



DREXEL BARRELL & Co.
Engineers - Surveyors

MEMORANDUM

TO: El Paso County Planning and Community Development
2880 International Circle, Suite 110
Colorado Springs, CO 80910

FROM: Derek Schuler, P.E., PTOE

DATE: 11/13/2023

RE: Traffic Memorandum for Falcon Marketplace, Lot 1
El Paso County, Colorado

Traffic Engineer’s Statement

The attached traffic report and supporting information were prepared under my responsible charge and they comport with the standard of care. So far as is consistent with the standard of care, said report was prepared in general conformance with the criteria established by the County for traffic reports.

11/13/2023

[Derek Schuler, Colorado P.E. #40125]

Date



Developer’s Statement

I, the Developer, have read and will comply with all commitments made on my behalf within this report.

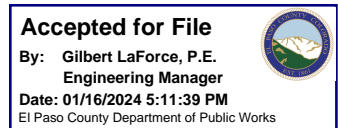
12/18/2023

Benjamin Booker

Date

Goodwill Colorado

1460 Garden of the Gods Road, Colorado Springs, CO 80907



This memorandum serves to verify trip generation compliance for lot #1 with the previous full traffic study for Falcon Marketplace, the overall multi-use site. The site is located in the northwest corner of Woodmen Rd and Meridian Rd and is divided into 11 lots. The previous study is "Falcon Marketplace Traffic Impact Analysis, SP-17-001/CDR-16-007, LSC Transportation Consultants, Inc., September 5, 2018." The study provided overall trip generation, access locations to the existing arterial streets, and trip distribution. Lot #1 will have a shared access with lot #'s 2 and 11 onto the internal street only and comply with the findings of the overall study. See the associated site plan for vicinity map and site layout. Lot #1 is 3.67 acres and is zoned as CR. The existing land is vacant, and the proposal is to add a building (22,745 SF for Goodwill and 14,576 for a Strip Retail future use), truck loading area, and a parking lot. There are 159 parking spaces proposed including 6 handicap accessible spaces.

Trip Generation

Table 1 below shows the trip generation values for the proposed uses. The table shows the number of expected vehicular trips using rates from the Trip Generation Manual published by the Institute of Transportation Engineers. The proposed uses are per ITE codes #814 Variety Store (Goodwill) and #822 Strip Retail Plaza. Using the ITE rates, Lot #1 is expected to generate about 2,242 daily trips, 104 trips (59 in/45 out) in the morning peak hour and 248 trips (126 in/123 out) in the evening peak hour.

The proposed trip generation is compared with the estimated trips per the previous full study. The proposed uses for Lot #1 do not match that designated in the full study. The full study designates this lot to have the #866 Pet Supply Superstore use. This is the last lot to be developed and the proposed uses are acceptable. A larger roadway improvements share contribution is required and discussed below. Table 1 shows the Pet Supply Superstore as the original use matching the full study.

Table 1 shows the original planned trips versus the proposed trips. The new use will generate substantially more trips at 1,668 additional. However, there are 864 additional trips once adjusted for internal capture and pass-by reduction factors. The adjusted trips were calculated with the same procedure as in the full study.

Existing Roads & Distribution

The previous full traffic study presented the adjacent street classifications, the proposed local internal streets, access locations, and trip distribution. The proposed changes to Lot #1 will increase traffic compared with the full study but is considered acceptable following the planned offsite improvements discussed in the next section below.

Roadway Improvements Share

The attached **Table 2** (Table 7b from the Falcon Marketplace full study) shows pro-rata share by lot for the offsite roadway improvements associated with the Falcon Marketplace development.

The proposed trip generation is significantly higher than that estimated by the previous study. This increase in average weekday trips has been accounted for as an increase 3.886 factor to the pro-rata share as listed below:

- The eastbound left turn lane improvement at Woodmen Road and Meridian Road was identified as 0.08% and \$255 for Pet Supply Superstore, and increased to 0.31% and \$991 for this proposed development.

