

SUMMARY OF ANALYSIS JOHN SIMPSON ROAD AND FAIR STREET

Existing Conditions:

The existing intersection has three approaches and is signalized. The existing signal has three phases, one for the eastbound/westbound approaches, one for the northbound approach and one for a protected westbound left turn movement (with northbound right turn overlap). Westbound left turns can also move permissively during the westbound green phase. There are left turn lanes on both the westbound and northbound approaches.

Operationally the intersection appears to perform very well in both the AM and PM peak hours. The capacity analysis shows an Overall LOS A (8.2 sec/veh of delay) in the AM peak and LOS B (10.6 sec/veh of delay) in the PM peak, with no movement operating worse than LOS B.

Signal Warrant Analysis:

A review of the hourly traffic volumes between 7:00 AM and 8:00 PM show that Warrant 1 (8-hour warrant) is not satisfied, with only 7 hours meeting criteria. However, Warrant 2 (4-hour warrant) is satisfied with 5 hours meeting criteria and Warrant 3 (peak hour warrant) is satisfied with two hours meeting criteria. Warrant 7 (crash experience) is not satisfied, as there were not 5 accidents per year susceptible to correction by signalization (left or right turn, or right angle accidents). The satisfaction of Warrants 2 & 3 justify the existing traffic signal, as well as a roundabout as a suitable replacement.

Accident Analysis:

Accident data noted 8 accidents at this location in the 3-year period reviewed, of these only 2 accidents resulted in injury. The accident rate calculated for this intersection is 0.62 accidents per million entering vehicles (acc/MEV), which is slightly higher than the state-wide average for similar intersections, which is 0.42 acc/MEV. Reviewing the accident types, there were no distinguishable accident pattern that could be corrected by a change in traffic control. A summary of the accident types and severity are in the table below:

ACCIDENT SUMMARY

Accident Type	Number of Occurrences	Accident Severity	Number of Occurrences
Fixed Object	1	Fatality	0
Rear End	3	Personal Injury	2
Overtaking	1	Property Damage Only	6
Animal	1	Non-Reportable	0
Other	2		
	8		8

Field Condition and Right of Way Review:

There are no significant physical limitations that would preclude the installation of a roundabout at this location. However, right of way will have to be purchased on both the southeast and southwest corners to accommodate the roundabout footprint.

Design Alternative Consideration:

Two design alternatives were considered for this location; retain the existing traffic control signal or construct a single lane roundabout. As previously mentioned, the traffic signal operates well, with overall level of service being A and B in the AM and PM peak hours respectively. If a roundabout were to be constructed, the AM peak hour operations would remain LOS A and the PM peak hour operations would fall to LOS C, with delay increasing in the PM by about 5 seconds per vehicle compared to the traffic signal. Both alternatives yield acceptable levels of service. A concept sketch showing the roundabout alternative is included later under this tab.

Conceptual Cost Estimate:

Based on our past experience with similar projects, knowledge of construction pricing in this region of New York State and our understanding of the issues, it is estimated that a roundabout would cost approximately \$1,600,000 to design, purchase right of way, and construct. The signalized option would be cost-free, as it is already in place. A breakdown of the big picture cost items for the roundabout is included later under this tab.

Summary & Conclusion:

The analyses show that the exiting signalized traffic control operates acceptably, and operational improvement are not necessary. However, if a roundabout were desired, it would be feasible to construct if additional right of way was purchased.

It is recommended to retain the existing signal control.

The intersection evaluation worksheet summarizing the lane geometry and traffic operations, traffic volume data sheets, traffic signal warrant analysis sheets, accident summary sheets, capacity analysis worksheets, cost estimate breakdown and roundabout concept sketch for this intersection can be found on the following pages under this tab.

INTERSECTION EVALUATION WORKSHEET

Project:	Putnam County Roundabout Evaluation
Location:	Putnam County (Various Locations)
Intersection:	John Simpson Rd & Fair St
GPS Coord.:	41°26'1.14"N, 73°39'18.29"W
Traffic Control:	Traffic Signal
Traffic Control Notes (if applicable):	Prot-Perm LT Turn Phase (WB) with RT Ovlp (NB) EB RT Ovlp Active during NB Phase
Other Intersection Notes (if applicable):	No Pedestrian Crossings.



APPROACH DATA

	John Simpson Rd			n/a			Fair St			Fair St		
	Northbound			Southbound			Eastbound			Westbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Assignments:	1		1					1	1	1	1	
Lane Widths:	12'		12'					11'	11'	11'	11'	
Turn Bay Lengths:	575'		-					-	200'	310'	-	
Speed Limits:	45 mph						30 mph			30 mph		

TRAFFIC COUNT DATA

(traffic volumes below represent counted traffic adjusted by 1.05 to account for seasonal variation and annual growth)

AM Peak Hour	Time Period: 7:30 to 8:30						Date Counted: 4/24/2018					
Volume:	95	-	96	-	-	-	-	179	302	275	242	-
Truck %:	1%	-	9%	-	-	-	-	15%	2%	4%	8%	-
Peds (Bikes):	0 (0)			-			0 (0)			0 (0)		
PHF = 0.87												
PM Peak Hour	Time Period: 5:00 to 6:00						Date Counted: 4/24/2018					
Volume:	364	-	320	-	-	-	-	204	180	144	142	-
Truck %:	1%	-	1%	-	-	-	-	1%	1%	1%	1%	-
Peds (Bikes):	0 (0)			-			0 (0)			0 (0)		
PHF = 0.94												

EXISTING CONDITION LEVEL OF SERVICE

AM Peak Delay (s):	16.5		9.9					11.0	8.7	6.4	3.6	
LOS:	B		A					B	A	A	A	
v/c:	0.49		0.25					0.43	0.53	0.48	0.26	
95% Queue:	65'		< 25'					105'	25'	75'	65'	
A (8.2) Overall	B (13.2)			-			A (9.5)			A (5.1)		
PM Peak Delay (s):	13.8		9.3					15.0	5.5	9.6	6.7	
LOS:	B		A					B	A	A	A	
v/c:	0.71		0.52					0.56	0.24	0.32	0.18	
95% Queue:	230'		25'					150'	< 25'	70'	70'	
B (10.6) Overall	B (11.7)			-			B (10.6)			A (8.1)		

Note: LOS calculated using HCM 6 methodologies.

