



November 23, 2022

Michael R. Wieszchowski, P.E., PTOE  
Vice President | Director of Traffic Engineering  
GPI / Greenman-Pederson, Inc.  
80 Wolf Road Suite 300  
Albany, NY 12205  
mwieszchowski@gpinet.com

RE: Response to TDE Review of Relocated Costco Main Entrance off Rapp Road Follow-up  
JMT Job No. 20-02057-001

Dear Mr. Wieszchowski,

JMT is in receipt of GPI's November 15, 2022, letter to Mr. Kovalchik of the Town of Guilderland concerning your review of JMT's follow-up letter sent November 11, 2022. JMT has reviewed GPI's comments and recommendations and offers the following in response:

1. In reference to the new egress at Gabriel Terrace, JMT agrees that it is critical that the access point be properly signed to limit misuse. Proper signage for "one-way" access and "do not enter" will be included in the detailed design of the off-site improvements.
2. JMT re-examined our traffic analysis inputs, modeling layout and assumptions to address these new comments presented regarding the relocated Northerly Driveway along Rapp Road proposed to be located 150 ft. south of the prior location and 450 ft. from US Route 20 / Western Avenue intersection. It is important to note as shown in the below Table 3 Capacity Analysis from the June 3<sup>rd</sup> letter, the existing US 20/Rapp Rd intersection performs at LOS D, with several lane movements operating at LOS E and F. Comparing this to the Site Build Condition (Alt 2), the intersection operation at LOS D is maintained, and all southbound movements perform similarly to the existing condition. The revised SimTraffic outputs are enclosed for reference. The modifications made are:
  - a. US 20/Rapp Rd – The southbound left turn was adjusted to reflect the area more accurately for the proposed condition improvement that provides additional storage capacity with a lane length increase from 75 ft. to 150 ft. Note, this modification does not reflect the ideal left turn length for optimal operations, as there is a preexisting inadequacy in storage length. This is shown in the below Table 3 Capacity Analysis, for the existing US 20/Rapp Rd southbound left turn 95<sup>th</sup> percentile queue of 192 ft. compared to the Site Build Condition Alt 2 of 197 ft.
  - b. Southerly Driveway/Rapp Rd – A SimTraffic setting was modified to accurately allow southbound vehicles to queue through the Southbound Driveway/Rapp Rd intersection which is a northbound right in only.

The modifications described above led to a more realistic model that reflects the intended detailed design for the off-site improvements along Rapp Road. This resulted in the enclosed outputs from SimTraffic with reducing the overall queue length from the Northerly Driveway and result in queuing from the reported 140 ft reduced to 33 ft. and 300 ft. reduced to 274 ft. for a theoretical combined total of 307 ft. Thus, the 95<sup>th</sup> percentile queuing would remain near the 300 ft. as shown in the below Table 3 Capacity Analysis from the June 3<sup>rd</sup> letter and is not in conflict with the departure lane center diagonal crosshatch pavement markings, which we can commit to modifying to further increase queue storage in detailed design.

The relocated Northerly Driveway/Rapp Road westbound vehicles exiting the site have 95<sup>th</sup> percentile queue lengths of 68 ft. for the left turn and 51 ft. for the right turn. The site's concept shows storage lengths that exceed these queues. An added benefit to the relocated Driveway is the traffic calming effect from the separation of the driveway aisle continuation in front of the store entrance providing for a safer pedestrian environment.

3. JMT's response letter sent on November 11, 2022 committed to modifications along northbound Rapp Road. To further clarify, JMT commits to a lane reduction providing one receiving lane for northbound Rapp Road from Western Avenue. This would be accomplished with pavement markings only that would then introduce a northbound right turn only lane at the Rapp Road/Southerly Driveway intersection, which is where site entrants would be directed safely to parking aisles from the south away from the store entrance and heavy pedestrian crossings. The curb line would be maintained for ease of snow removal. This paved area north of the Rapp Road/Southerly Driveway intersection would have diagonally crosshatched pavement markings to address merging concerns. In reference to the northbound dedicated right turn at the relocated Northerly Driveway entrance, JMT does not anticipate the need, want to promote, or plan to pursue this item in detailed design.
4. Item acknowledged with no further action necessary.

