

To: Town of Parker

From: Max Rusch, PE, PTOE
Sharwari Salvi

Date: May 5, 2023

Re: **Land of Sushi**
Traffic Conformance Letter

INTRODUCTION

This traffic conformance letter was conducted in support of a site plan to develop Land of Sushi and retail development in Parker, CO. The proposed site location is part of the Crown Point Development, analyzed in the Traffic Impact Study “*Crown Point Development – Block 6 Addendum to Traffic Impact Study*” conducted by Felsburg Holt & Ullevig (FHU) in May 2004. This conformance letter forecasts the change in trip generation from the original forecasts in the FHU study and determines whether the existing roadway network will be able to accommodate this change in trip generation. The site location is shown on Figure 1 with a full-sized site plan included in Attachment I.

Figure 1 – Site Location



SITE LOCATION

The 1.19 -acre site is located on the northeast corner of Cottonwood Dr & Colorado E-470 and is currently vacant. The lot is currently zoned as commercial. The Applicant seeks to develop the property with a 3,469 SF restaurant and 2,211 retail space. The development will be constructed in a single phase. Upon completion, the development will have one full-movement access to the existing access drive, and two connections to the existing parking lot to the south.

TRIP GENERATION

The *Crown Point Development – Block 6 Addendum to Traffic Impact Study* conducted by FHU in 2004 studied the entire Crown Point Development. The FHU study assumed a 5,500 SF high turnover restaurant in the location of the proposed Land of Sushi development and used The Institute of Transportation Engineers (ITE) Trip Generation Manual 7th Edition to forecast the trip generation. This trip generation is detailed in Table 1.

The Institute of Transportation Engineers (ITE) Trip Generation Manual 11th Edition was used to calculate the number of trips generated by the proposed development during the weekday AM and PM peak hours, as well as the number of daily weekday generated trips. The following land use code (LUC) was used in the trip generation calculations:

- LUC 932 – High Turnover Restaurant: 3,469 SF
- LUC 822 – Strip Retail Plaza: 2,211 SF

As shown in Table 1, the site is forecasted to generate 38 weekday AM, and 46 weekday PM peak hour trips. It is projected to generate a total of 492 additional daily weekday trips.

As detailed in Table 1, the change in land use from the originally assumed 5,500 SF high turnover restaurant to the 3,469 SF high turnover resultant and 2,211 SF retail use will lower the forecasted trip generation by 27 vph in the AM peak, by 14 vph in the PM peak, and by 208 daily vehicles.



Table 1

Land of Sushi Parker, CO
 Site Trip Generation

Land Use	Land Use Code	Amount	Units	AM Peak Hour			PM Peak Hour			Average Daily Trips
				In	Out	Total	In	Out	Total	
<i>Original Trip Generation Forecast (year 2004)</i>										
High Turnover Restaurant	932	5,500	SF	35	30	65	35	25	60	700
<i>Proposed (2023) ⁽¹⁾</i>										
High Turnover Restaurant	932	3,469	SF	18	15	33	19	12	31	372
Strip Retail Plaza	822	2,211	SF	3	2	5	8	7	15	120
Total Proposed Trips				21	17	38	27	19	46	492
Change in Site Trips				(14)	(13)	(27)	(8)	(6)	(14)	(208)

Note(s):

(1) Trip generation based on the Institute of Transportation Engineers' Trip Generation Manual, 11th Edition

EFFECTS ON TRAFFIC OPERATIONS

Since the change in land use results in a decrease in generated trips from what was forecasted in the 2004 FHU study, it can be concluded that the existing roadway network will be able to accommodate the site trips without any additional improvements.

The site access along the existing access drive is expected to operate well due to the relatively low entering and exiting volumes. In the PM peak hour, the site is forecasted to have 27 entering trips and 19 exiting trips, which will be able to be accommodated by the proposed access layout.

CONCLUSIONS

The conclusions of this comparative analysis are as follows:

1. The change in land use from the original *Crown Point Development – Block 6 Addendum to Traffic Impact Study* conducted by FHU in 2004 to the proposed Land of Sushi Development will decrease the number of generated trips by 27 trips in the AM peak hour, 14 trips in the PM peak hour, and 208 daily weekday trips.
2. The proposed site access along the access drive will be able to accommodate the site trips.
3. Since the forecasted trip generation will be lower than what was originally forecasted, no improvements to the roadway network are necessary.

We trust that the information contained herein satisfy the request of Land of Sushi. If you have any questions or need further information, please contact Max Rusch at MaxRusch@gallowayus.com or 303-770-8884.



