

December 17, 2021

Mr. Doug Keys
City of Orange Public Works Department
300 E. Chapman Av.
Orange, CA 92866

SUBJECT: 759 ECKHOFF STREET SCOPING MEMORANDUM

Dear Mr. Doug Keys:

This letter has been prepared to document the recommended scoping assumptions for the proposed 759 Eckhoff Street development ("Project") in the City of Orange (see Exhibit 1 for location map). It is our understanding that the Project is to consist of two warehouse buildings totaling 292,762 square feet, which would replace the existing uses onsite. It should be noted that this scoping agreement has been prepared in accordance with the City of Orange Traffic Impact Analysis Guidelines for Vehicles Miles Traveled and Level of Service Assessment ("TIA guidelines") (July 2020).

PROPOSED PROJECT

The preliminary site plan for the proposed Project is shown on Exhibit 2. The proposed Project is to consist of Building 1 (189,566 square foot building) and Building 2 (103,196 square foot building) of warehousing use. In an effort to assess a conservative trip generation for the proposed Project, the trip generation has been derived assuming 51,598 square feet of general light industrial use and 241,164 square feet of warehouse use for the purposes of this analysis. The Project is anticipated to be open by the year 2023. Access to the Project site will be provided by driveways on Eckhoff Street and Poplar Street. The northerly driveway on Eckhoff Street will be restricted to right-in/right-out/left-out only due to the existing raised median.

TRIP GENERATION ASSUMPTIONS

Trip generation represents the amount of traffic that is attracted and produced by a development and is based upon the specific land uses planned for a given project.

EXISTING USES

Traffic counts were collected at the driveways for the existing use at 759 Eckhoff Street on Tuesday, March 16, 2021. A summary of the count data collected at the driveways is provided in Attachment A.

Table A-1 in Attachment A provides a detailed summary of the counts collected at each driveway location on Eckhoff Street and Poplar Street. Table 1 provides the total trip generation for the existing uses.

TABLE 1: TRIP GENERATION SUMMARY FOR EXISTING USES

	759 Eckhoff Street ²						
Land Use	AM Peak Hour			PM Peak Hour			Daily
	In	Out	Total	In	Out	Total	
Actual Vehicles:							
Tuesday, March 16, 2021							
Passenger Cars:	1	0	1	3	5	8	150
2-axle Trucks:	1	0	1	1	0	1	13
3-axle Trucks:	0	0	0	0	0	0	0
4+-axle Trucks:	2	0	2	0	0	0	5
Total Truck Trips:	3	0	3	1	0	1	18
Total Trips (Actual Vehicles) ¹	4	0	4	4	5	9	168
Passenger Car Equivalent (PCE):							
Tuesday, March 16, 2021							
Passenger Cars:	1	0	1	3	5	8	150
2-axle Trucks:	2	0	2	2	0	2	20
3-axle Trucks:	0	0	0	0	0	0	0
4+-axle Trucks:	6	0	6	0	0	0	16
Total Truck Trips (PCE):	8	0	8	2	0	2	36
Total Trips (PCE) ¹	9	0	9	5	5	10	186

¹ Total Trips = Passenger Cars + Truck Trips.

² Trip generation represents the sum of all driveways.

PROPOSED PROJECT

Trip generation rates for the proposed use is shown on Table 1. The trip generation rates used for this analysis are based upon information collected by the Institute of Transportation Engineers (ITE) as provided in their Trip Generation Manual (10th Edition, 2017) and the 10th Edition Supplement (February 2020). For purposes of this scoping agreement, the following ITE land use code and vehicle mix have been utilized for the proposed use (see Table 2):

- ITE land use code 110 (General Light Industrial) has been used to derive site specific trip generation estimates for up to 51,598 square feet. The vehicle mix has been obtained from the ITE's Trip Generation Manual Supplement (dated February 2020). The Trip Generation Manual Supplement provides the following vehicle mix: AM Peak Hour: 97.0% passenger cars and 3.0% trucks; PM Peak Hour: 98.0% passenger cars and 2.0% trucks; Weekday Daily: 92.0% passenger cars and 8.0% trucks. 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 150 (Warehousing) has been used to derive site specific trip generation estimates for up to 241,164 square feet. The vehicle mix has been obtained from the ITE's Trip Generation Manual Supplement (dated February 2020). The Trip Generation Manual Supplement provides the following vehicle mix: AM Peak Hour: 87.0% passenger cars and 13.0% trucks; PM Peak Hour: 85.0% passenger cars and 15.0% trucks; Weekday Daily: 73.0% passenger cars and 27.0% trucks. 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%.

