: SHD-04639	42	2			2
		43	4			4
		44	6			6
		45	8	1		9
Comments:		46	2			2
		47	2			2
		48	4			4
		49	1			1
		50	2			2
		51	2			2
		52				0
		53				0
		54	2			2
		55				0
		56				0
		57				0
		58				0
		59				0
		60				0
		61				0
		62				0
		63				0
		64				0
		65				0
		66				0
		67				0
		68				0
		69				0
		70				0
		71				0
		72				0
		73				0
		74				0
		75				0
		76				0
		77				0
		78				0
		79				0
		80				0
Total Vehicles:			44	6	0	50

** Complete only the cells highlighted yellow. **



Date:	10/12/22	Hwy:	Route 378 (High St)	Direction:	Westbound	SUMMARY OF VEHICLES BY TYPE:	
Time:	10:51 AM	Location:	Troy-Menands Bridge	Posted Speed:	30 MPH		
Observer(s):	NL			Weather:	Sunny		
	RM			Pav't Condition:	Poor		
		County:	Rensselaer County			Passenger =	88.0%
						Trucks =	12.0%
						Buses =	0.0%

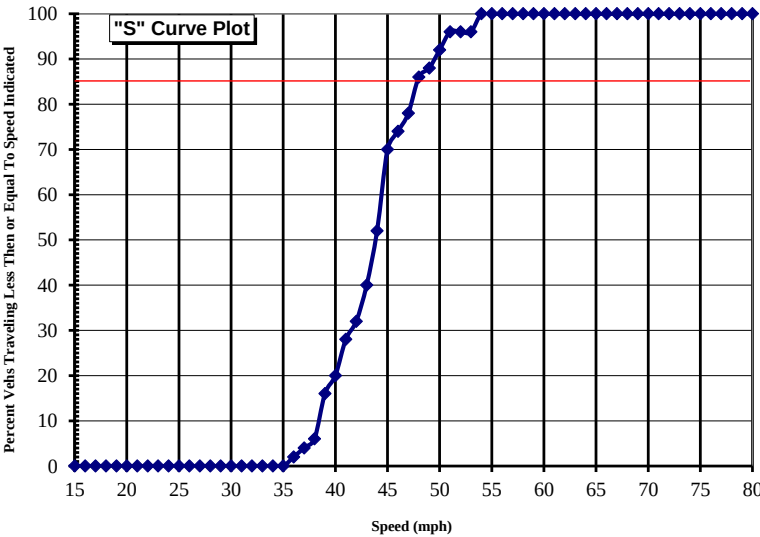
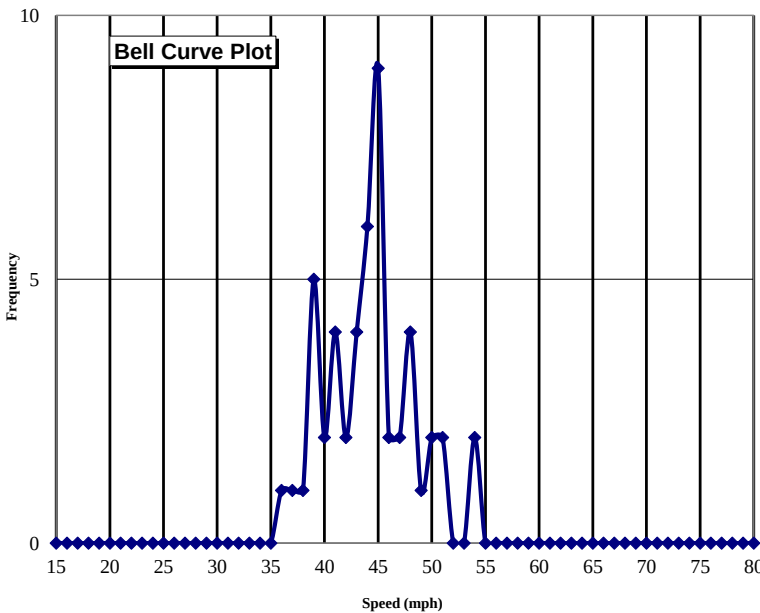
SPEED RANGE	No. VEHICLES (f)	Speed * #	CUMM No. VEHICLES	CUMM %
15	0	0	0	0.0
16	0	0	0	0.0
17	0	0	0	0.0
18	0	0	0	0.0
19	0	0	0	0.0
20	0	0	0	0.0
21	0	0	0	0.0
22	0	0	0	0.0
23	0	0	0	0.0
24	0	0	0	0.0
25	0	0	0	0.0
26	0	0	0	0.0
27	0	0	0	0.0
28	0	0	0	0.0
29	0	0	0	0.0
30	0	0	0	0.0
31	0	0	0	0.0
32	0	0	0	0.0
33	0	0	0	0.0
34	0	0	0	0.0
35	0	0	0	0.0
36	1	36	1	2.0
37	1	37	2	4.0
38	1	38	3	6.0
39	5	195	8	16.0
40	2	80	10	20.0
41	4	164	14	28.0
42	2	84	16	32.0
43	4	172	20	40.0
44	6	264	26	52.0
45	9	405	35	70.0
46	2	92	37	74.0
47	2	94	39	78.0
48	4	192	43	86.0
49	1	49	44	88.0
50	2	100	46	92.0
51	2	102	48	96.0
52	0	0	48	96.0
53	0	0	48	96.0
54	2	108	50	100.0
55	0	0	50	100.0
56	0	0	50	100.0
57	0	0	50	100.0
58	0	0	50	100.0
59	0	0	50	100.0
60	0	0	50	100.0
61	0	0	50	100.0
62	0	0	50	100.0
63	0	0	50	100.0
64	0	0	50	100.0
65	0	0	50	100.0
66	0	0	50	100.0
67	0	0	50	100.0
68	0	0	50	100.0
69	0	0	50	100.0
70	0	0	50	100.0
71	0	0	50	100.0
72	0	0	50	100.0
73	0	0	50	100.0
74	0	0	50	100.0
75	0	0	50	100.0
76	0	0	50	100.0
77	0	0	50	100.0
78	0	0	50	100.0
79	0	0	50	100.0
80	0	0	50	100.0

50

STUDY RESULTS

AVERAGE SPEED	50th PERCENTILE	85th PERCENTILE	PACE SPEED RANGE
44.2	43.8	47.9	39.0 to 48.0

% In Pace = 80.0%
% Over Pace = 14.0%
% Under Pace = 6.0%



SPOT-SPEED FIELD STUDY

Date:	10/12/22	SPEED (mph)	NUMBER OF OBSERVATIONS			
Time:	10:00:00 AM		PASS VEHS	TRUCKS	BUSES	TOTAL
Observer(s):	NL	15				0
	RM	16				0
		17				0
		18				0
		19				0
		20				0
Hwy Designation:	Route 4 (Mill St)	21				0
County:	Rensselaer County	22				0
Location:	Between Burden Ave	23				0
	and	24				0
	Erie St	25		1		1
Direction of Travel:	Eastbound	26	1			1
Posted Speed:	30 MPH	27				0
		28			2	2
		29		1		1
		30	1			1
		31				0
		32	3	1		4
		33	3	1		4
Weather:	Sunny	34	5	1		6
Pav't Conditions:	Newly Paved	35	9			9
		36	3			3
		37	6			6
		38	2			2
		39	5			5
Speed Detection	Radar Gun	40				0
Device Used:	Decatur Electronics Scout	41	1			1
Unit ID:	HTRCR-1KD	42	1			1
	S/N: SHD-04639	43				0
		44	1			1
		45				0
Comments:		46	2			2
		47				0
		48				0
		49				0
		50				0
		51				0
		52				0
		53				0
		54				0
		55				0
		56				0
		57				0
		58				0
		59				0
		60				0
		61				0
		62				0
		63				0
		64				0
		65				0
		66				0
		67				0
		68				0
		69				0
		70				0
		71				0
		72				0
		73				0
		74				0
		75				0
		76				0
		77				0
		78				0
		79				0
		80				0
Total Vehicles:			43	5	2	50

** Complete only the cells highlighted yellow. **



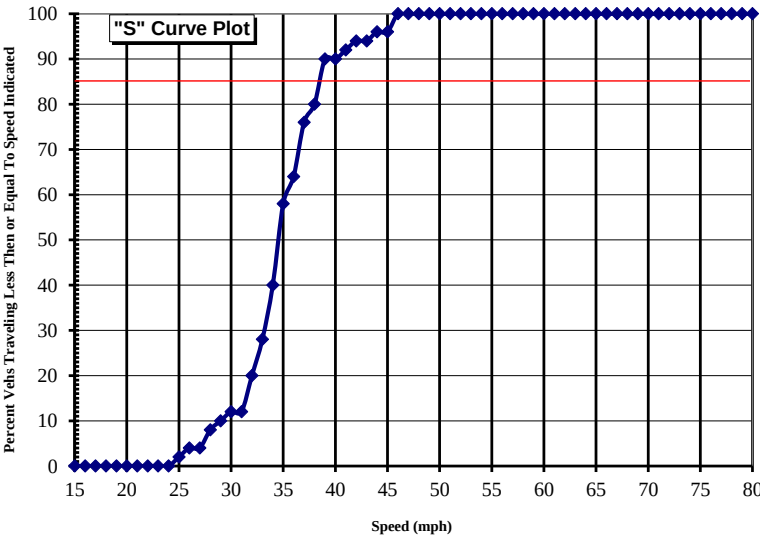
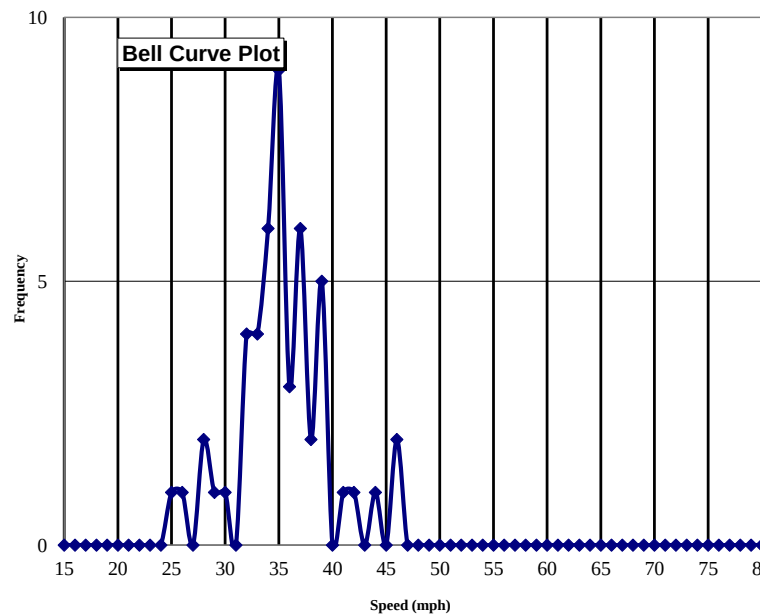
Date:	10/12/22	Hwy:	Route 4 (Mill St)	Direction:	Eastbound	SUMMARY OF VEHICLES BY TYPE:	
Time:	10:00 AM	Location:	Between Burden Ave	Posted Speed:	30 MPH		
Observer(s):	NL		and Erie St	Weather:	Sunny		
	RM			Pav't Condition:	Newly Paved		
		County:	Rensselaer County			Passenger =	86.0%
						Trucks =	10.0%
						Buses =	4.0%

SPEED RANGE	No. VEHICLES (f)	Speed * #	CUMM No. VEHICLES	CUMM %
15	0	0	0	0.0
16	0	0	0	0.0
17	0	0	0	0.0
18	0	0	0	0.0
19	0	0	0	0.0
20	0	0	0	0.0
21	0	0	0	0.0
22	0	0	0	0.0
23	0	0	0	0.0
24	0	0	0	0.0
25	1	25	1	2.0
26	1	26	2	4.0
27	0	0	2	4.0
28	2	56	4	8.0
29	1	29	5	10.0
30	1	30	6	12.0
31	0	0	6	12.0
32	4	128	10	20.0
33	4	132	14	28.0
34	6	204	20	40.0
35	9	315	29	58.0
36	3	108	32	64.0
37	6	222	38	76.0
38	2	76	40	80.0
39	5	195	45	90.0
40	0	0	45	90.0
41	1	41	46	92.0
42	1	42	47	94.0
43	0	0	47	94.0
44	1	44	48	96.0
45	0	0	48	96.0
46	2	92	50	100.0
47	0	0	50	100.0
48	0	0	50	100.0
49	0	0	50	100.0
50	0	0	50	100.0
51	0	0	50	100.0
52	0	0	50	100.0
53	0	0	50	100.0
54	0	0	50	100.0
55	0	0	50	100.0
56	0	0	50	100.0
57	0	0	50	100.0
58	0	0	50	100.0
59	0	0	50	100.0
60	0	0	50	100.0
61	0	0	50	100.0
62	0	0	50	100.0
63	0	0	50	100.0
64	0	0	50	100.0
65	0	0	50	100.0
66	0	0	50	100.0
67	0	0	50	100.0
68	0	0	50	100.0
69	0	0	50	100.0
70	0	0	50	100.0
71	0	0	50	100.0
72	0	0	50	100.0
73	0	0	50	100.0
74	0	0	50	100.0
75	0	0	50	100.0
76	0	0	50	100.0
77	0	0	50	100.0
78	0	0	50	100.0
79	0	0	50	100.0
80	0	0	50	100.0
50				

STUDY RESULTS

AVERAGE SPEED	50th PERCENTILE	85th PERCENTILE	PACE SPEED RANGE
35.3	34.6	38.5	30.0 to 39.0

% In Pace = 80.0%
% Over Pace = 10.0%
% Under Pace = 10.0%



SPOT-SPEED FIELD STUDY

Date:	10/12/22	SPEED (mph)	NUMBER OF OBSERVATIONS			
Time:	10:28:00 AM		PASS VEHS	TRUCKS	BUSES	TOTAL
Observer(s):	NL	15				0
	RM	16				0
		17				0
		18				0
		19				0
		20				0
		21				0
Hwy Designation:	Route 4 (Mill St)	22				0
County:	Rensselaer County	23				0
Location:	Between Burden Ave	24				0
	and	25				0
	Erie St	26				0
Direction of Travel:	Westbound	27				0
Posted Speed:	30 MPH	28				0
		29				0
		30	3			3
		31	2			2
		32	2		1	3
		33	5			5
Weather:	Sunny	34	12			12
Pav't Conditions:	Newly Paved	35	3			3
		36	6	2		8
		37	2			2
		38	4			4
		39	2			2
Speed Detection	Radar Gun	40				0
Device Used:	Decatur Electronics Scout	41	3			3
Unit ID:	HTRCR-1KD	42	3			3
	S/N: SHD-04639	43				0
		44	1			1
Comments:		45				0
		46				0
		47				0
		48				0
		49				0
		50				0
		51				0
		52				0
		53				0
		54				0
		55				0
		56				0
		57				0
		58				0
		59				0
		60				0
		61				0
		62				0
		63				0
		64				0
		65				0
		66				0
		67				0
		68				0
		69				0
		70				0
		71				0
		72				0
		73				0
		74				0
		75				0
		76				0
		77				0
		78				0
		79				0
		80				0
Total Vehicles:			48	2	1	51

** Complete only the cells highlighted yellow. **



Date:	10/12/22	Hwy:	Route 4 (Mill St)	Direction:	Westbound	SUMMARY OF VEHICLES BY TYPE:	
Time:	10:28 AM	Location:	Between Burden Ave and Erie St	Posted Speed:	30 MPH		
Observer(s):	NL			Weather:	Sunny		
	RM			Pav't Condition:	Newly Paved		
		County:	Rensselaer County			Passenger =	94.1%
						Trucks =	3.9%
						Buses =	2.0%

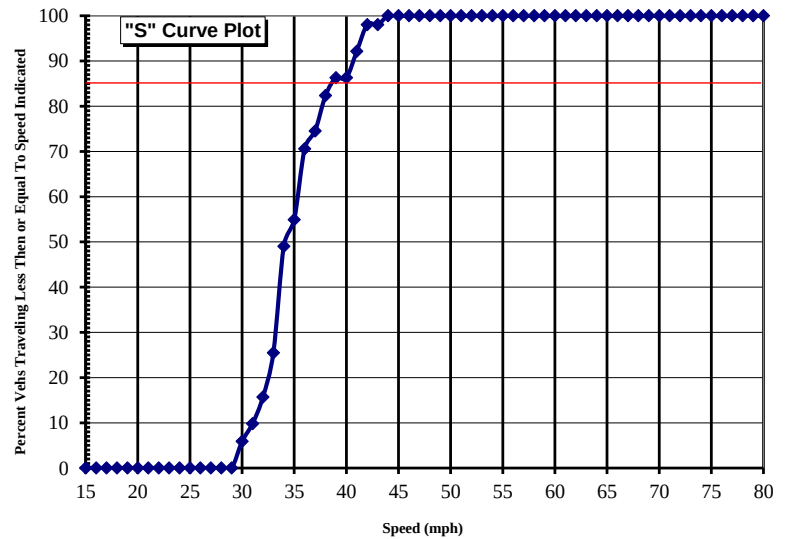
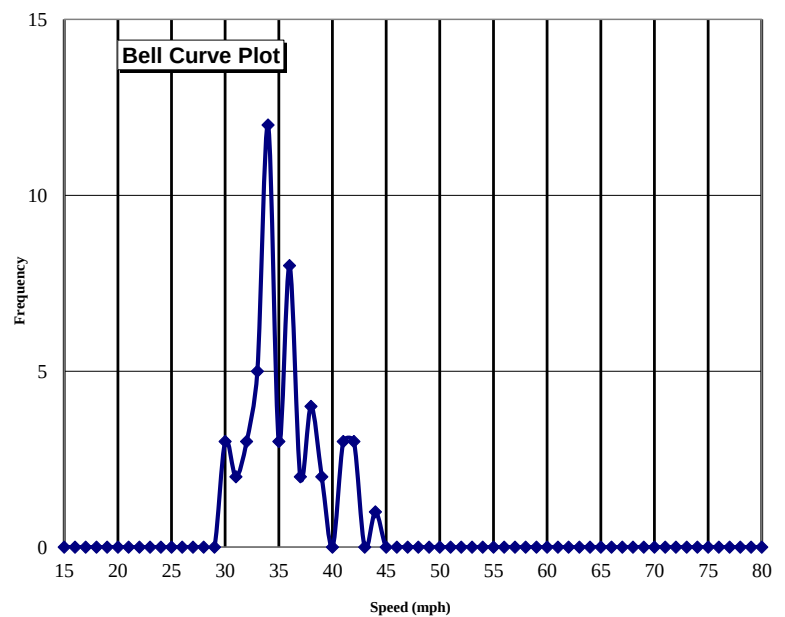
SPEED RANGE	No. VEHICLES (f)	Speed * #	CUMM No. VEHICLES	CUMM %
15	0	0	0	0.0
16	0	0	0	0.0
17	0	0	0	0.0
18	0	0	0	0.0
19	0	0	0	0.0
20	0	0	0	0.0
21	0	0	0	0.0
22	0	0	0	0.0
23	0	0	0	0.0
24	0	0	0	0.0
25	0	0	0	0.0
26	0	0	0	0.0
27	0	0	0	0.0
28	0	0	0	0.0
29	0	0	0	0.0
30	3	90	3	5.9
31	2	62	5	9.8
32	3	96	8	15.7
33	5	165	13	25.5
34	12	408	25	49.0
35	3	105	28	54.9
36	8	288	36	70.6
37	2	74	38	74.5
38	4	152	42	82.4
39	2	78	44	86.3
40	0	0	44	86.3
41	3	123	47	92.2
42	3	126	50	98.0
43	0	0	50	98.0
44	1	44	51	100.0
45	0	0	51	100.0
46	0	0	51	100.0
47	0	0	51	100.0
48	0	0	51	100.0
49	0	0	51	100.0
50	0	0	51	100.0
51	0	0	51	100.0
52	0	0	51	100.0
53	0	0	51	100.0
54	0	0	51	100.0
55	0	0	51	100.0
56	0	0	51	100.0
57	0	0	51	100.0
58	0	0	51	100.0
59	0	0	51	100.0
60	0	0	51	100.0
61	0	0	51	100.0
62	0	0	51	100.0
63	0	0	51	100.0
64	0	0	51	100.0
65	0	0	51	100.0
66	0	0	51	100.0
67	0	0	51	100.0
68	0	0	51	100.0
69	0	0	51	100.0
70	0	0	51	100.0
71	0	0	51	100.0
72	0	0	51	100.0
73	0	0	51	100.0
74	0	0	51	100.0
75	0	0	51	100.0
76	0	0	51	100.0
77	0	0	51	100.0
78	0	0	51	100.0
79	0	0	51	100.0
80	0	0	51	100.0

51

STUDY RESULTS

AVERAGE SPEED	50th PERCENTILE	85th PERCENTILE	PACE SPEED RANGE
35.5	34.2	38.7	30.0 to 39.0

% In Pace = 86.3%
% Over Pace = 13.7%
% Under Pace = 0.0%



ATTACHMENT 3-5. Official Traffic Signal Timings

SPOT-SPEED FIELD STUDY

Date:	10/12/22	SPEED (mph)	NUMBER OF OBSERVATIONS			
Time:	11:01:00 AM		PASS VEHS	TRUCKS	BUSES	TOTAL
Observer(s):	NL	15				0
	RM	16				0
		17				0
		18				0
		19				0
		20				0
		21				0
		22				0
Hwy Designation:	Route 378 (High St)	23				0
County:	Rensselaer County	24				0
Location:	Troy-Menands Bridge	25				0
		26				0
		27				0
		28				0
Direction of Travel:	Eastbound	29				0
Posted Speed:	30 MPH	30				0
		31	1			1
		32	1			1
		33			1	1
Weather:	Sunny	34				0
Pav't Conditions:	Poor	35	1			1
		36	3			3
		37		1		1
		38		2		2
		39	3	1		4
Speed Detection	Radar Gun	40				0
Device Used:	Decatur Electronics Scout	41	1			1
		42	3			3
Unit ID:	HTRCR-1KD	43	2			2
	S/N: SHD-04639	44	4			4
Comments:		45	5			5
		46	5			5
		47	7			7
		48	3			3
		49	2			2
		50	1			1
		51	3			3
		52	1			1
		53	1			1
		54				0
		55				0
		56				0
		57	1			1
		58				0
		59				0
		60				0
		61				0
		62				0
		63				0
		64				0
		65				0
		66				0
		67				0
		68				0
		69				0
		70				0
		71				0
		72				0
		73				0
		74				0
		75				0
		76				0
		77				0
		78				0
		79				0
		80				0
Total Vehicles:			48	4	1	53

Ver 4.

** Complete only the cells highlighted yellow. **



Date:	10/12/22	Hwy:	Route 378 (High St)	Direction:	Eastbound	SUMMARY OF VEHICLES BY TYPE:	
Time:	11:01 AM	Location:	Troy-Menands Bridge	Posted Speed:	30 MPH		
Observer(s):	NL			Weather:	Sunny		
	RM			Pav't Condition:	Poor		
		County:	Rensselaer County			Passenger =	90.6%
						Trucks =	7.5%
						Buses =	1.9%

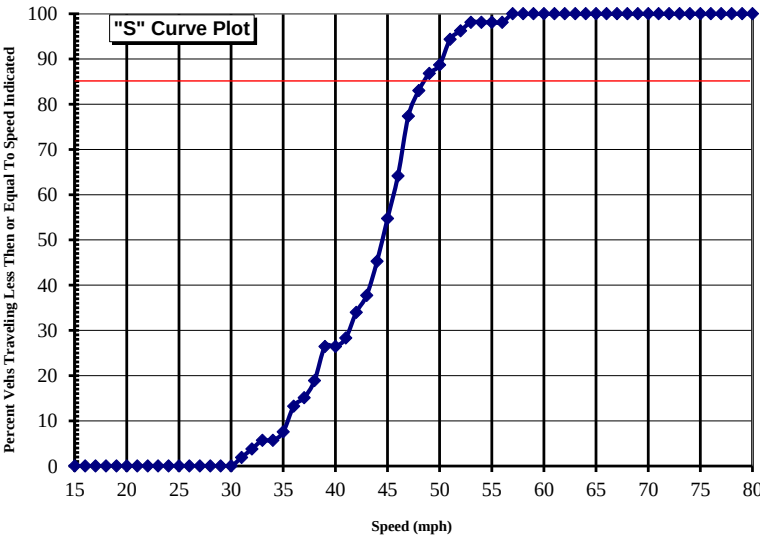
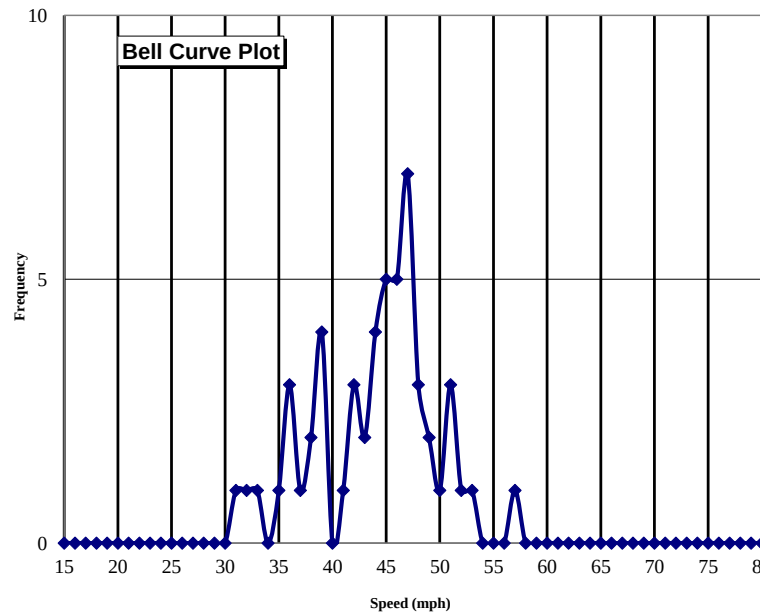
SPEED RANGE	No. VEHICLES (f)	Speed * #	CUMM No. VEHICLES	CUMM %
15	0	0	0	0.0
16	0	0	0	0.0
17	0	0	0	0.0
18	0	0	0	0.0
19	0	0	0	0.0
20	0	0	0	0.0
21	0	0	0	0.0
22	0	0	0	0.0
23	0	0	0	0.0
24	0	0	0	0.0
25	0	0	0	0.0
26	0	0	0	0.0
27	0	0	0	0.0
28	0	0	0	0.0
29	0	0	0	0.0
30	0	0	0	0.0
31	1	31	1	1.9
32	1	32	2	3.8
33	1	33	3	5.7
34	0	0	3	5.7
35	1	35	4	7.5
36	3	108	7	13.2
37	1	37	8	15.1
38	2	76	10	18.9
39	4	156	14	26.4
40	0	0	14	26.4
41	1	41	15	28.3
42	3	126	18	34.0
43	2	86	20	37.7
44	4	176	24	45.3
45	5	225	29	54.7
46	5	230	34	64.2
47	7	329	41	77.4
48	3	144	44	83.0
49	2	98	46	86.8
50	1	50	47	88.7
51	3	153	50	94.3
52	1	52	51	96.2
53	1	53	52	98.1
54	0	0	52	98.1
55	0	0	52	98.1
56	0	0	52	98.1
57	1	57	53	100.0
58	0	0	53	100.0
59	0	0	53	100.0
60	0	0	53	100.0
61	0	0	53	100.0
62	0	0	53	100.0
63	0	0	53	100.0
64	0	0	53	100.0
65	0	0	53	100.0
66	0	0	53	100.0
67	0	0	53	100.0
68	0	0	53	100.0
69	0	0	53	100.0
70	0	0	53	100.0
71	0	0	53	100.0
72	0	0	53	100.0
73	0	0	53	100.0
74	0	0	53	100.0
75	0	0	53	100.0
76	0	0	53	100.0
77	0	0	53	100.0
78	0	0	53	100.0
79	0	0	53	100.0
80	0	0	53	100.0

53

STUDY RESULTS

AVERAGE SPEED	50th PERCENTILE	85th PERCENTILE	PACE SPEED RANGE
43.9	44.5	48.5	42.0 to 51.0

% In Pace = 66.0%
% Over Pace = 5.7%
% Under Pace = 28.3%



SPOT-SPEED FIELD STUDY

Date:	10/12/22	SPEED (mph)	NUMBER OF OBSERVATIONS			
Time:	10:51:00 AM		PASS VEHS	TRUCKS	BUSES	TOTAL
Observer(s):	NL	15				0
	RM	16				0
		17				0
		18				0
		19				0
		20				0
		21				0
Hwy Designation:	Route 378 (High St)	22				0
County:	Rensselaer County	23				0
Location:	Troy-Menands Bridge	24				0
		25				0
		26				0
		27				0
		28				0
Direction of Travel:	Westbound	29				0
Posted Speed:	30 MPH	30				0
		31				0
		32				0
		33				0
Weather:	Sunny	34				0
Pav't Conditions:	Poor	35				0
		36		1		1
		37		1		1
		38	1			1
Speed Detection	Radar Gun	39	4	1		5
Device Used:	Decatur Electronics Scout	40	2			2
Unit ID:	HTRCR-1KD	41	2	2		4
	S/N: SHD-04639	42	2			2
		43	4			4
		44	6			6
		45	8	1		9
Comments:		46	2			2
		47	2			2
		48	4			4
		49	1			1
		50	2			2
		51	2			2
		52				0
		53				0
		54	2			2
		55				0
		56				0
		57				0
		58				0
		59				0
		60				0
		61				0
		62				0
		63				0
		64				0
		65				0
		66				0
		67				0
		68				0
		69				0
		70				0
		71				0
		72				0
		73				0
		74				0
		75				0
		76				0
		77				0
		78				0
		79				0
		80				0
		Total Vehicles:	44	6	0	50