In conclusion, JMT believes all GPI comments have been adequately addressed and considered resolved. If further discussion is required to resolve outstanding concerns related to the proposed relocated Northerly Driveway, please do not hesitate to contact me at 518-218-5949 or [cminkler@jmt.com](mailto:cminkler@jmt.com).

Very truly yours,

JMT of New York, Inc.

Christina M. Minkler, PE

CM/mc

Enclosures: SimTraffic Outputs

Cc: Ken Kovalchik, Town of Guilderland  
James Soos, Pyramid Management Group, LLC  
David Aitken, Pyramid Management Group, LLC  
Ryan Trunko, Project Manager, GPI / Greenman-Pederson, Inc.  
Matthew Collingwood, JMT  
David Long, JMT

Table 3: Weekday PM Peak Capacity Analysis Summary as shown in June 3rd letter

Intersection	Mvmt	Existing Year 2019					No-Build Year 2022					Build Year 2022 Alt 1					Build Year 2022 Alt 2								
		LOS	Syn Delay (sec)	Sim Delay (sec)	V/C	Syn 95th Queue	Sim 95th Queue	LOS	Syn Delay (sec)	Sim Delay (sec)	V/C	Syn 95th Queue	Sim 95th Queue	LOS	Syn Delay (sec)	Sim Delay (sec)	V/C	Syn 95th Queue	Sim 95th Queue	LOS	Syn Delay (sec)	Sim Delay (sec)	V/C	Syn 95th Queue	Sim 95th Queue
3. Rapp Road/ Southerly Driveway (unsignalized)																									
	T																								
	R																								
	Approach																								
NB	T																								
	R																								
SB	T																								
	Approach																								
4. US 20/ Rapp Road (signalized)	D	50.0	33.5	-	-	-	D	49.5	36.4	-	-	-	D	53.6	48.7	-	-	-	D	54.9	52.6	-	-	-	
	L	72.1	60.4	0.54	251	228	D	45.6	50.3	0.45	162	217	E	59.4	55.1	0.69	277	218	E	58.6	55.0	0.68	279	221	
	T/R	40.3	24.4	0.73	573	342	D	44.8	24.9	0.81	601	359	D	45.4	27.3	0.81	586	359	D	45.9	28.0	0.81	587	360	
	Approach	44.1	-	-	-	-	D	44.9	-	-	-	-	D	47.8	-	-	-	-	D	48.1	-	-	-	-	
	L	60.8	59.2	0.33	231	222	C	31.6	52.8	0.26	121	213	C	30.7	71.2	0.26	123	221	C	30.6	76.5	0.25	119	220	
	T/R	44.2	33.5	0.88	1063	721	D	47.8	41.9	0.93	1140	942	E	56.2	69.9	0.98	1259	1077	E	58.0	77.0	0.99	1245	1068	
	Approach	45.5	-	-	-	-	D	p	-	-	-	-	D	54.2	-	-	-	-	E	55.9	-	-	-	-	
	L	101.0	70.2	0.81	197	193	F	96.5	66.5	0.82	187	179	F	99.5	65.9	0.83	187	184	F	99.2	67.6	0.82	187	182	
	T/R	75.7	61.7	0.52	170	240	E	69.3	59.0	0.50	163	217	E	68.6	60.2	0.50	162	222	E	69.5	62.2	0.50	162	208	
	R	7.8	34.8	0.15	46	136	A	7.0	29.1	0.14	43	113	A	6.6	28.7	0.14	42	110	A	6.7	28.9	0.14	42	109	
	Approach	68.7	-	-	-	-	E	64.6	-	-	-	-	E	65.6	-	-	-	-	E	65.7	-	-	-	-	
	L	57.9	63.4	0.35	151	192	D	53.3	58.3	0.36	142	180	D	54.5	58.4	0.39	149	174	E	61.3	62.3	0.55	206	197	
	T	96.4	55.9	0.84	348	319	F	91.2	50.3	0.84	333	324	F	89.5	50.2	0.82	320	263	F	90.9	61.3	0.83	326	300	
	R	44.5	32.8	0.62	399	303	D	40.1	28.9	0.61	371	263	D	39.9	57.3	0.61	361	251	D	41.5	28.6	0.64	398	269	
	Approach	63.5	-	-	-	-	E	58.8	-	-	-	-	E	58.1	-	-	-	-	E	60.0	-	-	-	-	

