

April 8, 2022

Ms. Tracy Zinn
T&B Planning, Inc.
3200 El Camino Real, Suite 100
Irvine, CA 92602

SUBJECT: COTTONWOOD & EDGEMONT WAREHOUSE TRIP GENERATION ASSESSMENT

Dear Ms. Tracy Zinn:

Urban Crossroads, Inc. is pleased to provide the following Trip Generation Assessment for Cottonwood & Edgemont Warehouse development which is located south of Cottonwood Avenue between Old 215 Frontage Road and Edgemont Street in the City of Moreno Valley. The purpose of this work effort is to determine whether additional traffic analysis is necessary for the proposed Project based on the City of Moreno Valley's Transportation Impact Analysis Preparation Guide for Vehicle Miles Traveled and Level of Service Assessment (dated June 2020) (**City Guidelines**).

PROPOSED PROJECT

The Project is proposed to consist of two 49,815 square foot warehouse buildings for a total of 99,630 square feet (see Exhibit 1). For the purposes of this assessment, the trip generation will evaluate 9,963 square feet of high-cube cold storage warehouse use (10% of the total square footage) and 89,667 square feet of general light industrial use. The trip generation rates used for this analysis are based upon information collected by the Institute of Transportation Engineers (ITE) as provided in their latest Trip Generation Manual (11th Edition, 2021) for the following land uses (see Table 1):

- ITE land use code 110 (General Light Industrial) has been used to derive site specific trip generation estimates for up to 89,667 square feet of the proposed Project (90% of the total square footage). A light industrial facility is a free-standing facility devoted to a single use that has an emphasis on activities other than manufacturing. Typically, there is minimum office space. The vehicle mix has also been obtained from the ITE's latest Trip Generation Manual. The truck percentages were further broken down by axle type per the following SCAQMD recommended truck mix: 2-Axle = 16.7%; 3-Axle = 20.7%; 4+-Axle = 62.6%.
- ITE land use code 157 (High-Cube Cold Storage Warehouse) has been used to derive site specific trip generation estimates for up to 9,963 square feet (10 % of the total square footage). High-cube cold storage warehouses include warehouses characterized by the storage and/or consolidation of manufactured goods (and to a lesser extent, raw materials) prior to their distribution to retail locations or other warehouses. High-cube cold storage warehouses are facilities typified by temperature-controlled environments for frozen food or other perishable products. The High-Cube Cold Storage Warehouse vehicle mix (passenger cars versus trucks) has

been obtained from the ITE’s latest Trip Generation Manual. The truck percentages were further broken down by axle type per the following SCAQMD recommended truck mix: 2-Axle = 34.7%; 3-Axle = 11.0%; 4+-Axle = 54.3%.

TABLE 1: TRIP GENERATION RATES

Land Use ¹	Units ²	ITE LU Code	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Actual Vehicle Trip Generation Rates									
General Light Industrial ³	TSF	110	0.651	0.089	0.740	0.091	0.559	0.650	4.870
Passenger Cars			0.645	0.085	0.730	0.086	0.554	0.640	4.620
2-Axle Trucks			0.001	0.001	0.002	0.001	0.001	0.002	0.042
3-Axle Trucks			0.001	0.001	0.002	0.001	0.001	0.002	0.052
4+-Axle Trucks			0.004	0.002	0.006	0.003	0.003	0.006	0.157
High-Cube Cold Storage Warehouse ³	TSF	157	0.085	0.025	0.110	0.034	0.086	0.120	2.120
Passenger Cars			0.076	0.004	0.080	0.019	0.071	0.090	1.370
2-Axle Trucks			0.003	0.007	0.010	0.005	0.005	0.010	0.260
3-Axle Trucks			0.001	0.002	0.003	0.002	0.001	0.003	0.083
4+-Axle Trucks			0.005	0.011	0.016	0.008	0.008	0.016	0.407
Passenger Car Equivalent (PCE) Trip Generation Rates⁴									
General Light Industrial ³	TSF	110	0.651	0.089	0.740	0.091	0.559	0.650	4.870
Passenger Cars			0.645	0.085	0.730	0.086	0.554	0.640	4.620
2-Axle Trucks (PCE = 1.5)			0.002	0.001	0.003	0.002	0.001	0.003	0.063
3-Axle Trucks (PCE = 2.0)			0.002	0.002	0.004	0.002	0.002	0.004	0.104
4+-Axle Trucks (PCE = 3.0)			0.012	0.007	0.019	0.009	0.010	0.019	0.470
High-Cube Cold Storage Warehouse ³	TSF	157	0.085	0.025	0.110	0.034	0.086	0.120	2.120
Passenger Cars			0.076	0.004	0.080	0.019	0.071	0.090	1.370
2-Axle Trucks (PCE = 1.5)			0.005	0.011	0.016	0.008	0.008	0.016	0.390
3-Axle Trucks (PCE = 2.0)			0.002	0.005	0.007	0.004	0.003	0.007	0.165
4+-Axle Trucks (PCE = 3.0)			0.015	0.034	0.049	0.024	0.025	0.049	1.222