INTERSECTION EVALUATION WORKSHEET												
	John Simpson Rd			n/a			Fair St			Fair St		
	Northbound			Southbound			Eastbound			Westbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
BUILD ALTERNATIVE #1 - LEVEL OF SERVICE												
Description of Improvements: Single Lane Roundabout (120 ft. Diameter)												
AM Peak Delay (s):	5.5						12.5			8.8		
LOS:	A						B			A		
v/c:	0.21						0.60			0.51		
95% Queue:	25'						100'			75'		
A (9.8) Overall	A (5.5)			-			B (12.5)			A (8.8)		
PM Peak Delay (s):	22.5						8.6			10.0		
LOS:	C						A			A		
v/c:	0.81						0.43			0.40		
95% Queue:	225'						50'			50'		
C (15.9) Overall	C (22.5)			-			A (8.6)			A (10.0)		
BUILD ALTERNATIVE #2 - LEVEL OF SERVICE												
Description of Improvements:												
AM Peak Delay (s):												
LOS:												
v/c:												
95% Queue:												
Overall												
PM Peak Delay (s):												
LOS:												
v/c:												
95% Queue:												
Overall												
BUILD ALTERNATIVE #3 - LEVEL OF SERVICE												
Description of Improvements:												
AM Peak Delay (s):												
LOS:												
v/c:												
95% Queue:												
Overall												
PM Peak Delay (s):												
LOS:												
v/c:												
95% Queue:												
Overall												

Greenman-Pedersen, Inc.
80 Wolf Road, Suite 300
Albany, NY 12205
518.453.9431

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Groups Printed- Cars - Trucks

Start Time	John Simpson Road From North					Fair Street From East					John Simpson Road From South					Fair Street From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
07:00 AM	0	0	0	0	0	0	63	72	0	135	10	0	14	0	24	74	37	0	0	111	270
07:15 AM	0	0	0	0	0	0	44	68	0	112	13	0	13	0	26	48	32	0	0	80	218
07:30 AM	0	0	0	0	0	0	51	63	0	114	30	0	19	0	49	52	56	0	0	108	271
07:45 AM	0	0	0	0	0	0	63	58	0	121	27	0	21	0	48	85	72	0	0	157	326
Total	0	0	0	0	0	0	221	261	0	482	80	0	67	0	147	259	197	0	0	456	1085
08:00 AM	0	0	0	0	0	0	69	77	0	146	19	0	17	0	36	75	22	0	0	97	279
08:15 AM	0	0	0	0	0	0	47	64	0	111	15	0	33	0	48	76	20	0	0	96	255
08:30 AM	0	0	0	0	0	0	43	65	0	108	16	0	27	0	43	53	36	0	0	89	240
08:45 AM	0	0	0	0	0	0	46	50	0	96	15	0	41	0	56	52	24	0	0	76	228
Total	0	0	0	0	0	0	205	256	0	461	65	0	118	0	183	256	102	0	0	358	1002
09:00 AM	0	0	0	0	0	0	42	47	0	89	12	0	40	0	52	54	17	0	0	71	212
09:15 AM	0	0	0	0	0	0	21	44	0	65	18	0	28	0	46	43	20	0	0	63	174
09:30 AM	0	0	0	0	0	0	30	43	0	73	27	0	31	0	58	55	25	0	0	80	211
09:45 AM	0	0	0	0	0	0	32	39	0	71	17	0	24	0	41	46	20	0	0	66	178
Total	0	0	0	0	0	0	125	173	0	298	74	0	123	0	197	198	82	0	0	280	775
10:00 AM	0	0	0	0	0	0	16	33	0	49	20	0	27	0	47	30	17	0	0	47	143
10:15 AM	0	0	0	0	0	0	20	25	0	45	27	0	28	0	55	44	17	0	0	61	161
10:30 AM	0	0	0	0	0	0	24	29	0	53	19	0	31	0	50	52	17	0	0	69	172
10:45 AM	0	0	0	0	0	0	20	36	0	56	17	0	39	0	56	34	33	0	0	67	179
Total	0	0	0	0	0	0	80	123	0	203	83	0	125	0	208	160	84	0	0	244	655
11:00 AM	0	0	0	0	0	0	24	31	0	55	30	0	37	0	67	40	22	0	0	62	184
11:15 AM	0	0	0	0	0	0	22	36	0	58	21	0	35	0	56	28	17	0	0	45	159
11:30 AM	0	0	0	0	0	0	26	27	0	53	26	0	33	0	59	33	26	0	0	59	171
11:45 AM	0	0	0	0	0	0	33	37	0	70	29	0	32	0	61	41	35	0	0	76	207
Total	0	0	0	0	0	0	105	131	0	236	106	0	137	0	243	142	100	0	0	242	721
12:00 PM	0	0	0	0	0	0	23	22	0	45	37	0	37	0	74	32	29	0	0	61	180
12:15 PM	0	0	0	0	0	0	29	26	0	55	47	0	41	0	88	34	25	0	0	59	202
12:30 PM	0	0	0	0	0	0	27	31	0	58	20	0	30	0	50	45	28	0	0	73	181
12:45 PM	0	0	0	0	0	0	29	36	0	65	25	0	46	0	71	38	17	0	0	55	191
Total	0	0	0	0	0	0	108	115	0	223	129	0	154	0	283	149	99	0	0	248	754
01:00 PM	0	0	0	0	0	0	24	31	0	55	31	0	33	0	64	45	21	0	0	66	185
01:15 PM	0	0	0	0	0	0	19	35	0	54	39	0	43	0	82	34	35	0	0	69	205
01:30 PM	0	0	0	0	0	0	35	30	0	65	38	0	47	0	85	41	30	0	0	71	221
01:45 PM	0	0	0	0	0	0	21	25	0	46	46	0	56	0	102	52	47	0	0	99	247
Total	0	0	0	0	0	0	99	121	0	220	154	0	179	0	333	172	133	0	0	305	858
02:00 PM	0	0	0	0	0	0	28	21	0	49	37	0	47	0	84	45	60	0	0	105	238
02:15 PM	0	0	0	0	0	0	21	26	0	47	40	0	37	0	77	46	55	0	0	101	225
02:30 PM	0	0	0	0	0	0	56	48	0	104	39	0	42	0	81	43	41	0	0	84	269
02:45 PM	0	0	0	0	0	0	56	56	0	112	44	0	67	0	111	45	56	0	0	101	324
Total	0	0	0	0	0	0	161	151	0	312	160	0	193	0	353	179	212	0	0	391	1056
03:00 PM	0	0	0	0	0	0	29	30	0	59	49	0	49	0	98	42	48	0	0	90	247
03:15 PM	0	0	0	0	0	0	38	43	0	81	66	0	60	0	126	44	44	0	0	88	295
03:30 PM	0	0	0	0	0	0	49	44	0	93	59	0	56	0	115	42	50	0	0	92	300
03:45 PM	0	0	0	0	0	0	42	39	0	81	76	0	67	0	143	43	47	0	0	90	314
Total	0	0	0	0	0	0	158	156	0	314	250	0	232	0	482	171	189	0	0	360	1156