Attachment I

Site Plan



FELSBERG
HOLT &
ULLEVIG

engineering paths to transportation solutions

May 10, 2004

Mr. Timothy Leonard
Deepwater Point Company
3339 Russell Gulch Road
Kittredge, Colorado 80457

RE: Crown Point Development – Block 6
Addendum to Traffic Impact Study
FHU # 04-053

Dear Mr. Leonard

In response to your request, additional traffic analyses were conducted for Block 6 of the Crown Point development, which is located in the southeast quadrant of the Parker Road/Cottonwood Drive intersection. As part of the traffic analyses, the latest land uses and densities were evaluated.

The traffic analyses documented herein supplement the findings documented in the Crown Point Development (Block 6) Traffic Impact Study (August 2003), and address issues regarding queuing conditions at each of the proposed access intersections along Cottonwood Drive.

TRIP GENERATION

The number of vehicle-trips expected to be generated by the proposed Block 6 development was estimated from trip generation rates documented in Trip Generation, 7th Edition, Institute of Transportation Engineers, 2003. The following table presents the estimated daily and peak hour vehicle-trips generated by the site.

ITE Code	Land Use Description	Size	Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
820	Retail	396,000	16,610	225	130	355	750	805	1,555
934	Fast Food Restaurant	6,000	2,980	160	160	320	110	100	210
931	Quality Restaurant	4,500	400	5	0	5	25	10	35
932	High Turnover Restaurant	5,500	700	35	30	65	35	25	60
912	Bank	3,000	740	20	15	35	70	65	135
945	Gas Station w/Conv. Market (12 Pumps)	10,000	1,950	60	60	120	80	80	160
Total		425,000	23,380	505	395	900	1,070	1,085	2,155

As indicated, Block 6 is expected to generate about 23,380 vehicle-trips per day, with about 900 vehicles during the AM peak hour and 2,155 trips during the PM peak hour.

TRAFFIC ASSIGNMENT

The traffic distribution used for this report is based on the information documented in the Block 6 Traffic Impact Study (TIS). Approximately 90% of the site generated traffic is expected to utilize the Parker Road/Cottonwood Drive intersection to the west of the proposed development, the remaining 10% is expected to travel to/from destinations to the east of the development.

The traffic assignment resulting from the preceding trip estimates and distribution is shown on Figure 1.

LEVEL OF SERVICE

The site generated traffic shown on Figure 1 was added to the background traffic volumes (including Other Crown Point Traffic) documented in the Block 6 TIS and are shown on Figure 2. These total traffic volumes were used as the basis for intersection capacity analyses (worksheets are attached). Level of Service (LOS) is a qualitative measure of traffic operational conditions, based on roadway capacity and motorist delay. The 2000 Highway Capacity Manual defines six levels of service, ranging from A to F, with LOS A representing the best possible operating conditions and LOS F representing over-capacity, or congested conditions. In urban areas, LOS D is typically considered acceptable for peak hour traffic operations.

As summarized on Figure 2, the expected total traffic conditions for signalized and unsignalized movement operations are expected to be LOS C or better during the AM and PM peak hours.

QUEUE LENGTH ANALYSIS

Due to concerns regarding possible vehicular conflicts associated with the proposed internal intersections of the proposed Block 6 development, a queue length analysis was completed for the eastern and western signalized access intersections along Cottonwood Drive. The current site plan provides approximately 200' of storage between the first internal intersections of Block 6 and the Cottonwood Drive signalized access intersections.

Based on the queue length analysis, the maximum per lane queue along the northbound approach to the signalized Cottonwood Drive access intersections is estimated to be approximately 168'. This maximum condition occurs during the PM peak hour at the western access intersection.

CONCLUSION

The proposed development, Crown Point – Block 6, consists of a variety of uses including retail, restaurant, banking, and auto service land uses and is located in the southeast quadrant of the Parker Road/Cottonwood Drive intersection. This development is expected to generate approximately 23,380 daily trips, with about 900 and 2,155 vehicle-trips during the AM and PM peak hours, respectively.

The site generated traffic volumes can be accommodated by the roadway network proposed in the Crown Point (Block 6) – Traffic Impact Study. It is also determined that the proposed location of the first internal intersections of Block 6 will provide sufficient storage space to accommodate the egress queues expected at the Cottonwood Drive signalized access intersections.

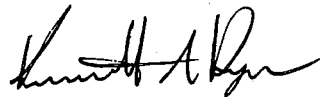
We trust the above information will assist you in your planning efforts on this project. If you have any questions, or if we can be of further service, please call.

Sincerely,

FELSBURG HOLT & ULLEVIG



Lawrence C. Lang, P.E.
Senior Transportation Engineer



Kenneth A. Ryan, E.I.
Transportation Engineer