

December 17, 2020

Mr. Clark Neuhoff
Alere Property Group
100 Bayview Circle, Suite 310
Newport Beach, CA 92660

**SUBJECT: 10131 REDWOOD AVENUE (MCN 20-049, DRN 20-019, TPM 20235)
TRIP GENERATION ASSESSMENT**

Dear Mr. Clark Neuhoff:

Urban Crossroads, Inc. is pleased to provide the following Trip Generation Assessment for 10131 Redwood Avenue development (**Project**) which is located in the City of Fontana. The purpose of this work effort is to determine whether additional traffic analysis is necessary for the proposed Project based on the City of Fontana's Traffic Impact Analysis (TIA) Guidelines for Vehicle Miles Traveled (VMT) and Level of Service Assessment (October 21, 2020) (**City Guidelines**).

PROPOSED PROJECT

The Project is proposed to consist of a 247,786 square foot high-cube warehouse building (75% high-cube fulfillment warehouse use and 25% high-cube transload and short-term storage warehouse use).

PROJECT TRIP GENERATION

The trip generation rates used for this analysis are based on the trip-generation statistics published in the Institute of Transportation Engineers (ITE) Trip Generation Manual, (10th Edition, 2017) and the High Cube Warehouse Trip Generation Study (WSP, January 2019) (see Table 1). The following summarizes the proposed land uses and vehicle mixes:

- High-Cube Transload and Short-Term Storage Warehouse has been used to derive site specific trip generation estimates for the proposed Project (61,947 square feet). High-cube transload and short-term storage warehouse data regarding the truck percentage and vehicle mix has been obtained from the ITE's Trip Generation Manual Supplement (dated February 2020). This study provides the following vehicle mix: AM Peak Hour: 80.0% passenger cars and 20.0% trucks; PM Peak Hour: 84.0% passenger cars and 16.0% trucks; Weekday Daily: 84.0% passenger cars and 16.0% trucks. The truck percentages were further broken down by axle type per the following South Coast Air Quality Management District (SCAQMD) recommended truck mix: 2-Axle = 16.7%; 3-Axle = 20.7%; 4+-Axle = 62.6%.

- High-Cube Fulfillment Center Warehouse has been used to derive site specific trip generation estimates for the proposed Project (185,840 square feet). The Institute of Transportation Engineers (ITE) Trip Generation Manual Supplement (February 2020) has trip generation rates for high-cube fulfillment center use for both non-sort and sort facilities (ITE land use code 155). While there is sufficient data to support use of the trip generation rates for non-sort facilities, the sort facility rate appears to be unreliable because they are based on limited data (i.e., data based on one to two surveyed sites). The proposed Project is speculative and whether a non-sort or sort facility end-user would occupy the Project is not known at this time. Lastly, the ITE Trip Generation Manual recommends the use of local data sources where available. As such, the best available source for high-cube fulfillment center use would be the trip-generation statistics published in the High-Cube Warehouse Trip Generation Study (WSP, January 29, 2019) which was commissioned by the Western Riverside Council of Governments (WRCOG) in support of the Transportation Uniform Mitigation Fee (TUMF) Update in the County of Riverside. The WSP trip generation rates were published in January 2019 and are based on data collected at 11 local high-cube fulfillment center sites located throughout Southern California (specifically located within San Bernardino County and Riverside County). However, the WSP study does not include a split for inbound and outbound vehicles, as such, the inbound and outbound splits per the ITE Trip Generation Manual for ITE Land Use Code 154 have been utilized.

The trip generation summary illustrating daily, and peak hour trip generation estimates for the proposed Project in actual vehicles are shown on Table 2. As shown in Table 2, the proposed Project is anticipated to generate a total of 486 two-way trips per day with 26 AM peak hour trips and 35 PM peak hour trips.

The City's traffic study guidelines require that truck intensive uses translate heavy truck trips to passenger car equivalents (PCE) for the purposes of any operations analyses. As shown on Table 3, the Project is anticipated to generate 622 PCE two-way trips per day, with 33 PCE AM peak hour trips and 43 PCE PM peak hour trips.