** Complete only the cells highlighted yellow. **



Date:	10/12/22	Hwy:	Route 378 (High St)	Direction:	Westbound	SUMMARY OF VEHICLES BY TYPE:	
Time:	10:51 AM	Location:	Troy-Menands Bridge	Posted Speed:	30 MPH		
Observer(s):	NL			Weather:	Sunny		
	RM			Pav't Condition:	Poor		
		County:	Rensselaer County			Passenger =	88.0%
						Trucks =	12.0%
						Buses =	0.0%

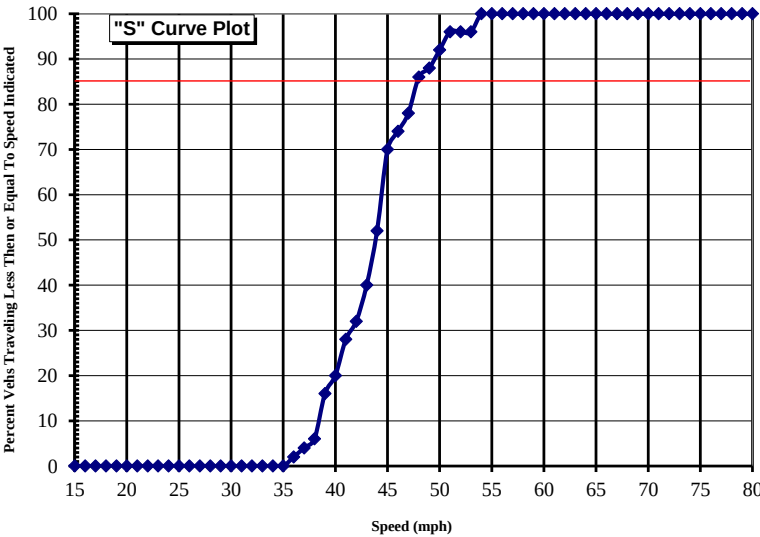
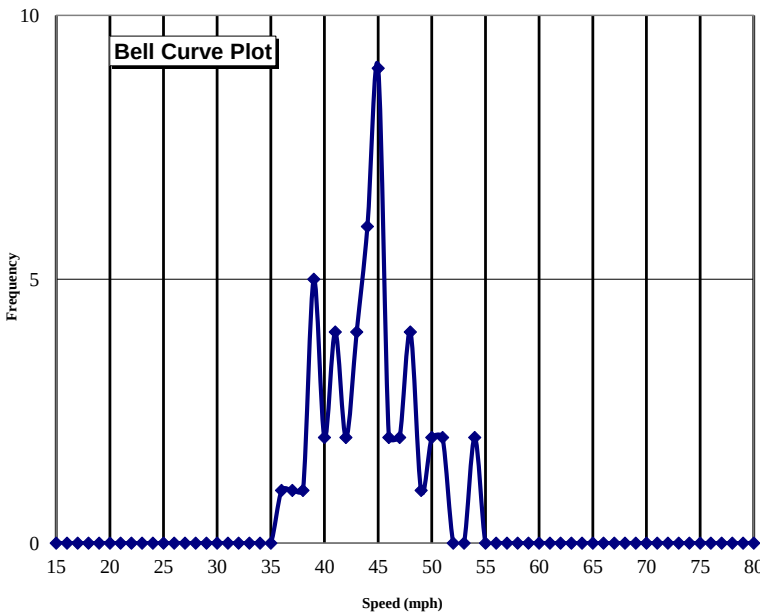
SPEED RANGE	No. VEHICLES (f)	Speed * #	CUMM No. VEHICLES	CUMM %
15	0	0	0	0.0
16	0	0	0	0.0
17	0	0	0	0.0
18	0	0	0	0.0
19	0	0	0	0.0
20	0	0	0	0.0
21	0	0	0	0.0
22	0	0	0	0.0
23	0	0	0	0.0
24	0	0	0	0.0
25	0	0	0	0.0
26	0	0	0	0.0
27	0	0	0	0.0
28	0	0	0	0.0
29	0	0	0	0.0
30	0	0	0	0.0
31	0	0	0	0.0
32	0	0	0	0.0
33	0	0	0	0.0
34	0	0	0	0.0
35	0	0	0	0.0
36	1	36	1	2.0
37	1	37	2	4.0
38	1	38	3	6.0
39	5	195	8	16.0
40	2	80	10	20.0
41	4	164	14	28.0
42	2	84	16	32.0
43	4	172	20	40.0
44	6	264	26	52.0
45	9	405	35	70.0
46	2	92	37	74.0
47	2	94	39	78.0
48	4	192	43	86.0
49	1	49	44	88.0
50	2	100	46	92.0
51	2	102	48	96.0
52	0	0	48	96.0
53	0	0	48	96.0
54	2	108	50	100.0
55	0	0	50	100.0
56	0	0	50	100.0
57	0	0	50	100.0
58	0	0	50	100.0
59	0	0	50	100.0
60	0	0	50	100.0
61	0	0	50	100.0
62	0	0	50	100.0
63	0	0	50	100.0
64	0	0	50	100.0
65	0	0	50	100.0
66	0	0	50	100.0
67	0	0	50	100.0
68	0	0	50	100.0
69	0	0	50	100.0
70	0	0	50	100.0
71	0	0	50	100.0
72	0	0	50	100.0
73	0	0	50	100.0
74	0	0	50	100.0
75	0	0	50	100.0
76	0	0	50	100.0
77	0	0	50	100.0
78	0	0	50	100.0
79	0	0	50	100.0
80	0	0	50	100.0

50

STUDY RESULTS

AVERAGE SPEED	50th PERCENTILE	85th PERCENTILE	PACE SPEED RANGE
44.2	43.8	47.9	39.0 to 48.0

% In Pace = 80.0%
% Over Pace = 14.0%
% Under Pace = 6.0%



SPOT-SPEED FIELD STUDY

Date:	10/12/22	SPEED (mph)	NUMBER OF OBSERVATIONS			
Time:	10:00:00 AM		PASS VEHS	TRUCKS	BUSES	TOTAL
Observer(s):	NL	15				0
	RM	16				0
		17				0
		18				0
		19				0
		20				0
		21				0
Hwy Designation:	Route 4 (Mill St)	22				0
County:	Rensselaer County	23				0
Location:	Between Burden Ave	24				0
	and	25		1		1
	Erie St	26	1			1
Direction of Travel:	Eastbound	27				0
Posted Speed:	30 MPH	28			2	2
		29		1		1
		30	1			1
		31				0
		32	3	1		4
		33	3	1		4
Weather:	Sunny	34	5	1		6
Pav't Conditions:	Newly Paved	35	9			9
		36	3			3
		37	6			6
		38	2			2
		39	5			5
Speed Detection	Radar Gun	40				0
Device Used:	Decatur Electronics Scout	41	1			1
Unit ID:	HTRCR-1KD	42	1			1
	S/N: SHD-04639	43				0
		44	1			1
		45				0
Comments:		46	2			2
		47				0
		48				0
		49				0
		50				0
		51				0
		52				0
		53				0
		54				0
		55				0
		56				0
		57				0
		58				0
		59				0
		60				0
		61				0
		62				0
		63				0
		64				0
		65				0
		66				0
		67				0
		68				0
		69				0
		70				0
		71				0
		72				0
		73				0
		74				0
		75				0
		76				0
		77				0
		78				0
		79				0
		80				0
Total Vehicles:			43	5	2	50

** Complete only the cells highlighted yellow. **



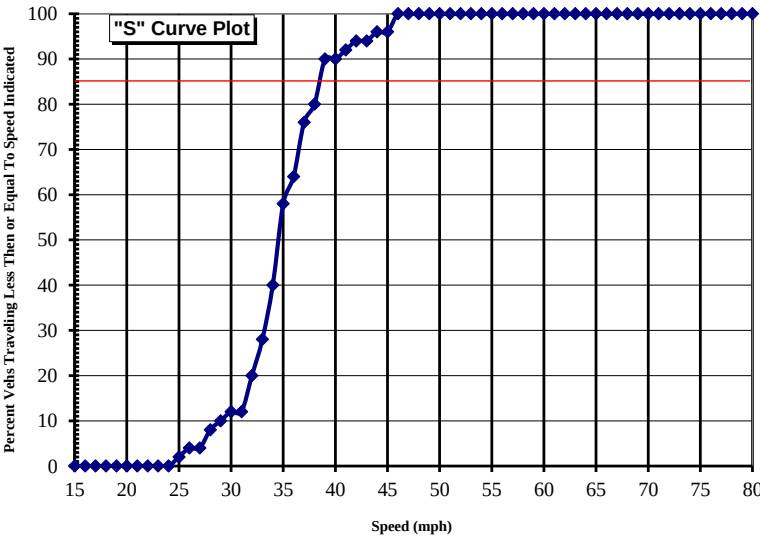
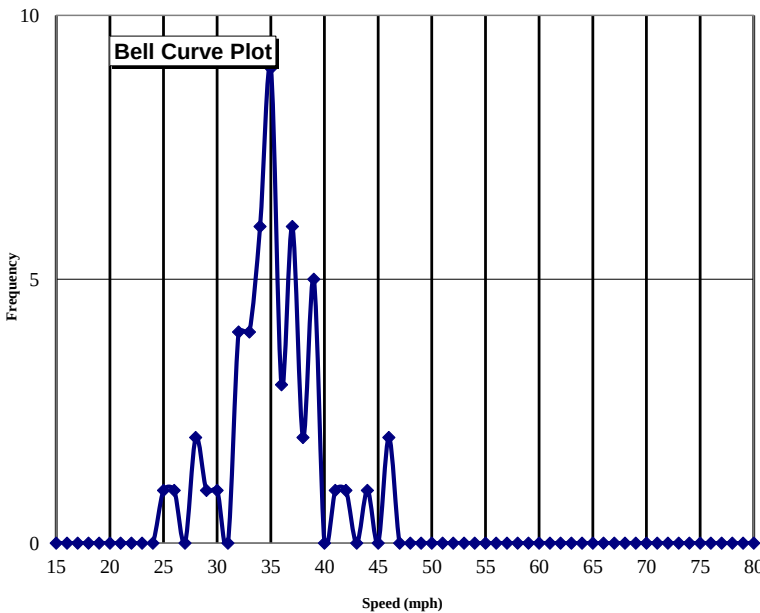
Date:	10/12/22	Hwy:	Route 4 (Mill St)	Direction:	Eastbound	SUMMARY OF VEHICLES BY TYPE:	
Time:	10:00 AM	Location:	Between Burden Ave	Posted Speed:	30 MPH		
Observer(s):	NL		and Erie St	Weather:	Sunny		
	RM			Pav't Condition:	Newly Paved		
		County:	Rensselaer County			Passenger =	86.0%
						Trucks =	10.0%
						Buses =	4.0%

SPEED RANGE	No. VEHICLES (f)	Speed * #	CUMM No. VEHICLES	CUMM %
15	0	0	0	0.0
16	0	0	0	0.0
17	0	0	0	0.0
18	0	0	0	0.0
19	0	0	0	0.0
20	0	0	0	0.0
21	0	0	0	0.0
22	0	0	0	0.0
23	0	0	0	0.0
24	0	0	0	0.0
25	1	25	1	2.0
26	1	26	2	4.0
27	0	0	2	4.0
28	2	56	4	8.0
29	1	29	5	10.0
30	1	30	6	12.0
31	0	0	6	12.0
32	4	128	10	20.0
33	4	132	14	28.0
34	6	204	20	40.0
35	9	315	29	58.0
36	3	108	32	64.0
37	6	222	38	76.0
38	2	76	40	80.0
39	5	195	45	90.0
40	0	0	45	90.0
41	1	41	46	92.0
42	1	42	47	94.0
43	0	0	47	94.0
44	1	44	48	96.0
45	0	0	48	96.0
46	2	92	50	100.0
47	0	0	50	100.0
48	0	0	50	100.0
49	0	0	50	100.0
50	0	0	50	100.0
51	0	0	50	100.0
52	0	0	50	100.0
53	0	0	50	100.0
54	0	0	50	100.0
55	0	0	50	100.0
56	0	0	50	100.0
57	0	0	50	100.0
58	0	0	50	100.0
59	0	0	50	100.0
60	0	0	50	100.0
61	0	0	50	100.0
62	0	0	50	100.0
63	0	0	50	100.0
64	0	0	50	100.0
65	0	0	50	100.0
66	0	0	50	100.0
67	0	0	50	100.0
68	0	0	50	100.0
69	0	0	50	100.0
70	0	0	50	100.0
71	0	0	50	100.0
72	0	0	50	100.0
73	0	0	50	100.0
74	0	0	50	100.0
75	0	0	50	100.0
76	0	0	50	100.0
77	0	0	50	100.0
78	0	0	50	100.0
79	0	0	50	100.0
80	0	0	50	100.0
50				

STUDY RESULTS

AVERAGE SPEED	50th PERCENTILE	85th PERCENTILE	PACE SPEED RANGE
35.3	34.6	38.5	30.0 to 39.0

% In Pace = 80.0%
% Over Pace = 10.0%
% Under Pace = 10.0%



SPOT-SPEED FIELD STUDY

Date:	10/12/22	SPEED (mph)	NUMBER OF OBSERVATIONS			
Time:	10:28:00 AM		PASS VEHS	TRUCKS	BUSES	TOTAL
Observer(s):	NL	15				0
	RM	16				0
		17				0
		18				0
		19				0
		20				0
Hwy Designation:	Route 4 (Mill St)	21				0
County:	Rensselaer County	22				0
Location:	Between Burden Ave	23				0
	and	24				0
	Erie St	25				0
Direction of Travel:	Westbound	26				0
Posted Speed:	30 MPH	27				0
		28				0
		29				0
		30	3			3
		31	2			2
		32	2		1	3
		33	5			5
Weather:	Sunny	34	12			12
Pav't Conditions:	Newly Paved	35	3			3
		36	6	2		8
		37	2			2
		38	4			4
		39	2			2
Speed Detection	Radar Gun	40				0
Device Used:	Decatur Electronics Scout	41	3			3
Unit ID:	HTRCR-1KD	42	3			3
	S/N: SHD-04639	43				0
		44	1			1
Comments:		45				0
		46				0
		47				0
		48				0
		49				0
		50				0
		51				0
		52				0
		53				0
		54				0
		55				0
		56				0
		57				0
		58				0
		59				0
		60				0
		61				0
		62				0
		63				0
		64				0
		65				0
		66				0
		67				0
		68				0
		69				0
		70				0
		71				0
		72				0
		73				0
		74				0
		75				0
		76				0
		77				0
		78				0
		79				0
		80				0
Total Vehicles:			48	2	1	51

** Complete only the cells highlighted yellow. **



Date:	10/12/22	Hwy:	Route 4 (Mill St)	Direction:	Westbound	SUMMARY OF VEHICLES BY TYPE:	
Time:	10:28 AM	Location:	Between Burden Ave and	Posted Speed:	30 MPH		
Observer(s):	NL		Erie St	Weather:	Sunny		
	RM	County:	Rensselaer County	Pav't Condition:	Newly Paved		
						Passenger =	94.1%
						Trucks =	3.9%
						Buses =	2.0%

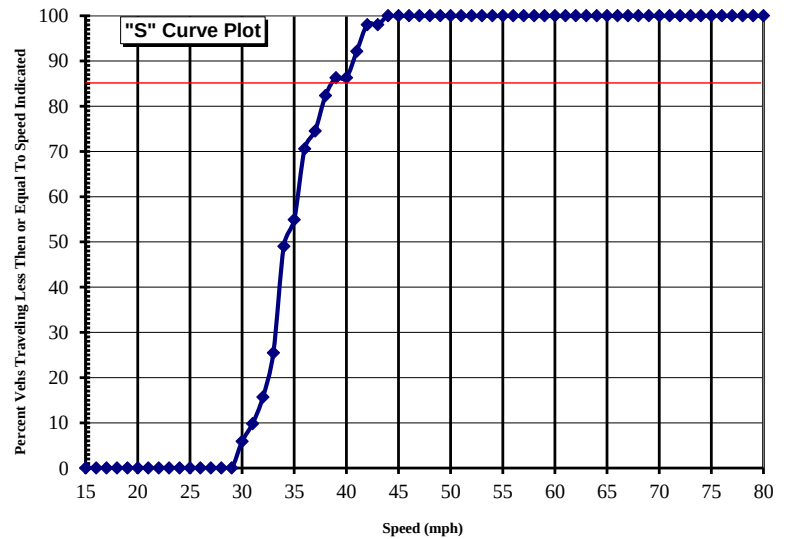
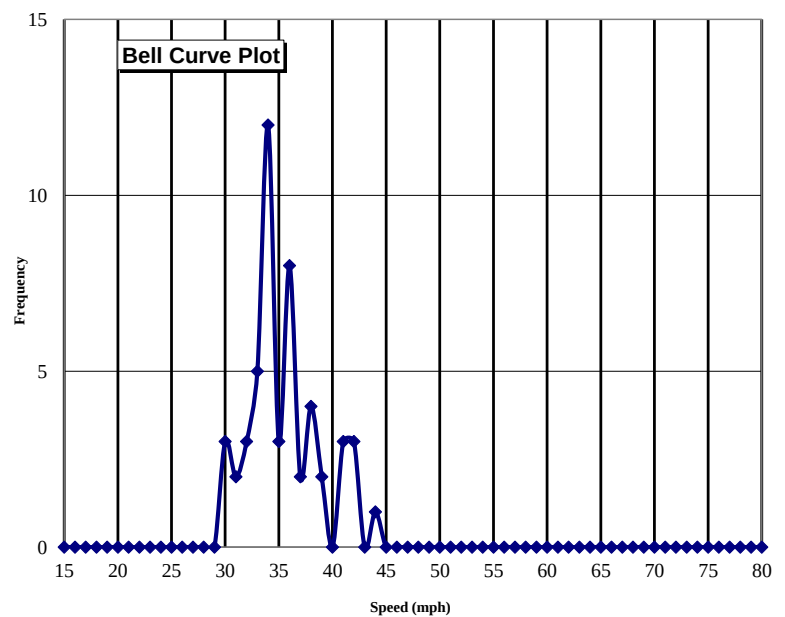
SPEED RANGE	No. VEHICLES (f)	Speed * #	CUMM No. VEHICLES	CUMM %
15	0	0	0	0.0
16	0	0	0	0.0
17	0	0	0	0.0
18	0	0	0	0.0
19	0	0	0	0.0
20	0	0	0	0.0
21	0	0	0	0.0
22	0	0	0	0.0
23	0	0	0	0.0
24	0	0	0	0.0
25	0	0	0	0.0
26	0	0	0	0.0
27	0	0	0	0.0
28	0	0	0	0.0
29	0	0	0	0.0
30	3	90	3	5.9
31	2	62	5	9.8
32	3	96	8	15.7
33	5	165	13	25.5
34	12	408	25	49.0
35	3	105	28	54.9
36	8	288	36	70.6
37	2	74	38	74.5
38	4	152	42	82.4
39	2	78	44	86.3
40	0	0	44	86.3
41	3	123	47	92.2
42	3	126	50	98.0
43	0	0	50	98.0
44	1	44	51	100.0
45	0	0	51	100.0
46	0	0	51	100.0
47	0	0	51	100.0
48	0	0	51	100.0
49	0	0	51	100.0
50	0	0	51	100.0
51	0	0	51	100.0
52	0	0	51	100.0
53	0	0	51	100.0
54	0	0	51	100.0
55	0	0	51	100.0
56	0	0	51	100.0
57	0	0	51	100.0
58	0	0	51	100.0
59	0	0	51	100.0
60	0	0	51	100.0
61	0	0	51	100.0
62	0	0	51	100.0
63	0	0	51	100.0
64	0	0	51	100.0
65	0	0	51	100.0
66	0	0	51	100.0
67	0	0	51	100.0
68	0	0	51	100.0
69	0	0	51	100.0
70	0	0	51	100.0
71	0	0	51	100.0
72	0	0	51	100.0
73	0	0	51	100.0
74	0	0	51	100.0
75	0	0	51	100.0
76	0	0	51	100.0
77	0	0	51	100.0
78	0	0	51	100.0
79	0	0	51	100.0
80	0	0	51	100.0

51

STUDY RESULTS

AVERAGE SPEED	50th PERCENTILE	85th PERCENTILE	PACE SPEED RANGE
35.5	34.2	38.7	30.0 to 39.0

% In Pace = 86.3%
% Over Pace = 13.7%
% Under Pace = 0.0%



ATTACHMENT 3-6 Crash Analysis

**NYS ROUTE 378 TROY-MENANDS BRIDGE OVER THE HUDSON
RIVER, RENSSELAER, AND ALBANY COUNTY
PIN 1045.18**

Summary Report: Crash Analysis

March 2023

Prepared for



**Department of
Transportation**

Prepared by



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Appendix

Average Accident Rates and Average Accident Costs & Severity Distribution
AADT Calculations

1 Introduction

The New York State Department of Transportation (NYSDOT) is planning to reconstruct the NYS Route 378 Troy-Menands Bridge over the Hudson River in Albany and Rensselaer Counties, NY. In accordance with the National Environmental Policy Act (NEPA) and NYSDOT's procedures for the implementation of the State Environmental Quality Review Act (SEQR), an engineering scoping/PEL study is being undertaken to assess the engineering feasibility and environmental impacts associated with reconstructing the bridge at both its current location as well as alternative conceptual alignments within the study area.

The bridge was originally built in 1933. The bridge has been repaired under numerous contracts dating back to 2008, with the most recent work completed in 2017 under an emergency contract where various stringers and gusset plates were repaired. NYSDOT Region One is undertaking this study as the bridge is recognized as needed replacement within the foreseeable future.

The NYS Route 378 Bridge Scoping / PEL study will examine bridge replacement or rehabilitation at the current location and replacement at several additional crossing locations in the general area located between the Congress Street Bridge to the North and Patroon Island Bridge to the South. The intent is to identify the potential sites suitable for the structure and corresponding highway and associated interchanges and intersections. As part of the study, potential sites will be reviewed for known Environmental and Cultural Resource impacts that pose major hurdles identified by known location data and public input.

A crash analysis was performed in accordance with NYSDOT Highway Design Manual Chapter 5 for the Rehabilitation of the NYS Route 378 Over Hudson River study area. The analysis is based on data provided by NYSDOT's Crash Location and Engineering Analysis and Reporting (CLEAR) safety information management system. CLEAR is a web-based application that allows users to access motor vehicle crash data through custom queries and analyze the data with several reporting options and formats. Crash data for the portion of NYS Route 378 and various intersections within the study area limits was provided by NYSDOT and included individual crash data in a spreadsheet format. NYSDOT Form TE-213, provided in the Appendix, lists the details for each crash including, but not limited to, date, time, location, roadway conditions, and crash type. The data was reviewed, sorted, and plotted. Any segment having crash rates exceeding the NYSDOT crash rates for the facility type is designated a High Accident Location (HAL).

2 Crash Analysis

The analysis for NYS Route 378 included crash data between Bridge Road (Reference Marker 378 11011013) and the Troy Menands Bridge (Reference Marker 378 11011028) in the eastbound (EB) direction and the westbound (WB) direction. The crash rates for NYS Route 378 were calculated in crashes per million vehicles miles (MVM). NYS Route 378 was analyzed as both individual segments in the EB and WB directions as well as a combined bidirectional segment for the calculation of the crash rates.

The calculated crash rate for NYS Route 378 highway segment used the following equation:

$$\text{Route 378 Segment} \left(\frac{\text{crash}}{\text{MVM}} \right) = \frac{1,000,000 * \text{Number of Crashes per year}}{365 * \text{AADT} * \text{length in miles}}$$

The mainline crash rates for all types, wet road and fixed object were then compared to the most recently available statewide average crash rates for similar facilities (2017-2019 NYSDOT Crash Rates for State Highways by Facility Type). This section of NYS Route 378 is an Urban Divided Highway with Fully Controlled Access and four (4) lanes. Statewide average crash rates for this type of facility were compared

to the calculated crash rates for mainline and juncture crashes. Exhibit 1 summarizes the statewide average crash rates used.

Exhibit 1 NYSDOT Average Crash Rates for State Highway by Facility Type						
FACILITY TYPE	FUNCTION CLASS	SEPARATION	# OF LANES	MAINLINE & JUNCTURE ACCIDENTS		
				All Types (ACC/MVM)	Wet Road (ACC/MVM)	Fixed Object (ACC/MVM)
Controlled Access (Full)	Urban	Divided	4	1.33	0.26	0.27

Note: Based on crash data September 1, 2017 to August 31, 2019.

The analysis for local intersections looked at crash data at each intersection of NYS Route 378 between Forbes Avenue and Morrison Avenue and each intersection of NYS Route 4 between Main Street and NYS Route 136. The crash rates for the intersections were calculated in crashes per million entering vehicles (MEV).

The calculated crash rate for each local intersection used the following equation:

$$\text{Intersection} \left(\frac{\text{crash}}{\text{MEV}} \right) = \frac{1,000,000 * \text{Number of Crashes per year}}{365 * \text{AADT}}$$

The intersection crash rates for all types and wet road were then compared to the most recently available statewide average crash rates for similar facilities (2017-2019 NYSDOT Crash Rates for State Highways by Facility Type). NYS Route 378 and NYS Route 4 are considered Urban Function Class. Statewide average crash rates for intersections along this type of facility were compared to the calculated crash rates for intersection crashes. Exhibit 2 summarizes the statewide average crash rates used.

Exhibit 2 NYSDOT Average Crash Rates for State Highways by Intersection Type					
FACILITY TYPE	FUNCTION CLASS	# OF LEGS	CONTROL	All Types (ACC/MEV)	Wet Road (ACC/MEV)
Intersection	Urban	3	Signal 1-4 Lanes	0.32	0.06
			No Control All Lanes	0.06	0.01
		4	Signal 1-4 Lanes	0.56	0.10

Note: Based on crash data September 1, 2017 to August 31, 2019.

3 Crash Data

Crashes are categorized as fatal, injury, property damage only (PDO) or non-reportable. A crash is classified as non-reportable if there is no personal injury, no report was filed, no dollar value of vehicular damage was entered into the report, or the vehicular damage did not exceed \$1,000.

A total of 556 crashes were reported within the NYS Route 378 PEL study area during the five-year period from January 2017 through December 2021 for the mainline and local intersections, which were the most recent sets of data available. The number of crashes occurring within the study area and their locations are summarized in Exhibit 3. A summary of crash severity is shown in Exhibits 4 through 6.

Exhibit 3 Crash Locations		
LOCATION	NUMBER	PERCENTAGE
EB NYS Route 378 Mainline (Bridge Road – Troy-Menands Bridge)	88	15.8%
WB NYS Route 378 Mainline (Troy-Menands Bridge – Bridge Road)	22	4.0%
NYS Route 378 Intersections (3)	155	27.9%
NYS Route 4 Intersections (8)	291	52.3%
TOTAL	556	100%

Exhibit 4 Crash Severity (EB NYS Route 378 Mainline)			
SEVERITY	NUMBER	PERCENTAGE	STATEWIDE AVERAGE ¹
Fatal	0	0%	0.20%
Injury	20	22.73%	26.78%
Fatal/Injury	20	22.73%	26.98%
Property Damage Only (PDO)	68	77.27%	73.02%
TOTAL	88	100%	100%

Notes: 1. Statewide average based on crash data September 1, 2017 to August 31, 2019.

Exhibit 5 Crash Severity (WB NYS Route 378 Mainline)			
SEVERITY	NUMBER	PERCENTAGE	STATEWIDE AVERAGE ¹
Fatal	0	0%	0.20%
Injury	5	22.73%	26.78%
Fatal/Injury	5	22.73%	26.98%
Property Damage Only (PDO)	17	77.27%	73.02%
TOTAL	22	100%	100%

Note: 1. Statewide average based on crash data September 1, 2017 to August 31, 2019.

Over 75% of the crashes occurring on the NYS Route 378 mainline resulted in PDO and the severity distribution for Fatal and Injury crashes are lower than the statewide averages for similar corresponding facilities. As shown in Exhibit 6, the intersections of NYS Route 4 with Main Street, Morrison Avenue, and

George E. Holliday Drive have a severity distribution for Injury crashes higher than the statewide averages for similar corresponding facilities.

Exhibit 6 Crash Severity (Local Intersections)											
INTERSECTION	SEVERITY			PERCENTAGE (%)				STATEWIDE AVERAGE (%)			
	Fatal	Injury	PDO	Fatal	Injury	Fatal/Injury	PDO	Fatal	Injury	Fatal/Injury	PDO
NYS Route 378 High St & Forbes Ave	0	11	40	0	21.57	21.57	78.43	0.16	23.94	24.10	75.90
NYS Route 378 High St & Burke St	0	0	21	0	0	0	100	0.16	23.94	24.10	75.90
NYS Route 378 High St & Morrison Ave	0	10	73	0	12.05	12.05	87.95	0.12	24.22	24.34	75.66
NYS Route 4 Mill St & Burden Ave	0	14	54	0	20.59	20.59	79.41	0.12	24.22	24.34	75.66
NYS Route 4 Burden Ave & Main St	0	12	16	0	42.86	42.86	57.14	0.12	24.22	24.34	75.66
NYS Route 4 Vandenburg Ave & Campbell Ave	0	2	17	0	10.53	10.53	89.47	0.16	23.94	24.10	75.90
NYS Route 4 Vandenburg Ave & Morrison Ave	0	19	56	0	25.33	25.33	74.67	0.16	23.94	24.10	75.90
NYS Route 4 Vandenburg Ave & North Dr (HVCC)	0	5	21	0	19.23	19.23	80.77	0.12	24.22	24.34	75.66
NYS Route 4 Vandenburg Ave & George E Holliday Dr	0	7	16	0	30.43	30.43	69.57	0.12	24.22	24.34	75.66
NYS Route 4 Vandenburg Ave & South Dr (HVCC)	0	4	18	0	18.18	18.18	81.82	0.12	24.22	24.34	75.66
NYS Route 4 & NY Route 136	0	2	28	0	6.67	6.67	93.33	0.12	24.22	24.34	75.66

3.1 NYS ROUTE 378 MAINLINE

Exhibit 7 and Exhibit 8 summarize the predominant crash types along NYS Route 378 during the analysis period. The most common type of crash along NYS Route 378 during the analysis period were Fixed Object collisions. Rear End crashes were the next most common, followed by Overtaking crashes. Crash frequency decreased each year for all five years analyzed, except for a slight increase in crashes in 2021.