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	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
04:00 PM	0	0	0	0	0	0	58	31	0	89	79	0	71	0	150	51	55	0	0	106	345
04:15 PM	0	0	0	0	0	0	37	41	0	78	63	0	74	0	137	28	55	0	0	83	298
04:30 PM	0	0	0	0	0	0	26	26	0	52	70	0	93	0	163	41	49	0	0	90	305
04:45 PM	0	0	0	0	0	0	35	26	0	61	62	0	95	0	157	40	34	0	0	74	292
Total	0	0	0	0	0	0	156	124	0	280	274	0	333	0	607	160	193	0	0	353	1240
05:00 PM	0	0	0	0	0	0	33	33	0	66	85	0	75	0	160	45	60	0	0	105	331
05:15 PM	0	0	0	0	0	0	37	43	0	80	73	0	94	0	167	48	49	0	0	97	344
05:30 PM	0	0	0	0	0	0	32	34	0	66	73	0	89	0	162	37	44	0	0	81	309
05:45 PM	0	0	0	0	0	0	33	27	0	60	74	0	89	0	163	41	41	0	0	82	305
Total	0	0	0	0	0	0	135	137	0	272	305	0	347	0	652	171	194	0	0	365	1289
06:00 PM	0	0	0	0	0	0	38	32	0	70	60	0	60	0	120	31	47	0	0	78	268
06:15 PM	0	0	0	0	0	0	53	33	0	86	83	0	84	0	167	30	55	0	0	85	338
06:30 PM	0	0	0	0	0	0	27	37	0	64	63	0	72	0	135	39	46	0	0	85	284
06:45 PM	0	0	0	0	0	0	28	27	0	55	68	0	77	0	145	31	53	0	0	84	284
Total	0	0	0	0	0	0	146	129	0	275	274	0	293	0	567	131	201	0	0	332	1174
07:00 PM	0	0	0	0	0	0	32	16	0	48	46	0	57	0	103	16	43	0	0	59	210
07:15 PM	0	0	0	0	0	0	46	21	0	67	36	0	46	0	82	20	34	0	0	54	203
07:30 PM	0	0	0	0	0	0	23	26	0	49	48	0	42	0	90	14	34	0	0	48	187
07:45 PM	0	0	0	0	0	0	36	25	0	61	51	0	43	0	94	18	28	0	0	46	201
Total	0	0	0	0	0	0	137	88	0	225	181	0	188	0	369	68	139	0	0	207	801
Grand Total	0	0	0	0	0	0	1836	1965	0	3801	2135	0	2489	0	4624	2216	1925	0	0	4141	12566
Apprch %	0	0	0	0	0	0	48.3	51.7	0	48.3	46.2	0	53.8	0	53.8	53.5	46.5	0	0	53.5	
Total %	0	0	0	0	0	0	14.6	15.6	0	30.2	17	0	19.8	0	36.8	17.6	15.3	0	0	33	
Cars	0	0	0	0	0	0	1743	1896	0	3639	2068	0	2458	0	4526	2186	1818	0	0	4004	12169
% Cars	0	0	0	0	0	0	94.9	96.5	0	95.7	96.9	0	98.8	0	97.9	98.6	94.4	0	0	96.7	96.8
Trucks	0	0	0	0	0	0	93	69	0	162	67	0	31	0	98	30	107	0	0	137	397
% Trucks	0	0	0	0	0	0	5.1	3.5	0	4.3	3.1	0	1.2	0	2.1	1.4	5.6	0	0	3.3	3.2

Start Time	John Simpson Road From North					Fair Street From East					John Simpson Road From South					Fair Street From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	0	0	0	0	0	51	63	0	114	30	0	19	0	49	52	56	0	0	108	271
07:45 AM	0	0	0	0	0	0	63	58	0	121	27	0	21	0	48	85	72	0	0	157	326
08:00 AM	0	0	0	0	0	0	69	77	0	146	19	0	17	0	36	75	22	0	0	97	279
08:15 AM	0	0	0	0	0	0	47	64	0	111	15	0	33	0	48	76	20	0	0	96	255
Total Volume	0	0	0	0	0	0	230	262	0	492	91	0	90	0	181	288	170	0	0	458	1131
% App. Total	0	0	0	0	0	0	46.7	53.3	0	46.7	50.3	0	49.7	0	49.7	62.9	37.1	0	0	62.9	
PHF	.000	.000	.000	.000	.000	.000	.833	.851	.000	.842	.758	.000	.682	.000	.923	.847	.590	.000	.000	.729	.867

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	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 12:00 PM to 07:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	0	0	0	0	0	33	33	0	66	85	0	75	0	160	45	60	0	0	105	331
05:15 PM	0	0	0	0	0	0	37	43	0	80	73	0	94	0	167	48	49	0	0	97	344
05:30 PM	0	0	0	0	0	0	32	34	0	66	73	0	89	0	162	37	44	0	0	81	309
05:45 PM	0	0	0	0	0	0	33	27	0	60	74	0	89	0	163	41	41	0	0	82	305
Total Volume	0	0	0	0	0	0	135	137	0	272	305	0	347	0	652	171	194	0	0	365	1289
% App. Total	0	0	0	0	0	0	49.6	50.4	0	85.0	46.8	0	53.2	0	97.6	46.8	53.2	0	0	97.6	93.7
PHF	.000	.000	.000	.000	.000	.000	.912	.797	.000	.850	.897	.000	.923	.000	.976	.891	.808	.000	.000	.869	.937

TRAFFIC SIGNAL WARRANT SUMMARY

Project: Putnam County Roundabout Evaluation Condition: 2019 Existing Condition
 Location: Fair Street and John Simpson Rd Date: April 25, 2019
 Major Street: Fair Street Lanes: 1 Critical Approach Speed: 30 mph
 Minor Street: John Simpson Rd Lanes: 1

Volume Level Criteria

1. Is the critical speed of major street traffic greater than 40 mph? No
 2. Is the intersection in a built-up area of an isolated community with population less than 10,000? No
 If either Question 1 or Question 2 is answered "Yes", then use the 70% volume level. Criteria used: 100%

WARRANT 1 - EIGHT HOUR VEHICULAR VOLUME

Warrant 1 Satisfied: NO

Warrant 1 is satisfied if EITHER Condition A OR Condition B is 100% satisfied.
 Warrant 1 is also satisfied if BOTH Condition A AND Condition B are satisfied to the 80% volume level.

Minimum Volume Criteria:			Condition 1A - Minimum Vehicular Volume (X Indicates that criteria is met for specified condition)				Condition 1B - Interruption of Continuous Traffic (X Indicates that criteria is met for specified condition)				Total Satisfied Hours (8 required)		
			500	150	400	120	750	75	600	60	6	1	7
Start Time	Major St. Volume ¹	Minor St. Volume ²	Major St. 100%	Minor St. 100%	Major St. 80%	Minor St. 80%	Major St. 100%	Minor St. 100%	Major St. 80%	Minor St. 80%	Condition 1A Satisfied	Condition 1B Satisfied	80% for Both Satisfied
12:00 AM			-	-	-	-	-	-	-	-	-	-	-
1:00 AM			-	-	-	-	-	-	-	-	-	-	-
2:00 AM			-	-	-	-	-	-	-	-	-	-	-
3:00 AM			-	-	-	-	-	-	-	-	-	-	-
4:00 AM			-	-	-	-	-	-	-	-	-	-	-
5:00 AM			-	-	-	-	-	-	-	-	-	-	-
6:00 AM			-	-	-	-	-	-	-	-	-	-	-
7:00 AM	985	70	X	-	X	-	X	-	X	X	-	-	-
8:00 AM	860	124	X	-	X	X	X	X	X	X	-	1	1
9:00 AM	607	129	X	-	X	X	-	X	X	X	-	-	1
10:00 AM	469	131	-	-	X	X	-	X	-	X	-	-	-
11:00 AM	502	144	X	-	X	X	-	X	-	X	-	-	-
12:00 PM	495	162	-	X	X	X	-	X	-	X	-	-	-
1:00 PM	551	188	X	X	X	X	-	X	-	X	1	-	-
2:00 PM	738	203	X	X	X	X	-	X	X	X	1	-	1
3:00 PM	708	244	X	X	X	X	-	X	X	X	1	-	1
4:00 PM	665	350	X	X	X	X	-	X	X	X	1	-	1
5:00 PM	669	364	X	X	X	X	-	X	X	X	1	-	1
6:00 PM	637	308	X	X	X	X	-	X	X	X	1	-	1
7:00 PM	454	197	-	X	X	X	-	X	-	X	-	-	-
8:00 PM			-	-	-	-	-	-	-	-	-	-	-
9:00 PM			-	-	-	-	-	-	-	-	-	-	-
10:00 PM			-	-	-	-	-	-	-	-	-	-	-
11:00 PM			-	-	-	-	-	-	-	-	-	-	-

