Memorandum

To: Michael Naggar – Mike Naggar and Associates, Inc.

From: Nicholas Lowe, P.E. – Albert A. Webb Associates
Senior Engineer

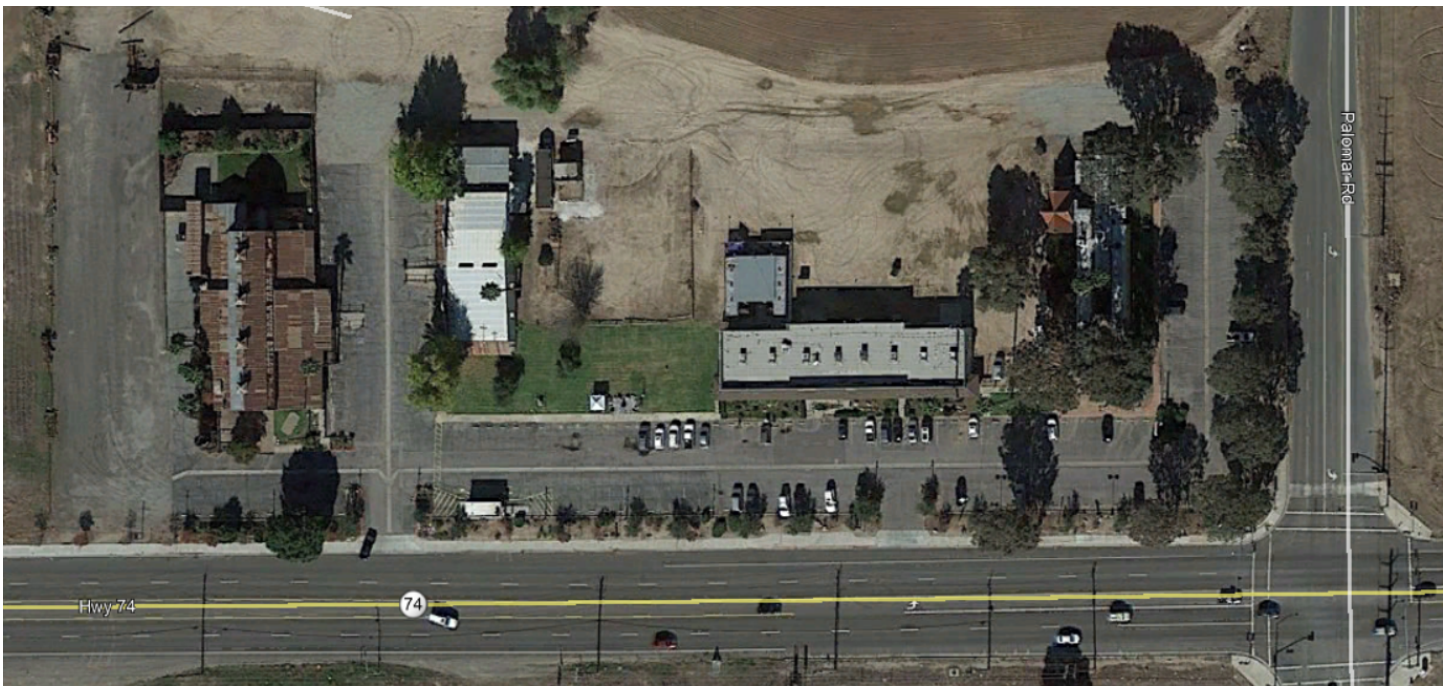
Date: December 1, 2020

Re: Parking Analysis for the Motte Country Plaza at SR-74 and Palomar Road

Albert A. Webb Associates (Webb) has prepared this parking analysis to determine the adequacy of parking for both existing and proposed land uses at the Motte Country Plaza site located at the northwest corner of the intersection of SR-74 and Palomar Road in the City of Menifee. The site currently has 10 occupants spread over five separate buildings. All available square footage is currently occupied. The proposed expansion project (Project) will add additional land uses to the site including a gas station, fast food, and a carwash. The Project will also reconfigure a portion of the existing site's circulation and parking.

