

October 29, 2018

Mr. Collin Ramsey  
DUDEK  
27372 Calle Arroyo  
San Juan Capistrano, CA 92675

**SUBJECT: NW CORNER LIVE OAK AND WASHINGTON TRIP GENERATION EVALUATION**

Dear Mr. Collin Ramsey:

The following letter summarizes the findings for the Trip Generation Evaluation prepared for the proposed NW Corner Live Oak and Washington development (referred to as “Project”) located on the northwest corner of Live Oak Avenue and Washington Drive, in the City of Fontana.

## **SUMMARY OF FINDINGS**

The proposed Project is anticipated to generate a net total of 548 PCE trip-ends per day, 52 PCE AM peak hour trips and 60 PCE PM peak hour trips.

## **PROPOSED PROJECT**

### **PROJECT DESCRIPTION**

It is our understanding that the proposed Project consists of the development of a warehouse distribution facility of approximately 240,800 square feet with 236,800 square foot of warehouse space and 8,000 square foot of office/mezzanine space.

### **PROJECT TRIP GENERATION**

The trip generation rates used for this assessment are based upon information collected by the Institute of Transportation Engineers (ITE) as provided in their [Trip Generation Manual](#) (10<sup>th</sup> Edition, 2017). The ITE [Trip Generation Manual](#) is a nationally recognized source for estimating site-specific trip generation.

For purposes of this assessment, ITE land use code 150 (Warehousing) has been used to derive site specific trip generation estimates. In order to accurately reflect the impact that heavy trucks would have on the street system, Project trips have been further broken down between passenger cars and trucks for each of the peak hours and weekday daily trip generation. As noted on Table 1, refinements to the raw trip generation estimates have been made to provide a more detailed breakdown of trips between passenger cars and trucks.

Trip generation for heavy trucks was further broken down by truck type (or axle type). The total truck percentage is comprised of 3 different truck types: 2-axle, 3-axle, and 4+-axle trucks. For the purposes of this analysis, the vehicle mix source is the ITE [Trip Generation Handbook](#) (3<sup>rd</sup> Edition) and the truck

mix has been obtained from the South Coast Air Quality Management District (SCAQMD) Warehouse Truck Trip Study Data Results and Usage (2014) for non-cold storage warehouse buildings. Lastly, PCE factors were applied to the trip generation rates for heavy trucks (large 2-axles, 3-axles, 4+-axles). PCEs allow the typical “real-world” mix of vehicle types to be represented as a single, standardized unit, such as the passenger car, to be used for the purposes of capacity and level of service analyses. The PCE factors are consistent with the recommended PCE factors in Appendix B of the San Bernardino County CMP 2016 Update. Trip generation rates for actual vehicles and with PCE factors are shown on Table 1.

As shown on Table 2, the proposed Project is anticipated to generate a net total of 552 PCE trip-ends per day, 56 PCE AM peak hour trips and 64 PCE PM peak hour trips.

**TABLE 1: TRIP GENERATION RATES**

Land Use	Units <sup>2</sup>	ITE LU Code	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
<b>Actual Vehicle Trip Generation Rates<sup>1</sup></b>									
Warehouse <sup>2,3</sup>	TSF	150	0.131	0.039	0.170	0.051	0.139	0.190	1.740
Passenger Cars (80.00%)			0.105	0.031	0.136	0.041	0.111	0.152	1.392
2-Axle Trucks (3.34%)			0.004	0.001	0.005	0.002	0.005	0.007	0.058
3-Axle Trucks (4.14%)			0.005	0.002	0.007	0.002	0.006	0.008	0.072
4-Axle+ Trucks (12.52%)			0.016	0.005	0.021	0.006	0.017	0.023	0.218
<b>Passenger Car Equivalent (PCE) Trip Generation Rates<sup>1</sup></b>									
Warehouse <sup>2,3</sup>	TSF	150	0.131	0.039	0.170	0.051	0.139	0.190	1.740
Passenger Cars (80.00%)			0.105	0.031	0.136	0.041	0.111	0.152	1.392
2-Axle Trucks (3.34%) (PCE = 1.5) <sup>5</sup>			0.006	0.002	0.008	0.003	0.008	0.011	0.087
3-Axle Trucks (4.14%) (PCE = 2.0) <sup>5</sup>			0.010	0.004	0.014	0.004	0.012	0.016	0.144
4-Axle+ Trucks (12.52%) (PCE = 3.0) <sup>5</sup>			0.048	0.015	0.063	0.018	0.051	0.069	0.654

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

<sup>2</sup> Truck Mix Source: South Coast Air Quality Management District (SCAQMD) Warehouse Truck Trip Study Data Results and Usage (2014).

<sup>3</sup> Truck Mix Source: SCAQMD Warehouse Truck Trip Study Data Results and Usage (2014).

**TABLE 2: PROJECT TRIP GENERATION SUMMARY**

Land Use	Units <sup>1</sup>	ITE LU Code	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
<b>Project Trip Generation Summary (Actual)</b>									
Warehouse	240.800	TSF							
Passenger Cars:			26	8	34	10	28	38	336
Truck Trips:			0	0	0	0	0	0	0
2-axle:			2	0	2	0	2	2	14
3-axle:			2	0	2	0	2	2	18
4+-axle:			4	2	6	2	4	6	52
- Net Truck Trips (Actual Trucks)			8	2	10	2	8	10	84
<b>TOTAL NET TRIPS (Actual Vehicles)<sup>5</sup></b>			34	10	44	12	36	48	420
<b>Project Trip Generation Summary (PCE)</b>									
Warehouse	240.800	TSF							
Passenger Cars:			26	8	34	10	28	38	336
Truck Trips:			0	0	0	0	0	0	0
2-axle:			2	0	2	2	2	4	22
3-axle:			2	2	4	2	4	4	36
4+-axle:			12	4	16	4	12	18	158
- Net Truck Trips (PCE)			16	6	22	8	18	26	216
<b>TOTAL NET TRIPS (PCE)<sup>2</sup></b>			42	14	56	18	46	64	552

<sup>1</sup> TSF = thousand square feet

<sup>2</sup> TOTAL NET TRIPS (PCE) = Passenger Cars + Net Truck Trips (PCE).

If you have any questions, please contact me directly at (949) 336-5987.

Respectfully submitted,

URBAN CROSSROADS, INC.



Haseeb Qureshi  
 Senior Associate