Summary of All Intervals

Run Number	1	2	3	4	5	6	7
Start Time	4:00	4:00	4:00	4:00	4:00	4:00	4:00
End Time	6:15	6:15	6:15	6:15	6:15	6:15	6:15
Total Time (min)	135	135	135	135	135	135	135
Time Recorded (min)	120	120	120	120	120	120	120
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	22468	21789	22399	21990	21842	22012	22161
Vehs Exited	22391	21715	22302	21847	21742	21781	22109
Starting Vehs	419	446	465	492	473	398	424
Ending Vehs	496	520	562	635	573	629	476
Travel Distance (mi)	12931	12565	12869	12619	12639	12580	12738
Travel Time (hr)	2571.3	3200.7	2396.3	2998.6	3349.6	2961.3	2766.1
Total Delay (hr)	2144.1	2785.6	1970.8	2582.2	2932.0	2546.4	2345.0
Total Stops	34199	34133	31736	36784	34877	33856	32833
Fuel Used (gal)	931.5	1066.5	893.8	1022.8	1101.4	1013.3	969.7

Summary of All Intervals

Run Number	8	9	10	Avg
Start Time	4:00	4:00	4:00	4:00
End Time	6:15	6:15	6:15	6:15
Total Time (min)	135	135	135	135
Time Recorded (min)	120	120	120	120
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	22145	22095	21602	22051
Vehs Exited	21918	21990	21567	21936
Starting Vehs	417	471	470	436
Ending Vehs	644	576	505	553
Travel Distance (mi)	12660	12745	12533	12688
Travel Time (hr)	2758.3	2796.8	3617.0	2941.6
Total Delay (hr)	2339.6	2375.7	3202.4	2522.4
Total Stops	35643	32958	34058	34104
Fuel Used (gal)	966.6	977.3	1160.7	1010.4

Interval #0 Information Seeding

Start Time	4:00
End Time	4:15
Total Time (min)	15
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	4:15
End Time	6:15
Total Time (min)	120

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	6	7
Vehs Entered	22468	21789	22399	21990	21842	22012	22161
Vehs Exited	22391	21715	22302	21847	21742	21781	22109
Starting Vehs	419	446	465	492	473	398	424
Ending Vehs	496	520	562	635	573	629	476
Travel Distance (mi)	12931	12565	12869	12619	12639	12580	12738
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Interval #1 Information Recording

Start Time	4:15
End Time	6:15
Total Time (min)	120

Volumes adjusted by Growth Factors.

Run Number	8	9	10	Avg
Vehs Entered	22145	22095	21602	22051
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19: Crossgates Mall Road & Site 2 Driveway (NW) Performance by movement

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Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Stop Del/Veh (s)	13.9	3.6	0.0	0.0	2.2	0.4	1.6

Intersection: 19: Crossgates Mall Road & Site 2 Driveway (NW)

Movement	WB	WB	NB	SB	SB
Directions Served	L	R	TR	L	T
Maximum Queue (ft)	102	72	32	72	66
Average Queue (ft)	35	29	1	18	1
95th Queue (ft)	68	51	11	50	46
Link Distance (ft)	187	187	170		557
Upstream Blk Time (%)					0
Queuing Penalty (veh)					0
Storage Bay Dist (ft)				125	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Summary of All Intervals

Run Number	1	2	3	4	5	6	7
Start Time	4:00	4:00	4:00	4:00	4:00	4:00	4:00
End Time	6:15	6:15	6:15	6:15	6:15	6:15	6:15
Total Time (min)	135	135	135	135	135	135	135
Time Recorded (min)	120	120	120	120	120	120	120
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	22468	21789	22399	21990	21842	22012	22161
Vehs Exited	22391	21715	22302	21847	21742	21781	22109
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Summary of All Intervals