TABLE 2: TRIP GENERATION RATES

	ITE LU		AM Peak Hour			PM Peak Hour			
Land Use ¹	Code	Units ²	In	Out	Total	In	Out	Total	Daily
Actual Vehicles:									
General Light Industrial ³	110	TSF	0.616	0.084	0.700	0.082	0.548	0.630	4.960
Passenger Cars			0.598	0.081	0.679	0.080	0.537	0.617	4.563
2-Axle Trucks			0.003	0.000	0.004	0.000	0.002	0.002	0.066
3-Axle Trucks			0.004	0.001	0.004	0.000	0.002	0.003	0.082
4+-Axle Trucks			0.012	0.002	0.013	0.001	0.007	0.008	0.248
Warehousing ³	150	TSF	0.131	0.039	0.170	0.051	0.139	0.190	1.740
Passenger Cars			0.114	0.034	0.148	0.044	0.118	0.162	1.270
2-Axle Trucks			0.003	0.001	0.004	0.001	0.003	0.005	0.078
3-Axle Trucks			0.004	0.001	0.005	0.002	0.004	0.006	0.097
4+-Axle Trucks			0.011	0.003	0.014	0.005	0.013	0.018	0.294
Passenger Car Equivalent (PCE):									
General Light Industrial ³	110	TSF	0.616	0.084	0.700	0.082	0.548	0.630	4.960
Passenger Cars			0.598	0.081	0.679	0.080	0.537	0.617	4.563
2-Axle Trucks (PCE = 1.5)			0.005	0.001	0.005	0.000	0.003	0.003	0.099
3-Axle Trucks (PCE = 2.0)			0.008	0.001	0.009	0.001	0.005	0.005	0.164
4+-Axle Trucks (PCE = 3.0)			0.035	0.005	0.039	0.003	0.021	0.024	0.745
Warehousing ³	150	TSF	0.131	0.039	0.170	0.051	0.139	0.190	1.740
Passenger Cars			0.114	0.034	0.148	0.044	0.118	0.162	1.270
2-Axle Trucks (PCE = 1.5)			0.004	0.001	0.006	0.002	0.005	0.007	0.118
3-Axle Trucks (PCE = 2.0)			0.007	0.002	0.009	0.003	0.009	0.012	0.194
4+-Axle Trucks (PCE = 3.0)			0.032	0.010	0.042	0.014	0.039	0.054	0.882

¹ Trip Generation Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, Tenth Edition Supplement (2020).

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.

The trip generation summary illustrating daily, and peak hour trip generation estimates for the proposed Project are shown on Table 3 based on the trip generation rates identified on Table 2. Trip generation is shown for both actual vehicles and passenger car equivalents (PCE). As shown on Table 3, the proposed Project is anticipated to generate 682 two-way vehicle trips per day with 77 AM peak hour trips and 77 PM peak hour trips (actual vehicles).

As the future tenant of the Project is currently unknown, the mix of uses utilized to calculate the Project trip generation have been selected to develop a conservative envelope of trips for the proposed warehouse buildings. The types of uses that could occupy the proposed Project buildings would be governed by those uses specified in the City's Zoning Code.

The Project trip generation was also compared to the parking supply for the proposed Project to further validate the anticipated trip generation. For example, the proposed Project is anticipated to accommodate 277 auto parking stalls with 22 motorcycle parking stalls. The occupancy and turnover of the auto parking spaces is reasonable considering the proposed 682 two-way vehicle trips per day anticipated. Other land uses were considered for the proposed Project, such as all General Light Industrial (ITE Land Use Code 110). It should also be noted that the proposed Project building footprints exceed the average square footage of the surveyed data from the ITE Trip Generation Manual for General Light Industrial. 292,762 square feet of General Light Industrial use would result in 1,336 two-way passenger car trips per day, which is excessive in light of the parking supply.