TABLE 1: TRIP GENERATION RATES

Land Use ¹	ITE LU		AM Peak Hour			PM Peak Hour			Daily
	Units ²	Code	In	Out	Total	In	Out	Total	
Actual Vehicle Trip Generation Rates:									
High-Cube Transload and Short-Term Storage Warehouse ³	TSF	154	0.062	0.018	0.080	0.028	0.072	0.100	1.400
Passenger Cars:			0.049	0.015	0.064	0.024	0.060	0.084	1.176
2-Axle Trucks:			0.002	0.001	0.003	0.001	0.002	0.003	0.037
3-Axle Trucks:			0.003	0.001	0.003	0.001	0.002	0.003	0.046
4+-Axle Trucks:			0.008	0.002	0.010	0.003	0.007	0.010	0.140
High-Cube Fulfillment Center Warehouse ⁴	TSF	--	0.094	0.028	0.122	0.046	0.119	0.165	2.129
Passenger Cars:			0.079	0.024	0.103	0.040	0.104	0.144	1.750
2-4 Axle Trucks:			0.006	0.002	0.008	0.003	0.008	0.011	0.162
5+-Axle Trucks:			0.008	0.003	0.011	0.003	0.007	0.010	0.217
Passenger Car Equivalent (PCE) Trip Generation Rates:⁶									
High-Cube Transload and Short-Term Storage Warehouse (Without Cold Storage) ³	TSF	154	0.062	0.018	0.080	0.028	0.072	0.100	1.400
Passenger Cars:			0.049	0.015	0.064	0.024	0.060	0.084	1.176
2-Axle Trucks (PCE = 2.0):			0.004	0.001	0.005	0.001	0.004	0.005	0.075
3-Axle Trucks (PCE = 2.5):			0.006	0.002	0.008	0.002	0.006	0.008	0.116
4+-Axle Trucks (PCE = 3.0):			0.023	0.007	0.030	0.008	0.022	0.030	0.421
High-Cube Fulfillment Center Warehouse ⁴	TSF	--	0.094	0.028	0.122	0.046	0.119	0.165	2.129
Passenger Cars:			0.079	0.024	0.103	0.040	0.104	0.144	1.750
2-4 Axle Trucks (PCE = 2.0):			0.012	0.004	0.016	0.006	0.016	0.022	0.324
5+-Axle Trucks (PCE = 3.0):			0.025	0.008	0.033	0.008	0.022	0.030	0.651

¹ Trip Generation Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, Tenth Edition (2017).

² TSF = thousand square feet

³ Vehicle Mix Source: ITE Trip Generation Handbook Supplement (2020), Appendix C.

Truck Mix: South Coast Air Quality Management District's (SCAQMD) recommended truck mix, by axle type.

Normalized % - Without Cold Storage: 16.7% 2-Axle trucks, 20.7% 3-Axle trucks, 62.6% 4-Axle trucks.

⁴ Vehicle Mix Source: High Cube Warehouse Trip Generation Study, WSP, January 29, 2019.

Inbound and outbound split source: ITE Trip Generation Manual, Tenth Edition (2017) for ITE Land Use Code 154.

⁵ PCE factors per City's TIA Guidelines: 2-axle = 2.0; 3-axle = 2.5; 4+-axle = 3.0.

TABLE 2: PROPOSED PROJECT TRIP GENERATION SUMMARY (ACTUAL VEHICLES)

Land Use	Quantity Units ¹	AM Peak Hour			PM Peak Hour			Daily
		In	Out	Total	In	Out	Total	
High-Cube Transload (25%)	61.947 TSF							
Passenger Cars:		3	1	4	1	4	5	74
2-axle Trucks:		0	0	0	0	0	0	2
3-axle Trucks:		0	0	0	0	0	0	4
4+-axle Trucks:		0	0	0	0	0	0	10
Total Trucks:		0	0	0	0	0	0	16
Subtotal for High-Cube Transload (Actual Vehicles)²		3	1	4	1	4	5	90
High-Cube Fulfillment (75%)	185.840 TSF							
Passenger Cars:		15	4	19	7	19	26	326
2-4 axle Trucks:		1	0	1	1	1	2	30
5+-axle Trucks:		2	0	2	1	1	2	40
Total Trucks:		3	0	3	2	2	4	70
Subtotal for High-Cube Fulfillment (Actual Vehicles)²		18	4	22	9	21	30	396
Passenger Cars:		18	5	23	8	23	31	400
Total Trucks:		3	0	3	2	2	4	86
Total Trips (Actual Vehicles)²		21	5	26	10	25	35	486

¹ TSF = thousand square feet

² Total Trips = Passenger Cars + Truck Trips.

TABLE 3: PROPOSED PROJECT TRIP GENERATION SUMMARY (PCE)

Land Use	Quantity Units ¹	AM Peak Hour			PM Peak Hour			Daily
		In	Out	Total	In	Out	Total	
High-Cube Transload (25%)	61.947 TSF							
Passenger Cars:		3	1	4	1	4	5	74
2-axle Trucks:		0	0	0	0	0	0	6
3-axle Trucks:		0	0	0	0	0	0	8
4+-axle Trucks:		1	0	1	1	1	2	26
Total Trucks:		1	0	1	1	1	2	40
Subtotal for High-Cube Transload (PCE)²		4	1	5	2	5	7	114
High-Cube Fulfillment (75%)	185.840 TSF							
Passenger Cars:		15	4	19	7	19	26	326
2-4 axle Trucks:		2	1	3	1	3	4	60
5+-axle Trucks:		5	1	6	2	4	6	122
Total Trucks:		7	2	9	3	7	10	182
Subtotal for High-Cube Fulfillment (PCE)²		22	6	28	10	26	36	508
Passenger Cars:		18	5	23	8	23	31	400
Total Trucks (PCE):		8	2	10	4	8	12	222
Total Trips (PCE)²		26	7	33	12	31	43	622

¹ TSF = thousand square feet

² Total Trips = Passenger Cars + Truck Trips.

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FINDINGS

The Project is anticipated to generate fewer than 50 peak hour trips (both actual and PCE based). As such, a level of service (LOS) based traffic analysis is not required for this Project based on the City of Fontana's Traffic Study Guidelines. If you have any questions, please contact me directly at (949) 861-0177.

Respectfully submitted,

URBAN CROSSROADS, INC.



Charlene So, PE
Associate Principal