Run Number	8	9	10	Avg
Start Time	4:00	4:00	4:00	4:00
End Time	6:15	6:15	6:15	6:15
Total Time (min)	135	135	135	135
Time Recorded (min)	120	120	120	120
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	22145	22095	21602	22051
Vehs Exited	21918	21990	21567	21936
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Ending Vehs	644	576	505	553
Travel Distance (mi)	12660	12745	12533	12688
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Total Delay (hr)	2339.6	2375.7	3202.4	2522.4
Total Stops	35643	32958	34058	34104
Fuel Used (gal)	966.6	977.3	1160.7	1010.4

Interval #0 Information Seeding

Start Time	4:00
End Time	4:15
Total Time (min)	15
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	4:15
End Time	6:15
Total Time (min)	120

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	6	7
Vehs Entered	22468	21789	22399	21990	21842	22012	22161
Vehs Exited	22391	21715	22302	21847	21742	21781	22109
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Interval #1 Information Recording

Start Time	4:15
End Time	6:15
Total Time (min)	120

Volumes adjusted by Growth Factors.

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Vehs Entered	22145	22095	21602	22051
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20: Crossgates Mall Road & Site 2 Driveway (SW) Performance by movement

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Movement	NBT	NBR	SBT	All
Stop Del/Veh (s)	0.1	0.1	0.2	0.2

Intersection: 20: Crossgates Mall Road & Site 2 Driveway (SW)

Movement	SB	SB
Directions Served	T	T
Maximum Queue (ft)	79	50
Average Queue (ft)	4	1
95th Queue (ft)	33	17
Link Distance (ft)	170	170
Upstream Blk Time (%)	0	
Queuing Penalty (veh)	0	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Summary of All Intervals

Run Number	1	2	3	4	5	6	7
Start Time	4:00	4:00	4:00	4:00	4:00	4:00	4:00
End Time	6:15	6:15	6:15	6:15	6:15	6:15	6:15
Total Time (min)	135	135	135	135	135	135	135
Time Recorded (min)	120	120	120	120	120	120	120
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	22468	21789	22399	21990	21842	22012	22161
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Total Stops	35643	32958	34058	34104
Fuel Used (gal)	966.6	977.3	1160.7	1010.4

Interval #0 Information Seeding

Start Time	4:00
End Time	4:15
Total Time (min)	15
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	4:15
End Time	6:15
Total Time (min)	120

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	6	7
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Total Delay (hr)	2339.6	2375.7	3202.4	2522.4
Total Stops	35643	32958	34058	34104
Fuel Used (gal)	966.6	977.3	1160.7	1010.4

3: Johnston Road/Crossgates Mall Road & Western Ave (U.S. Route 20) Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Stop Del/Veh (s)	54.2	26.8	23.8	78.2	65.8	74.6	68.3	63.6	30.3	64.9	55.3	28.9

3: Johnston Road/Crossgates Mall Road & Western Ave (U.S. Route 20) Performance by movement

Movement	All
Stop Del/Veh (s)	51.7

Intersection: 3: Johnston Road/Crossgates Mall Road & Western Ave (U.S. Route 20)

Movement	EB	EB	EB	WB	WB	WB	NE	NE	NE	SW	SW	SW
Directions Served	L	T	TR	L	T	TR	L	TR	R	L	T	R
Maximum Queue (ft)	186	322	327	186	956	960	185	293	209	236	308	306
Average Queue (ft)	166	274	261	108	887	893	115	114	28	129	165	162
95th Queue (ft)	220	364	362	221	1075	1069	191	218	108	226	274	274
Link Distance (ft)		297	297		922	922		597	597		254	254
Upstream Blk Time (%)		15	9		18	19				0	2	2
Queuing Penalty (veh)		80	45		174	189				0	9	7
Storage Bay Dist (ft)	100			100			100			150		
Storage Blk Time (%)	31	37		7	51		23	15		10	15	
Queuing Penalty (veh)	147	83		51	67		28	20		20	21	