Exhibit 7 Collision Summary by Type (EB NYS Route 378 Mainline)		
TYPE OF COLLISION	NUMBER	PERCENTAGE
Fixed Object	27	30.7%
Rear End	22	25.0%
Overtaking	20	22.7%
Animal	6	6.8%
Unknown	6	6.8%
Right Angle	2	2.3%
Pedestrian	2	2.3%

Left Turn	1	1.1%
Head On	1	1.1%
Sideswipe	1	1.1%
TOTAL	88	100%

Exhibit 8 Collision Summary by Type (WB NYS Route 378 Mainline)		
TYPE OF COLLISION	NUMBER	PERCENTAGE
Fixed Object	7	31.8%
Overtaking	4	18.2%
Animal	4	18.2%
Rear End	3	13.6%
Unknown	3	13.6%
Left Turn	1	4.5%
TOTAL	22	100%

Approximately 61% of crashes along the mainline occurred during dry weather, while the remainder occurred during wet conditions. Crash occurrence throughout the year was highest during the winter and fall months and evenly distributed across each of the other two seasons. Most crashes occurred between 10 AM and 4 PM. 23% of crashes resulted in an injury, and none resulted in a fatality.

Exhibit 9 summarizes the crash rates for the NYS Route 378 mainline section analyzed. As shown, the EB NYS Route 378 mainline section, WB NYS Route 378 mainline section, and total bidirectional NYS Route 378 mainline section have crash rates higher than the statewide average for all crash types, wet road crash types, and fixed object crash types. It is notable that traffic heading EB into Troy, particularly in the afternoon, results in lengthy backups on the Troy-Menands Bridge. The queue that often forms in the right lane on the bridge helps explain why there are more crashes in the EB direction, and in particular, Rear End collisions.

Exhibit 9 Crash Rate Summary (NYS Route 378 Mainline)								
NYS ROUTE 378 MAINLINE SEGMENT	TOTAL CRASHES (2017-2021)	AADT ¹ (2019)	CRASH RATES			STATEWIDE AVERAGE CRASH RATES		
			All Type (ACC/MVM)	Wet Road (ACC/MVM)	Fixed Object (ACC/MVM)	All Type (ACC/MVM)	Wet Road (ACC/MVM)	Fixed Object (ACC/MVM)
EB NYS Route 378 (Bridge Road – Troy-Menands Bridge)	88	12,026	2.67	1.18	0.82	1.33	0.26	0.27
WB NYS Route 378 (Troy-Menands Bridge – Bridge Road)	22	4,333	1.85	0.34	0.59	1.33	0.26	0.27
Total Bidirectional NYS Route 378 (Bridge Road – Troy-Menands Bridge)	110	16,359	2.43	0.95	0.73	1.33	0.26	0.27

Note: 1. AADT calculated using a combination of AADT data from NYSDOT Traffic Data Viewer and CDTC VISUM data for 2019. See Appendix for calculations.

Exhibit 10 compares the number of crashes that occurred along the NYS Route 378 mainline prior to and during the COVID pandemic. As shown in the table, the crash rate appears to decrease after the start of COVID, particularly in the EB direction.

Exhibit 10 COVID-19 Pandemic Comparison (NYS Route 378 Mainline)			
NYS ROUTE 378 MAINLINE SEGMENT	TOTAL CRASHES (2017-2021)	PRE-COVID Jan 2017- Feb 2020 (38 Months)	POST-COVID Mar 2020-Dec 2021 (22 Months)
EB NYS Route 378 (Bridge Road – Troy-Menands Bridge)	88	70	18
WB NYS Route 378 (Troy-Menands Bridge – Bridge Road)	22	15	7
Total Bidirectional NYS Route 378 (Bridge Road – Troy-Menands Bridge)	110	85	25

3.2 LOCAL INTERSECTIONS

Exhibit 11 summarizes the crash types at the intersections along NYS Route 378 and NYS Route 4 within the study area. Of all the crashes occurring at the intersections, the most common type was Rear End crashes. Overtaking crashes were the next most common, followed by Unknown and Right Angle collisions. Crash frequency has decreased slightly over the five years analyzed.

Exhibit 11 Collision Summary by Type (Local Intersections)		
TYPE OF COLLISION	NUMBER	PERCENTAGE
Rear End	146	32.7%
Overtaking	80	17.9%
Unknown	63	14.1%
Right Angle	60	13.5%
Left Turn	37	8.3%
Fixed Object	18	4.0%
Head On	12	2.7%
Sideswipe	10	2.2%
Pedestrian	9	2.0%
Right Turn	6	1.3%
Animal	4	0.9%
Bicycle	1	0.2%
TOTAL	446	100.0%

Approximately 72% of crashes at intersections along NYS Route 378 and NYS Route 4 within the study area occurred during dry weather, while the remainder occurred during wet conditions. Crash occurrence throughout the years analyzed were highest during the Fall and lowest during the Summer. Most crashes occurred between 10 AM and 4 PM but varied at each individual intersection. 19% of crashes resulted in an injury, and none resulted in a fatality.

Exhibit 12 summarizes the crash rates for the local intersections. As shown, almost all analyzed intersections were above the statewide average crash rate during the analysis period. A discussion of each individual intersection follows.

NYS Route 378 High Street & Forbes Avenue – This intersection's crash rate for all types was over 9 times the statewide average for the analysis period. The predominant type of crash at this intersection was Rear End (23 of 51, 45%). The most known contributing factor for any type of crash at this intersection was driver following too closely. Many of these crashes may be attributed to sudden stops along High Street as vehicles approach the signalized intersection with Morrison Avenue. Significant queuing occurs in the EB direction between the Troy-Menands Bridge and Morrison Avenue during the peak hours, which is when most crashes occur at this location.

NYS Route 378 High Street & Burke Street – This intersection's crash rate for all types was almost 4 times the statewide average for the analysis period. The predominant types of crash at this intersection were Rear End (6 of 21, 29%) and Overtaking (5 of 21, 24%). Predominant known contributing factors for any type of crash at this intersection include failure to yield right of way, improper or unsafe lane changing, and driver following too closely. Some of these crashes may be attributed to the queuing that occurs in the EB direction between the Troy-Menands Bridge and Morrison Avenue during the peak hours, which is when most crashes occur at this location. The number of vehicles making improper or unsafe lane changing maneuvers may be indicative of drivers trying to cut over into the right turn lane at Morrison Avenue mid-queue.

NYS Route 378 High Street & Morrison Avenue – This intersection's crash rate for all types was over the statewide average for the analysis period and had the most reported crashes of any of the intersections analyzed as part of this study. The predominant type of crash at this intersection was Rear End (33 of 83, 40%). The most known contributing factors for any type of crash at this intersection were driver following too closely and improper or unsafe lane changing. Operational conditions at this intersection are likely

resulting in some of the crashes as described above at Forbes Avenue and Burke Street. Three crashes occurred after a driver disregarded the traffic signal. Two others involved motorists driving under the influence of alcohol.

NYS Route 4 Mill Street & Burden Avenue – This intersection's crash rate for all types was over twice the statewide average for the analysis period. The predominant types of crashes at this intersection were Rear End (17 of 68, 25%), Overtaking (13 of 68, 19%), and Right Angle (13 of 68, 19%). The most known contributing factors for any type of crash at this intersection were driver failing to yield right of way, improper or unsafe lane changing, and following too closely. Five crashes involved vehicles attempting left turns into or out of the Speedway gas station parking lot, located adjacent to the southeast corner of the intersection. Two crashes involved a pedestrian getting struck by a vehicle while crossing at a location other than a designated crosswalk. Many of the crashes at this intersection appear to be predominantly a result of driver error.

NYS Route 4 Burden Avenue & Main Street – This intersection's crash rate for all types was over the statewide average for the analysis period. The predominant crash types at this intersection were Rear End (12 of 28, 43%). Two of the Overtaking crashes involved parked vehicles being hit by a moving vehicle. Known contributing factors for any type of crash at this intersection varied considerably, though many involved driver error such as backing unsafely, failure to yield right of way, and other improper or unsafe maneuvers. The location is an unusual five-legged intersection but only one crash seemingly involved confusion regarding the configuration or traffic control. Two crashes involved a vehicle backing out of a parking lot or driveway.

NYS Route 4 Vandenburg Avenue & Campbell Avenue – This intersection's crash rate for all types was over the statewide average for the analysis period but had the fewest reported crashes of any of the intersections analyzed as part of this study. The predominant type of crash at this intersection was Rear End (6 of 19, 32%). Known contributing factors for any type of crash at this intersection varied considerably, though many involved driver error such as driver inattention, following too closely, failure to yield right of way, and other improper or unsafe maneuvers. At least 5 of the crashes involved a vehicle maneuvering into or out of a business parking lot, particularly the gas station located on the immediate southwest corner of the intersection.

NYS Route 4 Vandenburg Avenue & Morrison Avenue – This intersection's crash rate for all types was over 4 times the statewide average for the analysis period. The predominant types of crash at this intersection were Overtaking (18 of 75, 24%) and Right Angle (14 of 75, 19%). The most known contributing factor for any type of crash at this intersection was failure to yield right of way. Many of these crashes involved turning movements. The two EB right turn only lanes appear to be a contributing factor for some of the crashes. There are several crashes involving vehicles turning right from Morrison Avenue to Vandenburg Avenue simultaneously. Often, one of the vehicles will unintentionally drift out of their designated path and sideswipe another vehicle. Other crashes involve vehicles not yielding the right of way to other vehicles as they exit a business parking lot. Three uncontrolled driveways are within 200 feet of the intersection and the WB approach is a signalized entrance/exit to a business. Five crashes involved a pedestrian getting struck by a vehicle; three occurred at night and during a rainstorm, one occurred in an adjacent business parking lot, and the last involved a pedestrian crossing at a location other than a designated crosswalk. One crash involved a bicyclist disregarding a traffic signal and colliding with a vehicle whose driver claimed that sun glare had impacted their visibility.

NYS Route 4 Vandenburg Avenue & North Drive (HVCC) – This intersection's crash rate for all types was under the statewide average for the analysis period. The predominant type of crash at this intersection were Rear End (6 of 26, 23%) and Overtaking (4 of 26, 15%). The most known contributing factors for any type of crash at this intersection were driver inattention and following too closely. Two collisions with a pedestrian occurred at this location, both during daylight hours. One of these occurred on the HVCC campus. The other occurred due to a vehicle obstructing the view of a driver.

NYS Route 4 Vandenburg Avenue & George E Holliday Drive – This intersection's crash rate for all types was under the statewide average for the analysis period. The predominant type of crash at this intersection

was Rear End (11 of 23, 48%). The most known contributing factor for any type of crash at this intersection was following too closely. Two collisions with a pedestrian occurred at this location, both during daylight hours. One of these occurred on the HVCC campus. The other occurred due to a vehicle obstructing the view of a driver waiting at a red light.

NYS Route 4 Vandenburg Avenue & South Drive (HVCC) – This intersection's crash rate for all types was under the statewide average for the analysis period. The predominant type of crash at this intersection were Rear End (6 of 22, 27%) and Overtaking (5 of 22, 23%). The most known contributing factors for any type of crash at this intersection were failure to yield right of way and following too closely.

NYS Route 4 & NYS Route 136 – This intersection's crash rate for all types was over the statewide average for the analysis period. The predominant type of crash at this intersection was Rear End (15 of 30, 50%). Known contributing factors for any type of crash at this intersection varied considerably, though many involved driver error such as following too closely, failure to yield right of way, driver inattention, and other improper or unsafe maneuvers. At least 3 of the crashes occurred in September 2021 in part due to the reconstruction of this intersection. The project involved converting the existing signalized intersection to a roundabout. The completion of this project occurred sometime in late 2021.

Exhibit 12 Crash Rate Summary (Local Intersections)						
INTERSECTION	TOTAL CRASHES (2017- 2021)	AADT ¹ (2019)	CRASH RATES		STATEWIDE AVERAGE CRASH RATES	
			All Type (ACC/ MEV)	Wet Road (ACC/ MEV)	All Type (ACC/ MEV)	Wet Road (ACC/ MEV)
NYS Route 378 High St & Forbes Ave	51	49,022	0.57	0.18	0.06	0.01
NYS Route 378 High St & Burke St	21	49,022	0.23	0.07	0.06	0.01
NYS Route 378 High St & Morrison Ave	83	49,715	0.91	0.23	0.56	0.1
NYS Route 4 Mill St & Burden Ave	68	28,951	1.29	0.47	0.56	0.1
NYS Route 4 Burden Ave & Main St	28	14,781	1.04	0.22	0.56	0.1
NYS Route 4 Vandenburg Ave & Campbell Ave	19	19,801	0.53	0.11	0.32	0.06
NYS Route 4 Vandenburg Ave & Morrison Ave	75	30,358	1.35	0.40	0.32	0.06
NYS Route 4 Vandenburg Ave & North Dr (HVCC)	26	30,334	0.47	0.09	0.56	0.1
NYS Route 4 Vandenburg Ave & George E Holliday Dr	23	31,312	0.40	0.05	0.56	0.1
NYS Route 4 Vandenburg Ave & South Dr (HVCC)	22	26,545	0.45	0.10	0.56	0.1
NYS Route 4 & NYS Route 136	30	25,855	0.64	0.13	0.56	0.1

Note: 1. AADT calculated using a combination of AADT data from NYSDOT Traffic Data Viewer, CDTC VISUM data for 2019, and TMC data collected in Fall 2022. See Appendix for calculations.

Exhibit 13 compares the number of crashes that occurred at the local intersections throughout the study area prior to and during the COVID pandemic. As shown in the table, the crash rate appears to decrease after the start of COVID at most locations except for NYS Route 4 Burden Avenue at Main Street and NYS Route 4 Vandenburg Avenue at Campbell Avenue. At the intersection of NYS Route 4 Burden Avenue and Main Street, a new upgraded signal appears to have been installed sometime after the start of the pandemic. However, intermittent construction activity due to water system maintenance at this location may have played a role in the increase in crash rate. The lane markings at NYS Route 4 Vandenburg Avenue at Campbell Avenue, particularly the centerline on the southbound approach, appear to have been worn off sometime after the beginning of the pandemic. This might explain the post-pandemic increase in crash rate there.

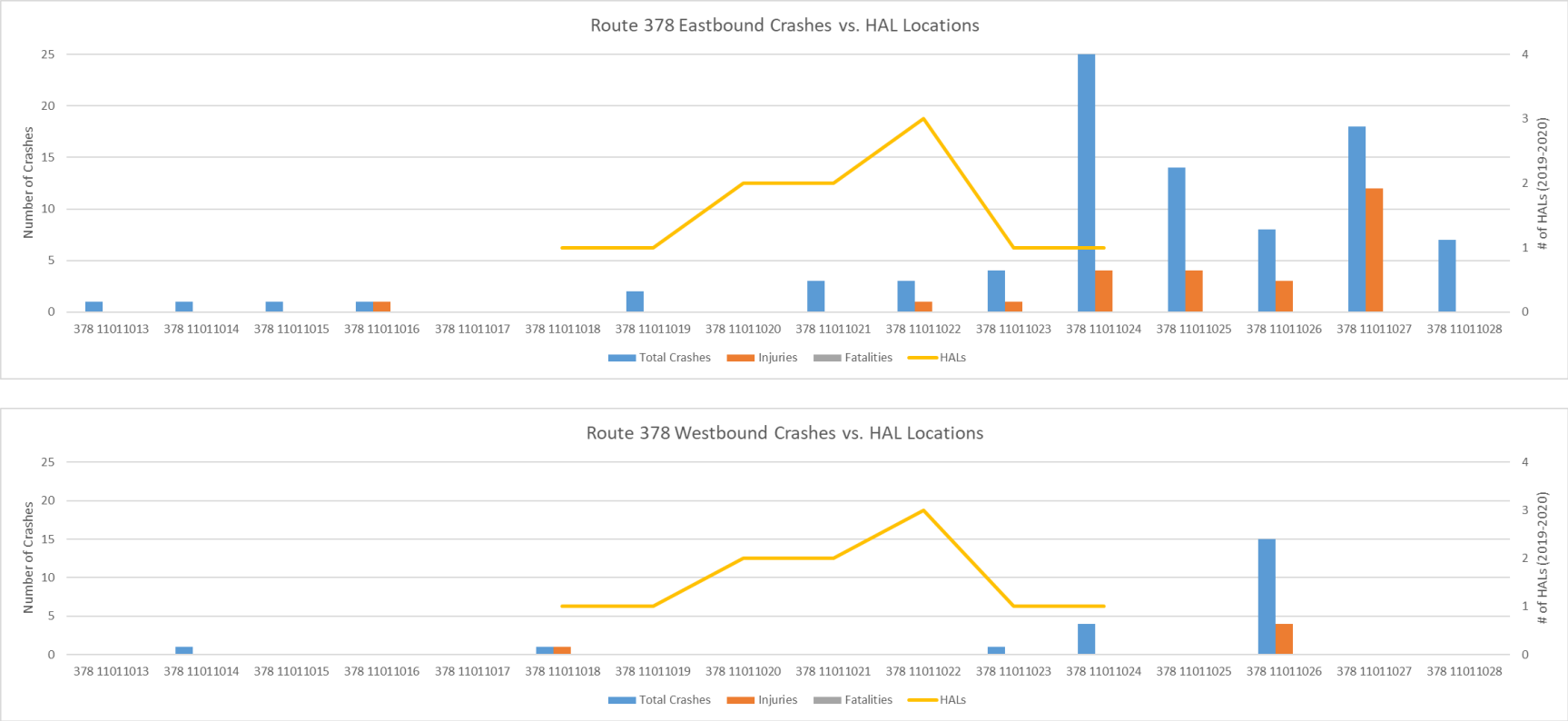
Exhibit 13 COVID-19 Pandemic Comparison (Local Intersections)			
INTERSECTION	TOTAL CRASHES (2017-2021)	PRE-COVID Jan 2017- Feb 2020 (38 Months)	POST-COVID Mar 2020-Dec 2021 (22 Months)
NYS Route 378 High St & Forbes Ave	51	37	14
NYS Route 378 High St & Burke St	21	16	5
NYS Route 378 High St & Morrison Ave	83	57	26
NYS Route 4 Mill St & Burden Ave	68	51	17
NYS Route 4 Burden Ave & Main St	28	16	12
NYS Route 4 Vandenburg Ave & Campbell Ave	19	9	10
NYS Route 4 Vandenburg Ave & Morrison Ave	75	48	27
NYS Route 4 Vandenburg Ave & North Dr (HVCC)	26	22	4
NYS Route 4 Vandenburg Ave & George E Holliday Dr	23	19	4
NYS Route 4 Vandenburg Ave & South Dr (HVCC)	22	16	6
NYS Route 4 & NYS Route 136	30	20	10

4 High Accident Locations

NYSDOT maintains areas that have High Accident Locations (HALs) in their Safety Information Management System (SIMS). HALs are a combination of Priority Investigation Locations (PILs) and Safety Deficient Locations (SDLs).

HALs were compared to the crash rates calculated for each of the mainline segments. Figure 1 shows the HAL locations and the number of crashes at each reference marker located in the analyzed NYS Route 378 mainline segment. As illustrated, the HALs are present to the west of areas along NYS Route 378 experiencing the highest number of crashes, but it appears that crash data for the Troy-Menands Bridge was not included in the HAL development. Although the number of HALs are not high in this area, Section 6, below, describes recommendations to improve safety and reduce crashes along the NYS Route 378 mainline within the study area.

Figure 1
High Accident Locations



Notes: 1. HAL information only available for years 2017 through 2020.
2. HAL information based on crash data January 1, 2017 to December 31, 2020.

5 Probable Crash Causes

Crashes may be classified as “correctible” or “non-correctible”. A crash is defined as “correctible” if it can be correlated to a correctible “non-standard” or deficient physical feature found at the crash location, such as a tight curve with poor sight distance or poor pavement conditions. A “non-correctible” crash is mainly attributed to driver behavior factors, such as driver inattention, alcohol involvement, and unsafe/aggressive driving maneuvers. There are several “non-standard” and, therefore, “correctible” features noted on the mainline of NYS Route 378 within the project boundaries, most of which do appear to play a role in some of the crashes reported. These include:

- substandard lane and shoulder widths on the Troy-Menands Bridge.
- insufficient horizontal stopping sight distance along the mainline of NYS Route 378, west of the bridge.
- a lack of roadway lighting along the mainline of NYS Route 378, west of the bridge.

The causes of predominant crash types throughout the study area are examined below and their ability to be corrected.

5.1 FIXED OBJECT CRASHES

Fixed Object crashes were the highest occurring crash type for either direction of NYS Route 378 between Bridge Road and the Troy-Menands Bridge during the analysis period. In the EB direction, out of a total of 88 crashes, 27 (31%) were Fixed Object crashes. Similarly, in the WB direction, out of a total of 22 crashes, 7 (32%) were Fixed Object crashes. Unsafe speed and slippery pavement were the most common contributing factors noted for Fixed Object crashes. Wet pavement conditions were cited on 19 (56%) of the Fixed Object crashes in either direction. Dark roadway conditions were cited on 8 (24%) of the Fixed Object crashes in either direction.

Countermeasures that could potentially reduce correctible Fixed Object crashes include straightening the roadway, repaving the road surface, and adding roadway lighting.

5.2 REAR END CRASHES

Rear End crashes were the second highest occurring crash type in the EB direction and the third highest occurring crash type in the WB direction of the mainline of NYS Route 378 within the project boundaries during the analysis period. In the EB direction, out of a total of 88 crashes, 22 (25%) were Rear End crashes. In the WB direction, out of a total of 22 crashes, 3 (14%) were Rear End crashes. Driver misjudgments and inattention were the most common contributing factors noted for Rear End crashes on the mainline of NYS Route 378. Wet pavement conditions were cited on 9 (36%) of the Rear End crashes in either direction of the mainline of NYS Route 378.

Countermeasures that could potentially reduce non-correctible Rear End crashes on this section of NYS Route 378 include increasing advance warning signage and repaving the road surface.

Rear End crashes were the highest occurring crash type for the project study area’s local intersections during the study period. Out of a total of 446 crashes, 146 or 33% were Rear End crashes. Driver misjudgments and inattention were the most common contributing factors noted for Rear End crashes at the local intersections. Wet pavement conditions were cited on 31 (21%) of the Rear End crashes at the local intersections.

Countermeasures that could potentially reduce correctible Rear End crashes at the local intersections include improving signage and signals throughout the study area. Some of the existing signals do not meet

current standards and do not provide progression of vehicles at the desired speed limit. Retiming the signals to increase yellow and red clearance intervals, installing adaptive signal control, and/or providing progression along the major corridors may reduce the number of non-correctible Rear End crashes at the local intersections throughout the study area. In addition, installing advance warning signage and adding signal head back plates may increase visibility of traffic signals and driver awareness.

5.3 OVERTAKING CRASHES

Overtaking crashes were the second highest occurring crash type in the WB direction and the third highest occurring crash type in the EB direction of the mainline of NYS Route 378 within the project boundaries during the analysis period. In the EB direction, out of a total of 88 crashes, 20 (23%) were Overtaking crashes. In the WB direction, out of a total of 22 crashes, 4 (18%) were Overtaking crashes. Driver misjudgments and inattention were the most common contributing factors noted for Overtaking crashes. Wet pavement conditions were cited on 7 (35%) of the Overtaking crashes in the EB direction and none in the WB direction.

Countermeasures that could potentially reduce non-correctible Overtaking crashes on this section of NYS Route 378 include improving sight distances, adding lane markings to prevent overtaking maneuvers, and increasing advance warning signage. Implementing these countermeasures would reduce the chances of driver misjudgments and provide additional reaction time for drivers traveling in parallel directions.

Overtaking crashes were the second highest occurring crash type for the project study area's local intersections during the study period. Out of a total of 446 crashes, 80 or 18% were Overtaking crashes. Driver misjudgments and inattention were the most common contributing factors noted for Overtaking crashes at the local intersections. Wet pavement conditions were cited on 19 (24%) of the Overtaking crashes at the local intersections.

Countermeasures that could potentially reduce non-correctible Overtaking crashes at the local intersections throughout the study area include improving signals by installing adaptive signal control and/or providing ideal progression along the major corridors. In addition, access management strategies such as adding curb extensions, left turn lanes, and median barriers may be explored.

5.4 ANIMAL CRASHES

Collisions with animals were tied for the second highest crash type in the WB direction of the mainline of NYS Route 378 within the project boundaries, accounting for 4 (18%) of the 22 crashes during the analysis period. In the EB direction, out of a total of 88 crashes, 6 (7%) were Animal crashes. Dark roadway conditions were cited on 6 (60%) of the Animal crashes in either direction of the NYS Route 378 mainline. Out of a total of 446 crashes at the project study area's local intersections, 4 or 1% were Animal crashes.

A countermeasure that could potentially reduce correctible Animal crashes is to add roadway lighting along the NYS Route 378 mainline. A countermeasure that could potentially reduce non-correctible Animal crashes throughout the study area is to increase non-vehicular warning signage to increase driver awareness.

5.5 OTHER CRASH TYPES

The remaining known crash types at local intersections throughout the study area include 60 (14%) Right Angle, 37 (8%) Left Turn, 18 (4%) Fixed Object, 12 (3%) Head On, 10 (2%) Sideswipe, 9 (2%) Pedestrian, and 6 (1%) Right Turn. The predominant causes of these crashes occurred due to failure to yield the right-of-way and driver inattention/error.

These crashes are considered non-correctible because the contributing factors are not associated with non-standard or deficient physical features. However, actions that may improve the overall safety throughout the study area include but are not limited to:

- Widening travel lanes – providing additional buffer room for vehicles traveling in parallel or opposite directions.
- Roundabout conversion – reconfiguring signalized intersections into roundabouts to reduce vehicular conflict points and achieve safety and operational benefits.
- Signal retiming – providing progression along major corridors to encourage drivers to travel at the posted speed limit.
- Access management – limiting entering/exiting movements at uncontrolled locations, particularly driveways near a signalized intersection.

Additional actions, independent of the countermeasures discussed for the crash types above, include but are not limited to driver education, public outreach, and police enforcement.

6 Recommendations

6.1 NYS ROUTE 378 MAINLINE

Identifying the locations and causes of crashes along the NYS Route 378 mainline provided insight into the corrective measures that can be taken into consideration to reduce the number and severity of future crashes:

- Pavement resurfacing can lead to better friction between the road surface and car tires which may reduce the wet road crash rate. A crash modification factor of 0.858 is listed by the Crash Modification Factors (CMF) Clearinghouse for pavement resurfacing.
- Flattening horizontal curvature along the mainline of NYS Route 378 can improve sight distance, provide an opportunity to increase the distance to roadside hazards, and reduce the severity of roadway departure crashes such as those categorized as Fixed Object.
- Widening lanes on the Troy-Menands Bridge can provide more comfort for drivers and may reduce Overtaking and Sideswipe crashes. A CMF of 0.986 is associated with widening the lanes from the existing 10' width to a standard 12' width on an urban principal arterial with a posted speed limit of 30mph.
- Installing roadway lighting along the mainline of NYS Route 378 can improve driver visibility and awareness, potentially reducing Fixed Object and Animal crashes. A CMF of 0.74 is associated with the installation of lighting.
- Installing advance warning signage, including year-round and seasonal VMS messaging and public outreach, would help to reduce the number of Rear End and Animal crashes.

6.2 LOCAL INTERSECTIONS

Identifying the locations and causes of crashes at the local intersections through the study area provided insight into the corrective measures that can be taken into consideration to reduce the number and severity of future crashes.

- Per FHWA and CMF Clearinghouse, a CMF of 0.79 is associated with the conversion of a signalized intersection into a modern roundabout, reducing all crash types in urban and suburban areas by 21%. The following intersections in the study area would see a reduction in crashes if a multilane roundabout were installed:
 - NYS Route 378 High Street & Morrison Avenue
 - NYS Route 4 Mill Street & Burden Avenue
 - NYS Route 4 Burden Avenue & Main Street
 - NYS Route 4 Vandenburg Avenue & Campbell Avenue
 - NYS Route 4 Vandenburg Avenue & Morrison Avenue
- Per FHWA and CMF Clearinghouse, a CMF of 0.83 is associated with the implementation of adaptive signal control technology, reducing all crash types in urban and suburban areas by 17%. The following intersections in the study area would see a reduction in crashes if adaptive signal control were implemented:

- NYS Route 378 High Street & Morrison Avenue
- NYS Route 4 Mill Street & Burden Avenue
- NYS Route 4 Burden Avenue & Main Street
- NYS Route 4 Vandenberg Avenue & Campbell Avenue
- NYS Route 4 Vandenberg Avenue & Morrison Avenue
- NYS Route 4 Vandenberg Avenue & North Drive (HVCC)
- NYS Route 4 Vandenberg Avenue & George E Holliday Drive
- NYS Route 4 Vandenberg Avenue & South Drive (HVCC)
- Per FHWA and CMF Clearinghouse, a CMF of 0.14 is associated with the installation of a median barrier, reducing all crash types in all areas by 86%. The following intersections in the study area would see a reduction in crashes if a median barrier were installed:
 - NYS Route 378 High Street & Burke Street
 - NYS Route 4 Mill Street & Burden Avenue
 - NYS Route 4 Vandenberg Avenue & Campbell Avenue
 - NYS Route 4 Vandenberg Avenue & Morrison Avenue

APPENDIX
Average Accident Rates and Average
Accident Costs & Severity Distribution
AADT Calculations

AVERAGE ACCIDENT RATES FOR STATE HIGHWAYS BY FACILITY TYPE

(BASED ON ACCIDENT DATA September 1, 2017 TO August 31, 2019)

Average accident rates are based on both reportable and available non-reportable crashes.

