

Traffic Memorandum

To: City of Steamboat Springs
Engineering Department
Attn: Ben Beall
136 10th Street
Steamboat Springs, CO 80477

From: Kari J. McDowell Schroeder, PE, PTOE

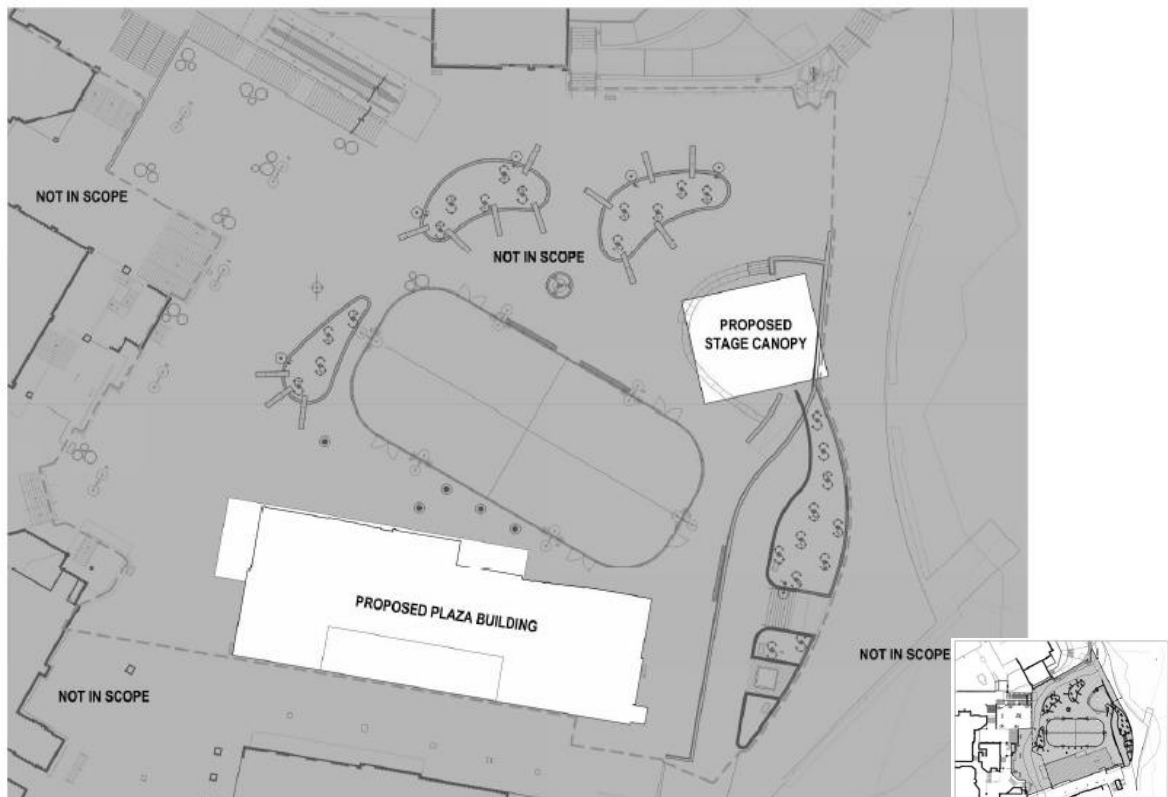
Date: October 12, 2021

Re: **Steamboat Resort**
SSRC Base Area Plaza Improvements- Plaza Building
Traffic Analysis Memorandum

Purpose:

The Alterra Mountain Company is planning on replacing the previous Gondola Plaza Building with a new Plaza Building. The traffic analysis of the previous gondola building removal was detailed in the February 12, 2021 *Steamboat Springs Base Village Redevelopment Traffic Memorandum*. This memorandum is intended to address the construction of the new Plaza Building. This submittal also includes the construction of a stage canopy directly northeast of the proposed Plaza Building.

Figure 1: Proposed Plaza Building and Stage Canopy



Trip Generation:

The proposed Plaza Building includes 12,900sf of restaurant space, including 1,700sf of exterior patio space. The analysis of the proposed Plaza Building was included in the *Steamboat Comprehensive Transportation Impact Analysis – Steamboat Resort Master Development Plan Amendment* by McDowell Engineering, September 16, 2021. A copy of the associated trip generation calculation in Table 1 is included as an attachment.