The existing site comprises of five buildings – four of which contain only one tenant: Motte Historical Museum, ACTS International Christian Fellowship Church, Jerkyville USA, and Chinese Bistro. The fifth building includes Nutri-Fruit, Daniel Nail Spa, B&S Builders United, Battery Barn, United States Post Office, and U-Turn for Christ Thrift Store. The existing parking lot has a total of 162 marked parking spaces. The large unpaved areas nearby were not taken into account. The existing site is shown in Figure 1.

Figure 1 – Existing Site



The current square footages of the existing tenants is shown in Table 1. Square footages were approximated based on field measurements and measurements in Google Earth.

Table 1 – Tenant Square Footage

Tenant	Length	Depth	Area (sqft)
Nutri-Fruit	19	40	760
Daniel Nail Spa	21	40	840
B&S Builders United	38	44	1,672
Battery Barn	16	44	704
USPS	27	44	1,188
Thrift Store	45	40	1,800
Jerky Stand	28	10	280
Chinese Bistro	Google Earth Measurement		4,100
ACTS Church			5,400
Motte Museum			9,500

Peak parking demand was calculated using the Institute of Transportation Engineers Parking Generation Manual, 5th Edition, 2019 (ITE Manual). The peak period of parking demand is the period of time where the highest demand rate occurs. Peak periods of parking demand in the ITE Manual span over several hours for most of the land uses. The actual peak parking demand for each land use generally falls within the multi-hour windows provided in the ITE Manual and have the potential to not overlap each other. In addition, the parking demand calculations do not take multi-use parking into account. Customers that park one time and visit multiple businesses on the site are counted for each business they visit. Therefore, the peak parking demands calculated in Table 2 and Table 3 are considered conservative. The Shopping Center (820) land use was used for the Nutri-Fruit, Daniel Nail Spa, U-Turn for Christ Thrift Store, and Jerkyville USA as there was no appropriate land use in the ITE Manual for these businesses.

Table 2 – Peak Parking Demand

Tenant	Area (sqft)	ITE Land Use	Weekday Peak Rate	Weekday Peak Demand	Weekend Peak Rate	Weekend[3] Peak Demand
Nutri-Fruit	3,680	820	1.95	7	2.91	11
Daniel Nail Spa						
Thrift Store						
Jerky Stand						
B&S Builders United	1,672	180	1.76	3	0[12]	0
Battery Barn	704	816	0.54	1	1.5	1
USPS	1,188	732	33.2	39	0[12]	0
Chinese Bistro	4,100	932	9.44	39	12.28	50
ACTS Church	5,400	560	0[1]	0	9.44	51
Motte Museum	9,500	580	0.76	7	0.92	9
TOTAL PEAK PARKING DEMAND (SPACES)				**96**		**122**

[1]ITE Manual did not have any peak hour parking demand for this time period.