MAINLINE ACCIDENTS ONLY: "Non-Intersection Accidents/MVM" is used for linear highway sections where there are no intersecting roads or ramp junctions within analysis limits. An example of the correct use of these rates would involve a linear section of highway which contains no intersections with other public highways, but may contain intersections with private roads or driveways.

MAINLINE & JUNCTURE ACCIDENTS: "Intersection & Non-Intersection Accidents/MVM" includes intersection and mainline accidents. They are used for analysis of linear highway sections where intersections are involved within the analysis limits and are the most commonly used rates for accident analysis purposes.

FACILITY TYPE

FREE ACCESS CONTROLLED RURAL FUNCTION CLASS	MAINLINE ACCIDENTS ONLY			MAINLINE & JUNCTURE ACCIDENTS		
	ALL TYPES	WET ROAD	FIXED OBJECT	ALL TYPES	WET ROAD	FIXED OBJECT
UNDIVIDED	ACC/MVM	ACC/MVM	ACC/MVM	ACC/MVM	ACC/MVM	ACC/MVM
2 LANES	2.17	0.41	0.57	2.72	0.51	0.67
3 LANES	1.93	0.44	0.54	2.26	0.48	0.59
4 LANES	2.03	0.34	0.55	2.77	0.49	0.65
ALL LANES	2.16	0.41	0.58	2.71	0.51	0.66
DIVIDED						
2 LANES	1.79	0.33	0.44	2.46	0.44	0.51
4 LANES	1.79	0.34	0.46	2.03	0.38	0.51
ALL LANES	1.82	0.34	0.46	2.19	0.41	0.51

URBAN FUNCTION CLASS**UNDIVIDED**

2 LANES	2.38	0.44	0.34	3.73	0.68	0.44
3 LANES	3.34	0.6	0.28	5.31	0.95	0.38
4 LANES	3.57	0.69	0.19	6.41	1.22	0.31
ALL LANES	2.64	0.49	0.32	4.27	0.79	0.43

DIVIDED

2 LANES	3.45	0.64	0.2	5.56	1.02	0.32
4 LANES	2.99	0.56	0.18	4.63	0.87	0.25
6 LANES	4.14	0.77	0.15	5.53	1.01	0.18
7 LANES	3.51	0.6	0.06	3.82	0.69	0.07
ALL LANES	3.36	0.63	0.17	5.02	0.94	0.26

PARTIAL CONTROL OF ACCESS**RURAL FUNCTION CLASS****MAINLINE ACCIDENTS ONLY****MAINLINE & JUNCTURE ACCIDENTS**

	ALL TYPES ACC/MVM	WET ROAD ACC/MVM	FIXED OBJECT ACC/MVM	ALL TYPES ACC/MVM	WET ROAD ACC/MVM	FIXED OBJECT ACC/MVM
UNDIVIDED						
2 LANES	1.94	0.43	0.42	2.41	0.54	0.49
ALL LANES	1.92	0.43	0.41	2.41	0.54	0.49

DIVIDED

4 LANES	1.79	0.35	0.75	1.88	0.37	0.78
ALL LANES	1.8	0.36	0.75	1.89	0.38	0.77

URBAN FUNCTION CLASS**UNDIVIDED**

2 LANES	2.07	0.56	0.49	2.76	0.68	0.6
ALL LANES	2.48	0.62	0.44	3.42	0.82	0.51

DIVIDED

4 LANES	1.69	0.33	0.26	2.16	0.42	0.29
6 LANES	1.85	0.33	0.21	2.22	0.39	0.24
ALL LANES	1.88	0.35	0.25	2.36	0.44	0.28

CONTROLLED ACCESS (FULL)**RURAL FUNCTION CLASS****UNDIVIDED**

2 LANES	2.05	0.44	0.55	2.37	0.5	0.62
ALL LANES	2.15	0.46	0.55	2.48	0.52	0.61

DIVIDED

4 LANES	1.08	0.19	0.44	1.1	0.2	0.45
5 LANES	0.94	0.19	0.42	0.97	0.2	0.42
6 LANES	0.97	0.21	0.21	1.09	0.24	0.21
ALL LANES	1.08	0.19	0.44	1.11	0.2	0.44

MAINLINE ACCIDENTS ONLY

MAINLINE & JUNCTURE ACCIDENTS

URBAN FUNCTION CLASS**UNDIVIDED**

ALL TYPES	WET ROAD	FIXED OBJECT	ALL TYPES	WET ROAD	FIXED OBJECT	
ACC/MVM	ACC/MVM	ACC/MVM	ACC/MVM	ACC/MVM	ACC/MVM	
ALL LANES	2.19	0.4	0.29	2.94	0.53	0.39

DIVIDED

4 LANES	1.24	0.24	0.27	1.33	0.26	0.27
5 LANES	1.21	0.22	0.23	1.41	0.25	0.25
6 LANES	1.34	0.26	0.19	1.41	0.27	0.19
7 LANES	1.49	0.27	0.22	1.58	0.29	0.24
ALL LANES	1.3	0.25	0.2	1.39	0.26	0.2

AVERAGE INTERSECTION ACCIDENT RATES FOR STATE HIGHWAYS BY INTERSECTION TYPE
(BASED ON ACCIDENT DATA September 1, 2017 TO August 31, 2019)

INTERSECTION TYPE	ALL TYPES ACC/MEV	WET ROAD ACC/MEV	LEFT TURN ACC/MEV	REAR END CC/ME	OVER- TAKING ACC/MEV	RIGHT ANGLE ACC/MEV	RIGHT TURN ACC/MEV	HEAD ON ACC/MEV	SIDE- SWIPE ACC/MEV
RURAL FUNCTION CLASS									
3 LEGGED INTERSECTIONS									
SIGNAL ALL LANES	0.47	0.07	0.03	0.18	0.03	0.07	0.02	0.02	0.01
SIGN ALL LANES	0.17	0.03	0.01	0.03	0.01	0.02	0.00	0.00	0.00
NO CONTROL ALL LANES	0.12	0.02	0.01	0.02	0.00	0.01	0.00	0.00	0.00
4 LEGGED INTERSECTIONS									
SIGNAL ALL LANES	0.66	0.13	0.06	0.18	0.05	0.17	0.03	0.01	0.02
SIGN ALL LANES	0.35	0.06	0.02	0.05	0.01	0.11	0.01	0.01	0.01
NO CONTROL ALL LANES	0.24	0.04	0.01	0.02	0.01	0.05	0	0.01	0
ON RAMP (ALL CONTROL)									
MERGE W/ 1 LANE	0.38	0	0	0.19	0	0	0	0	0
MERGE W/ 2+ LANE	0.02	0	0	0	0	0	0	0	0
OFF RAMP (ALL CONTROL)									
MERGE W/ 1 LANE	0.47	0	0	0.09	0.19	0	0	0	0
MERGE W/ 2+ LANE	0.06	0.01	0	0	0.01	0	0	0	0

INTERSECTION TYPE	ALL TYPES	WET ROAD	LEFT TURN	REAR END	OVER- TAKING	RIGHT ANGLE	RIGHT TURN	HEAD ON	SIDE- SWIPE
URBAN FUNCTION CLASS	ACC/MEV	ACC/MEV	ACC/MEV	CC/ME	ACC/MEV	ACC/MEV	ACC/MEV	ACC/MEV	ACC/MEV
3 LEGGED INTERSECTIONS									
SIGNAL 1-4 LANES	0.32	0.06	0.03	0.13	0.04	0.04	0.01	0	0.01
SIGNAL W/ LEFT TURN 5 & :	0.17	0.03	0.01	0.07	0.03	0.02	0	0	0
SIGNAL W/O LEFT TURN 5 & :	0.13	0.02	0.01	0.05	0.02	0.01	0.01	0	0
SIGN 1-3 LANES	0.19	0.03	0.01	0.06	0.01	0.03	0.01	0	0
SIGN 4 LANES	0.13	0.02	0.01	0.04	0.02	0.02	0	0	0
SIGN 5 & > LANES	0.07	0.01	0	0.03	0.01	0.01	0	0	0
NO CONTROL ALL LANES	0.06	0.01	0	0.02	0.01	0.01	0	0	0
4 LEGGED &> INTERSECTIONS									
SIGNAL 1-4 LANES	0.56	0.1	0.05	0.21	0.08	0.09	0.02	0.01	0.01
SIGNAL W/ LEFT T	0.26	0.04	0.02	0.11	0.05	0.03	0.01	0	0
SIGNAL W/O LEFT	0.24	0.04	0.02	0.07	0.04	0.05	0.01	0	0
SIGN 1-3 LANES	0.31	0.06	0.02	0.08	0.02	0.08	0.01	0	0.01
SIGN 4 & > LANES	0.15	0.03	0.01	0.05	0.02	0.03	0	0	0
NO CONTROL ALL	0.12	0.03	0.01	0.04	0.02	0.02	0	0	0
ON RAMP (ALL CONTROL)									
MERGE W/ 1 LANE	0.04	0	0	0.01	0.01	0	0	0	0
MERGE W/ 2 LANES	0.02	0	0	0.01	0.01	0	0	0	0
MERGE W/ 3&> LANES	0.02	0	0	0.01	0	0	0	0	0
OFF RAMP (ALL CONTROL)									
MERGE W/ 1 LANE	0.05	0.01	0	0.02	0.01	0.01	0	0	0
MERGE W/ 2 LANES	0.03	0.01	0	0.01	0.01	0	0	0	0
MERGE W/ 3&> LANES	0.02	0	0	0.01	0.01	0	0	0	0

NYSDOT-Safety Information Management System AVERAGE ACCIDENT COSTS/SEVERITY DISTRIBUTION STATE HIGHWAYS 2019

Includes period from SEP-01-2017 - AUG-31-2019

Classification**					Accident Severity Distribution (percent)				=====		Average Accident Costs		=====	
					Fatal	Injury	Fatal/Injury	PDO*	Fatal	Injury	Fatal/Injury	PDO*	Average*	
1	L	FULL ACCESS, RURAL, DIVIDED, 4 LANE			0.12	12.02	12.14	87.86	3,237,300	84,600	114,600	5,200	18,500	
2	A	FULL ACCESS, RURAL, DIVIDED, 4 LANE			0.16	12.06	12.22	87.79	3,720,400	85,500	131,900	5,200	20,700	
3	L	FULL ACCESS, RURAL, DIVIDED, 5 LANE			0.12	12.02	12.14	87.86	3,237,300	84,600	114,600	5,200	18,500	
4	A	FULL ACCESS, RURAL, DIVIDED, 5 LANE			0.16	12.06	12.22	87.79	3,720,400	85,500	131,900	5,200	20,700	
5	L	FULL ACCESS, RURAL, DIVIDED, 6 LANE			0.12	12.02	12.14	87.86	3,237,300	84,600	114,600	5,200	18,500	
6	A	FULL ACCESS, RURAL, DIVIDED, 6 LANE			0.16	12.06	12.22	87.79	3,720,400	85,500	131,900	5,200	20,700	
7	L	FULL ACCESS, RURAL, DIVIDED, ALL LANES			0.12	12.02	12.14	87.86	3,237,300	84,600	114,600	5,200	18,500	
8	A	FULL ACCESS, RURAL, DIVIDED, ALL LANES			0.16	12.06	12.22	87.79	3,720,400	85,500	131,900	5,200	20,700	
9	L	FULL ACCESS, RURAL, UNDIVIDED, 2 LANE			0.00	14.72	14.72	85.28	0	74,700	74,700	5,200	15,400	
10	A	FULL ACCESS, RURAL, UNDIVIDED, 2 LANE			0.00	15.30	15.30	84.70	0	76,500	76,500	5,200	16,100	
11	L	FULL ACCESS, RURAL, UNDIVIDED, ALL LANES			0.00	14.72	14.72	85.28	0	74,700	74,700	5,200	15,400	
12	A	FULL ACCESS, RURAL, UNDIVIDED, ALL LANES			0.00	15.30	15.30	84.70	0	76,500	76,500	5,200	16,100	
13	L	FULL ACCESS, URBAN, DIVIDED, 4 LANE			0.20	27.77	27.97	72.03	3,426,700	94,200	118,600	3,800	35,900	
14	A	FULL ACCESS, URBAN, DIVIDED, 4 LANE			0.20	26.78	26.98	73.02	3,416,800	94,200	119,100	3,800	34,900	
15	L	FULL ACCESS, URBAN, DIVIDED, 5 LANE			0.20	27.77	27.97	72.03	3,426,700	94,200	118,600	3,800	35,900	
16	A	FULL ACCESS, URBAN, DIVIDED, 5 LANE			0.20	26.78	26.98	73.02	3,416,800	94,200	119,100	3,800	34,900	
17	L	FULL ACCESS, URBAN, DIVIDED, 6 LANE			0.20	27.77	27.97	72.03	3,426,700	94,200	118,600	3,800	35,900	
18	A	FULL ACCESS, URBAN, DIVIDED, 6 LANE			0.20	26.78	26.98	73.02	3,416,800	94,200	119,100	3,800	34,900	
19	L	FULL ACCESS, URBAN, DIVIDED, 7 LANE			0.20	27.77	27.97	72.03	3,426,700	94,200	118,600	3,800	35,900	
20	A	FULL ACCESS, URBAN, DIVIDED, 7 LANE			0.20	26.78	26.98	73.02	3,416,800	94,200	119,100	3,800	34,900	
21	L	FULL ACCESS, URBAN, DIVIDED, ALL LANES			0.20	27.77	27.97	72.03	3,426,700	94,200	118,600	3,800	35,900	
22	A	FULL ACCESS, URBAN, DIVIDED, ALL LANES			0.20	26.78	26.98	73.02	3,416,800	94,200	119,100	3,800	34,900	
23	L	FULL ACCESS, URBAN, UNDIVIDED, ALL LANES			0.22	21.49	21.71	78.28	3,244,200	89,100	121,700	3,800	29,400	
24	A	FULL ACCESS, URBAN, UNDIVIDED, ALL LANES			0.21	22.11	22.32	77.68	3,317,000	87,200	116,900	3,800	29,000	
25	L	PARTIAL ACCESS, RURAL, DIVIDED, 4 LANES			0.33	15.77	16.10	83.90	3,256,000	87,500	151,500	5,200	28,800	
26	A	PARTIAL ACCESS, RURAL, DIVIDED, 4 LANES			0.15	17.47	17.62	82.38	3,224,800	93,900	120,700	5,200	25,500	

* Includes Both Reportable and Non-Reportable Accidents

** A= All Accidents, L= Non-Intersection Accidents, I= Intersection Accidents

NYSDOT-Safety Information Management System
AVERAGE ACCIDENT COSTS/SEVERITY DISTRIBUTION STATE HIGHWAYS 2019

Includes period from SEP-01-2017 - AUG-31-2019

Classification**					Accident Severity Distribution (percent)				Average Accident Costs				
					Fatal	Injury	Fatal/Injury	PDO*	Fatal	Injury	Fatal/Injury	PDO*	Average*
27	L	PARTIAL ACCESS, RURAL, DIVIDED, ALL LANES			0.33	15.77	16.10	83.90	3,256,000	87,500	151,500	5,200	28,800
28	A	PARTIAL ACCESS, RURAL, DIVIDED, ALL LANES			0.15	17.47	17.62	82.38	3,224,800	93,900	120,700	5,200	25,500
29	L	PARTIAL ACCESS, RURAL, UNDIVIDED, 2 LANES			0.71	10.36	11.07	88.93	3,256,000	86,900	291,400	5,200	36,900
30	A	PARTIAL ACCESS, RURAL, UNDIVIDED, 2 LANES			0.62	10.56	11.18	88.82	3,256,000	87,800	263,800	5,200	34,100
31	L	PARTIAL ACCESS, RURAL, UNDIVIDED, ALL LANES			0.71	10.36	11.07	88.93	3,256,000	86,900	291,400	5,200	36,900
32	A	PARTIAL ACCESS, RURAL, UNDIVIDED, ALL LANES			0.62	10.56	11.18	88.82	3,256,000	87,800	263,800	5,200	34,100
33	L	PARTIAL ACCESS, URBAN, DIVIDED, 4 LANES			0.18	22.26	22.44	77.57	3,275,400	91,300	116,600	3,800	29,100
34	A	PARTIAL ACCESS, URBAN, DIVIDED, 4 LANES			0.16	22.76	22.92	77.09	3,281,000	90,600	112,600	3,800	28,700
35	L	PARTIAL ACCESS, URBAN, DIVIDED, 6 LANES			0.18	22.26	22.44	77.57	3,275,400	91,300	116,600	3,800	29,100
36	A	PARTIAL ACCESS, URBAN, DIVIDED, 6 LANES			0.16	22.76	22.92	77.09	3,281,000	90,600	112,600	3,800	28,700
37	L	PARTIAL ACCESS, URBAN, DIVIDED, ALL LANES			0.18	22.26	22.44	77.57	3,275,400	91,300	116,600	3,800	29,100
38	A	PARTIAL ACCESS, URBAN, DIVIDED, ALL LANES			0.16	22.76	22.92	77.09	3,281,000	90,600	112,600	3,800	28,700
39	L	PARTIAL ACCESS, URBAN, UNDIVIDED, 2 LANES			0.14	18.44	18.58	81.42	3,285,800	90,200	114,100	3,800	24,300
40	A	PARTIAL ACCESS, URBAN, UNDIVIDED, 2 LANES			0.15	20.45	20.60	79.41	3,223,400	91,600	113,700	3,800	26,400
41	L	PARTIAL ACCESS, URBAN, UNDIVIDED, ALL LANES			0.14	18.44	18.58	81.42	3,285,800	90,200	114,100	3,800	24,300
42	A	PARTIAL ACCESS, URBAN, UNDIVIDED, ALL LANES			0.15	20.45	20.60	79.41	3,223,400	91,600	113,700	3,800	26,400
43	L	FREE ACCESS, RURAL, DIVIDED, 2 LANES			0.35	13.30	13.65	86.35	4,834,600	95,900	218,900	5,200	34,400
44	A	FREE ACCESS, RURAL, DIVIDED, 2 LANES			0.44	14.24	14.68	85.32	4,298,000	103,600	229,400	5,200	38,100
45	L	FREE ACCESS, RURAL, DIVIDED, 4 LANES			0.35	13.30	13.65	86.35	4,834,600	95,900	218,900	5,200	34,400
46	A	FREE ACCESS, RURAL, DIVIDED, 4 LANES			0.44	14.24	14.68	85.32	4,298,000	103,600	229,400	5,200	38,100
47	L	FREE ACCESS, RURAL, DIVIDED, ALL LANES			0.35	13.30	13.65	86.35	4,834,600	95,900	218,900	5,200	34,400
48	A	FREE ACCESS, RURAL, DIVIDED, ALL LANES			0.44	14.24	14.68	85.32	4,298,000	103,600	229,400	5,200	38,100
49	L	FREE ACCESS, RURAL, UNDIVIDED, 2 LANES			0.42	13.70	14.12	85.88	4,190,500	87,200	208,400	5,200	33,900
50	A	FREE ACCESS, RURAL, UNDIVIDED, 2 LANES			0.39	14.87	15.26	84.74	4,134,700	91,300	194,600	5,200	34,100
51	L	FREE ACCESS, RURAL, UNDIVIDED, 3 LANES			0.42	13.70	14.12	85.88	4,190,500	87,200	208,400	5,200	33,900
52	A	FREE ACCESS, RURAL, UNDIVIDED, 3 LANES			0.39	14.87	15.26	84.74	4,134,700	91,300	194,600	5,200	34,100

* Includes Both Reportable and Non-Reportable Accidents

** A= All Accidents, L= Non-Intersection Accidents, I= Intersection Accidents

NYSDOT-Safety Information Management System AVERAGE ACCIDENT COSTS/SEVERITY DISTRIBUTION STATE HIGHWAYS 2019

Includes period from SEP-01-2017 - AUG-31-2019

Classification**					Accident Severity Distribution (percent)				Average Accident Costs				
					Fatal	Injury	Fatal/Injury	PDO*	Fatal	Injury	Fatal/Injury	PDO*	Average*
53	L	FREE ACCESS, RURAL, UNDIVIDED, 4 LANES			0.42	13.70	14.12	85.88	4,190,500	87,200	208,400	5,200	33,900
54	A	FREE ACCESS, RURAL, UNDIVIDED, 4 LANES			0.39	14.87	15.26	84.74	4,134,700	91,300	194,600	5,200	34,100
55	L	FREE ACCESS, RURAL, UNDIVIDED, ALL LANES			0.42	13.70	14.12	85.88	4,190,500	87,200	208,400	5,200	33,900
56	A	FREE ACCESS, RURAL, UNDIVIDED, ALL LANES			0.39	14.87	15.26	84.74	4,134,700	91,300	194,600	5,200	34,100
57	L	FREE ACCESS, URBAN, DIVIDED, 2 LANES			0.13	23.01	23.14	76.86	3,268,800	91,400	109,100	3,800	28,200
58	A	FREE ACCESS, URBAN, DIVIDED, 2 LANES			0.14	23.49	23.63	76.36	3,338,500	92,600	112,200	3,800	29,400
59	L	FREE ACCESS, URBAN, DIVIDED, 4 LANES			0.13	23.01	23.14	76.86	3,268,800	91,400	109,100	3,800	28,200
60	A	FREE ACCESS, URBAN, DIVIDED, 4 LANES			0.14	23.49	23.63	76.36	3,338,500	92,600	112,200	3,800	29,400
61	L	FREE ACCESS, URBAN, DIVIDED, 6 LANES			0.13	23.01	23.14	76.86	3,268,800	91,400	109,100	3,800	28,200
62	A	FREE ACCESS, URBAN, DIVIDED, 6 LANES			0.14	23.49	23.63	76.36	3,338,500	92,600	112,200	3,800	29,400
63	L	FREE ACCESS, URBAN, DIVIDED, 7 LANES			0.13	23.01	23.14	76.86	3,268,800	91,400	109,100	3,800	28,200
64	A	FREE ACCESS, URBAN, DIVIDED, 7 LANES			0.14	23.49	23.63	76.36	3,338,500	92,600	112,200	3,800	29,400
65	L	FREE ACCESS, URBAN, DIVIDED, ALL LANES			0.13	23.01	23.14	76.86	3,268,800	91,400	109,100	3,800	28,200
66	A	FREE ACCESS, URBAN, DIVIDED, ALL LANES			0.14	23.49	23.63	76.36	3,338,500	92,600	112,200	3,800	29,400
67	L	FREE ACCESS, URBAN, UNDIVIDED, 2 LANES			0.24	19.97	20.21	79.79	3,501,400	89,100	130,400	3,800	29,400
68	A	FREE ACCESS, URBAN, UNDIVIDED, 2 LANES			0.20	21.05	21.25	78.75	3,542,400	90,000	122,400	3,800	29,000
69	L	FREE ACCESS, URBAN, UNDIVIDED, 3 LANES			0.24	19.97	20.21	79.79	3,501,400	89,100	130,400	3,800	29,400
70	A	FREE ACCESS, URBAN, UNDIVIDED, 3 LANES			0.20	21.05	21.25	78.75	3,542,400	90,000	122,400	3,800	29,000
71	L	FREE ACCESS, URBAN, UNDIVIDED, 4 LANES			0.24	19.97	20.21	79.79	3,501,400	89,100	130,400	3,800	29,400
72	A	FREE ACCESS, URBAN, UNDIVIDED, 4 LANES			0.20	21.05	21.25	78.75	3,542,400	90,000	122,400	3,800	29,000
73	L	FREE ACCESS, URBAN, UNDIVIDED, ALL LANES			0.24	19.97	20.21	79.79	3,501,400	89,100	130,400	3,800	29,400
74	A	FREE ACCESS, URBAN, UNDIVIDED, ALL LANES			0.20	21.05	21.25	78.75	3,542,400	90,000	122,400	3,800	29,000
75	I	3 LEG, RURAL, SIGNAL, ALL LANES			0.28	19.19	19.47	80.52	3,321,800	93,200	140,200	5,200	31,500
76	I	3 LEG, RURAL, SIGN, ALL LANES			0.28	19.19	19.47	80.52	3,321,800	93,200	140,200	5,200	31,500
77	I	3 LEG, RURAL, NONE, ALL LANES			0.28	19.19	19.47	80.52	3,321,800	93,200	140,200	5,200	31,500
78	I	3 LEG, URBAN, SIGNAL, 1-4 LANES			0.16	23.94	24.10	75.90	3,379,600	93,200	115,000	3,800	30,600

* Includes Both Reportable and Non-Reportable Accidents

** A= All Accidents, L= Non-Intersection Accidents, I= Intersection Accidents

NYSDOT-Safety Information Management System
AVERAGE ACCIDENT COSTS/SEVERITY DISTRIBUTION STATE HIGHWAYS 2019

Includes period from SEP-01-2017 - AUG-31-2019

Classification**					Accident Severity Distribution (percent)				Average Accident Costs				
					Fatal	Injury	Fatal/Injury	PDO*	Fatal	Injury	Fatal/Injury	PDO*	Average*
79	I	3	LEG, URBAN, W/ LEFT TURN, SIGNAL,5& > LANE		0.16	23.94	24.10	75.90	3,379,600	93,200	115,000	3,800	30,600
80	I	3	LEG, URBAN, NO LEFT TURN, SIGNAL,5& > LANE		0.16	23.94	24.10	75.90	3,379,600	93,200	115,000	3,800	30,600
81	I	3	LEG URBAN, SIGN, 1-3 LANES		0.16	23.94	24.10	75.90	3,379,600	93,200	115,000	3,800	30,600
82	I	3	LEG URBAN, SIGN, 4 LANES		0.16	23.94	24.10	75.90	3,379,600	93,200	115,000	3,800	30,600
83	I	3	LEG URBAN, SIGN, 5 OR MORE LANES		0.16	23.94	24.10	75.90	3,379,600	93,200	115,000	3,800	30,600
84	I	3	LEG URBAN, NONE, ALL LANES		0.16	23.94	24.10	75.90	3,379,600	93,200	115,000	3,800	30,600
85	I	4&	> LEGS, RURAL, SIGNAL, ALL LANES		0.70	26.73	27.43	72.57	3,886,200	105,800	202,100	5,200	59,200
86	I	4&	> LEGS, RURAL, SIGN, ALL LANES		0.70	26.73	27.43	72.57	3,886,200	105,800	202,100	5,200	59,200
87	I	4&	> LEGS, RURAL, NONE, ALL LANES		0.70	26.73	27.43	72.57	3,886,200	105,800	202,100	5,200	59,200
88	I	4&	> LEGS, URBAN, SIGNAL, 1-4 LANES		0.12	24.22	24.34	75.66	3,790,600	92,300	111,000	3,800	29,900
89	I	4&	> LEGS, URBAN, LEFT TURN, SIGNAL,5& >LANE		0.12	24.22	24.34	75.66	3,790,600	92,300	111,000	3,800	29,900
90	I	4&	> LEGS, URBAN, NO LEFT , SIGNAL, 5& >LANE		0.12	24.22	24.34	75.66	3,790,600	92,300	111,000	3,800	29,900
91	I	4&	> LEGS, URBAN, SIGN, 1-3 LANES		0.12	24.22	24.34	75.66	3,790,600	92,300	111,000	3,800	29,900
92	I	4&	> LEGS, URBAN, SIGN, 4 OR MORE LANES		0.12	24.22	24.34	75.66	3,790,600	92,300	111,000	3,800	29,900
93	I	4&	> LEGS, URBAN, NONE, ALL LANES		0.12	24.22	24.34	75.66	3,790,600	92,300	111,000	3,800	29,900
94	I		ON RAMP, RURAL, ALL CNTLS, MERGE W/1 LANE		0.00	15.22	15.22	84.78	3,287,200	85,400	85,400	5,200	17,400
95	I		ON RAMP, RURAL, ALL CNTLS, MERGE W/2& > LANE		0.00	15.22	15.22	84.78	3,287,200	85,400	85,400	5,200	17,400
96	I		ON RAMP, URBAN, ALL CNTLS, MERGE W/1 LANE		0.10	26.08	26.18	73.82	3,223,400	94,200	106,500	3,800	30,700
97	I		ON RAMP, URBAN, ALL CNTLS, MERGE W/2 LANES		0.10	26.08	26.18	73.82	3,223,400	94,200	106,500	3,800	30,700
98	I		ON RAMP, URBAN, ALL CNTLS, MERGE W/3& > LANE		0.10	26.08	26.18	73.82	3,223,400	94,200	106,500	3,800	30,700
99	I		OFF RAMP, RURAL, ALL CNTLS, MERGE W/1 LANE		0.00	15.22	15.22	84.78	3,287,200	85,400	85,400	5,200	17,400
100	I		OFF RAMP, RURAL, ALL CNTLS, MERGE W/2&> LANE		0.00	15.22	15.22	84.78	3,287,200	85,400	85,400	5,200	17,400
101	I		OFF RAMP, URBAN, ALL CNTLS, MERGE W/1 LANE		0.10	26.08	26.18	73.82	3,223,400	94,200	106,500	3,800	30,700
102	I		OFF RAMP, URBAN, ALL CNTLS, MERGE W/2 LANES		0.10	26.08	26.18	73.82	3,223,400	94,200	106,500	3,800	30,700
103	I		OFF RAMP, URBAN, ALL CNTLS, MERGE W/3&> LANE		0.10	26.08	26.18	73.82	3,223,400	94,200	106,500	3,800	30,700

* Includes Both Reportable and Non-Reportable Accidents

** A= All Accidents, L= Non-Intersection Accidents, I= Intersection Accidents

AM Peak Period ATR Counts (8am-9am)