The trip generation calculations used ITE Land Use Code #932 High Turnover Sit-Down Restaurant to calculate the base trip generation. Additionally, an on-site trip reduction of 30% was taken to account for visitors and staff that are already at the resort and will patronize the new Plaza Building.

The proposed Plaza Building is anticipated to generate 1,013 trips per day (vpd), including 127 trips in the morning peak hour (vph) and 158vph in the evening peak hour.

The mode split of these new trips was conservatively based upon the current observed mode split. Steamboat believes that new visitors will primarily be destination guests that will arrive in a single vehicle or via air travel and rely on more transit and walking. Therefore, the mode split assumptions based upon current data are likely conservative for these new visitors.

Recommendations:

The construction of the phased improvements associated with the proposed Plaza Building will impact several study area intersections.

Intersection #1 - Mt. Werner Circle and Après Ski Way: No modifications are required.

Intersection #2 - Mt. Werner Circle and Ski Time Square Drive: No modifications are required.

Intersection #3 - Mt. Werner Road and Mt. Werner Circle: This intersection currently is experiencing long southbound left delays and requires mitigation. This intersection has been identified and included in URAAC's future project list. The current operational deficiency is not caused by the future traffic associated with the Plaza Building's construction.

With the additional traffic anticipated from the Plaza Building improvements, the delay is anticipated to increase slightly.

As identified in the *Steamboat Comprehensive Transportation Impact Analysis*¹, an interim solution may be to improve the auxiliary turn lanes at this intersection. For the long-term condition, a roundabout would improve overall operations and reduce delay.

Intersection #4 - Mt. Werner Road and Steamboat Boulevard: No modifications are required.

Intersection #5 - Mt. Werner Road and Pine Grove Road: No modifications are required.

Intersection #6 – JD Hays Way and US 40: Section 2.6(3) of the *State Highway Access Code*³ requires a new access permit when there is a land use change and/or an access's volume is anticipated to increase by more than twenty percent (20%). Existing traffic data from the

intersection of JD Hays Way and S. Lincoln Ave (US 40) was compared to the forecasted Year 2024 traffic volume. This project is not anticipated to meet the 20% threshold and therefore does not require a new State Highway Access Permit at JD Hays Way.

Parking Demand Management: The applicant addressed the parking demand management in the *Environmental Impact Statement*⁴, associated *Record of Decision*⁵, *Environmental Assessment*⁶, and associated *Decision Notice*⁷. These documents were approved by the USDA Forest Service. The applicant will work towards implementing a Parking Demand Management Plan.

Conclusion:

The construction of the proposed Plaza Building is accounted for and modeled in the *Steamboat Comprehensive Transportation Impact Analysis – Steamboat Resort Master Development Plan Amendment*¹ (*Comprehensive TIA*¹). No modifications from this analysis are anticipated. Specific infrastructure recommendations associated with the construction of the Plaza Building improvements are outlined above.

Please call if you would like any additional information or have any questions regarding this matter.

Sincerely,
McDowell Engineering, LLC



Kari J. McDowell, PE, PTOE
Traffic Engineer

Enclosure:

1. *Steamboat Comprehensive Transportation Impact Analysis*' Table 1 Project Trip Generation

Reference:

1. *Steamboat Comprehensive Transportation Impact Analysis – Steamboat Resort Master Development Plan Amendment*. McDowell Engineering, September 16, 2021.
2. *Steamboat Resort 2019 Master Development Plan Amendment (MDPA)*. SE Group, July 2019.
3. *State Highway Access Code*. State of Colorado, 2002.
4. *Steamboat Resort Final Environmental Impact Statement*. USDA Forest Service, May 2018.
5. *Steamboat Resort Final Environmental Impact Statement Record of Decision*. USDA Forest Service, September 2018.
6. *Steamboat Resort Improvements Project and Project-Specific Forest Plan Amendment Environmental Assessment*. USDA Forest Service, April 2021.
7. *Steamboat Resort Improvements Project and Project-Specific Forest Plan Amendment Decision Notice*. USDA Forest Service, July 2021.