¹ Major Street Volume is the total combined volume of both mainline approaches.

² Minor Street volumes is the highest single side street approach volume.

Note: Right turn traffic was removed from side street volume and only one of the two available lanes was considered in the Warrant analysis.

WARRANT 2 - FOUR HOUR VEHICULAR VOLUME

Warrant 2 Satisfied: YES

Warrant is satisfied if four (4) or more hours satisfy the volume requirements depicted on the four hour warranting graph (see page 2).

No. of Points Above Criteria Curve: 5

WARRANT 3 - PEAK HOUR VEHICULAR VOLUME

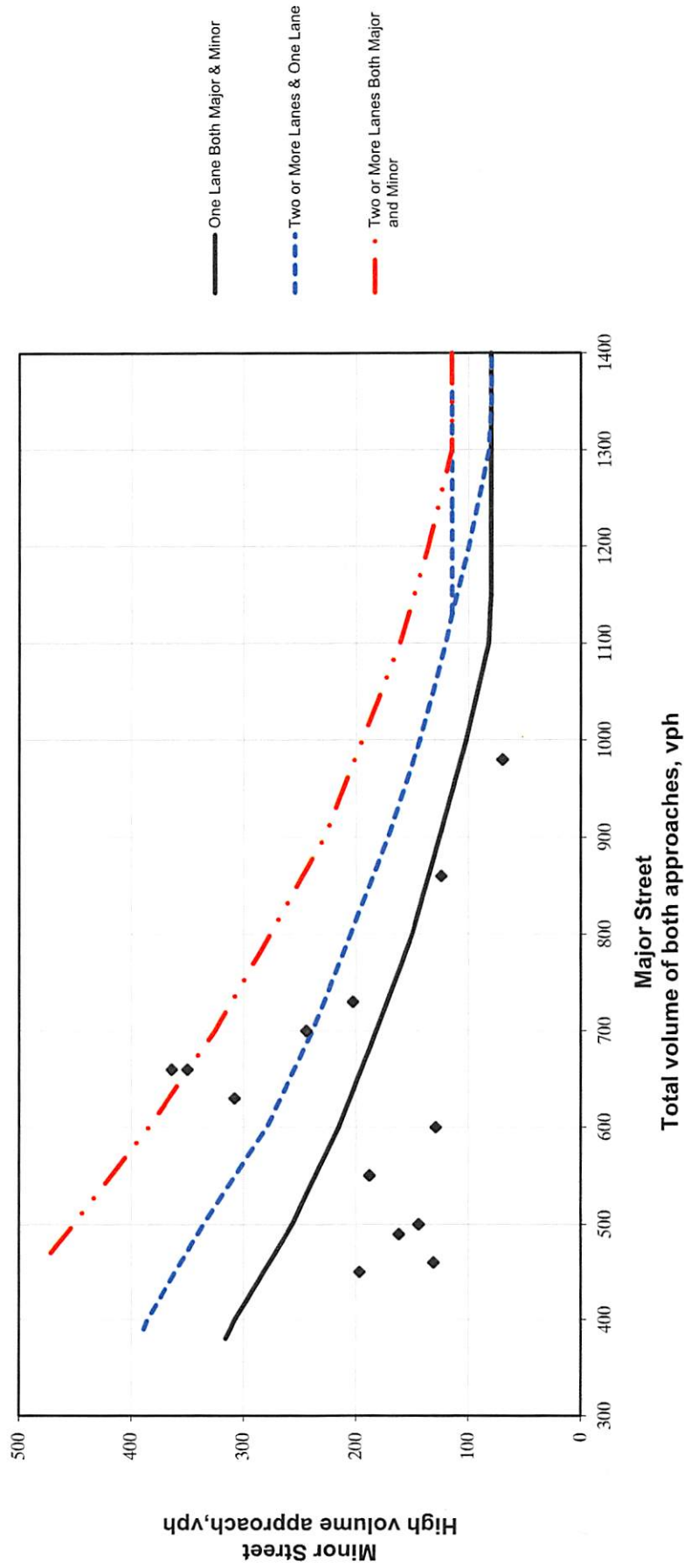
Warrant 3 Satisfied: YES

Warrant is satisfied if any hour satisfy the volume requirements depicted on the peak hour warranting graph (see page 3), and ALL three of the following requirement are met.