¹ Trip Generation & Vehicle Mix Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, Eleventh Edition (2021).

² TSF = thousand square feet

³ 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.

Normalized % - With Cold Storage: 34.7% 2-Axle trucks, 11.0% 3-Axle trucks, 54.3% 4-Axle trucks.

⁴ PCE factors: 2-axle = 1.5; 3-axle = 2.0; 4+-axle = 3.0.

The trip generation summary illustrating daily, and peak hour trip generation estimates for the proposed Project in actual and passenger car equivalent (PCE) vehicles are shown on Table 2. As shown in Table 2, the proposed Project is anticipated to generate a total of 462 trip-ends per day with 67 AM peak hour trips and 59 PM peak hour trips (in actual vehicles). In comparison, the proposed Project is anticipated to generate a total of 504 PCE two-way trips per day with 68 PCE AM peak hour trips and 60 PCE PM peak hour trips.

TABLE 2: PROPOSED PROJECT TRIP GENERATION SUMMARY

Land Use	Quantity Units ¹	AM Peak Hour			PM Peak Hour			Daily
		In	Out	Total	In	Out	Total	
Actual Vehicles:								
General Light Industrial (90%)	89.667 TSF							
Passenger Cars:		58	8	66	8	50	58	414
2-axle Trucks:		0	0	0	0	0	0	4
3-axle Trucks:		0	0	0	0	0	0	6
4+-axle Trucks:		0	0	0	0	0	0	14
Total Truck Trips (Actual Vehicles):		0	0	0	0	0	0	24
Total Trips (Actual Vehicles)²		58	8	66	8	50	58	438
High-Cube Cold Storage (10%)	9.963 TSF							
Passenger Cars:		1	0	1	0	1	1	14
2-axle Trucks:		0	0	0	0	0	0	4
3-axle Trucks:		0	0	0	0	0	0	2
4+-axle Trucks:		0	0	0	0	0	0	4
Total Truck Trips (Actual Vehicles):		0	0	0	0	0	0	10
Total Trips (Actual Vehicles)²		1	0	1	0	1	1	24
Passenger Cars		59	8	67	8	51	59	428
Trucks (Actual Vehicles)		0	0	0	0	0	0	34
Total Trips (Actual Vehicles)²		59	8	67	8	51	59	462
Passenger Car Equivalent (PCE):								
General Light Industrial (90%)	89.667 TSF							
Passenger Cars:		58	8	65	8	50	57	414
2-axle Trucks:		0	0	0	0	0	0	6
3-axle Trucks:		0	0	0	0	0	0	10
4+-axle Trucks:		1	1	2	1	1	2	42
Total Truck Trips (PCE):		1	1	2	1	1	2	58
Total Trips (PCE)²		59	9	67	9	51	59	472
High-Cube Cold Storage (10%)	9.963 TSF							
Passenger Cars:		1	0	1	0	1	1	14
2-axle Trucks:		0	0	0	0	0	0	4
3-axle Trucks:		0	0	0	0	0	0	2
4+-axle Trucks:		0	0	0	0	0	0	12
Total Truck Trips (PCE):		0	0	0	0	0	0	18
Total Trips (PCE)²		1	0	1	0	1	1	32
Passenger Cars		59	8	66	8	51	58	428
Trucks (PCE)		1	1	2	1	1	2	76
Total Trips (PCE)²		60	9	68	9	52	60	504

¹ TSF = thousand square feet

² Total Trips = Passenger Cars + Truck Trips.

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CONCLUSION

The proposed Project is anticipated to generate fewer than 100 peak hour trips (both for actual vehicles and in PCE). Per the City's Guidelines, no additional traffic operations analysis is necessary.

If you have any questions, please contact me directly at (949) 861-0177.

Respectfully submitted,

URBAN CROSSROADS, INC.



Charlene So, PE
Principal



EXHIBIT 1: PRELIMINARY SITE PLAN