Table 1: Project Trip Generation

		ITE Trip Generation Equation ³					Average Weekday	Morning Peak Hour		Evening Peak Hour		Inbound		Outbound		
ITE Code		Units ²	Eq. Coef	Avg. Weekday	AM Peak Hour	PM Peak Hour	Trips (vpd)	% Trips	Trips (vph)	% Trips	Trips (vph)	% Trips	Trips (vph)	% Trips	Trips (vph)	
Steamboat Base Village	Plaza Pavilion (Steamboat Base Village)															
	Proposed Land Use															
	#932 - High-Turnover (Sit Down) Restaurant 2nd Floor	12.9	kSF	Type a= b=	Rate 112.18	Rate 14.04	Rate 17.41	1,447	57%	103	43%	78	52%	117	48%	108
	On-Site Reduction	-30%					-434	-31		-23		-35		-32		
	Plaza Pavilion Proposed New Trips							1,013	72	55	82	76				
	Ticketing Building (Steamboat Base Village)															
	Proposed Land Use															
	#820 - Shopping Center	2.8	kSF	Type a= b=	Rate 37.75	A 2.76 77.28	B 0.72 3.02	106	54%	46	46%	39	50%	22	50%	22
	On-Site Reduction	-75%					-80	-35		-29		-17		-17		
	Ticketing Building Proposed New Trips							26	11	10	5	5				
	Building B (Steamboat Base Village)															
	Proposed Land Use															
	#712 - Small Office Building - Ground Floor	2.5	ksf	Type a= b=	Rate 16.19	Rate 3.26	Rate 3.73	40	60%	5	40%	4	46%	5	54%	6
	On-Site Reduction	-75%						-30	-4		-3		-4		-5	
	#932- High Turn-Over (Sit Down) Restaurant	7.5	ksf	Type a= b=	Rate 112.18	Rate 14.04	Rate 17.41	841	57%	60	43%	45	52%	68	48%	63
	On-Site Reduction	-30%						-252	-18		-14		-20		-19	
	#495 - Recreational Community Center - Ice Rink	17	kSF GFA	Type a= b=	B 0.98 3.42	B 0.51 3.03	B 0.58 2.99	491	67%	59	33%	29	40%	41	60%	62
	On-Site Reduction	-75%						-368	-44		-22		-31		-47	
#820 - Shopping Center - 3rd Floor	1.6	kSF	Type a= b=	Rate 37.75	A 2.76 77.28	B 0.72 3.02	60	54%	44	46%	38	50%	14	50%	14	
On-Site Reduction	-50%						-30	-22		-19		-7		-7		
Building B Proposed New Trips							752	80	58	66	67					
Subtotal - Steamboat Base Village							1,791	163	123	153	148					
Greenhorn Ranch	Greenhorn Ranch															
	Proposed Land Use															
	#710 - General Office Building - Maintenance/Office	6.2	kSF	Type a= b=	B 0.97 2.50	B 0.88 1.06	Rate 1.42	72	88%	13	12%	2	18%	2	82%	8
	On-Site Reduction	0%					0	0	0	0	0					
	#932 - High-Turnover (Sit Down) Restaurant - 2nd Floor	7.0	kSF	Type a= b=	Rate 112.18	Rate 14.04	Rate 17.41	785	57%	56	43%	42	52%	63	48%	58
On-Site Reduction	-90%						-707	-50		-38		-57		-52		
Subtotal - Mid Mountain							150	19	6	8	14					
2024 Gondola &	Gondola and Terrain Expansion															
	Proposed Land Use															
	Gondola and Terrain Expansion (Short Term)	8.89%			% of Existing Base Village Traffic			1,380	61	49	69	69				
	On-Site Reduction	0%						0	0	0	0	0				
Subtotal - Gondola and Terrain Expansion							1,380	61	49	69	69					
2044 Gondola &	Gondola and Terrain Expansion															
	Proposed Land Use															
	Gondola and Terrain Expansion (Long Term)	26.13%			% of Existing Base Village Traffic			4,050	181	145	203	202				
	On-Site Reduction	0%						0	0	0	0	0				
Subtotal - Gondola and Terrain Expansion							4,050	181	145	203	202					
2024 Totals - Steamboat Base Village, Greenhorn Ranch, and Gondola & Terrain Expansion							3,321	243	178	230	231					
2044 Totals - Steamboat Base Village, Greenhorn Ranch, and Gondola & Terrain Expansion							5,991	363	274	364	364					

Notes:

¹ Values obtained from *Trip Generation, 10th Edition*, Institute of Transportation Engineers, 2017.

² DU = Dwelling Units, kSF = 1,000 Square Feet

³ Fitted curve equations from ITE Land Uses - Equation Type A is $T = a * X + b$, Equation Type B is $\ln(T) = a * \ln(X) + b$, Rate is $T = a * X$