		A	B
Section	Volume	AADT	Year
EB Route 378 (Bridge Road - Troy-Menands Bridge)	632	8,590	2015
WB Route 378 (Troy-Menands Bridge - Bridge Road)	588	5,328	2015

Source: NYSDOT Traffic Data Viewer

		C	D
Section	CDTC AM Peak (8am-9am)	Seasonal Adjustment Factor ¹	AADT (B/A)*C*D
EB Route 378 (Bridge Road - Troy-Menands Bridge)	814	1.039	11,495
WB Route 378 (Troy-Menands Bridge - Bridge Road)	622	1.039	5,856

AADT
12,026
4,333

Note: 1. NYSDOT Seasonal Adjustment Factors 2021, November, Work Week, Commuter Dominated-30

PM Peak Period ATR Counts (5pm-6pm)

		A	B
Section	Volume	AADT	Year
EB Route 378 (Bridge Road - Troy-Menands Bridge)	966	8,590	2015
WB Route 378 (Troy-Menands Bridge - Bridge Road)	451	5,328	2015

Source: NYSDOT Traffic Data Viewer

		C	D
Section	CDTC PM Peak (5pm-6pm)	Seasonal Adjustment Factor ¹	AADT (B/A)*C*D
EB Route 378 (Bridge Road - Troy-Menands Bridge)	1359	1.039	12,556
WB Route 378 (Troy-Menands Bridge - Bridge Road)	229	1.039	2,811

Note: 1. NYSDOT Seasonal Adjustment Factors 2021, November, Work Week, Commuter Dominated-30

TMC = Turning Movement Counts

AM Peak Period ATR Counts (8am-9am)

Intersection	A				B	
	Total Approach Volume				AADT	Year
Morrison Ave between Route 378 High Street & Route 4 Vandenburg Ave	1038	452	0	0	19,088	2016
Route 4 Burden Ave North of Route 4 Mill St	0	0	305	494	11,923	2018
Route 4 4th St North of Main St	0	0	111	141	5,260	2020
Cambell Ave East of Route 4 Vandenburg Ave	268	772			13,295	2014
Route 4 Vandenburg Ave South of North Dr (HVCC)			750	975	24,719	2012
Route 4 Vandenburg Ave between Route 136 and South Dr			687	594	18,760	2016

Source: NYSDOT Traffic Data Viewer

Intersection	C				D	
	AM Peak (8am-9am)				Seasonal Adjustment	AADT (TMC) (B/A)*C*D
Route 378 High St & Forbes Ave	1708	1678	0		1.039	45,069
Route 378 High St & Burke St	1708	1678	0		1.039	45,069
Route 378 High St & Morrison Ave		509	1835	1084	1.039	45,628
Route 4 Mill St and Burden Ave	24	765	603	569	1.039	30,404
Route 4 Burden Ave and Main St	59	16	367	262	1.039	15,268
Route 4 Vandenburg Ave and Campbell Ave		778	306	496	1.039	20,986
Route 4 Vandenburg Ave and Morrison Ave	1087	14	722	473	1.039	30,561
Route 4 Vandenburg Ave and North Dr (HVCC)	25	66	706	1475	1.039	33,827
Route 4 Vandenburg Ave and George E Holliday Dr	58	116	874	1144	1.039	32,636
Route 4 Vandenburg Ave and South Dr (HVCC)	93	45	903	932	1.039	30,021
Route 4 and Route 136	87	568	449	702	1.039	27,480

Note: 1. NYSDOT Seasonal Adjustment Factors 2021, November, Work Week, Commuter Dominated-30
TMC = Turning Movement Counts

AADT
49,022
49,022
49,715
28,951
14,781
19,801
30,358
30,334
31,312
26,545
25,855

PM Peak Period ATR Counts (5pm-6pm)

Intersection	A				B	
	Total Approach Volume				AADT	Year
Morrison Ave between Route 378 High Street & Route 4 Vandenburg Ave	1049	438			19,088	2016
Route 4 Burden Ave North of Route 4 Mill St			662	371	11,923	2018
Route 4 4th St North of Main St			250	192	5,260	2020
Cambell Ave East of Route 4 Vandenburg Ave	767	444			13,295	2014
Route 4 Vandenburg Ave South of North Dr (HVCC)			922	1118	24,719	2012
Route 4 Vandenburg Ave between Route 136 and South Dr			828	883	18,760	2016

Source: NYSDOT Traffic Data Viewer

Intersection	C				D	
	PM Peak (5pm-6pm)				Seasonal Adjustment	AADT (TMC) (B/A)*C*D
Route 378 High St & Forbes Ave	2485	1487	0		1.039	52,975
Route 378 High St & Burke St	2485	1487	0		1.039	52,975
Route 378 High St & Morrison Ave		520	2578	936	1.039	53,802
Route 4 Mill St and Burden Ave	4	526	1083	680	1.039	27,498
Route 4 Burden Ave and Main St	68	22	757	309	1.039	14,293
Route 4 Vandenburg Ave and Campbell Ave		431	603	598	1.039	18,616
Route 4 Vandenburg Ave and Morrison Ave	935	37	949	340	1.039	30,155
Route 4 Vandenburg Ave and North Dr (HVCC)	24	111	881	1116	1.039	26,841
Route 4 Vandenburg Ave and George E Holliday Dr	307	64	964	1047	1.039	29,989
Route 4 Vandenburg Ave and South Dr (HVCC)	102	87	905	931	1.039	23,069
Route 4 and Route 136	125	476	654	872	1.039	24,231

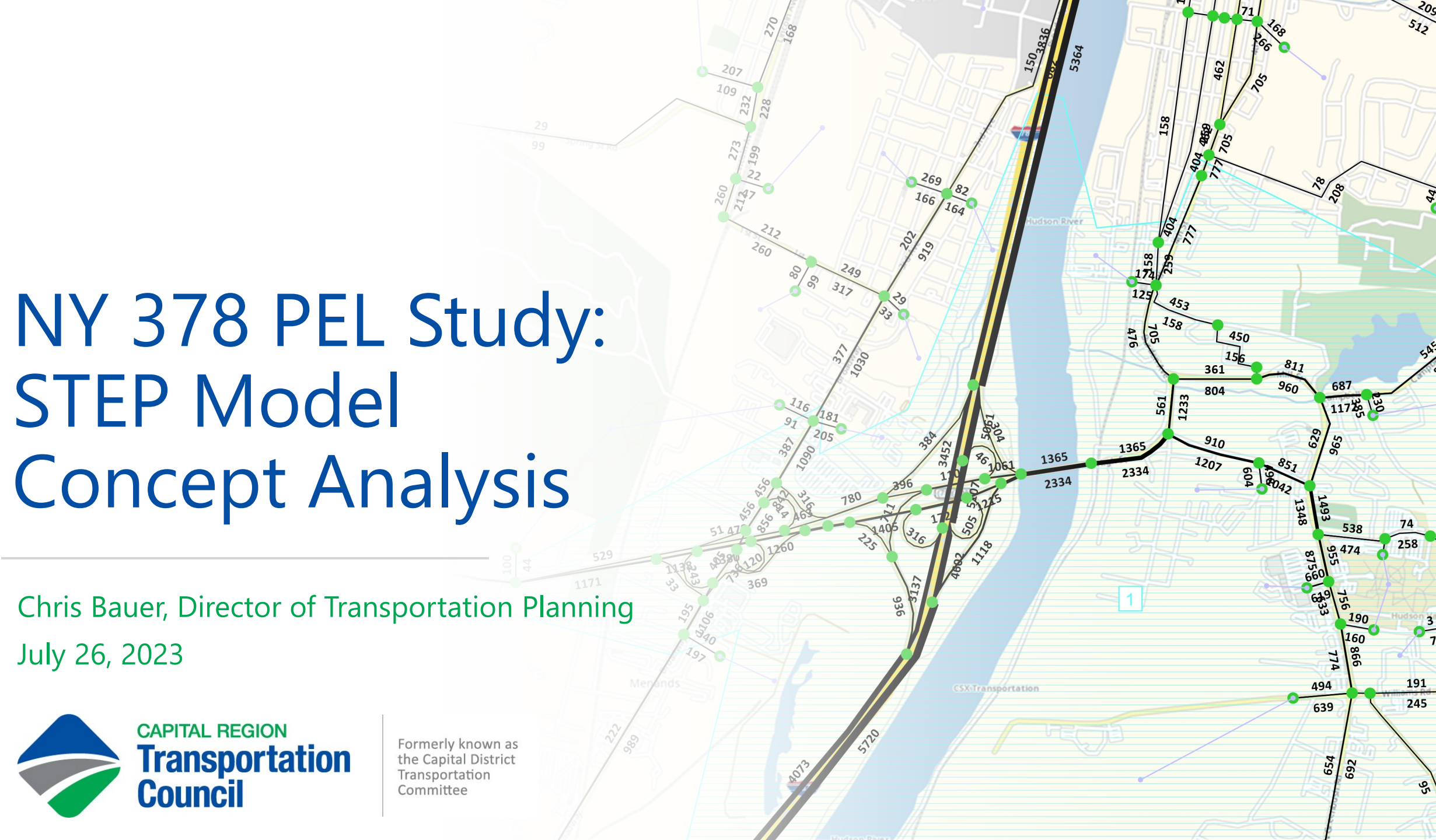
Note: 1. NYSDOT Seasonal Adjustment Factors 2021, November, Work Week, Commuter Dominated-30
TMC = Turning Movement Counts

ATTACHMENT 3-7 VISSIM Results

AM PEAK HOUR (7:30am-8:30am)																																																			
Travel Times	2019 Baseline				2025 No Build				2045 No Build				2025 Build (Concept 3B)				2045 Build (Concept 3B)				2025 Build (Concept 4)				2045 Build (Concept 4)				2025 Build (Concept 6)				2045 Build (Concept 6)				2025 Build (Concept 7)				2045 Build (Concept 7)										
	Model Time	Field Time	Diff (mm:ss)	Diff (%)	Vehicles	Vehicles	Dist (ft)	Time (min)	Vehicles	Dist (ft)	Time (min)	Vehicles	Dist (ft)	Time (min)	Vehicles	Dist (ft)	Time (min)	Vehicles	Dist (ft)	Time (min)	Vehicles	Dist (ft)	Time (min)	Vehicles	Dist (ft)	Time (min)	Vehicles	Dist (ft)	Time (min)	Vehicles	Dist (ft)	Time (min)	Vehicles	Dist (ft)	Time (min)	Vehicles	Dist (ft)	Time (min)	Vehicles	Dist (ft)	Time (min)										
Route 378 EB - Start of Bridge to Past Burden/Mill	01:40	02:20	00:39	-28%	582	596	2641	01:43	600	2627	01:50	586	2671	01:27	596	2671	01:26	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	1	11157	38:53	0	0	00:00	499	3821	02:51	507	3821	02:51	507	3821	02:51	507	3821	02:51	507	3821	02:51							
Vanderburgh Ave SB - Morrison Ave to N Greenbush Rd	01:53	02:12	00:19	-15%	445	442	3657	01:54	447	3657	01:54	442	3657	01:51	448	3657	01:53	333	3657	01:50	419	3657	01:54	80	3676	02:08	16	3676	02:00	184	3672	01:57	184	3672	01:57	184	3672	01:57	184	3672	01:57	184	3672	01:57							
Burden Ave NB - Morrison Ave to 4th St	02:13	02:35	00:22	-14%	158	159	1996	02:13	161	1996	02:11	157	1999	02:12	159	1975	01:30	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	4	1974	02:11	4	1974	02:10	191	1984	03:06	190	1987	03:01	190	1987	03:01	190	1987	03:01	190	1987	03:01							
Route 378 EB - model start to beginning of bridge	01:30	01:31	00:01	-1%	190	196	6880	01:30	197	6880	01:31	151	6720	02:05	154	6720	02:05	151	7422	02:17	135	6613	11:18	40	6613	05:21	192	6645	02:19	194	6645	02:19	194	6645	02:19	194	6645	02:19	194	6645	02:19	194	6645	02:19							
Route 378 WB - Bridge to model end	01:46	02:04	00:18	-15%	340	346	7150	01:46	349	7163	01:46	287	8285	02:54	289	8285	02:55	318	8925	05:12	326	8929	05:15	0	0	00:00	0	0	00:00	326	7961	02:43	313	7946	02:42	313	7946	02:42	313	7946	02:42	313	7946	02:42							
Start of model to end of Bridge EB	02:08	02:01	00:06	9%	191	196	6258	02:12	198	6265	02:23	150	6201	02:44	154	6201	02:44	151	6877	02:53	155	6877	02:54	110	7645	16:32	77	7645	05:57	188	7912	03:00	189	7912	03:00	189	7912	03:00	189	7912	03:00	189	7912	03:00							
End of Bridge EB to Main St	03:22	02:58	00:24	14%	156	158	3380	03:23	161	3367	03:20	109	3252	03:00	110	3234	02:15	282	2687	01:36	187	2971	01:45	44	12875	27:41	10	12865	15:03	312	4533	05:07	315	4544	05:02	315	4544	05:02	315	4544	05:02	315	4544	05:02							
End of Bridge EB to Past Glenmore Rd/Route 4 Roundabout SB	04:12	06:30	02:18	-36%	345	348	6754	04:21	353	6747	04:30	349	6747	03:58	361	6755	03:59	235	7521	03:53	309	7625	03:59	159	4741	19:12	39	4724	12:45	334	6357	08:39	329	6335	09:02	329	6335	09:02	329	6335	09:02	329	6335	09:02							
End of Bridge EB to North Dr	02:47	04:32	01:46	-39%	1163	1196	4106	02:56	1212	4107	03:04	1188	4117	02:35	1211	4116	02:34	770	4884	02:29	1059	4991	02:34	162	6973	25:26	31	6973	12:24	455	5342	03:01	459	5339	03:03	459	5339	03:03	459	5339	03:03	459	5339	03:03							
Queue Lengths												Olen (ft)				OlenMax (ft)				Olen (ft)				OlenMax (ft)				Olen (ft)				OlenMax (ft)				Olen (ft)				OlenMax (ft)				Olen (ft)				OlenMax (ft)			
Route 378 EB - Bridge	155.4	1314.0	384	1500	235	1606	564	460	2000	1017	79.3	442.6	945	78.1	444.0	936	0.0	0.0	0	2405.9	2439.8	3881	2406.9	2439.8	931	2406.9	2439.8	931	134.5	1203.3	608	154.9	1410.7	681	154.9	1410.7	681	154.9	1410.7	681	154.9	1410.7	681								
Morrison Ave WB	1546.6	2372.1	1555	2100	1644	2404	1624	1772	2422	1721	54.1	262.9	422	59.0	257.6	437	27.1	220.4	56	19.6	108.0	42	19.6	108.0	28	12.9	93.2	28	20.7	134.4	43	20.4	124.3	42	20.4	124.3	42	20.4	124.3	42	20.4	124.3	42								
Data Collection												Actual Volumes				Actual Volumes				Actual Volumes				Actual Volumes				Actual Volumes				Actual Volumes				Actual Volumes				Actual Volumes				Actual Volumes							
High Street NB @ Morrison Ave	1708	1714	15.3	0.1	1087	1133	15.2	1.4	1087	1133	15.2	1.4	1087	1133	15.2	1.4	1087	1133	15.2	1.4	1087	1133	15.2	1.4	1087	1133	15.2	1.4	1087	1133	15.2	1.4	1087	1133	15.2	1.4	1087	1133	15.2	1.4	1087	1133	15.2	1.4							
Morrison Ave EB @ Vanderburgh Ave	722	695	22.8	1.0	476	485	21.0	0.4	476	485	21.0	0.4	476	485	21.0	0.4	476	485	21.0	0.4	476	485	21.0	0.4	476	485	21.0	0.4	476	485	21.0	0.4	476	485	21.0	0.4	476	485	21.0	0.4	476	485	21.0	0.4							
Vanderburgh Ave NB @ Morrison Ave	306	308	21.7	0.1	706	704	23.9	0.1	706	704	23.9	0.1	706	704	23.9	0.1	706	704	23.9	0.1	706	704	23.9	0.1	706	704	23.9	0.1	706	704	23.9	0.1	706	704	23.9	0.1	706	704	23.9	0.1	706	704	23.9	0.1							
Vanderburgh Ave SB @ Campbell Ave	1144	1167	25.0	0.7	874	870	23.0	0.1	874	870	23.0	0.1	874	870	23.0	0.1	874	870	23.0	0.1	874	870	23.0	0.1	874	870	23.0	0.1	874	870	23.0	0.1	874	870	23.0	0.1	874	870	23.0	0.1	874	870	23.0	0.1							
Vanderburgh Ave NB @ North Dr	932	954	23.7	0.7	903	906	24.0	0.1	903	906	24.0	0.1	903	906	24.0	0.1	903	906	24.0	0.1	903	906	24.0	0.1	903	906	24.0	0.1	903	906	24.0	0.1	903	906	24.0	0.1	903	906	24.0	0.1	903	906	24.0	0.1							
Vanderburgh Ave SB @ GEH Dr	702	719	22.9	0.6	512	456	19.2	2.5	366	349	27.6	0.9	883	866	52.2	0.6	479	479	53.6	0.0	6239	6239	50.2	0.0	3046	3010	49.9	0.7	704	704	26.8	0.0	215	210	26.1	0.2	1678	1582	26.2	2.4	1708	1718	24.2	0.2							
N Greenbush Ave SB @ Glenmore Rd	512	456	19.2	2.5	366	349	27.6	0.9	883	866	52.2	0.6	479	479	53.6	0.0	6239	6239	50.2	0.0	3046	3010	49.9	0.7	704	704	26.8	0.0	215	210	26.1	0.2	1678	1582	26.2	2.4	1708	1718	24.2	0.2	285	285	27.9	0.0							
Morrison Ave WB @ High St	736	727	30.1	0.3	736	727	30.1	0.3	736	727	30.1	0.3	736	727	30.1	0.3	736	727	30.1	0.3	736	727	30.1	0.3	736	727	30.1	0.3	736	727	30.1	0.3	736	727	30.1	0.3	736	727	30.1	0.3	736	727	30.1	0.3							
Rt 378 WB Off Ramp to I-787 NB	366	349	27.6	0.9	883	866	52.2	0.6	479	479	53.6	0.0	6239	6239	50.2	0.0	3046	3010	49.9	0.7	704	704	26.8	0.0	215	210	26.1	0.2	1678	1582	26.2	2.4	1708	1718	24.2	0.2	285	285	27.9	0.0	736	727	30.1	0.3							
Rte 378 WB After Rte 32 SB Off Ramp (End Section)	479	479	53.6	0.0	6239	6239	50.2	0.0	3046	3010	49.9	0.7	704	704	26.8	0.0	215	210	26.1	0.2	1678	1582	26.2	2.4	1708	1718	24.2	0.2	285	285	27.9	0.0	736	727	30.1	0.3	736	727	30.1	0.3	736	727	30.1	0.3							
Rte 378 SB Start Section	6239	6239	50.2	0.0	3046	3010	49.9	0.7	704	704	26.8	0.0	215	210	26.1	0.2	1678	1582	26.2	2.4	1708	1718	24.2	0.2	285	285	27.9	0.0	736	727	30.1	0.3	736	727	30.1	0.3	736	727	30.1	0.3	736	727	30.1	0.3							
I-787 NB After Rte 378 WB Off Ramp (End Section)	704	704	26.8	0.0	215	210	26.1	0.2	1678	1582	26.2	2.4	1708	1718	24.2	0.2	285	285	27.9	0.0	736	727	30.1	0.3	736	727	30.1	0.3	736	727	30.1	0.3	736	727	30.1	0.3	736	727	30.1	0.3	736	727	30.1	0.3							
Rte 32 SB After Rte 378 EB Off Ramp (End Section)	1678	1582	26.2	2.4	1708	1718	24.2	0.2	285	285	27.9	0.0	736	727	30.1	0.3	736	727	30.1	0.3	736	727	30.1	0.3	736	727	30.1	0.3	736	727	30.1	0.3	736	727	30.1	0.3	736	727	30.1	0.3	736	727	30.1	0.3							
Rte 378 WB Bridge	1708	1718	24.2	0.2	285	285	27.9	0.0	736	727	30.1	0.3	736	727	30.1	0.3	736	727	30.1	0.3	736	727	30.1	0.3	736	727	30.1	0.3	736	727	30.1	0.3	736	727	30.1	0.3	736	727	30.1	0.3	736	727	30.1	0.3							
Rte 32 NB Start Section	285	285	27.9	0.0	736	727	30.1	0.3	736	727	30.1	0.3	736	727	30.1	0.3	736	727	30.1	0.3	736	727	30.1	0.3	736	727	30.1	0.3	736	727	30.1	0.3	736	727	30.1	0.3	736	727	30.1	0.3	736	727	30.1	0.3							
Rte 32 NB End Section	736	727	30.1	0.3	736	727	30.1	0.3	736	727	30.1	0.3	736	727	30.1	0.3	736	727	30.1	0.3	736	727	30.1	0.3	736	727	30.1	0.3	736	727	30.1	0.3	736	727	30.1	0.3	736	727	30.1	0.3	736	727	30.1	0.3							
Bridge Link Density LOS												Density LOS Volume Avg Speed				Density LOS Volume Avg Speed				Density LOS Volume Avg Speed				Density LOS Volume Avg Speed				Density LOS Volume Avg Speed				Density LOS Volume Avg Speed				Density LOS Volume Avg Speed															
Route 378 EB Bridge	40.6	E	1718	21.48	45.4	E	1758	19.8	55.7	E	1784	16.4	36.3	E	1728	23.8	36.8	E	1755																																

Lagset Times	Existing Configuration/Striping												2025 No Build			2045 No Build			2025 Build (Concept 3B)			2045 Build (Concept 3B)			2025 Build (Concept 4)			2045 Build (Concept 4)			2025 Build (Concept 6)			2045 Build (Concept 6)			2025 Build (Concept 7)			2045 Build (Concept 7)		
	2019 Baseline												2025 No Build			2045 No Build			2025 Build (Concept 3B)			2045 Build (Concept 3B)			2025 Build (Concept 4)			2045 Build (Concept 4)			2025 Build (Concept 6)			2045 Build (Concept 6)			2025 Build (Concept 7)			2045 Build (Concept 7)		
	Model Time	Field Time	Dist (ft)	Diff (%)	Vehicles	Vehicles	Dist (ft)	Time (min)	Vehicles	Dist (ft)	Time (min)	Vehicles	Dist (ft)	Time (min)	Vehicles	Dist (ft)	Time (min)	Vehicles	Dist (ft)	Time (min)	Vehicles	Dist (ft)	Time (min)	Vehicles	Dist (ft)	Time (min)	Vehicles	Dist (ft)	Time (min)	Vehicles	Dist (ft)	Time (min)	Vehicles	Dist (ft)	Time (min)	Vehicles	Dist (ft)	Time (min)				
Route 378 EB - Start of Bridge to Past Morrison Ave	02:15	02:38	00:45	-15%	1005	818	2624	05:28	825	2620	05:20	1086	2669	01:31	1110	2667	01:31	308	3657	01:57	355	3657	02:03	366	3657	02:04	0	11157	23:41	0	11157	29:53	791	3828	06:39	931	3832	02:58				
Vanderburgh Ave SB - Morrison Ave to N Greenbush Rd	01:55	01:41	00:14	13%	286	243	3657	01:52	249	3657	01:53	301	3657	01:56	308	3657	01:57	366	3657	02:03	366	3657	02:04	13	3676	02:29	12	3676	02:21	12	3676	02:21	32	3834	02:04	34	3827	02:02				
Burden Ave NB - Morrison Ave to 4th St	01:38	01:06	00:32	48%	305	227	1984	03:49	234	1974	03:48	314	1977	01:31	320	1977	01:31	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	4	1974	01:09	4	1974	01:14	221	1974	03:56	277	1976	01:36							
Route 378 EB - model start to beginning of bridge	01:35	01:30	00:05	6%	393	363	6883	03:57	367	6894	04:28	351	6720	01:58	352	6720	01:58	375	7422	02:09	382	7422	02:09	158	6613	13:31	138	6613	15:25	498	6645	02:33	511	6645	02:31							
Route 378 WB - Bridge to model end	01:42	01:42	00:00	0%	138	144	7187	01:51	142	7196	01:52	120	8317	02:52	118	8312	02:53	121	9003	03:37	120	8958	03:38	0	0	00:00	0	0	00:00	189	7965	02:47	190	7985	02:48							
Start of model to end of Bridge EB	02:35	02:08	00:26	20%	391	364	8261	05:25	366	8272	05:57	350	8201	02:39	375	8877	02:48	382	8877	02:48	382	8877	02:48	139	7645	17:31	116	7645	17:49	488	7912	03:59	510	7912	03:52							
End of Bridge EB to Main St	02:58	03:28	00:30	-14%	305	228	3393	07:31	235	3322	07:24	304	3292	02:24	309	3314	02:27	717	2851	01:54	732	2839	01:56	67	12871	21:30	67	12864	21:43	442	4726	08:37	549	4653	03:13							
End of Bridge EB to Past Glenmore Rd/Route 4 Roundabout SB	04:23	05:36	01:12	-21%	232	189	6718	04:32	195	6749	04:34	245	6757	04:00	256	6737	04:01	292	7732	04:11	305	7742	04:14	125	4731	16:08	94	4735	17:38	459	5517	04:47	464	5497	04:54							
End of Bridge EB to North Dr	02:56	04:22	01:26	-33%	892	741	4084	03:09	742	4097	03:13	937	4105	02:31	961	4108	02:31	1076	5093	02:36	1099	5095	02:38	170	6973	19:39	145	6973	19:24	138	5382	03:59	148	5382	02:53							
Queue Lengths	Qlen (ft)	QlenMax (ft)	Ostops	Field Queue (ft)		Qlen (ft)	QlenMax (ft)	Ostops		Qlen (ft)	QlenMax (ft)	Ostops		Qlen (ft)	QlenMax (ft)	Ostops		Qlen (ft)	QlenMax (ft)	Ostops		Qlen (ft)	QlenMax (ft)	Ostops		Qlen (ft)	QlenMax (ft)	Ostops		Qlen (ft)	QlenMax (ft)	Ostops		Qlen (ft)	QlenMax (ft)	Ostops		Qlen (ft)	QlenMax (ft)	Ostops		
Route 378 EB - Bridge	1032.5	2387.1	2189	2,350		1828.8	2439.3	4182		1918.3	2439.6	4456		137.1	663.6	1427		143.7	715.7	1471		0.1	15.4	1		1.1	108.5	10		2407.6	2439.1	3298		2408.0	2439.1	2890		2135.0	2439.7	9907		
Morrison Avenue WB	2112.2	2295.0	1584	2100		1608.1	2295.5	1599		1681.3	2295.0	1649		77.6	314.5	430		80.5	333.3	438		50.3	290.2	110		46.1	274.5	108		21.9	135.5	44		20.6	124.5	42		42.0	205.0	81		
Burden Avenue SB	16.4	320.4	188			184.1	842.2	649		231.6	1035.1	722		22.9	408.9	207		24.5	400.5	256		0.0	0.0	0		0.0	4.9	0		1.5	106.6	22		1.4	114.5	23		1460.2	2324.3	2329		
Vanderburg NB at Morrison	109.9	669.5	358			218.7	1059.5	663		299.2	1276.8	812		9.9	243.3	115		57.7	302.2	249		56.1	297.4	251		4.1	119.6	31		5.2	118.3	25		4.3	168.5	47		4.9	162.3	49		
Morrison Avenue EB	60.9	237.8	309			53.3	236.8	246		50.2	256.8	241		77.0	317.5	507		80.6	368.8	514		86.5	272.0	318		90.5	273.6	323		42.4	228.5	53		64.3	330.9	65		99.0	399.6	183		
Vanderburg SB at North Drive	4.9	192.9	114			4.1	192.9	85		4.6	195.7	88		6.2	202.2	132		5.4	199.9	121		11.6	402.4	196		18.4	551.1	212		134.8	509.9	108		236.5	875.3	119		0.8	62.7	22		
Roundabout Approach - Route 136 EB	1.2	62.7	16			1.4	68.4	15		1.9	88.9	17		1.9	80.8	18		2.7	85.0	22		3.5	100.8	25		4.3	102.0	31		2407.6	2439.1	3298		2408.0	2439.1	2890		1190.2	1945.4	5847		
Roundabout Approach - Route 4 NB	973.9	2003.8	3018			1082.3	2150.7	3260		1432.2	2283.4	4169		1606.4	2431.5	4232		1732.3	2433.4	4394		1958.8	2436.8	4391		2051.7	2437.3	4512		2369.6	2437.8	2468		2367.8	2434.7	2098		2271.6	2436.5	2742		
Roundabout Approach - Route 136 WB Right	28.2	356.1	143			48.0	426.2	219		45.8	426.2	215		31.1	312.2	163		29.4	294.7	167		31.7	377.4	171		29.6	286.5	164		535.8	1209.3	618		627.2	1382.4	673		13.0	300.9	111		
Roundabout Approach - Route 136 WB Thru/Left	4.6	185.4	29			9.3	231.5	42		12.2	299.9	52		5.6	164.6	31		4.0	155.4	27		5.4	195.5	33		6.0	214.2	30		535.8	1209.3	618		627.2	1382.4	673		13.0	300.9	111		
Roundabout Approach - Route 4 SB Left	13.4	263.0	142			12.4	278.4	125		15.3	292.4	144		18.6	281.9	173		21.4	337.6	198		35.8	467.2	300		37.5	467.2	300		428.5	1214.8	433		581.5	1386.9	310		4.7	128.4	58		
Roundabout Approach - Route 4 SB Thru/Right	5.6	256.5	55			5.7	240.3	50		5.4	263.8	95		7.8	270.8	71		8.8	324.1	80		17.6	429.0	137		19.2	417.4	142		428.5	1214.8	433		581.5	1386.9	310		4.7	128.4	58		
Mill Street WB	18.5	211.5	146			1.3	63.9	19		1.1	79.2	16		22.1	211.8	169		12.2	180.9	112		0.0	0.0	0		0.0	0.0	0		0.0	14.7	1		0.0	14.7	56		4.5	144.7	56		
High Street NB Thru @ Mill Street	73.8	676.4	325			1159.8	1412.3	3493		1132.5	1414.6	3385		86.4	588.6	397		93.4	599.4	429		6.5	179.1	54		8.0	157.6	57		0.2	19.0	2		0.3	23.8	3		1536.1	2434.0	4046		
High Street NB Right @ Mill Street	0.3	67.2	3			34.1	143.5	82		39.9	142.8	113		0.1	35.6	1		0.6	54.5	2		#N/A	#N/A	#N/A		#N/A	#N/A	#N/A		0.0	0.0	0		0.0	0.0	0		0.0	0.0	0		
Water Street @ Mill Street	2.1	38.2	4			2.1	35.8	4		2.1	35.8	4		1.9	42.0	4		1.5	35.7	4		#N/A	#N/A	#N/A		#N/A	#N/A	#N/A		1.2	35.8	4		1.2	35.8	4		2.4	35.9	5		
Data Collection	Actual Volumes	Processed Volumes	Avg Speed (mph)	GEH		Actual Volumes	Processed Volumes	Avg Speed (mph)		Actual Volumes	Processed Volumes	Avg Speed (mph)		Processed Vehicles	Avg Speed (mph)		Processed Vehicles	Avg Speed (mph)		Processed Vehicles	Avg Speed (mph)		Processed Vehicles	Avg Speed (mph)		Processed Vehicles	Avg Speed (mph)		Processed Vehicles	Avg Speed (mph)		Processed Vehicles	Avg Speed (mph)		Processed Vehicles	Avg Speed (mph)		Processed Vehicles	Avg Speed (mph)			
High Street NB @ Morrison Ave	2485	2372	17.5	2.3		1952	16.8			1955	16.9			1106	22.9		1134	22.7			110	16.4			112	16.6			0	0.0			1199	15.1		1368	21.9					
Morrison Ave EB @ Vanderburgh Ave	935	902	19.7	1.1		755	19.5			759	19.7			958	15.5		979	15.5			464	17.0			470	17.0			192	22.1			186	21.8		303	17.9					