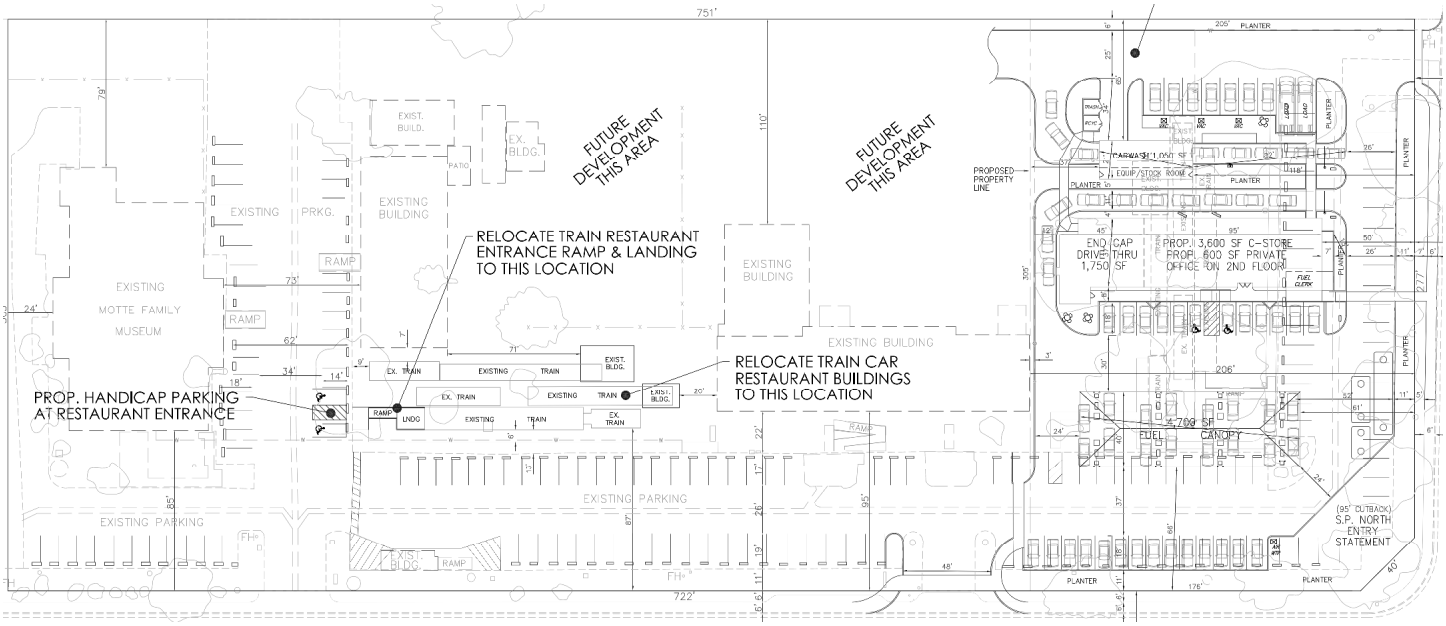
[2]Business is closed during this time period.

[3]Sunday rates were used unless Saturday rates were the only weekend rates available.

The existing 162 parking spaces is adequate for the peak period parking demand of 122 spaces.

The Project is proposing to construct a 16 fueling position gas station with 3,600 sf convenience store, an automated carwash tunnel, and a 1,750 sf fast food restaurant with a drive-thru. The Project is also planning to relocate the existing China Bistro restaurant to the west. With the expansion, the site has a total of 108 parking spaces not including 16 spaces at the vehicle fueling pumps and 9 spaces at the car wash vacuum stalls. The proposed site plan for the Project is shown in Figure 2.

Figure 2 – Proposed Site Plan



The peak parking demand for the Project is shown in Table 3. The same assumptions were made as in Table 2 and the total peak parking demand for the site is considered conservative.

Tenant	Area (sqft)	ITE Land Use	Weekday Peak Rate	Weekday Peak Demand	Weekend Peak Rate	Weekend[3] Peak Demand
Nutri-Fruit	3,680	820	1.95	7	1.89	7
Daniel Nail Spa						
Thrift Store						
Jerky Stand						
B&S Builders United	1,672	180	1.76	3	0[12]	0
Battery Barn	704	816	0.54	1	1.5	1
USPS	1,188	732	33.2	39	0[12]	0
Chinese Bistro	4,100	932	9.44	39	11.25	46
ACTS Church	5,400	560	0[1]	0	9.44	51
Motte Museum	9,500	580	0.76	7	0.92	9
Gas Station	3,600	960	8.11	29	5.07	18
Fast Food w/ Drive Thru	1,750	934	8.66	15	10.47	18
TOTAL PEAK PARKING DEMAND (SPACES)				**140**		**150**

[1]ITE Manual did not have any peak hour parking demand for this time period.

[2]Business is closed during this time period.

[3]Sunday rates were used unless Saturday rates were the only weekend rates available.