No. of Points Above Criteria Curve: 2

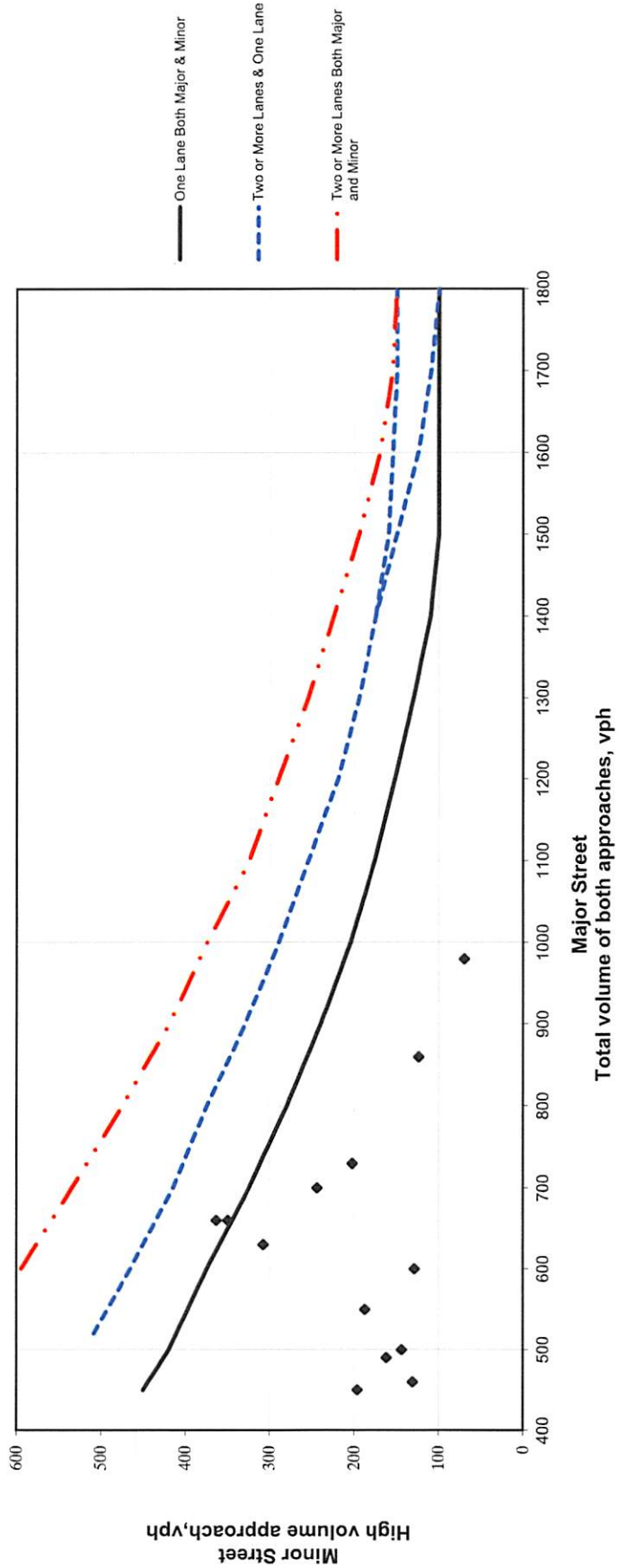
1. Total stopped time delay on Minor Street equals or exceeds 4 VHD (single lane) or 5 VHD (two lanes): 9.9 VHD Max. Yes
 2. Volume on Minor Street equals or exceeds 100 vehicles (single lane) or 150 vehicles (two lanes): Yes
 3. Total intersection volume serviced during the hour equals or exceeds 650 veh. (3-leg) or 800 veh. (4-leg or more): Yes

Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



Note: Points on graph represent hourly volumes. Points above the respective curve satisfy warrant, points below do not satisfy warrant.

Figure 4C-3. Warrant 3, Peak Hour



Note: Points on graph represent hourly volumes. Points above the respective curve satisfy warrant, points below do not satisfy warrant.

Queues
3: John Simpson Rd & Fair St

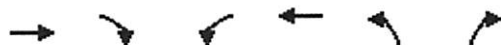
AM Peak Hour
2019 Existing Conditions Analysis



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	206	347	316	278	109	110
v/c Ratio	0.50	0.35	0.48	0.28	0.33	0.13
Control Delay	20.3	2.0	7.5	5.6	20.8	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.3	2.0	7.5	5.6	20.8	2.2
Queue Length 50th (ft)	45	1	34	29	25	0
Queue Length 95th (ft)	106	25	74	64	67	16
Internal Link Dist (ft)	627			599	819	
Turn Bay Length (ft)		200	310		575	
Base Capacity (vph)	1069	1499	762	1653	1196	978
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.23	0.41	0.17	0.09	0.11
Intersection Summary						

HCM 6th Signalized Intersection Summary
 3: John Simpson Rd & Fair St

AM Peak Hour
 2019 Existing Conditions Analysis



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↑	↑	↑	↑
Traffic Volume (veh/h)	179	302	275	242	95	96
Future Volume (veh/h)	179	302	275	242	95	96
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1678	1870	1841	1781	1885	1767
Adj Flow Rate, veh/h	206	347	316	278	109	110
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	15	2	4	8	1	9
Cap, veh/h	484	652	661	1068	221	443
Arrive On Green	0.29	0.29	0.17	0.60	0.12	0.12
Sat Flow, veh/h	1678	1585	1753	1781	1795	1497
Grp Volume(v), veh/h	206	347	316	278	109	110
Grp Sat Flow(s),veh/h/ln	1678	1585	1753	1781	1795	1497
Q Serve(g_s), s	3.6	5.9	3.8	2.7	2.0	2.0
Cycle Q Clear(g_c), s	3.6	5.9	3.8	2.7	2.0	2.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	484	652	661	1068	221	443
V/C Ratio(X)	0.43	0.53	0.48	0.26	0.49	0.25
Avail Cap(c_a), veh/h	1395	1514	1087	2469	1493	1504
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.4	8.0	5.8	3.4	14.8	9.7
Incr Delay (d2), s/veh	0.6	0.7	0.5	0.1	1.7	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	2.0	0.8	0.4	0.7	0.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.0	8.7	6.4	3.6	16.5	9.9
LnGrp LOS	B	A	A	A	B	A
Approach Vol, veh/h	553			594	219	
Approach Delay, s/veh	9.5			5.1	13.2	
Approach LOS	A			A	B	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	11.2	15.4			26.6	9.4
Change Period (Y+Rc), s	5.0	5.0			5.0	5.0
Max Green Setting (Gmax), s	15.0	30.0			50.0	30.0
Max Q Clear Time (g_c+I1), s	5.8	7.9			4.7	4.0
Green Ext Time (p_c), s	0.7	2.4			1.8	0.6
Intersection Summary						
HCM 6th Ctrl Delay			8.2			
HCM 6th LOS			A			

Intersection

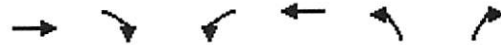
Intersection Delay, s/veh	9.8
Intersection LOS	A

Approach	EB	WB	NB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	553	594	219
Demand Flow Rate, veh/h	591	629	230
Vehicles Circulating, veh/h	329	110	237
Vehicles Exiting, veh/h	410	357	683
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	12.5	8.8	5.5
Approach LOS	B	A	A

Lane	Left	Left	Left
Designated Moves	TR	LT	LR
Assumed Moves	TR	LT	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	591	629	230
Cap Entry Lane, veh/h	987	1233	1084
Entry HV Adj Factor	0.936	0.944	0.952
Flow Entry, veh/h	553	594	219
Cap Entry, veh/h	923	1164	1032
V/C Ratio	0.599	0.510	0.212
Control Delay, s/veh	12.5	8.8	5.5
LOS	B	A	A
95th %tile Queue, veh	4	3	1

Queues
3: John Simpson Rd & Fair St

PM Peak Hour
2019 Existing Conditions Analysis



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	217	191	153	151	387	340
v/c Ratio	0.52	0.18	0.29	0.17	0.68	0.32
Control Delay	25.3	1.1	10.5	9.5	23.8	1.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.3	1.1	10.5	9.5	23.8	1.7
Queue Length 50th (ft)	59	0	24	24	102	0
Queue Length 95th (ft)	151	16	71	69	228	27
Internal Link Dist (ft)	627			599	819	
Turn Bay Length (ft)		200	310		575	
Base Capacity (vph)	1043	1386	652	1613	1026	1222
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.14	0.23	0.09	0.38	0.28
Intersection Summary						