ATTACHMENT 3-8 VISUM Results

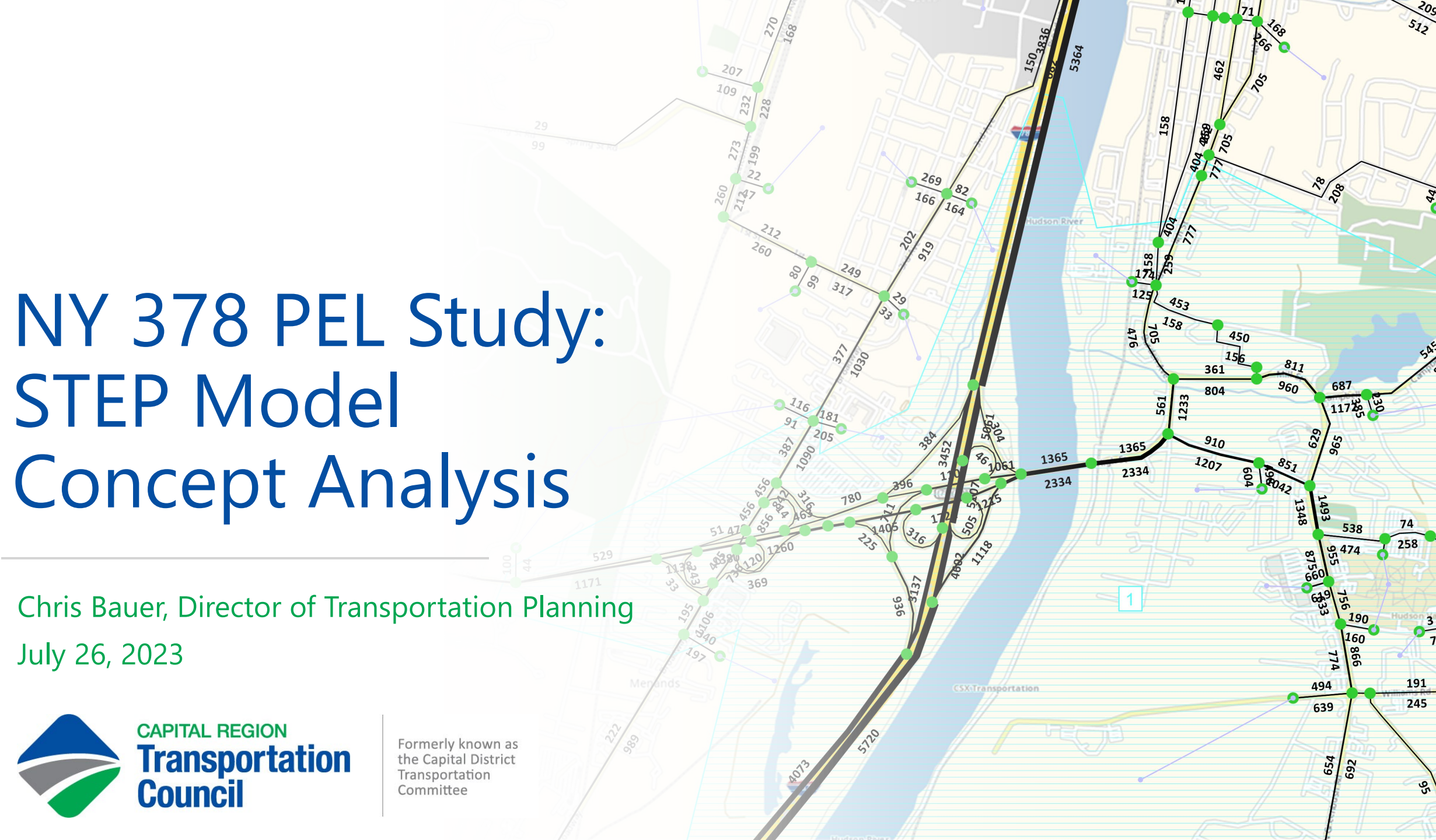


NY 378 PEL Study: STEP Model Concept Analysis

Chris Bauer, Director of Transportation Planning
July 26, 2023

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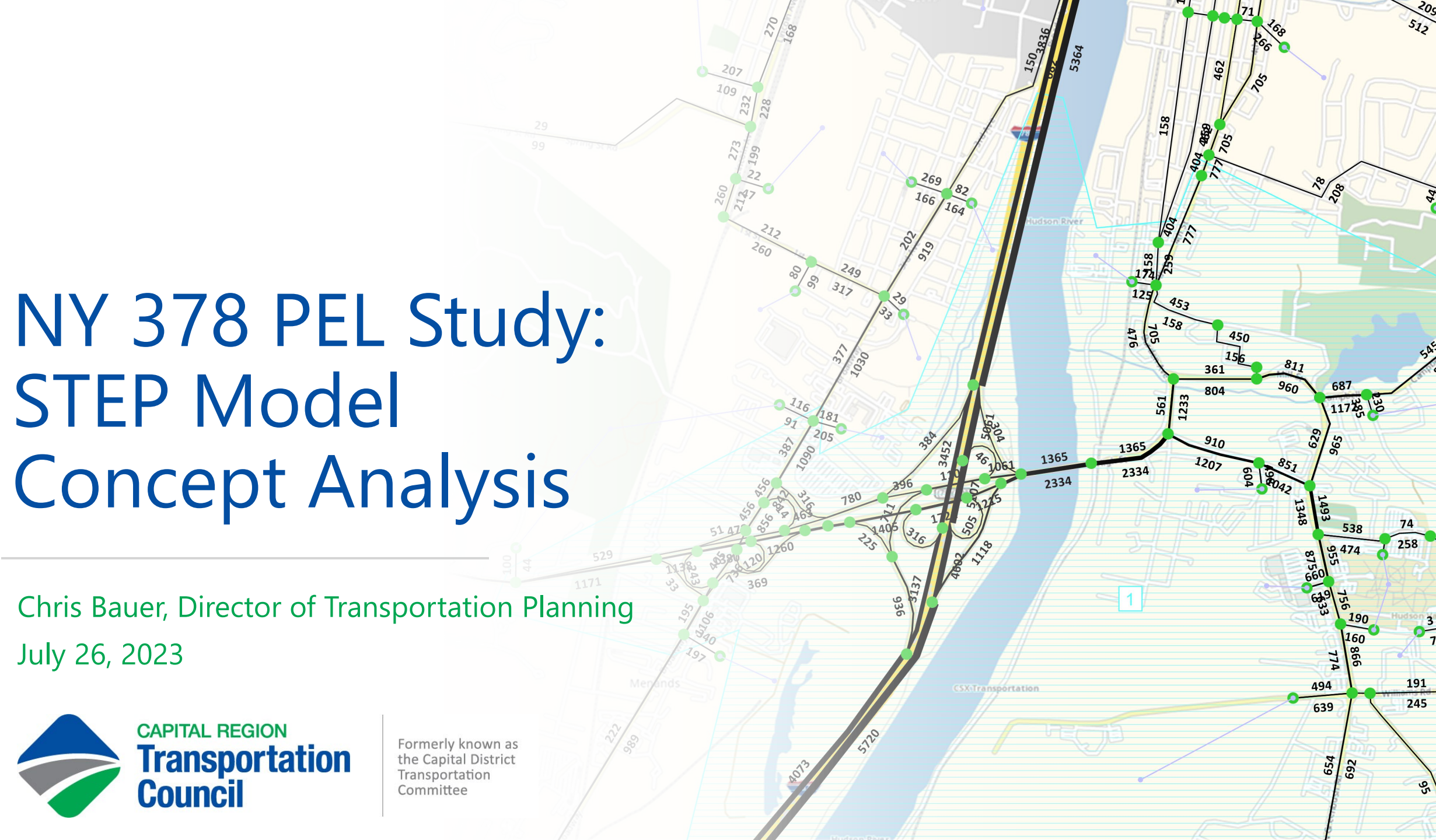


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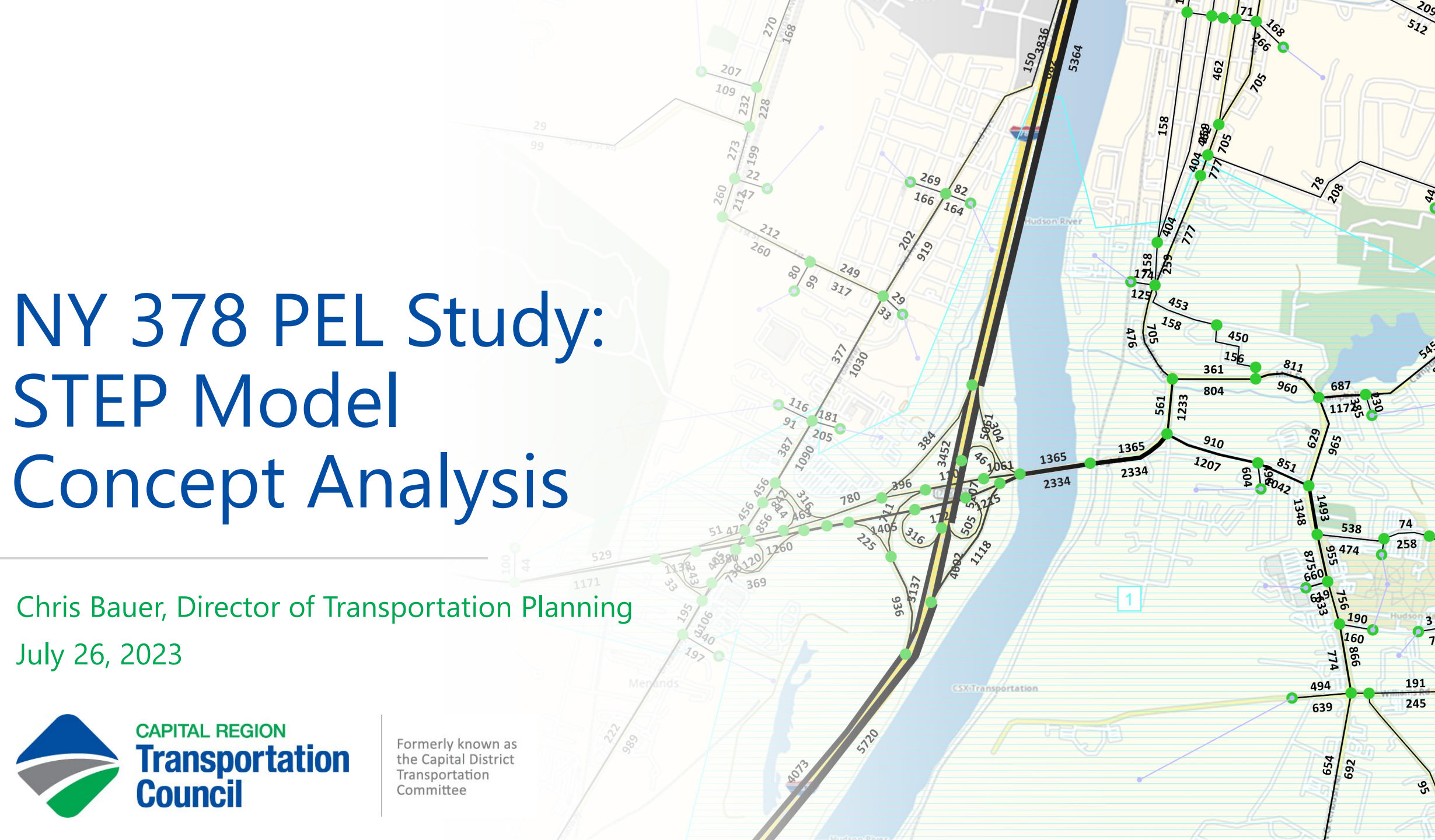
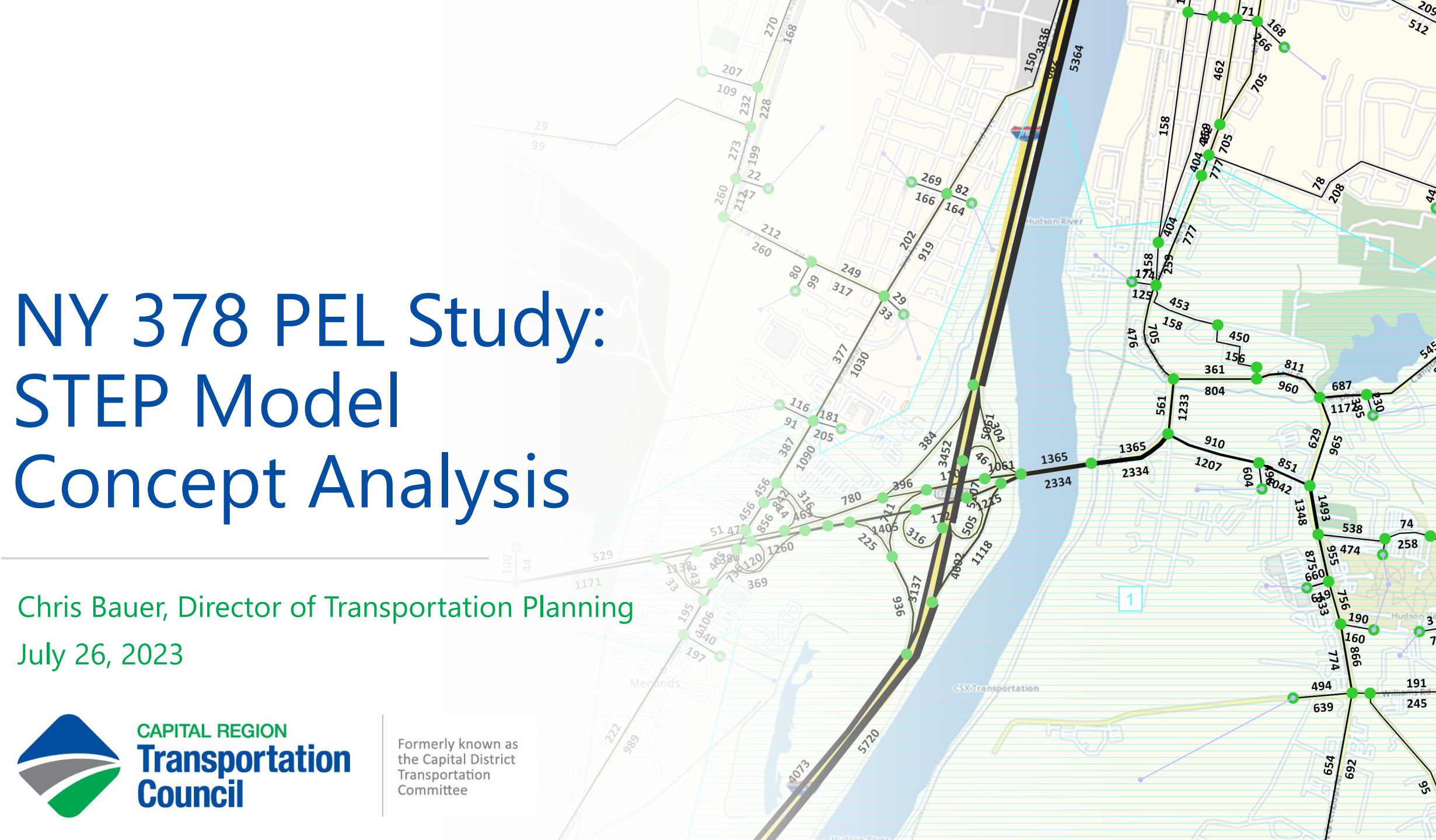


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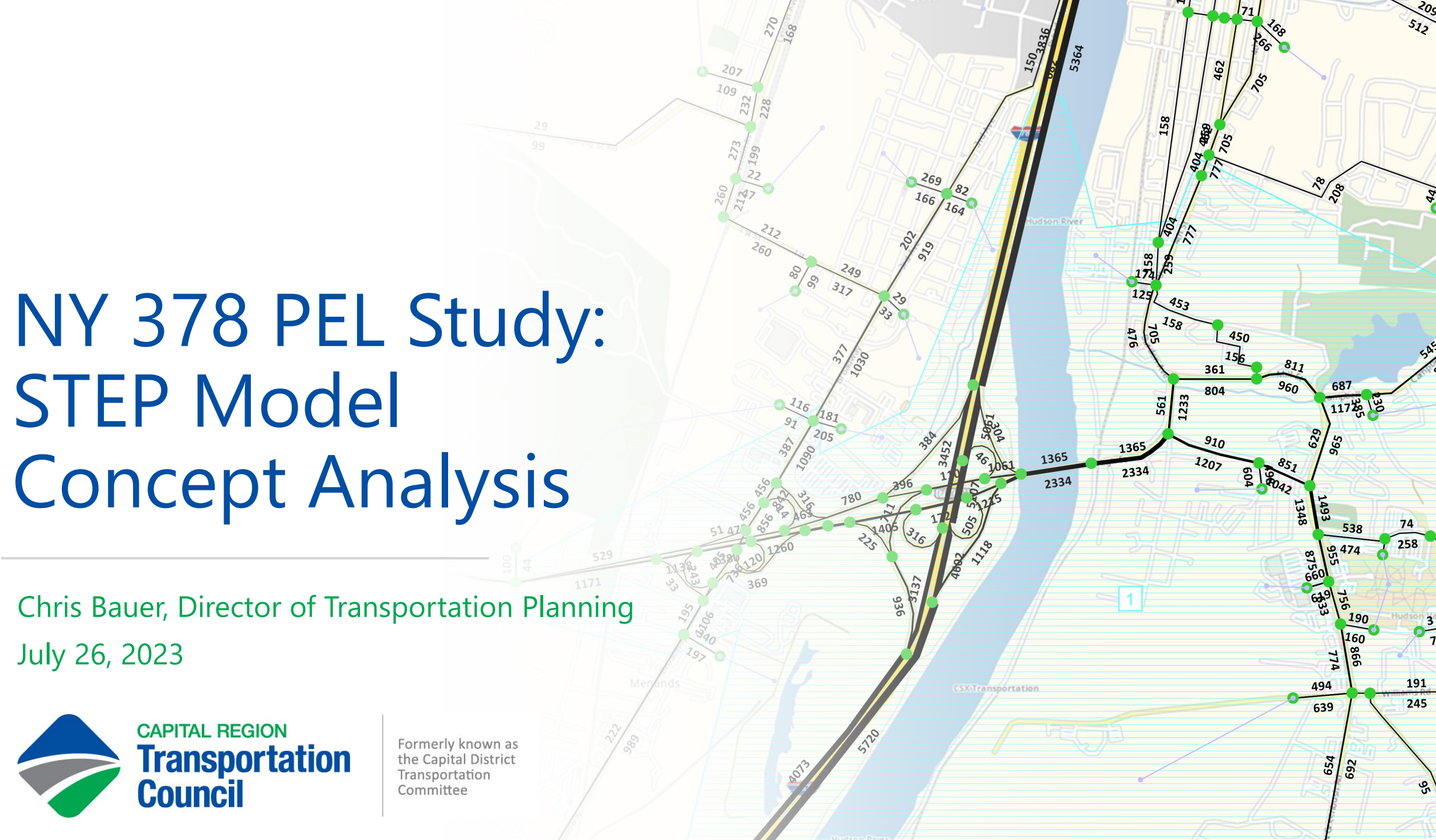


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Transportation Council STEP Model

- **S**ystematic **T**ransportation **E**valuation and **P**lanning Model
- Macro, regional-level model implemented in PTV Group's Visum software
- Includes Albany, Rensselaer, Saratoga, and Schenectady Counties
 - Divided into 1,000 Traffic Analysis Zones (TAZs)
- Network includes all Federal Aid eligible roadways and some higher-order local roadways
 - Approximately 12,500 roadway links
 - Does not include all roads
- Trips are generated using population and employment projections
 - Capital District Regional Planning Commission projections
 - US Census data
- Assumes drivers have perfect knowledge of all potential routes and will always choose the shortest (time) route



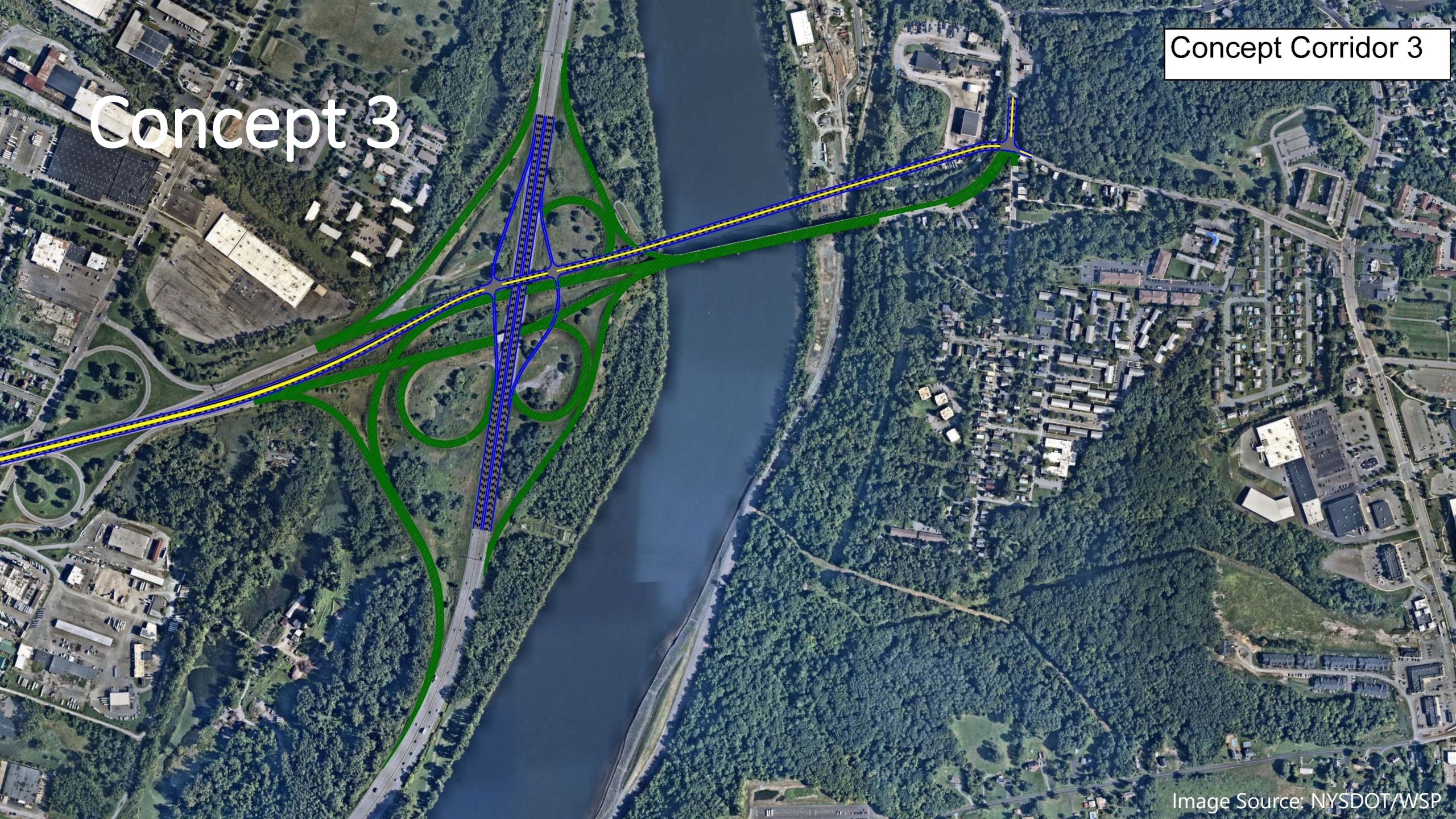
Scope of Concept Modeling Task

Concepts	Time Periods	Analysis Years
3	AM Peak Hour	2025
4	PM Peak Hour	2045
6		
7		
(as representative)		

- Total = 16 Scenarios
- Travel Demand Analysis:
 - Alignments for NY 378 were changed, all other roadways and attributes remained the same
 - Order-of-magnitude changes – not for precise traffic planning
- PTV VISSIM files transmitted to NYSDOT/WSP for meso- and micro-level traffic analyses

Concept 3

Concept Corridor 3



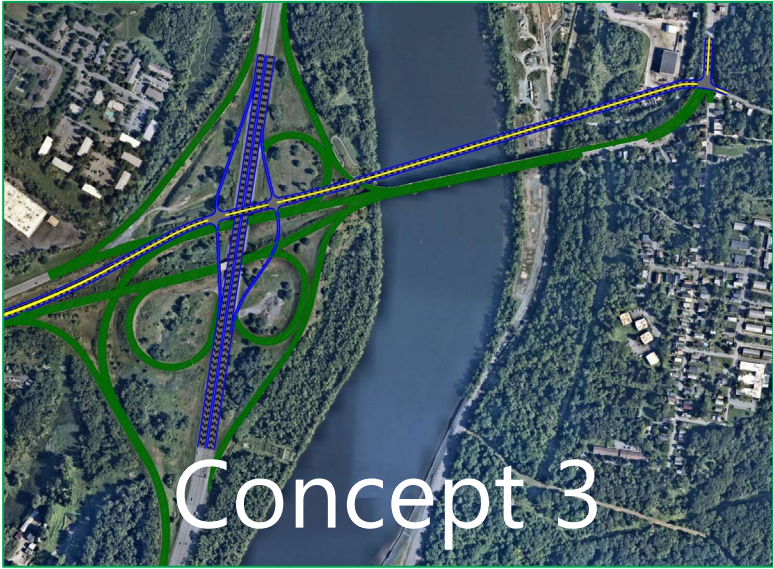
2025 AM Peak Hour

Concept 3: 2025 AM Peak Hour Changes from Base

NY 7	Collar City	10
	Bridge	30
Green Island	Green Island	0
	Bridge	10
NY 2	Congress St	-10
	Bridge	10
NY 378	Troy-Menands	60
	Bridge	-10
I-90	Patroon Island	-20
	Bridge	-10