Traffic Memorandum for Falcon Marketplace, Lot #1

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- The eastbound left turn lane improvement at Woodmen Road and Golden Sage was increased from 0.35% and \$706 to 1.36% and \$2,744 for this project.
 - The southbound right turn lane improvement at Woodmen Road and Golden Sage was increased from 0.17% and \$169 to 0.66% and \$657 for this project.
 - The traffic signal installation at N Frontage Road and Golden Sage Road was increased from 0.23% and \$802 to 0.89% and \$3,117 for this project.
- The total project cost participation for these four improvements equals \$7,509.00.

Conclusion

Lot #1 is located within Falcon Marketplace, the overall multi-use site. The proposed changes to Lot #1 will increase traffic compared with the full study. As the last lot to be developed, this has been determined to be acceptable. A larger roadway improvements cost share has been presented. If you have any questions or would like to discuss my analysis further, please don't hesitate to contact me.

**Table 1 - Trip Generation Estimate for
Falcon Marketplace - Lot 1**

ITE Code / Land Use	Size	Trip Generation Rates			Trips Generated											External Trips				
		Avg. Weekday	AM PEAK	PM PEAK	Average Weekday Trips	AM Peak-Hour (7 - 9)			PM Peak-Hour (4 - 6)			Internal Capture % Reduced	External Weekday Trips	Pass-By Trips % Reduced	Adjusted Weekday Trips					
						% Trips	Trips	% Trips	Trips	Total	% Trips					Trips	% Trips	Trips	Total	
TIS Estimate ¹ :																				
#866 Pet Supply Superstore	15.00 KSF	38.24	0.85	3.35	574	64%	8	36%	5	13	50%	25	50%	25	50	9.40%	520	10.00%	468	
Proposed ² :																				
#814 Variety Store (Goodwill)	22.75 KSF	63.66	3.04	6.70	1,448	55%	38	45%	31	69	51%	78	49%	75	152	10.00%	1303	34.00%	860	
#822 Strip Retail Plaza (<40KSF)	14.58 KSF	54.45	2.36	6.59	794	60%	21	40%	14	34	50%	48	50%	48	96	10.00%	714	34.00%	471	
Proposed Trips					2,242		59		45	104		126		123	248		2,017		1,332	
Difference in Trips					(1,668)		(51)		(40)	(91)		(101)		(98)	(198)		(1,498)		(864)	

¹Source: "Falcon Marketplace Traffic Impact Analysis", SP-17-001/CDR-16-007, LSC Transportation Consultants, Inc., September 5, 2018

²Source: "Trip Generation" Institute of Transportation Engineers, 11th Edition, 2021