The proposed 108 parking spaces appears to be inadequate for both the weekday peak period parking demand of 140 spaces and the weekend peak period parking demand of 150 spaces. However, an internal trip capture calculation per the National Cooperative Highway Research Program (NCHRP) Report 684 was prepared

to estimate the number of users that visit multiple businesses while using a single parking space. This estimates internal trips within the site using percentage factors obtained from real-world surveys. The calculation resulted in approximately 55 vehicle trips that visit multiple businesses while on site during the peak period. Therefore, the peak parking demand can be estimated to be 95 parking spaces which can be accommodated by the proposed Project. NCHRP Report 684 calculations provided in Appendix A.

While the calculated peak parking demand is near the Project's available parking capacity, it is not expected that the parking lot will be full during peak periods. Land uses within the site complement each other and have a high likelihood of attracting customers to multiple tenants at a time. Peak parking demand shown for each land use is also the highest demand within a multi-hour window. For example, the peak parking demand for the fast food land use may occur at 12:00 PM while the peak for the Chinese Bistro may occur at 1:00 PM. The peak times for these land uses are different and would not add up to the value shown in Table 3 under real-world conditions. Finally, it should be noted that the ITE Manual uses data from many sites in multiple states over large timeframes to come up with average rates for each land use. There is an inherent inaccuracy with strictly using the ITE Manual for all assumptions. For the most accurate estimates, an on-site parking survey should be conducted at the existing site over the course of several days to determine the existing peak parking demand and peak period of parking demand. Several visits to the site have shown the site to have plentiful available parking even during peak periods which would further reduce the expected peak parking demand in future parking analysis for the Project.

If you have any questions, feel free to contact us at 951-248-4289.

Attachments:

Appendix A – NCHRP Report 684 for PM Peak Hour

cc: Scott Hildebrandt, PE
Albert A. Webb Associates

Dilesh Sheth, PE, TE
Albert A. Webb Associates

Appendix A – NCHRP Report 684 for PM Peak Hour

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	Motte Country Plaza	**Organization:**	Albert A. Webb Associates
Project Location:	SR-74 and Palomar Road	**Performed By:**	Nicholas Lowe, PE
Scenario Description:	Internal Capture for Parking Demand	**Date:**	4/7/2020
Analysis Year:	N/A	**Checked By:**	
Analysis Period:	**PM Street Peak Hour**	**Date:**	

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips[3]		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office				0	0	0
Retail	816,820,960	10,844	SF	52	26	26
Restaurant	932,934	5,850	SF	128	64	64
Cinema/Entertainment	580	9,500	SF	18	9	9
Residential				0	0	0
Hotel				0	0	0
All Other Land Uses[2]	560	5,400	SF	102	51	51
				300	150	150

Table 2-P: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.[4]	% Transit	% Non-Motorized	Veh. Occ.[4]	% Transit	% Non-Motorized
Office	0.00	0%	0%	0.00	0%	0%
Retail	2.00	0%	0%	2.00	0%	0%
Restaurant	2.00	0%	0%	2.00	0%	0%
Cinema/Entertainment	2.00	0%	0%	2.00	0%	0%
Residential	0.00	0%	0%	0.00	0%	0%
Hotel	0.00	0%	0%	0.00	0%	0%
All Other Land Uses[2]	2.00	0%	0%	2.00	0%	0%

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		N/A	N/A		N/A	
Retail					N/A	
Restaurant					N/A	
Cinema/Entertainment					N/A	
Residential		N/A	N/A			
Hotel					N/A	

Table 4-P: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		15	2	0	0
Restaurant	0	26		6	0	0
Cinema/Entertainment	0	2	4		0	0
Residential	0	0	0	0		0
Hotel	0	0	0	0	0	

Table 5-P: Computations Summary

	Total	Entering	Exiting
All Person-Trips	600	300	300
Internal Capture Percentage	18%	18%	18%
External Vehicle-Trips[5]	246	123	123
External Transit-Trips[6]	0	0	0
External Non-Motorized Trips[6]	0	0	0

Table 6-P: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	54%	33%
Restaurant	15%	25%
Cinema/Entertainment	44%	33%
Residential	N/A	N/A
Hotel	N/A	N/A

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

[4]Enter vehicle occupancy assumed in Table 1-P vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be

[5]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P.

[6]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.