HCM 6th Signalized Intersection Summary
 3: John Simpson Rd & Fair St

PM Peak Hour
 2019 Existing Conditions Analysis



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↘	↗
Traffic Volume (veh/h)	204	180	144	142	364	320
Future Volume (veh/h)	204	180	144	142	364	320
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	217	191	153	151	387	340
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	1	1	1	1
Cap, veh/h	389	813	475	829	542	649
Arrive On Green	0.21	0.21	0.10	0.44	0.30	0.30
Sat Flow, veh/h	1885	1598	1795	1885	1795	1598
Grp Volume(v), veh/h	217	191	153	151	387	340
Grp Sat Flow(s),veh/h/ln	1885	1598	1795	1885	1795	1598
Q Serve(g_s), s	4.0	2.6	2.3	1.9	7.4	6.2
Cycle Q Clear(g_c), s	4.0	2.6	2.3	1.9	7.4	6.2
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	389	813	475	829	542	649
V/C Ratio(X)	0.56	0.24	0.32	0.18	0.71	0.52
Avail Cap(c_a), veh/h	1460	1720	983	2433	1390	1404
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.8	5.3	9.2	6.6	12.0	8.7
Incr Delay (d2), s/veh	1.3	0.1	0.4	0.1	1.8	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	1.3	0.7	0.5	2.2	1.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	15.0	5.5	9.6	6.7	13.8	9.3
LnGrp LOS	B	A	A	A	B	A
Approach Vol, veh/h	408			304	727	
Approach Delay, s/veh	10.6			8.1	11.7	
Approach LOS	B			A	B	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	9.0	13.0			22.0	16.7
Change Period (Y+Rc), s	5.0	5.0			5.0	5.0
Max Green Setting (Gmax), s	15.0	30.0			50.0	30.0
Max Q Clear Time (g_c+l1), s	4.3	6.0			3.9	9.4
Green Ext Time (p_c), s	0.3	1.9			0.9	2.3
Intersection Summary						
HCM 6th Ctrl Delay			10.6			
HCM 6th LOS			B			

Intersection			
Intersection Delay, s/veh	15.9		
Intersection LOS	C		
Approach	EB	WB	NB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	408	304	727
Demand Flow Rate, veh/h	412	308	734
Vehicles Circulating, veh/h	155	391	219
Vehicles Exiting, veh/h	544	562	348
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	8.6	10.0	22.5
Approach LOS	A	A	C
Lane	Left	Left	Left
Designated Moves	TR	LT	LR
Assumed Moves	TR	LT	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	412	308	734
Cap Entry Lane, veh/h	968	764	908
Entry HV Adj Factor	0.990	0.989	0.990
Flow Entry, veh/h	408	304	727
Cap Entry, veh/h	958	756	899
V/C Ratio	0.426	0.403	0.809
Control Delay, s/veh	8.6	10.0	22.5
LOS	A	A	C
95th %tile Queue, veh	2	2	9

NYS DOT QRA ACCIDENT VERBAL DESCRIPTION

Print Date 4/24/2019 Print Time 10:52:51AM

<u>Query Number/Name</u>	<u>Query Type</u>	<u>Query SubType</u>	<u>Accident Date Range</u>
45678ohn simpson at fair	AttributeQuery	None	1/1/2016 12:00:00AM To 12/31/2018 12:00:00AM

<u>Case Number</u>	<u>Accident Date</u>	<u>Region/County</u>	<u>Municipality/Type</u>	<u>Street</u>	<u>Reference Marker</u>
36186733	09-April-2016	PUTNAM	Carmel Town	SIMPSON RD	

<u>Road Surface</u>	<u>Road Cond</u>	<u>Weather</u>	<u>TrafficControls</u>	<u>Location Ped/Bike</u>	<u>Action of Ped/Bike</u>
WET	STRAIGHT/ GRADE	CLOUDY	TRAFFIC SIGNAL	NOT APPLICABLE	NOT APPLICABLE

<u>Number of Vehicles</u>	<u>Accident Class</u>	<u>Type of Accident</u>	<u>Manner of Collision</u>	<u>Fatality</u>	<u>Injury</u>	<u>Ext of Injuries</u>
2	PROPERTY DAMAGE	COLLISION WITH MOTOR VEHICLE	REAR END	0	0	

<u>Vehicle Number</u>	<u>Number of Occupants</u>	<u>Dir of Travel</u>	<u>Pre-Accd Action</u>	<u>Registered Weight</u>	<u>Drivers Age</u>	<u>Sex</u>
1	1	NORTH-WEST	STOPPED IN TRAFFIC	4872	39	F

<u>Vehicle Type</u>	<u>State of Registration</u>	<u>Citation Issued</u>	<u>School Bus Involved</u>	<u>Property Damage</u>
CAR/VAN/PICKUP	NY	N	N	N

<u>Apparent Factor Sequence Number</u>	<u>Apparent Factor</u>
1	NOT APPLICABLE
2	NOT APPLICABLE

<u>Vehicle Number</u>	<u>Number of Occupants</u>	<u>Dir of Travel</u>	<u>Pre-Accd Action</u>	<u>Registered Weight</u>	<u>Drivers Age</u>	<u>Sex</u>
2	1	NORTH-WEST	GOING STRAIGHT AHEAD	2690	21	M
<u>Vehicle Type</u>	<u>State of Registration</u>	<u>Citation Issued</u>	<u>School Bus Involved</u>	<u>Property Damage</u>		
CAR/VAN/PICKUP	NY	Y	N	N		
<u>Apparent Factor Sequence Number</u>	<u>Apparent Factor</u>					
1	FOLLOWING TOO CLOSELY					
2	NOT APPLICABLE					

<u>Case Number</u>	<u>Accident Date</u>	<u>Region/County</u>	<u>Municipality/Type</u>	<u>Street</u>	<u>Reference Marker</u>	
36362881	30-August-2016	PUTNAM	Carmel Town	FAIR ST		
<u>Road Surface</u>	<u>Road Cond</u>	<u>Weather</u>	<u>TrafficControls</u>	<u>Location Ped/Bike</u>	<u>Action of Ped/Bike</u>	
DRY	STRAIGHT AND LEVEL	CLEAR	TRAFFIC SIGNAL	NOT APPLICABLE	NOT APPLICABLE	
<u>Number of Vehicles</u>	<u>Accident Class</u>	<u>Type of Accident</u>	<u>Manner of Collision</u>	<u>Fatality</u>	<u>Injury</u>	<u>Ext of Injuries</u>
3	PROPERTY DAMAGE	COLLISION WITH MOTOR VEHICLE	OTHER	0	0	
<u>Vehicle Number</u>	<u>Number of Occupants</u>	<u>Dir of Travel</u>	<u>Pre-Accd Action</u>	<u>Registered Weight</u>	<u>Drivers Age</u>	<u>Sex</u>
1	1	NORTH-WEST	SLOWED OR STOPPING	3195	50	F
<u>Vehicle Type</u>	<u>State of Registration</u>	<u>Citation Issued</u>	<u>School Bus Involved</u>	<u>Property Damage</u>		
CAR/VAN/PICKUP	NY	N	N	N		
<u>Apparent Factor Sequence Number</u>	<u>Apparent Factor</u>					
1	FOLLOWING TOO CLOSELY					
2	NOT APPLICABLE					