KSF = 1000 SF of Gross Floor Area

Table 2

**Table 2
Pro-Rata Share for Shared Improvements by Lot
Plus Calculation of Amount per Daily Trip
Falcon Marketplace**

Lot	Land Use Code	Land Use Description	Trip Generation Units	Total External Trips Generated					Calculated Fair Share of Woodmen Road Eastbound Left Turn Lane Improvement at Meridian/Woodmen: Fair Share at 2.5 percent ⁽⁸⁾			Calculated Fair Share of Woodmen Road Eastbound Left Turn Lane Improvement at Woodmen/Golden Sage: Fair Share at 13.1 percent ⁽⁸⁾			Calculated Fair Share of Golden Sage Southbound Right Turn Lane Improvement at Woodmen/Golden Sage: Fair Share at 15.5 percent ⁽⁸⁾			Calculated Fair Share of Golden Sage/WoodmenN Frontage Traffic Signal: Fair Share at 15.5 percent ⁽⁸⁾												
				Average Weekday Trips	Morning Peak Hour In	Morning Peak Hour Out	Afternoon Peak Hour In	Afternoon Peak Hour Out	Amount by Lot	Lot Dollar/Trip Rate	Amount by Lot	Lot Dollar/Trip Rate	Amount by Lot	Lot Dollar/Trip Rate	Amount by Lot	Lot Dollar/Trip Rate														
Trip Generation Estimate Based on the Currently Proposed Plan				2,017																										
1	866	Pet Supply Superstore ⁽³⁾	15 KSF ⁽⁴⁾	519	9	4	24	25	0.08%	0.31%	\$255	\$0.49	0.35%	1.36%	\$706	\$1.36	0.17%	0.66%	\$169	\$0.33	0.23%	0.89%	\$802	\$1.55						
2	850	Supermarket	123 KSF	9,054	270	160	419	412	1.46%		\$4,525	\$0.50	7.56%		\$15,120	\$1.67	7.04%		\$7,038	\$0.78	4.77%		\$16,691	\$1.84						
3	944	Gasoline/Service Station	18 VFP ⁽⁵⁾	2,822	90	85	111	115	0.39%		\$1,202	\$0.43	2.21%		\$4,427	\$1.57	3.76%		\$3,757	\$1.33	1.52%		\$5,324	\$1.89						
4	934	Fast-Food Restaurant with Drive-Through Window	2.5 KSF	797	32	41	30	22	0.11%		\$329	\$0.41	0.69%		\$1,377	\$1.73	1.81%		\$1,814	\$2.28	0.48%		\$1,670	\$2.09						
5	820	Shopping Center	5 KSF	227	3	2	10	11	0.04%		\$110	\$0.49	0.15%		\$294	\$1.29	0.07%		\$68	\$0.30	0.10%		\$345	\$1.52						
6	848	Tire Store	6.00 KSF	156	10	6	9	13	0.03%		\$100	\$0.64	0.22%		\$433	\$2.77	0.26%		\$259	\$1.66	0.14%		\$506	\$3.24						
7	934	Fast-Food Restaurant with Drive-Through Window ⁽⁶⁾	3.5 KSF	1,116	0	1	42	32	0.15%		\$459	\$0.41	0.47%		\$943	\$0.84	0.06%		\$60	\$0.05	0.29%		\$1,008	\$0.90						
8	934	Fast-Food Restaurant with Drive-Through Window ⁽⁶⁾	2.5 KSF	797	1	1	30	22	0.11%		\$329	\$0.41	0.35%		\$692	\$0.87	0.04%		\$43	\$0.05	0.21%		\$724	\$0.91						
9	630	Clinic	7.8 KSF	247	18	1	3	14	0.01%		\$37	\$0.15	0.24%		\$480	\$1.95	0.06%		\$59	\$0.24	0.14%		\$495	\$2.01						
10	820	Shopping Center	8 KSF	364	7	3	16	18	0.06%		\$172	\$0.47	0.25%		\$496	\$1.36	0.14%		\$136	\$0.37	0.17%		\$584	\$1.60						
11	937	Coffee/Donut Shop With Drive-Through Window	1.3 KSF	722	37	48	19	17	0.07%		\$207	\$0.29	0.62%		\$1,234	\$1.71	2.10%		\$2,098	\$2.90	0.46%		\$1,603	\$2.22						
				16,822	478	352	715	702	2.5%		\$7,727		13.1%		\$26,200		15.5%		\$15,500		8.5%		\$29,750							
Total Falcon Marketplace Fair Share Percentage							2.5%						13.1%						15.5%						8.5%					
Total Falcon Marketplace Development Amount										\$7,727						\$26,200						\$15,500						\$29,750		
Total Estimated Amount to Complete the Improvement										\$309,099						\$200,000						\$100,000						\$350,000		

Notes

- (1) Source: "Trip Generation, 10th Edition, 2017" by the Institute of Transportation Engineers (ITE)
- (2) Source: "Trip Generation Handbook - An ITE Proposed Recommended Practice" 3rd Edition, 2014
- (3) Daily and morning peak-hour trip generation rates for Pet Supply Superstore are estimates by LSC
- (4) KSF = 1,000 square feet of floor space
- (5) VFP = vehicle fueling position
- (6) The AM peak-hour trip generation rates have been reduced by LSC as the proposed fast-food restaurant does not serve breakfast
- (7) See attached NCHRP 684 Internal Trip Capture Estimate Tool Sheets
- (8) 2.5 percent calculation based on PM Peak Hour traffic volumes shown for the Meridian/Woodmen intersection in the October 23, 2017 TIS: Sum of eastbound left turn and U turn Volumes from Figure 14 divided by the sum of eastbound left turn and U turn Volumes from Figure 18a (x100).

Source: LSC Transportation Consultants, Inc. (rev. date: 4/16/2018)

Lot 1 - Additional building size and trips added

Increase in external daily trips from 519 to 2,017. A factor of 3.886 has been applied to the fair share percent and cost for each offsite improvement

Lot 1 Total Share: \$7,509