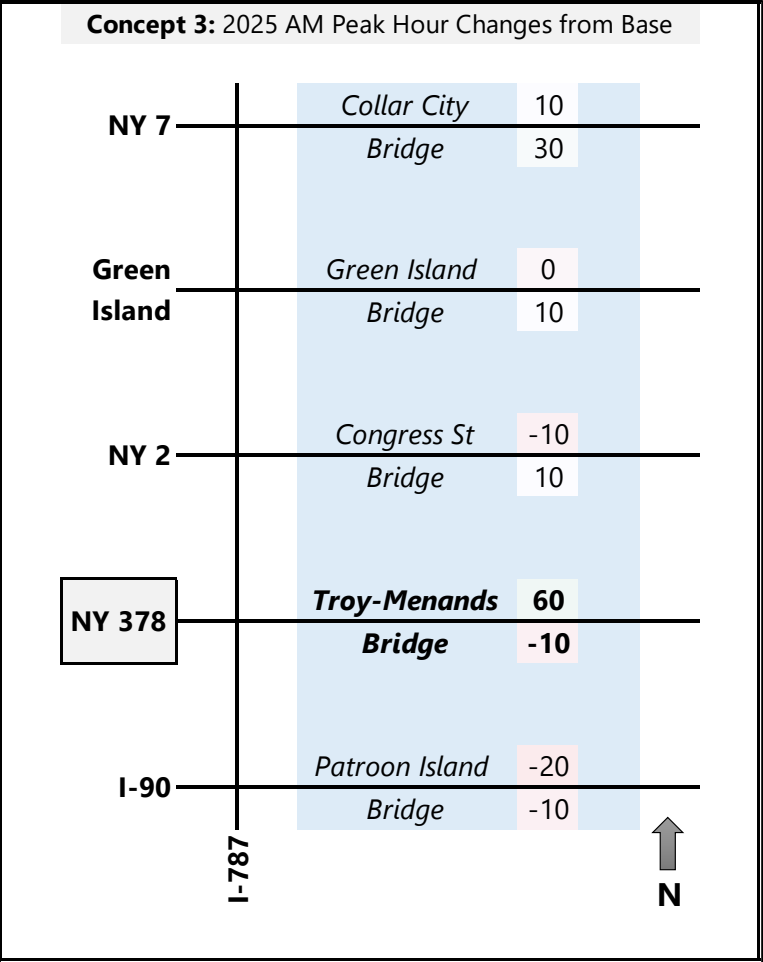
I-787

N

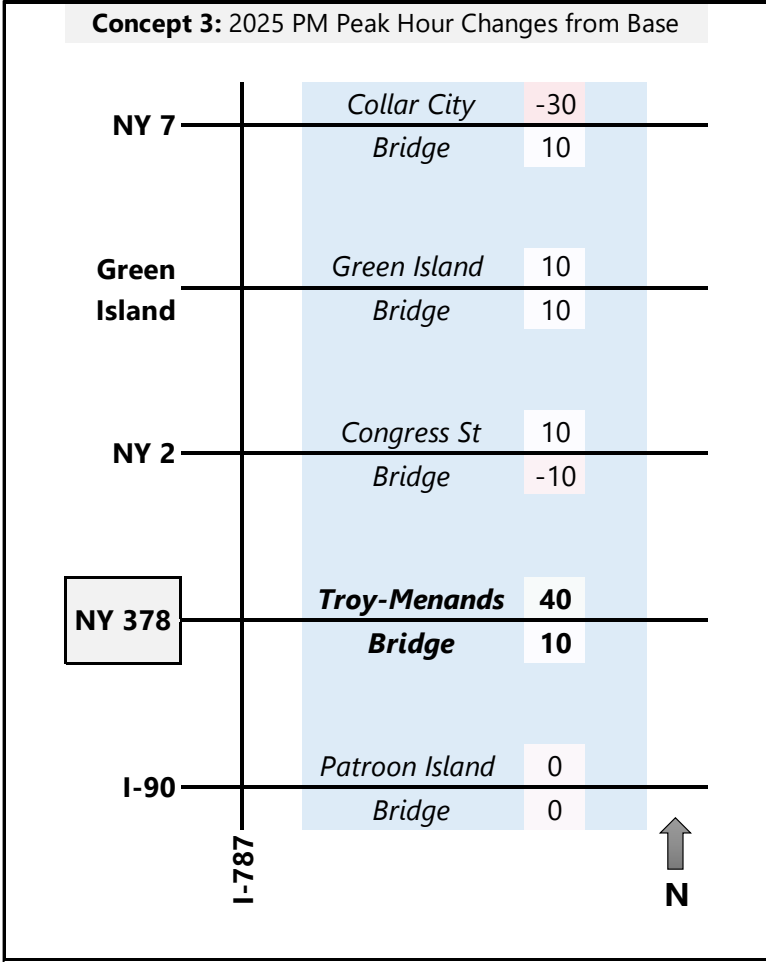
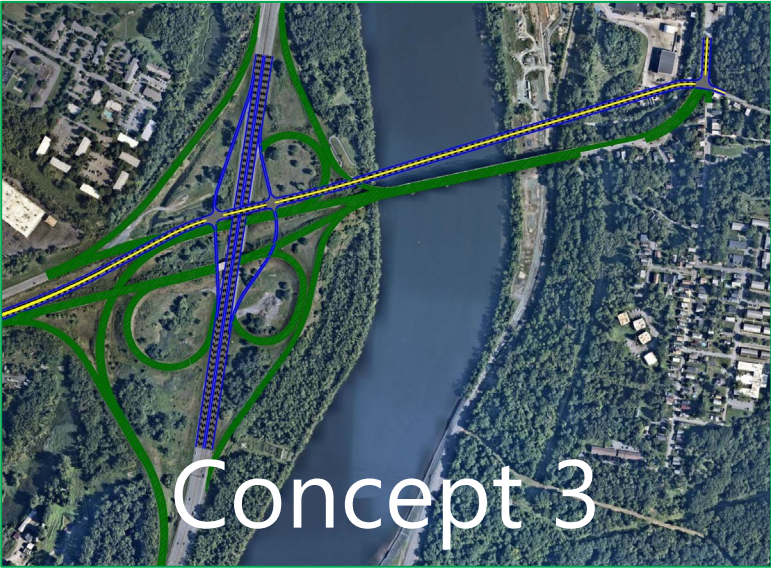


Concept 3

2025 AM Peak Hour



2025 PM Peak Hour



2025 AM Peak Hour

Concept 3: 2025 AM Peak Hour Changes from Base

NY 7	Collar City	10
	Bridge	30
Green Island	Green Island	0
	Bridge	10
NY 2	Congress St	-10
	Bridge	10
NY 378	Troy-Menands	60
	Bridge	-10
I-90	Patroon Island	-20
	Bridge	-10

I-787

N

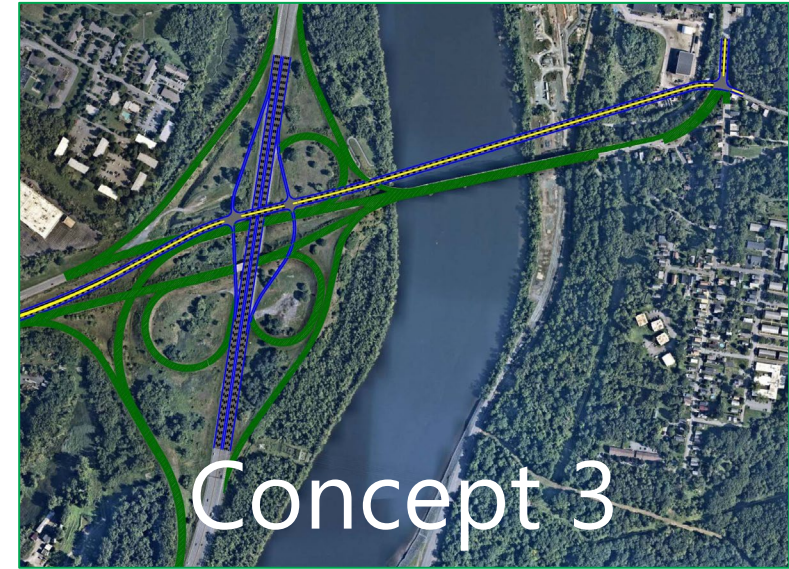
2025 PM Peak Hour

Concept 3: 2025 PM Peak Hour Changes from Base

NY 7	Collar City	-30
	Bridge	10
Green Island	Green Island	10
	Bridge	10
NY 2	Congress St	10
	Bridge	-10
NY 378	Troy-Menands	40
	Bridge	10
I-90	Patroon Island	0
	Bridge	0

I-787

N



Observations

- Hudson River crossings operate as a system
- STEP Model suggests:
 - Travel patterns for Concept 3 largely the same as current condition
 - Traffic volume changes are nominal

Concept 4

Concept Corridor 4

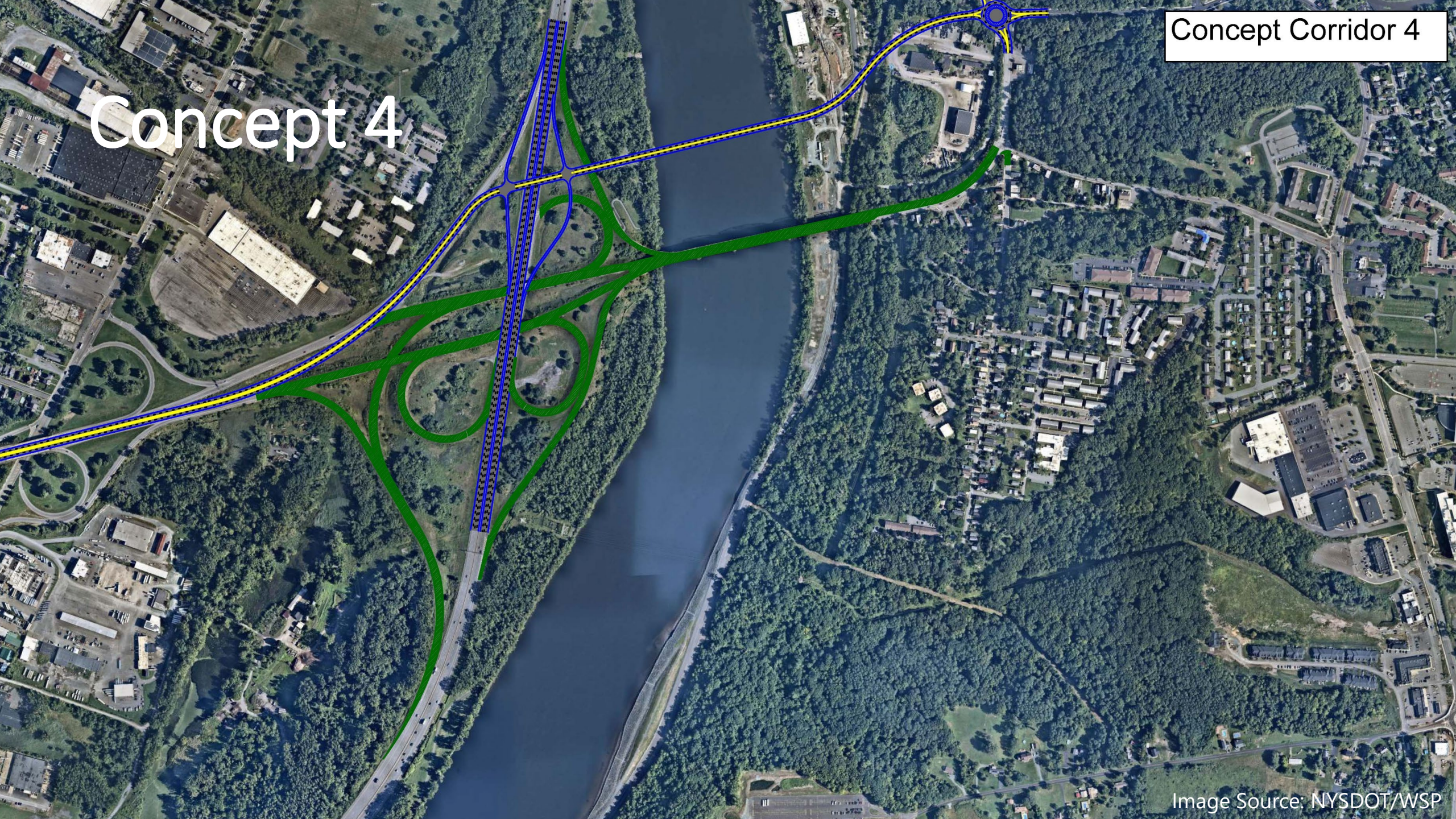
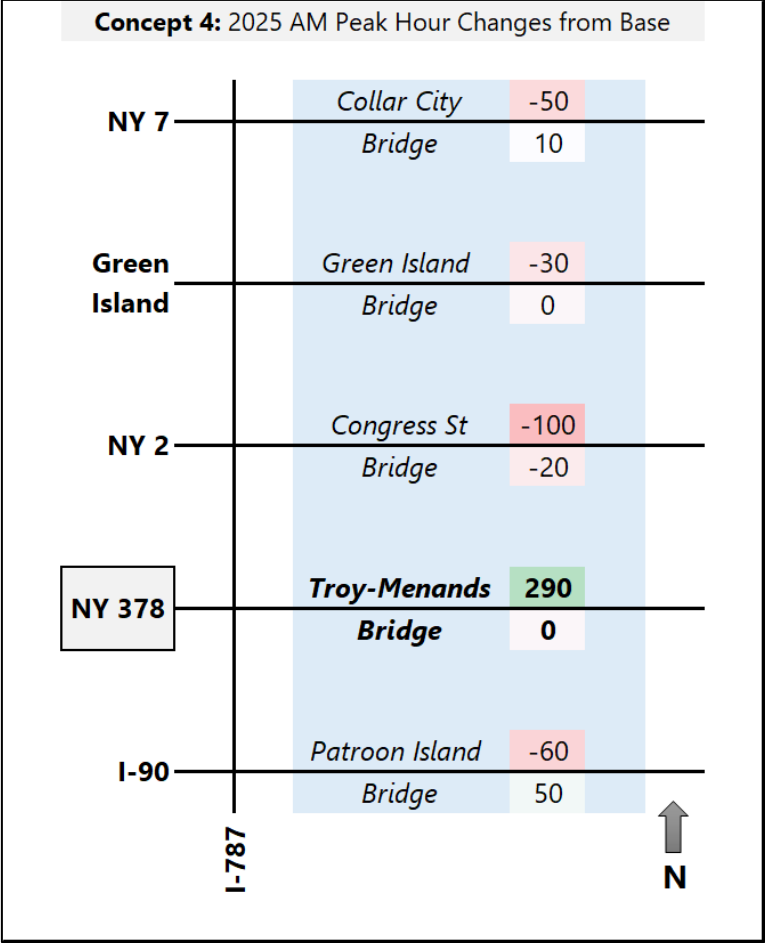
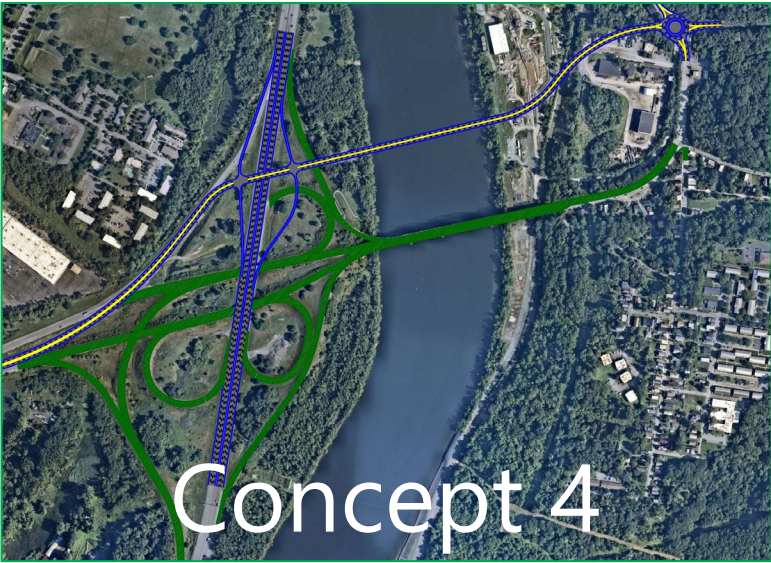
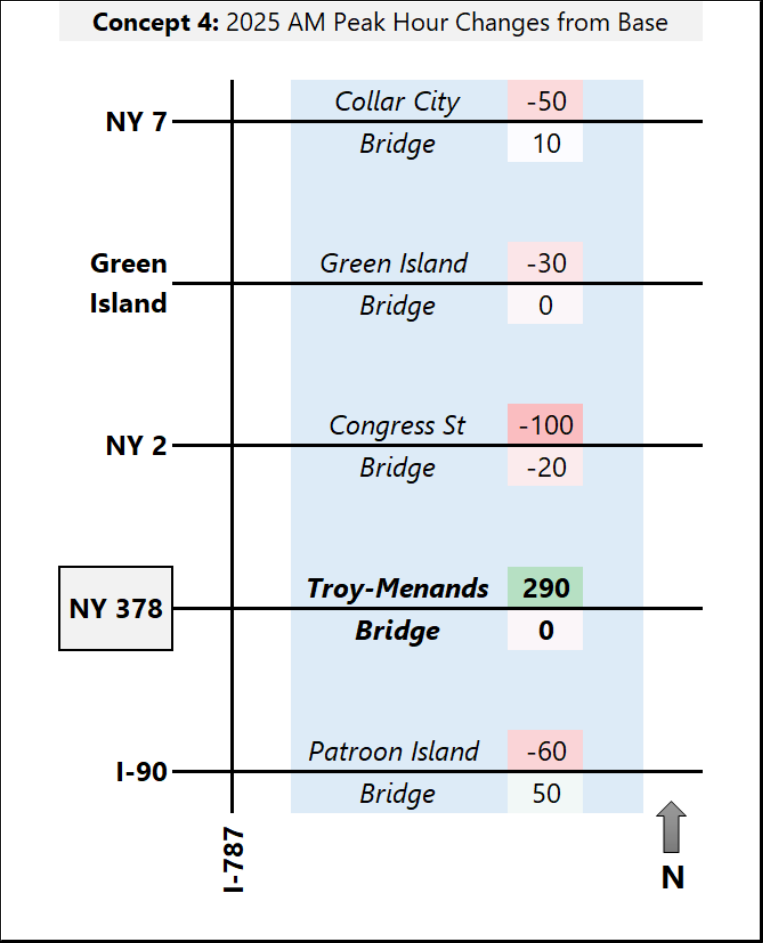


Image Source: NYSDOT/WSP

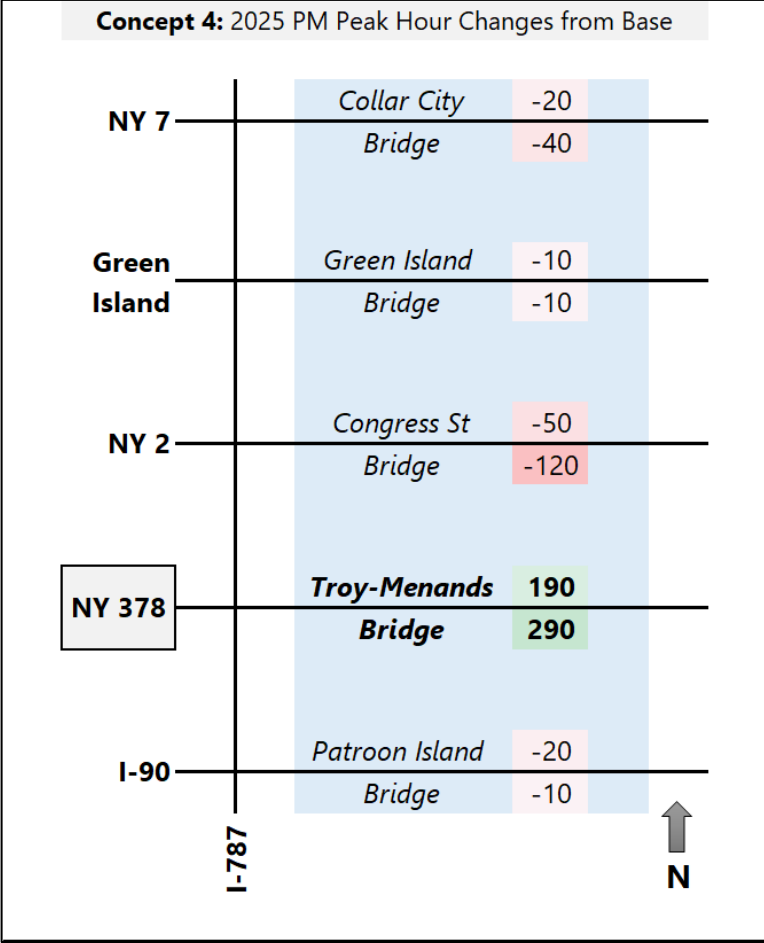
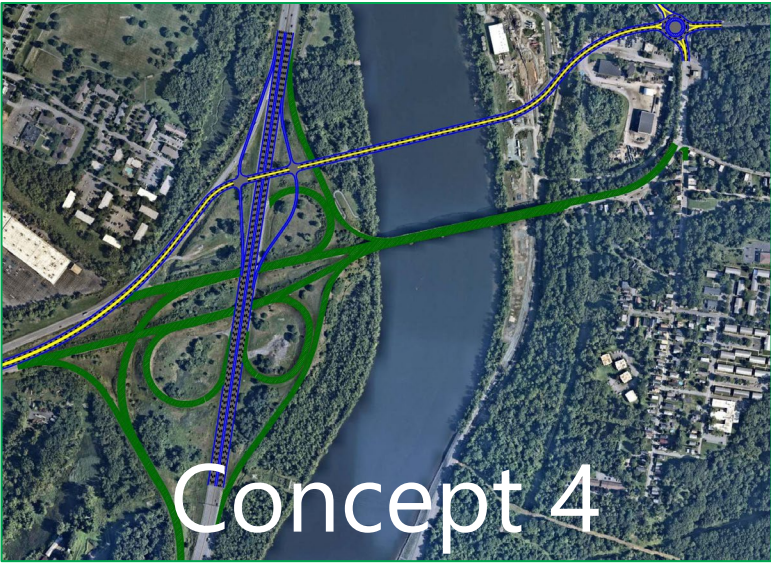
2025 AM Peak Hour



2025 AM Peak Hour



2025 PM Peak Hour



2025 AM Peak Hour

Concept 4: 2025 AM Peak Hour Changes from Base

NY 7	Collar City	-50
	Bridge	10
Green Island	Green Island	-30
	Bridge	0
NY 2	Congress St	-100
	Bridge	-20
NY 378	Troy-Menands	290
	Bridge	0
I-90	Patroon Island	-60
	Bridge	50

I-787

N

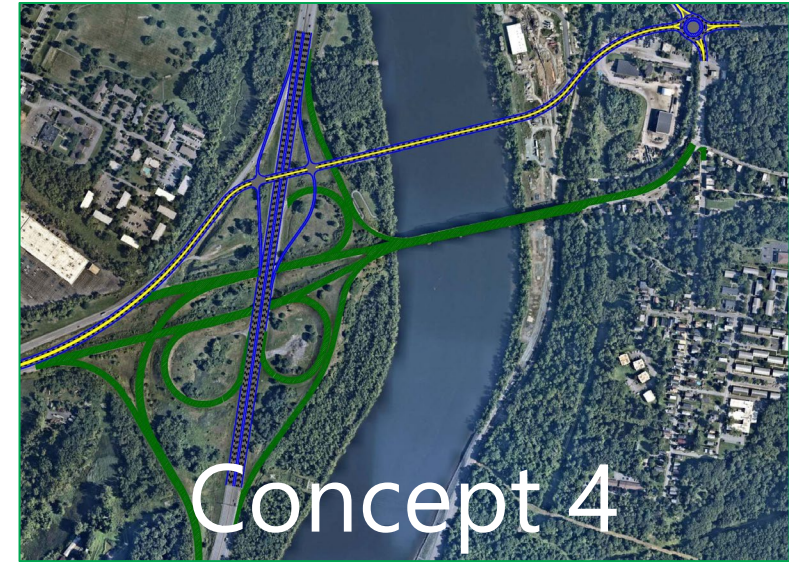
2025 PM Peak Hour

Concept 4: 2025 PM Peak Hour Changes from Base

NY 7	Collar City	-20
	Bridge	-40
Green Island	Green Island	-10
	Bridge	-10
NY 2	Congress St	-50
	Bridge	-120
NY 378	Troy-Menands	190
	Bridge	290
I-90	Patroon Island	-20
	Bridge	-10

I-787

N

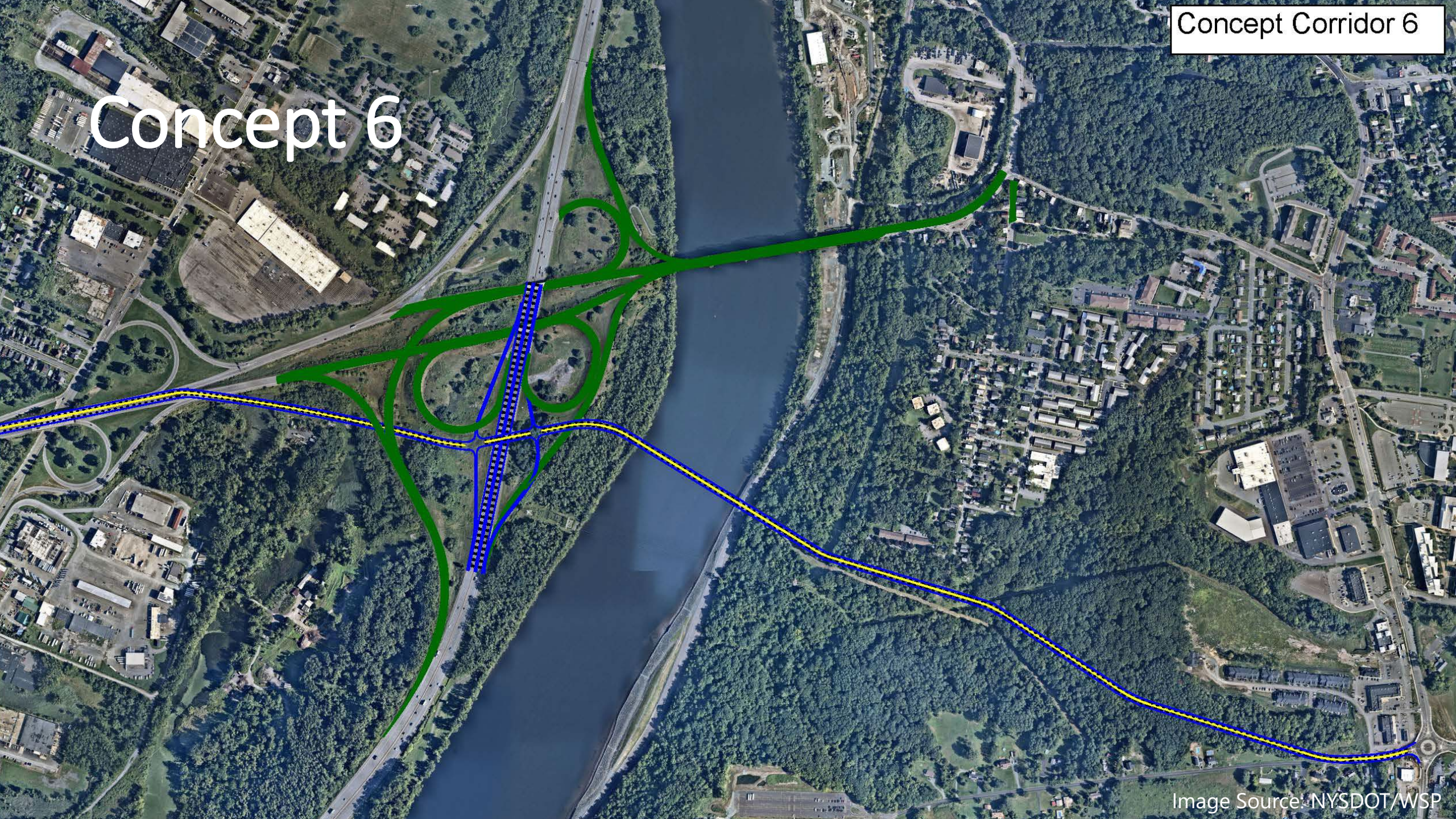


Observations

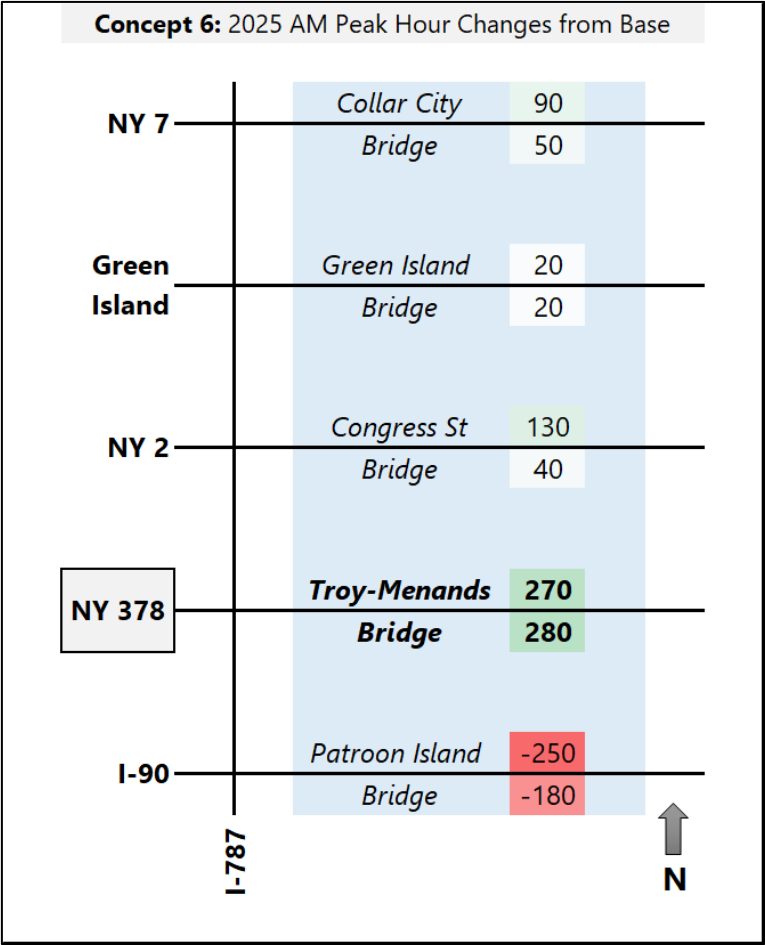
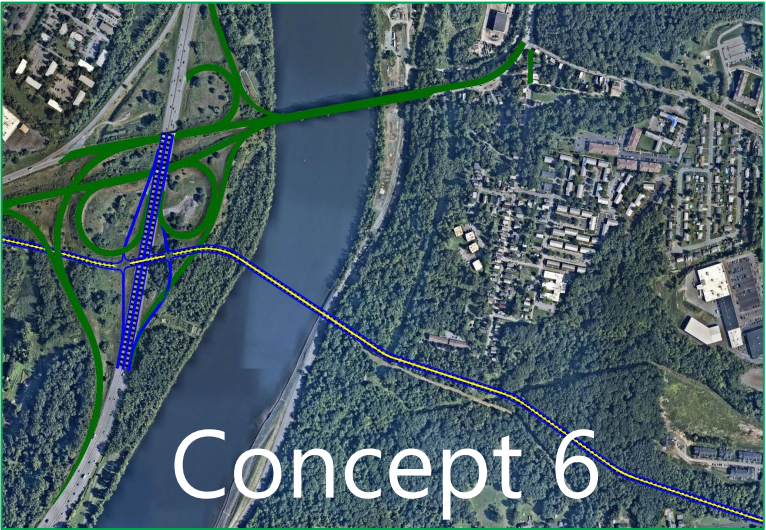
The STEP Model suggests:

- AM westbound traffic volumes would increase on NY 378
- PM traffic volumes would increase on NY 378 in both directions
- Traffic volumes decrease to the greatest extent on NY 2/Congress St Bridge

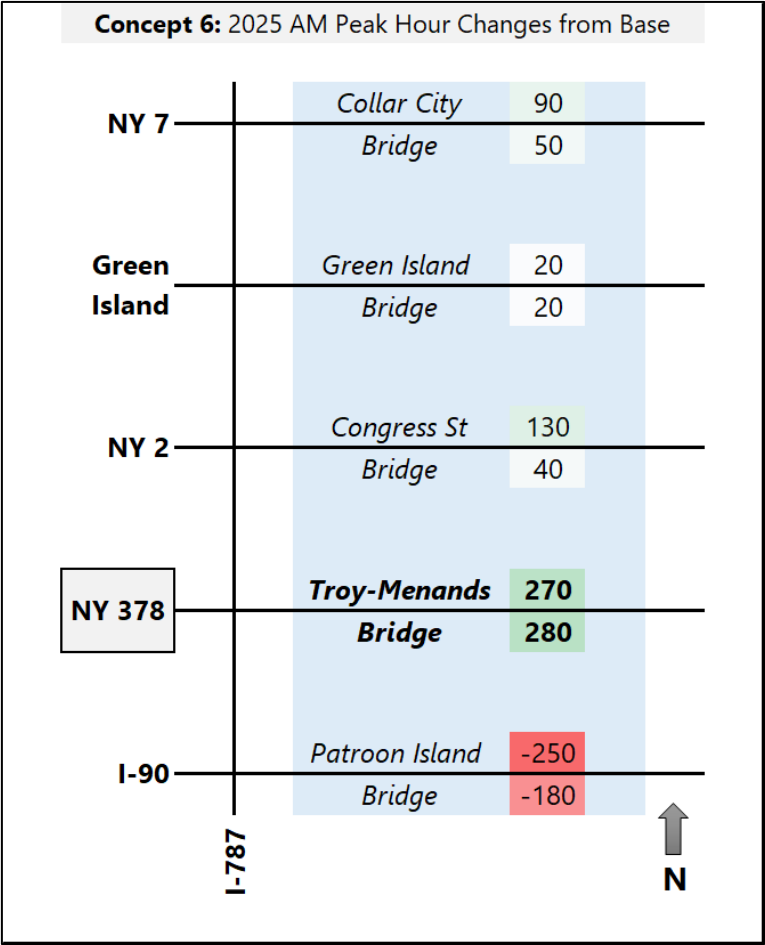
Concept 6



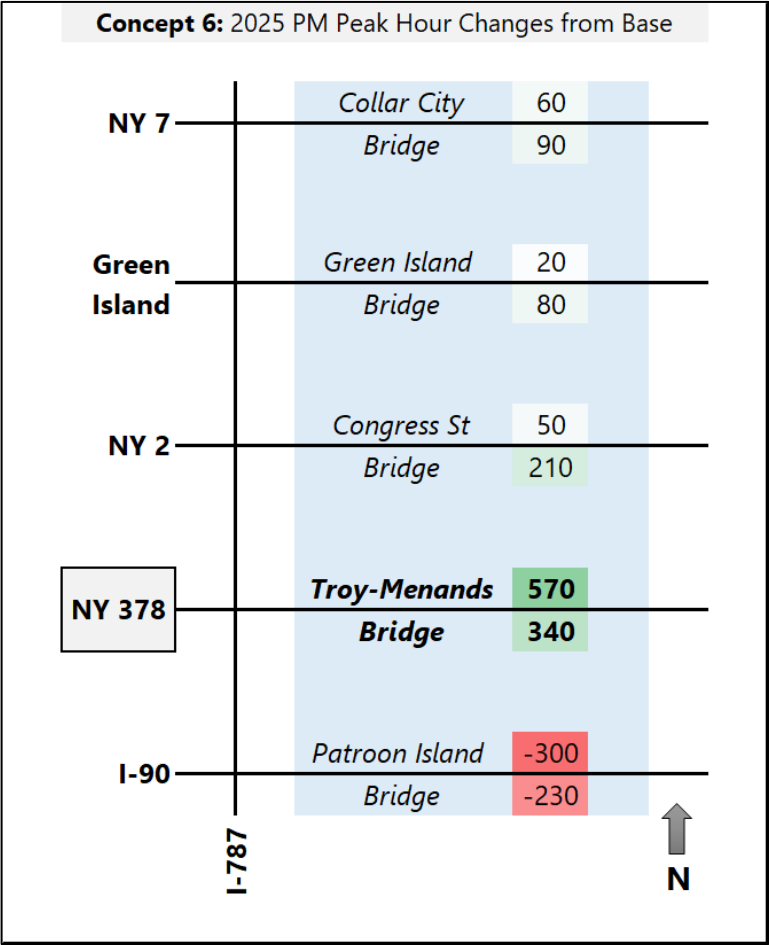
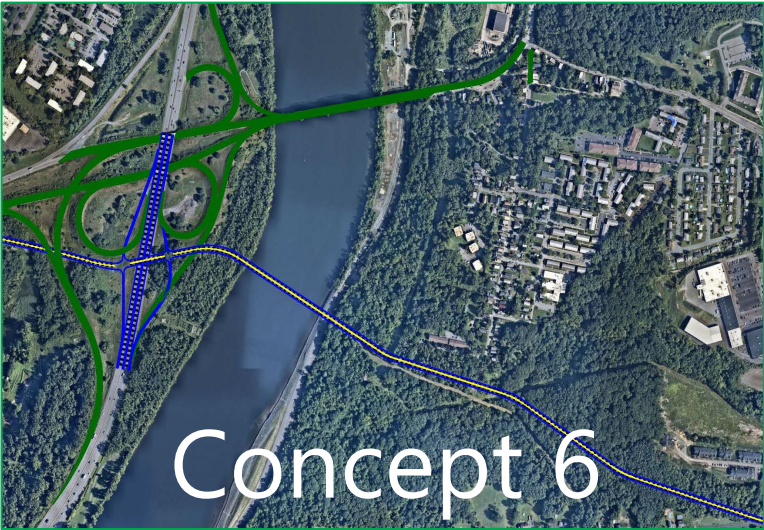
2025 AM Peak Hour



2025 AM Peak Hour



2025 PM Peak Hour



2025 AM Peak Hour

Concept 6: 2025 AM Peak Hour Changes from Base

NY 7	Collar City	90
	Bridge	50
Green Island	Green Island	20
	Bridge	20
NY 2	Congress St	130
	Bridge	40
NY 378	Troy-Menands	270
	Bridge	280
I-90	Patroon Island	-250
	Bridge	-180

I-787

N

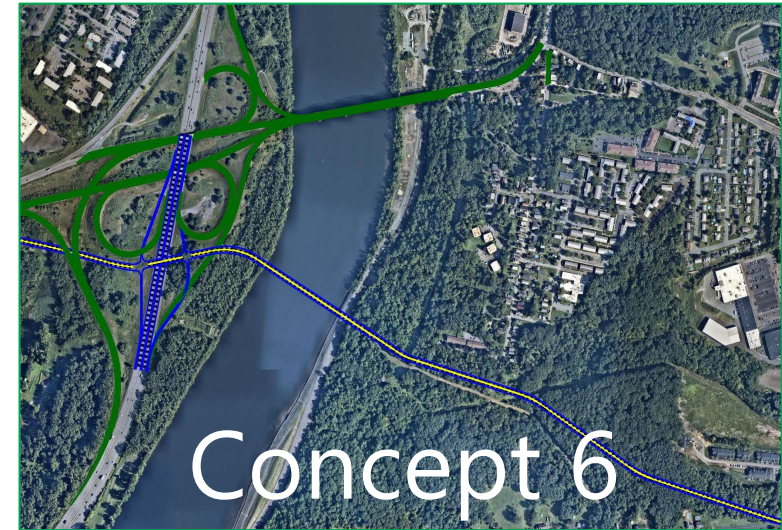
2025 PM Peak Hour

Concept 6: 2025 PM Peak Hour Changes from Base

NY 7	Collar City	60
	Bridge	90
Green Island	Green Island	20
	Bridge	80
NY 2	Congress St	50
	Bridge	210
NY 378	Troy-Menands	570
	Bridge	340
I-90	Patroon Island	-300
	Bridge	-230

I-787

N

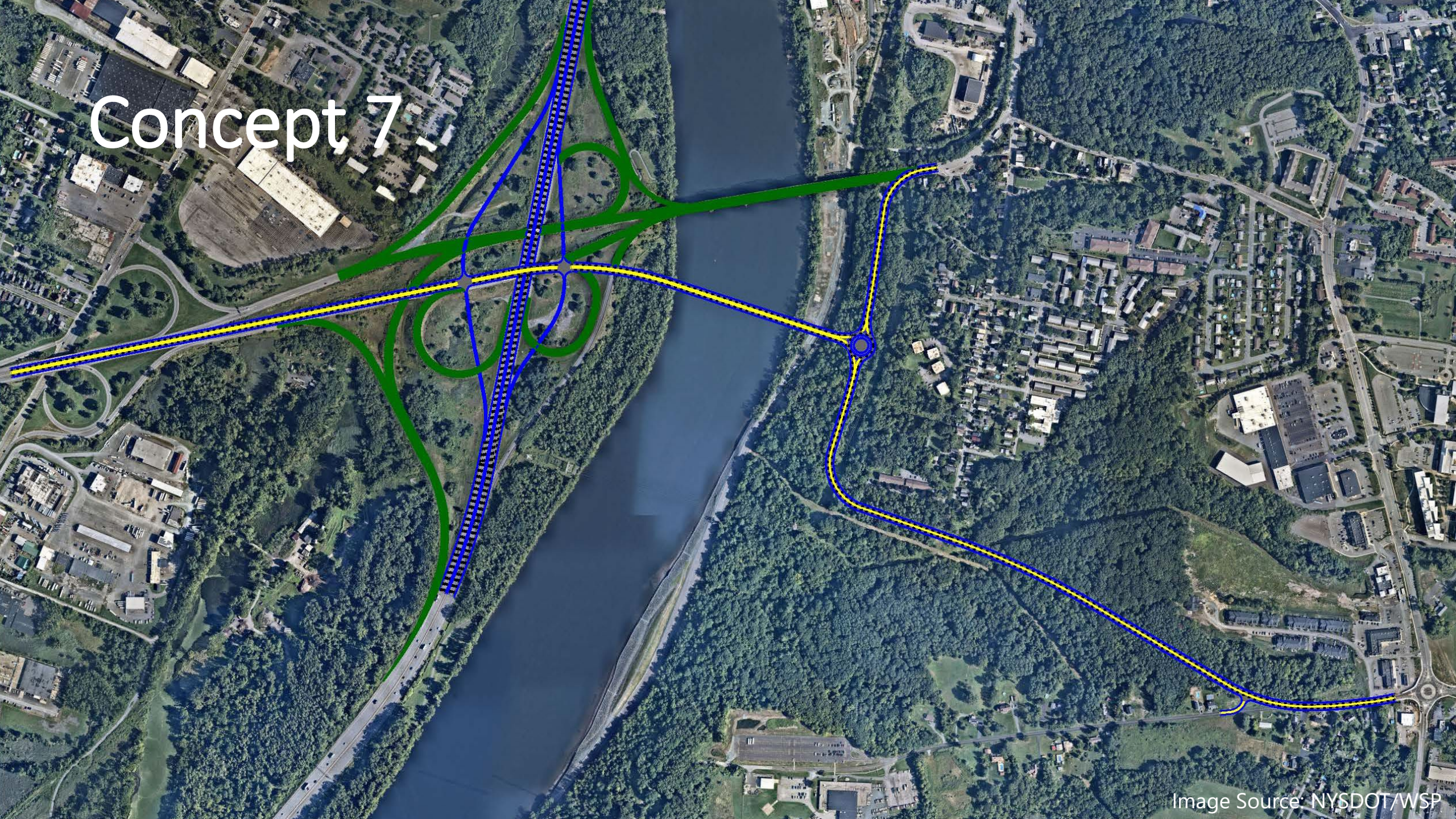


Observations

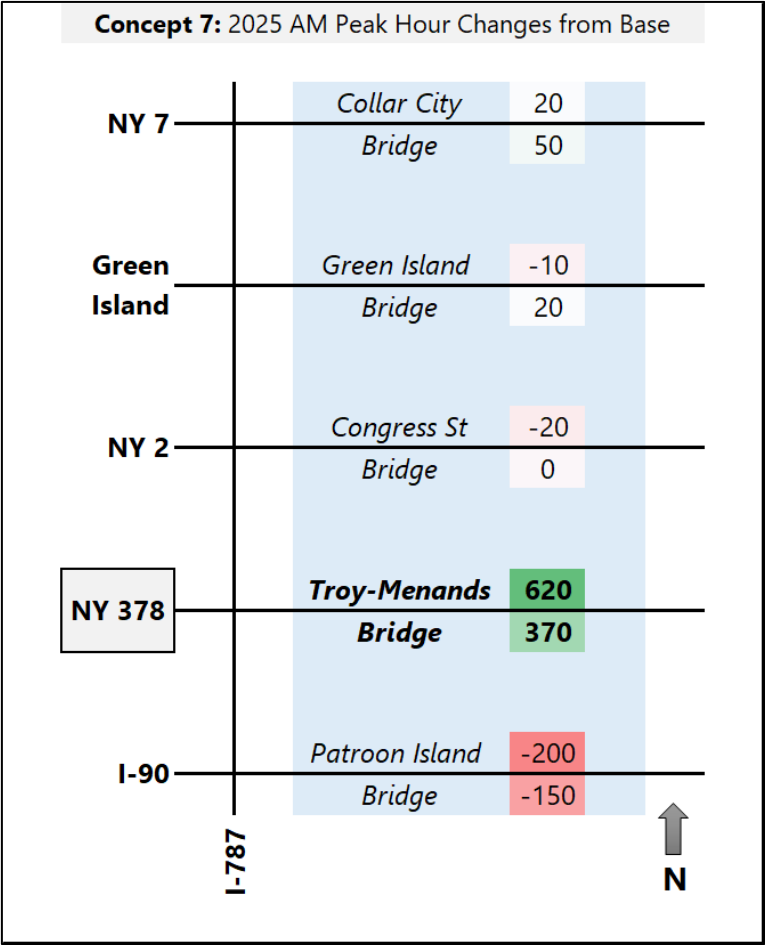
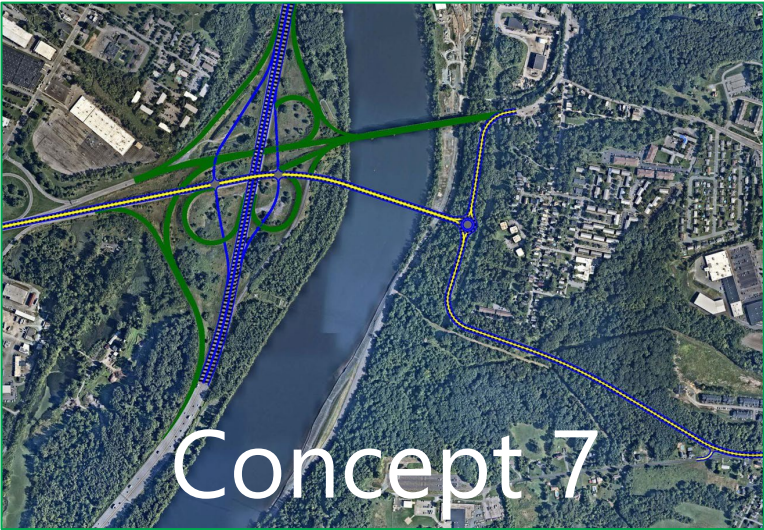
The STEP Model suggests:

- AM and PM peak hour traffic volumes would increase on NY 378 in both directions
- Traffic volumes increase to the greatest extent on NY 2/Congress St Bridge
- Traffic volumes decrease to the greatest extent on I-90/Patroon Island Bridge

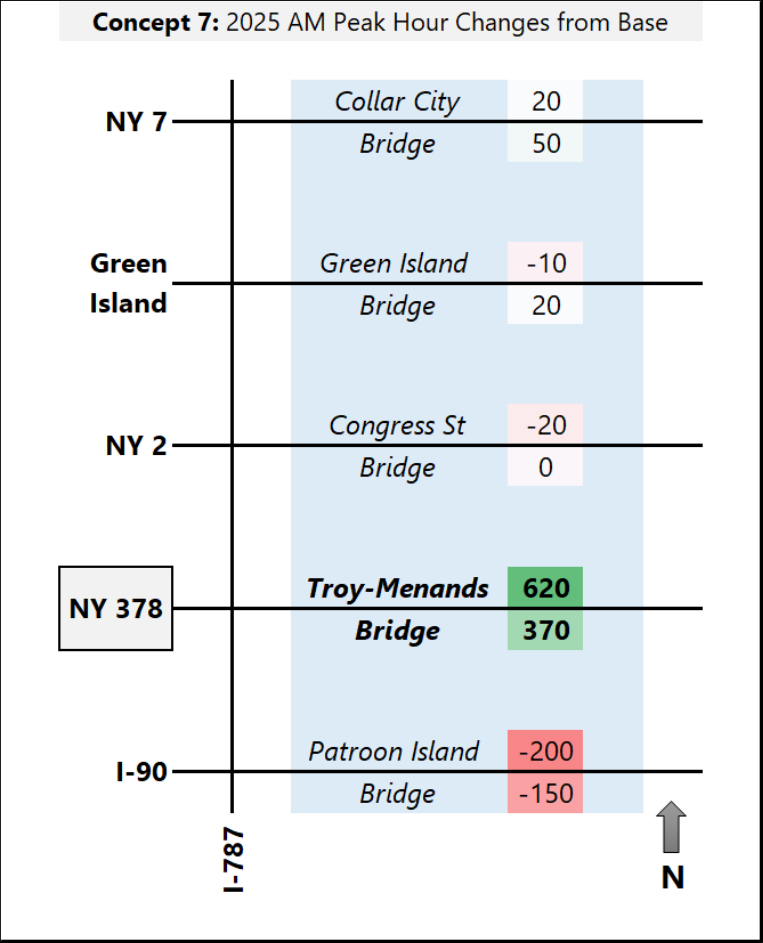
Concept 7



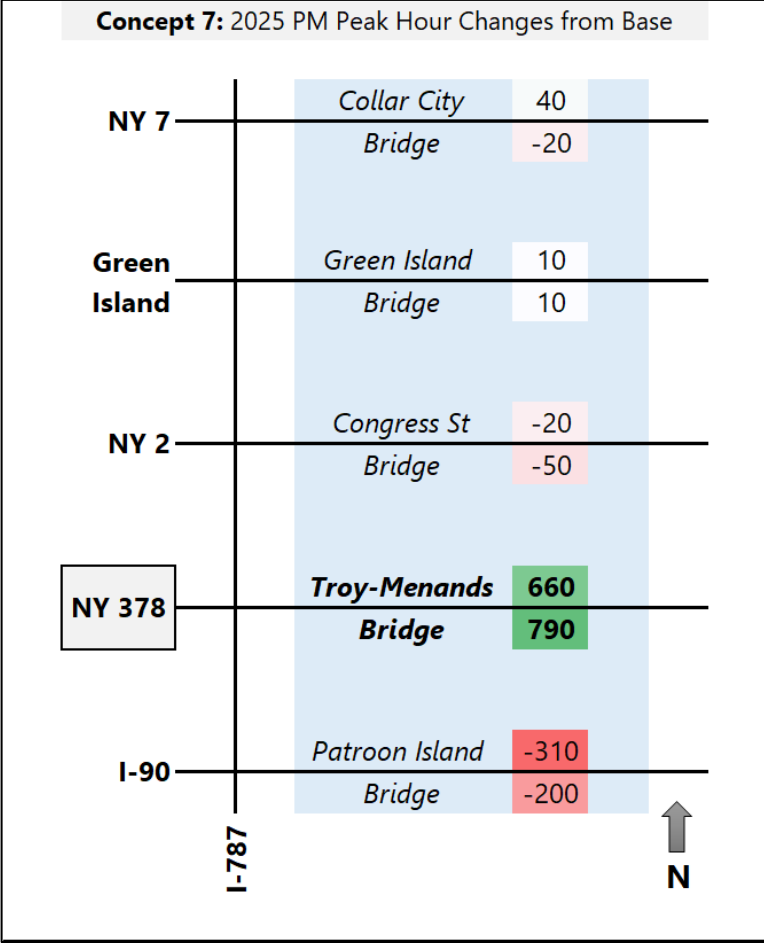
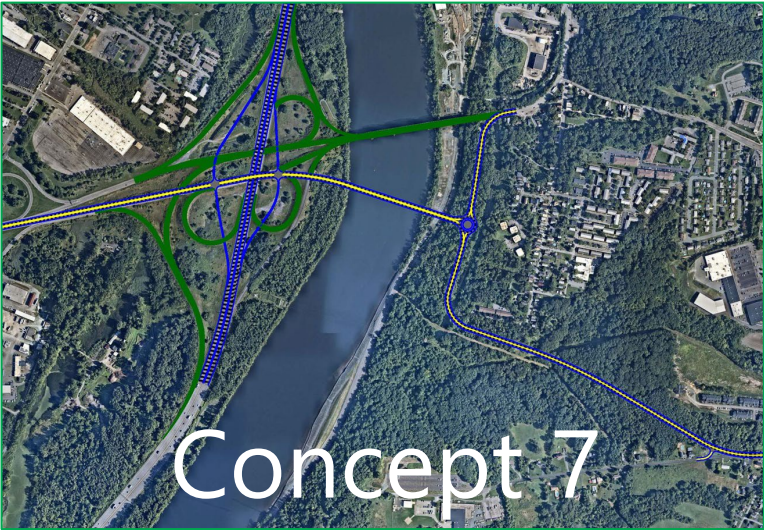
2025 AM Peak Hour



2025 AM Peak Hour



2025 PM Peak Hour



2025 AM Peak Hour

Concept 7: 2025 AM Peak Hour Changes from Base

NY 7	Collar City	20
	Bridge	50
Green Island	Green Island	-10
	Bridge	20
NY 2	Congress St	-20
	Bridge	0
NY 378	Troy-Menands	620
	Bridge	370
I-90	Patroon Island	-200
	Bridge	-150

I-787

N

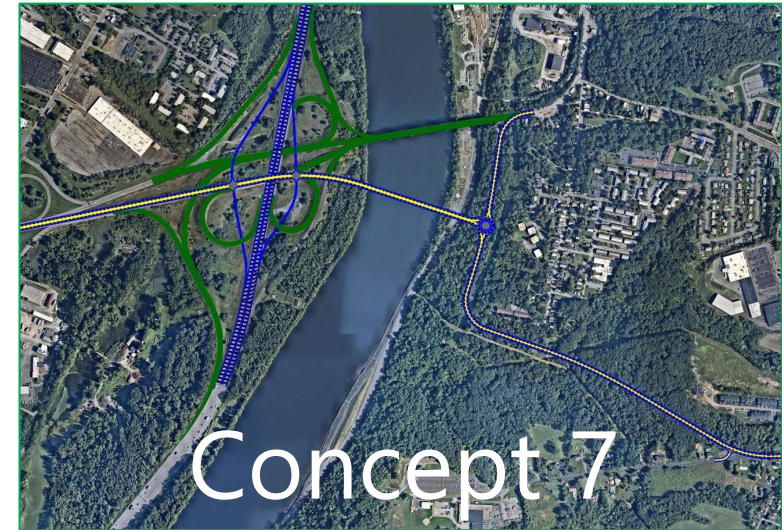
2025 PM Peak Hour

Concept 7: 2025 PM Peak Hour Changes from Base

NY 7	Collar City	40
	Bridge	-20
Green Island	Green Island	10
	Bridge	10
NY 2	Congress St	-20
	Bridge	-50
NY 378	Troy-Menands	660
	Bridge	790
I-90	Patroon Island	-310
	Bridge	-200

I-787

N



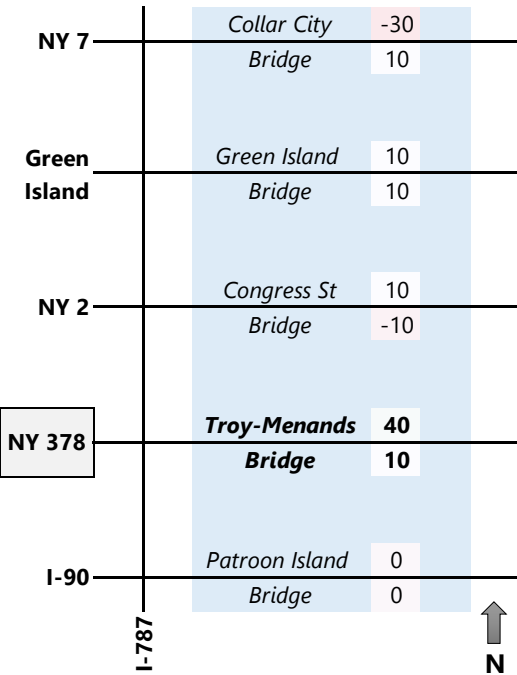
Observations

The STEP Model suggests:

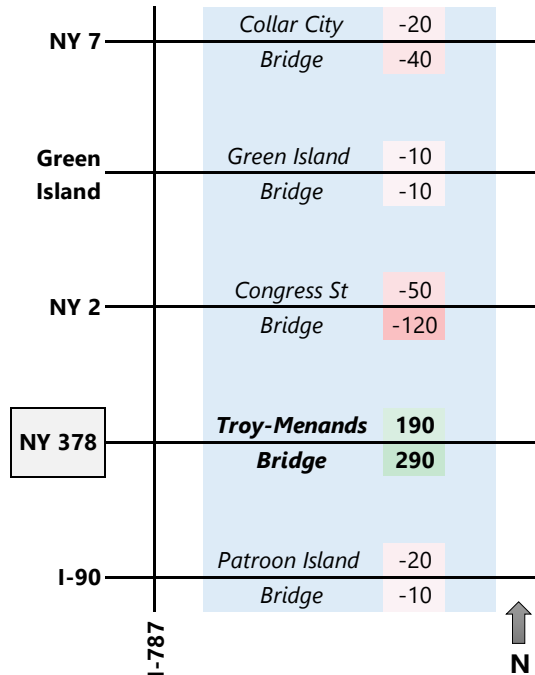
- AM and PM peak hour traffic volumes would increase on NY 378 in both directions
- Traffic volumes decrease to the greatest extent on I-90/Patroon Island Bridge

Side-by-Side Comparison: 2025 PM Peak Hour

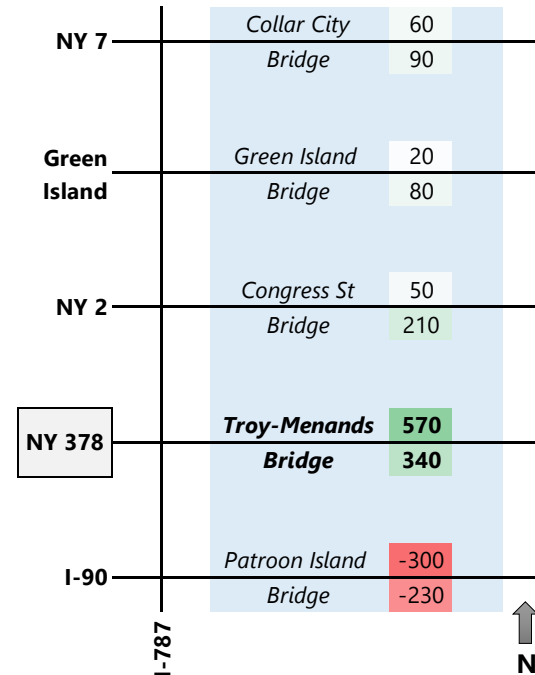
Concept 3: 2025 PM Peak Hour Changes from Base



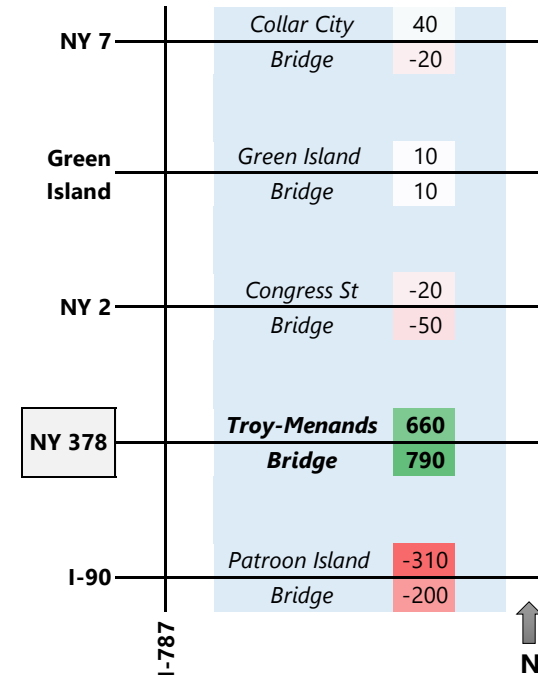
Concept 4: 2025 PM Peak Hour Changes from Base



Concept 6: 2025 PM Peak Hour Changes from Base



Concept 7: 2025 PM Peak Hour Changes from Base



Notes and Observations

- 2045 analysis similar; volumes slightly higher
- The STEP model suggests, the more drastic the changes to the alignment, the more drastic the shift in travel patterns
- Hudson River crossings operate as a system

Thank you!

Questions and Discussion

Chris Bauer, Director of Transportation Planning
July 26, 2023



Formerly known as
the Capital District
Transportation
Committee