<u>Vehicle Number</u>	<u>Number of Occupants</u>	<u>Dir of Travel</u>	<u>Pre-Accd Action</u>	<u>Registered Weight</u>	<u>Drivers Age</u>	<u>Sex</u>
2	1	NORTH-WEST	STOPPED IN TRAFFIC	2519	27	F
	<u>Vehicle Type</u>	<u>State of Registration</u>	<u>Citation Issued</u>	<u>School Bus Involved</u>	<u>Property Damage</u>	
	CAR/VAN/PICKUP	NY	N	N	N	
	<u>Apparent Factor Sequence Number</u>	<u>Apparent Factor</u>				
	1	NOT APPLICABLE				
	2	NOT APPLICABLE				

<u>Vehicle Number</u>	<u>Number of Occupants</u>	<u>Dir of Travel</u>	<u>Pre-Accd Action</u>	<u>Registered Weight</u>	<u>Drivers Age</u>	<u>Sex</u>
3	1	NORTH-WEST	STOPPED IN TRAFFIC	4234	66	F
	<u>Vehicle Type</u>	<u>State of Registration</u>	<u>Citation Issued</u>	<u>School Bus Involved</u>	<u>Property Damage</u>	
	CAR/VAN/PICKUP	NY	N	N	N	
	<u>Apparent Factor Sequence Number</u>	<u>Apparent Factor</u>				
	1	NOT APPLICABLE				
	2	NOT APPLICABLE				

<u>Case Number</u>	<u>Accident Date</u>	<u>Region/County</u>	<u>Municipality/Type</u>	<u>Street</u>	<u>Reference Marker</u>	
36565228	04-January-2017	PUTNAM	Carmel Town	FAIR ST		
<u>Road Surface</u>	<u>Road Cond</u>	<u>Weather</u>	<u>TrafficControls</u>	<u>Location Ped/Bike</u>	<u>Action of Ped/Bike</u>	
DRY	STRAIGHT AND LEVEL	CLOUDY	NO PASSING ZONE	NOT APPLICABLE	NOT APPLICABLE	
<u>Number of Vehicles</u>	<u>Accident Class</u>	<u>Type of Accident</u>	<u>Manner of Collision</u>	<u>Fatality</u>	<u>Injury</u>	<u>Ext of Injuries</u>
1	PROPERTY DAMAGE	OTHER NON-COLLISION	OTHER	0	0	
<u>Vehicle Number</u>	<u>Number of Occupants</u>	<u>Dir of Travel</u>	<u>Pre-Accd Action</u>	<u>Registered Weight</u>	<u>Drivers Age</u>	<u>Sex</u>
1	2	SOUTH	GOING STRAIGHT AHEAD	2687	17	F
<u>Vehicle Type</u>	<u>State of Registration</u>	<u>Citation Issued</u>	<u>School Bus Involved</u>	<u>Property Damage</u>		
CAR/VAN/PICKUP	NY	N	N	N		
<u>Apparent Factor Sequence Number</u>	<u>Apparent Factor</u>					
1	VIEW OBSTRUCTED/LIMITED					
2	NOT APPLICABLE					

<u>Case Number</u>	<u>Accident Date</u>	<u>Region/County</u>	<u>Municipality/Type</u>	<u>Street</u>	<u>Reference Marker</u>	
36810368	15-July-2017	PUTNAM	Carmel Town	FAIR ST		
<u>Road Surface</u>	<u>Road Cond</u>	<u>Weather</u>	<u>TrafficControls</u>	<u>Location Ped/Bike</u>	<u>Action of Ped/Bike</u>	
DRY	STRAIGHT AND LEVEL	CLOUDY	TRAFFIC SIGNAL	NOT APPLICABLE	NOT APPLICABLE	
<u>Number of Vehicles</u>	<u>Accident Class</u>	<u>Type of Accident</u>	<u>Manner of Collision</u>	<u>Fatality</u>	<u>Injury</u>	<u>Ext of Injuries</u>
1	INJURY	OVERTURNED	OTHER	0	1	POSSIBL

<u>Vehicle Number</u>	<u>Number of Occupants</u>	<u>Dir of Travel</u>	<u>Pre-Accd Action</u>	<u>Registered Weight</u>	<u>Drivers Age</u>	<u>Sex</u>
1	1	NORTH-EAST	MAKING LEFT TURN	704	49	M
<u>Vehicle Type</u>	<u>State of Registration</u>	<u>Citation Issued</u>	<u>School Bus Involved</u>	<u>Property Damage</u>		
MOTORCYCLE	NY	N	N	N		
<u>Apparent Factor Sequence Number</u>	<u>Apparent Factor</u>					
1	TURNING IMPROPER					
2	NOT APPLICABLE					

<u>Case Number</u>	<u>Accident Date</u>	<u>Region/County</u>	<u>Municipality/Type</u>	<u>Street</u>	<u>Reference Marker</u>
36904880	18-September-2017	PUTNAM	Carmel Town	SIMPSON RD	

<u>Road Surface</u>	<u>Road Cond</u>	<u>Weather</u>	<u>TrafficControls</u>	<u>Location Ped/Bike</u>	<u>Action of Ped/Bike</u>
DRY	STRAIGHT/ GRADE	CLEAR	TRAFFIC SIGNAL	NOT APPLICABLE	NOT APPLICABLE

<u>Number of Vehicles</u>	<u>Accident Class</u>	<u>Type of Accident</u>	<u>Manner of Collision</u>	<u>Fatality</u>	<u>Injury</u>	<u>Ext of Injuries</u>
2	PROPERTY DAMAGE AND INJURY	COLLISION WITH MOTOR VEHICLE	REAR END	0	1	POSSIBL

<u>Vehicle Number</u>	<u>Number of Occupants</u>	<u>Dir of Travel</u>	<u>Pre-Accd Action</u>	<u>Registered Weight</u>	<u>Drivers Age</u>	<u>Sex</u>
1	1	NORTH	GOING STRAIGHT AHEAD	3194	75	F
<u>Vehicle Type</u>	<u>State of Registration</u>	<u>Citation Issued</u>	<u>School Bus Involved</u>	<u>Property Damage</u>		
CAR/VAN/PICKUP	NY	N	N	N		
<u>Apparent Factor Sequence Number</u>	<u>Apparent Factor</u>					
1	NOT ENTERED					
2	NOT ENTERED					

<u>Vehicle Number</u>	<u>Number of Occupants</u>	<u>Dir of Travel</u>	<u>Pre-Accd Action</u>	<u>Registered Weight</u>	<u>Drivers Age</u>	<u>Sex</u>
2	1	NORTH	GOING STRAIGHT AHEAD	3418	61	M
<u>Vehicle Type</u>	<u>State of Registration</u>	<u>Citation Issued</u>	<u>School Bus Involved</u>	<u>Property Damage</u>		
CAR/VAN/PICKUP	NY	N	N	N		
<u>Apparent Factor Sequence Number</u>	<u>Apparent Factor</u>					
1	NOT ENTERED					
2	NOT ENTERED					

