

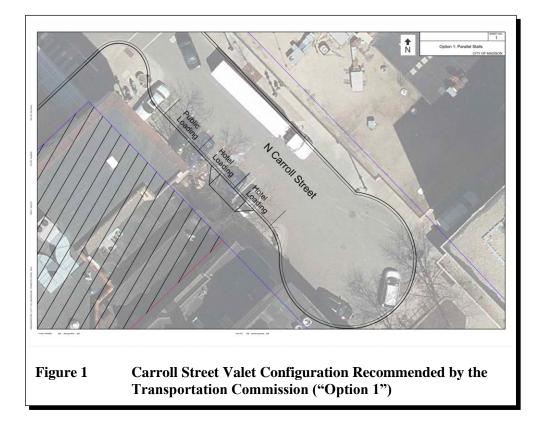
September 7, 2018

Mr. Eric Nordeen, Principal Ascendant Holdings, LLC 2201 West Beltline Highway Suite 200 Madison, WI 53713

Re: 122 State Street Site Traffic Analysis Supplement

Dear Mr. Nordeen:

This letter summarizes and documents supplemental traffic modeling Strand Associates, Inc.[®] (Strand) completed after submittal of the 122 State Street Site Traffic Analysis report dated June 2018 (Traffic Report). Following completion of the Traffic Report, there have been ongoing discussions related to the operation of the proposed hotel valet service. The vehicle staging options have been refined, and the City of Madison's (City's) Transportation Commission recommended Option 1 shown in Figure 1.



The Traffic Report summarized simulation modeling of the valet service on Carroll Street and an alternative option using Dayton Street. The modeling used conservative assumptions regarding the dwell time that would occur for the valet vehicles (the time they are standing idle, or "parked"). Specifically,

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the Traffic Report modeling used dwell times of one minute, followed by seven minutes, followed by two minutes, repeated over the course of a one hour simulation. The results indicated an average of two vehicles standing, and a 95th percentile¹ of three to five vehicles standing.

After submittal of the Traffic Report, additional valet configurations were proposed, including some that provided a lower number of stalls for standing vehicles. We completed supplemental modeling with average dwell times of 140 seconds based on observation of average operations at the AC Marriot Hotel on Webster Street as well as communication with operators of a similar valet service in Seattle, Washington². The results predict an average of one to two vehicles standing, and a 95th percentile of two to three vehicles standing. See the attached reports from Synchro and SimTraffic modeling.

In conclusion, traffic modeling based on the valet operations at a similar hotel in the City as well as another in Seattle, Washington suggests storage for two to three vehicles as provided in the recommended Option 1 should be sufficient for the proposed hotel at 122 State Street. This is the case whether the valet operation is on Carroll Street, as currently recommended, or on Dayton Street (as has been considered as an alternate or backup).

Please let me know if you have any questions or need anything else at this time.

Sincerely,

STRAND ASSOCIATES, INC.®

Jeffrey S. Held, P.E., PTOE

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¹ The 95th percentile value would be expected to be exceeded only 5 percent of the time, or in other words, the longest queue of the peak hour will be that length or less on 95 percent of the days of the year.

² Observation at the AC Hotel on three afternoons resulted in an average dwell time of 140 seconds, even with its on-site single lane configuration that blocks vehicles behind the first vehicle in line. A Provenance Hotel in Seattle, Washington operates with a mandated maximum dwell time of three minutes, has storage for three vehicles, and has not had any issues.