<u>Case Number</u>	<u>Accident Date</u>	<u>Region/County</u>	<u>Municipality/Type</u>	<u>Street</u>	<u>Reference Marker</u>	
36936969	14-October-2017	PUTNAM	Carmel Town	FAIR ST		
<u>Road Surface</u>	<u>Road Cond</u>	<u>Weather</u>	<u>TrafficControls</u>	<u>Location Ped/Bike</u>	<u>Action of Ped/Bike</u>	
DRY	STRAIGHT/ GRADE	CLEAR	NO PASSING ZONE	NOT APPLICABLE	NOT APPLICABLE	
<u>Number of Vehicles</u>	<u>Accident Class</u>	<u>Type of Accident</u>	<u>Manner of Collision</u>	<u>Fatality</u>	<u>Injury</u>	<u>Ext of Injuries</u>
1	PROPERTY DAMAGE	COLL. W/LIGHT SUPPORT/UTILITY	OTHER	0	0	

<u>Vehicle Number</u>	<u>Number of Occupants</u>	<u>Dir of Travel</u>	<u>Pre-Accd Action</u>	<u>Registered Weight</u>	<u>Drivers Age</u>	<u>Sex</u>
1	1	EAST	GOING STRAIGHT AHEAD	2877	60	M
<u>Vehicle Type</u>	<u>State of Registration</u>	<u>Citation Issued</u>	<u>School Bus Involved</u>	<u>Property Damage</u>		
CAR/VAN/PICKUP	NY	Y	N	N		
<u>Apparent Factor Sequence Number</u>	<u>Apparent Factor</u>					
1	UNSAFE SPEED					

2

DRUGS (ILLEGAL)

<u>Case Number</u>	<u>Accident Date</u>	<u>Region/County</u>	<u>Municipality/Type</u>	<u>Street</u>	<u>Reference Marker</u>	
37235141	10-March-2018	PUTNAM	Carmel Town	SIMPSON RD		
<u>Road Surface</u>	<u>Road Cond</u>	<u>Weather</u>	<u>TrafficControls</u>	<u>Location Ped/Bike</u>	<u>Action of Ped/Bike</u>	
DRY	STRAIGHT AND LEVEL	CLEAR	NO PASSING ZONE	NOT APPLICABLE	NOT APPLICABLE	
<u>Number of Vehicles</u>	<u>Accident Class</u>	<u>Type of Accident</u>	<u>Manner of Collision</u>	<u>Fatality</u>	<u>Injury</u>	<u>Ext of Injuries</u>
1	PROPERTY DAMAGE	COLLISION WITH DEER	OTHER	0	0	
<u>Vehicle Number</u>	<u>Number of Occupants</u>	<u>Dir of Travel</u>	<u>Pre-Accd Action</u>	<u>Registered Weight</u>	<u>Drivers Age</u>	<u>Sex</u>
1	1	NORTH	GOING STRAIGHT AHEAD	3875	43	M
<u>Vehicle Type</u>	<u>State of Registration</u>	<u>Citation Issued</u>	<u>School Bus Involved</u>	<u>Property Damage</u>		
CAR/VAN/PICKUP	NY	N	N	N		
<u>Apparent Factor Sequence Number</u>	<u>Apparent Factor</u>					
1	ANIMAL'S ACTION					
2	NOT APPLICABLE					

<u>Case Number</u>	<u>Accident Date</u>	<u>Region/County</u>	<u>Municipality/Type</u>	<u>Street</u>	<u>Reference Marker</u>
37530879	10-October-2018	PUTNAM	Carmel Town	FAIR ST	

<u>Road Surface</u>	<u>Road Cond</u>	<u>Weather</u>	<u>TrafficControls</u>	<u>Location Ped/Bike</u>	<u>Action of Ped/Bike</u>
DRY	STRAIGHT AND LEVEL	CLEAR	TRAFFIC SIGNAL	NOT APPLICABLE	NOT APPLICABLE

<u>Number of Vehicles</u>	<u>Accident Class</u>	<u>Type of Accident</u>	<u>Manner of Collision</u>	<u>Fatality</u>	<u>Injury</u>	<u>Ext of Injuries</u>
2	PROPERTY DAMAGE	COLLISION WITH MOTOR VEHICLE	OVERTAKING	0	0	

<u>Vehicle Number</u>	<u>Number of Occupants</u>	<u>Dir of Travel</u>	<u>Pre-Accd Action</u>	<u>Registered Weight</u>	<u>Drivers Age</u>	<u>Sex</u>
1	3	EAST	MAKING RIGHT TURN	3349	22	F

<u>Vehicle Type</u>	<u>State of Registration</u>	<u>Citation Issued</u>	<u>School Bus Involved</u>	<u>Property Damage</u>
CAR/VAN/PICKUP	NY	N	N	N

<u>Apparent Factor Sequence Number</u>	<u>Apparent Factor</u>
1	PASSING OR LANE USAGE IMPROPERLY
2	NOT APPLICABLE

<u>Vehicle Number</u>	<u>Number of Occupants</u>	<u>Dir of Travel</u>	<u>Pre-Accd Action</u>	<u>Registered Weight</u>	<u>Drivers Age</u>	<u>Sex</u>
2	1	EAST	GOING STRAIGHT AHEAD	3009	68	M

<u>Vehicle Type</u>	<u>State of Registration</u>	<u>Citation Issued</u>	<u>School Bus Involved</u>	<u>Property Damage</u>
CAR/VAN/PICKUP	NY	N	N	N

<u>Apparent Factor Sequence Number</u>	<u>Apparent Factor</u>
1	PASSING OR LANE USAGE IMPROPERLY
2	NOT APPLICABLE

SINGLE LANE ROUNDABOUT (120 FT DIAMETER)

DESCRIPTION	TOTAL QUANTITY	UNIT	UNIT PRICE	TOTAL COST
SINGLE LANE ROUNDABOUT ¹	1	EA	\$750,000	\$750,000
UTILITY RELOCATION ²	1	EA	\$75,000	\$75,000
STORMWATER AND TREATMENT ³	1	LS	\$100,000	\$100,000
WETLAND MITIGATION	1	LS	\$25,000	\$25,000
WORK ZONE TRAFFIC CONTROL	1	LS	\$150,000	\$150,000
ESTIMATED CONSTRUCTION COST (CONCEPTUAL)				\$1,100,000
RIGHT OF WAY	0.137	ACRE	\$20,000	\$5,000
CONTINGENCY (20%)	1	LS	\$220,000	\$220,000
DESIGN AND INSPECTION (25%)	1	LS	\$275,000	\$275,000
FINAL TOTAL				\$1,600,000

¹ INCLUDES TYPICAL COST FOR PAVEMENT, CURB, EARTHWORK, DRAINAGE, LANDSCAPING, ETC., FOR A SINGLE LANE ROUNDABOUT.

² ELECTRIC AND GAS RELOCATIONS ARE ASSUMED NO COST FOR MUNICIPAL PROJECTS. WATER AND SEWER RELOCATIONS ARE ASSUMED AT \$75,000 EACH.

³ IMPACTS OVER 5,000 SF WITHIN DEP WATERSHEDS REQUIRE POST STORMWATER TREATMENT. \$100,000 ALLOWANCE FOR EXTRA ROW OR WORK REQUIRED.