Lanes, Volumes, Til 6:			Lane	repre	esent	ing t	he va	let s	talls		09/0	07/2018
	X	2	*	×	7	Ţ						
Lane Group	SET	SER	NWL	NWT	NEL	NER	Ø1	Ø2	Ø3	Ø4	Ø5	Ø
Lane Configurations	↑	\checkmark		↑								
Traffic Volume (vph)	24	28	0	52	0	0						
Future Volume (vph)	24	28	0	52	0	0						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900						
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00						
Frt		0.850										
Fit Protected												
Satd. Flow (prot)	1863	1615	0	1863	0	0						
Fit Permitted												
Satd. Flow (perm)	1863	1615	0	1863	0	0						
Right Turn on Red		No				No						
Satd. Flow (RTOR)												
Link Speed (mph)	30			30	30							
Link Distance (ft)	168			86	57							
Travel Time (s)	3.8			2.0	1.3							
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93						
Heavy Vehicles (%)	2%	0%	2%	2%	2%	2%						
Adj. Flow (vph)	26	30	0	56	0	0						
Shared Lane Traffic (%)	20	00	0	00								
Lane Group Flow (vph)	26	30	0	56	0	0						
Enter Blocked Intersection	Yes	Yes	Yes	Yes	Yes	Yes						
Lane Alignment	Left	Right	Left	Left	Left	Right						
	Leil 0	Night	Leit		0	Nigrit						
Median Width(ft)				0	-							
Link Offset(ft)	0			0	0							
Crosswalk Width(ft)	16			16	16							
Two way Left Turn Lane	4.00	4.00	4.00	4.00	4.00	4.00						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00						
Turning Speed (mph)		9	15		15	9						
Turn Type		custom		NA							-	
Protected Phases	135	246		135			1	2	3	4	5	6
Permitted Phases												
Minimum Split (s)							8.0	8.0	8.0	8.0	8.0	20.0
Total Split (s)							185.0	10.0	185.0	10.0	185.0	10.0
Total Split (%)							32%	2%	32%	2%	32%	2%
Maximum Green (s)							181.0	6.0	181.0	6.0	181.0	6.0
Yellow Time (s)							3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)							0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)												
Total Lost Time (s)												
Lead/Lag							Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?												
Act Effct Green (s)	543.0	18.0		543.0								
Actuated g/C Ratio	0.93	0.03		0.93								
v/c Ratio	0.02	0.61		0.03								
Control Delay	0.5	139.5		0.6								
Queue Delay	0.0			0.0								

122 State PM Valet Single lane TEST.syn

0.0

0.5

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75.0

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139.5

0.0

0.6

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0.6

Queue Delay

Approach Delay

Total Delay LOS

	×	2	ŗ	×	3	~						
Lane Group	SET	SER	NWL	NWT	NEL	NER	Ø1	Ø2	Ø3	Ø4	Ø5	ØG
Approach LOS	E	a parent.		А				and the	0.0000		Sector Con-	
Intersection Summary												
Area Type:	Other											
Cycle Length: 585												
Actuated Cycle Length: 5	85											
Offset: 0 (0%), Reference	ed to phase 2:S	ER, Start	of 1st Gre	en								
Natural Cycle: 60												
Control Type: Pretimed												
Maximum v/c Ratio: 0.6	1.1											
Intersection Signal Delay	37.8			Int	ersection	LOS: D						
Intersection Capacity Utili				IC	U Level o	of Service A	¥.					
Analysis Period (min) 15												

Splits and Phases: 6:

× 06	D(R)	25
185ss	10 185 s	10 185 s

Queues

	X	2	×	
Lane Group	SET	SER	NWT	
Lane Group Flow (vph)	26	30	56	
v/c Ratio	0.02	0.61	0.03	
Control Delay	0.5	139.5	0.6	
Queue Delay	0.0	0.0	0.0	
Total Delay	0.5	139.5	0.6	
Queue Length 50th (ft)	2	39	3	
Queue Length 95th (ft)	2	62	5	
Internal Link Dist (ft)	88	$\mathbf{\nabla}$	6	
Turn Bay Length (ft)		$\mathbf{}$	\mathbf{N}	
Base Capacity (vph)	1729	49	1729	
Starvation Cap Reductn	0	0	0	
Spillback Cap Reductn	0	0	0	
Storage Cap Reductn	0	0	0 🔪	— Lane representing the valet sta
Reduced v/c Ratio	0.02	0.61	0.03	· · · · · · · · · · · · · · · · · · ·
Intersection Summary				

Intersection: 6:

		\frown		
Movement	SE	SE	NW	
Directions Served	Т	R	Т	
Maximum Queue (ft)	23	95	31	
Average Queue (ft)	1	34	2	
95th Queue (ft)	10	78	16	
Link Distance (ft)	122	122	70	
Upstream Blk Time (%)		0	0	
Queuing Penalty (veh)		0	0	
Storage Bay Dist (ft)		$\mathbf{\nabla}$		
Storage Blk Time (%)			\mathbf{N}	
Queuing Penalty (veh)				
				I

Lane representing the valet stalls

09/07/2018