Lastly, the mix of uses evaluated for the Project (as shown on Table 3) is anticipated to result in more truck trips per day (and during the peak hours) as compared to all General Light Industrial. The reason the proposed Project trip generation identifies more trucks is due to the Warehousing land use (ITE Land Use Code 150) as it has a higher percentage of trucks as compared to other industrial uses. For example, General Light Industrial land use identifies 8% of heavy trucks per day while the Warehousing use identifies 27% of heavy trucks per day (per the ITE 2020 Trip Generation Handbook Supplement-Appendix C). As such, the approach utilized for the proposed Project is more conservative than assuming all General Light Industrial use.

TABLE 3: PROPOSED PROJECT TRIP GENERATION SUMMARY

Proposed Land Use	Quantity Units ¹	AM Peak Hour			PM Peak Hour			Daily
		In	Out	Total	In	Out	Total	
Actual Vehicles:								
General Light Industrial	51.598 TSF							
Passenger Cars:		31	4	35	4	28	32	236
2-axle Trucks:		0	0	1	0	0	1	4
3-axle Trucks:		0	0	1	0	0	1	4
4+-axle Trucks:		1	0	3	0	0	2	14
Total Truck Trips:		1	0	1	0	0	0	22
Warehousing	241.164 TSF							
Passenger Cars:		27	8	35	11	28	39	308
2-axle Trucks:		1	0	1	0	1	1	20
3-axle Trucks:		1	0	1	0	1	1	24
4+-axle Trucks:		3	1	4	1	3	4	72
Total Truck Trips:		5	1	6	1	5	6	116
Total Passenger Cars:	292.762 TSF	58	12	70	15	56	71	544
Total Trucks:		6	1	7	1	5	6	138
Total Trips (Actual Vehicles)²		64	13	77	16	61	77	682
Passenger Car Equivalent (PCE):								
General Light Industrial	51.598 TSF							
Passenger Cars:		31	4	35	4	28	32	236
2-axle Trucks:		0	0	0	0	0	46	6
3-axle Trucks:		0	0	0	0	0	39	8
4+-axle Trucks:		2	0	2	0	1	2	38
Total Truck Trips (PCE):		2	0	2	0	1	1	52
Warehousing	241.164 TSF							
Passenger Cars:		27	8	35	11	28	39	306
2-axle Trucks:		1	0	1	0	1	0	28
3-axle Trucks:		2	1	3	1	2	0	48
4+-axle Trucks:		8	2	10	3	9	0	214
Total Truck Trips (PCE):		11	3	14	4	12	16	290
Total Passenger Cars:	292.762 TSF	58	12	70	15	56	71	542
Total Trucks:		13	3	16	4	13	17	342
Total Trips (PCE)²		71	15	86	19	69	88	884

¹ TSF = thousand square feet

² Total Trips = Passenger Cars + Truck Trips.

TRIP GENERATION COMPARISON

Table 4 shows the trip generation comparison and the resulting net change in trips between the existing use and the proposed Project. As shown on Table 4, the proposed Project would result in a net increase of 698 vehicles per day and net increase of 78 AM peak hour trips and 79 PM peak hour trips (trips in PCE as PCE will be utilized for the operations analysis).

According to the City's TIA Guidelines, a TIA may not be required if the AM or PM peak hour trip generation is less than 100 vehicle trips, the project would generate less than 1,600 trip-ends per day, and the project would contribute less than 51 peak hour trips to any intersection during the AM and PM peak hours. Based on the anticipated net new trips for the site and the City's guidelines, additional traffic analysis beyond the trip generation assessment is not necessary.

TABLE 4: TRIP GENERATION COMPARISON

Land Use	AM Peak Hour			PM Peak Hour			Daily
	In	Out	Total	In	Out	Total	
Proposed Project							
Passenger Cars:	58	12	70	15	56	71	542
Total Truck Trips (PCE):	13	3	16	4	13	17	342
Total Trips (PCE)¹	71	15	86	19	69	88	884
Existing Use							
Passenger Cars:	1	0	1	3	5	8	150
Total Truck Trips (PCE):	8	0	8	2	0	2	36
Total Trips (PCE)¹	9	0	9	5	5	10	186
VARIANCE							
Passenger Cars:	57	12	69	12	51	63	392
Total Truck Trips (PCE):	6	3	9	3	13	16	306
Total Trips (PCE)¹	63	15	78	15	64	79	698

¹ Total Trips = Passenger Cars + Truck Trips.

If you have any questions or comments, I can be reached at (949) 861-0177.

URBAN CROSSROADS, INC.



Charlene So, PE
Associate Principal

Attachments

EXHIBIT 1: LOCATION MAP

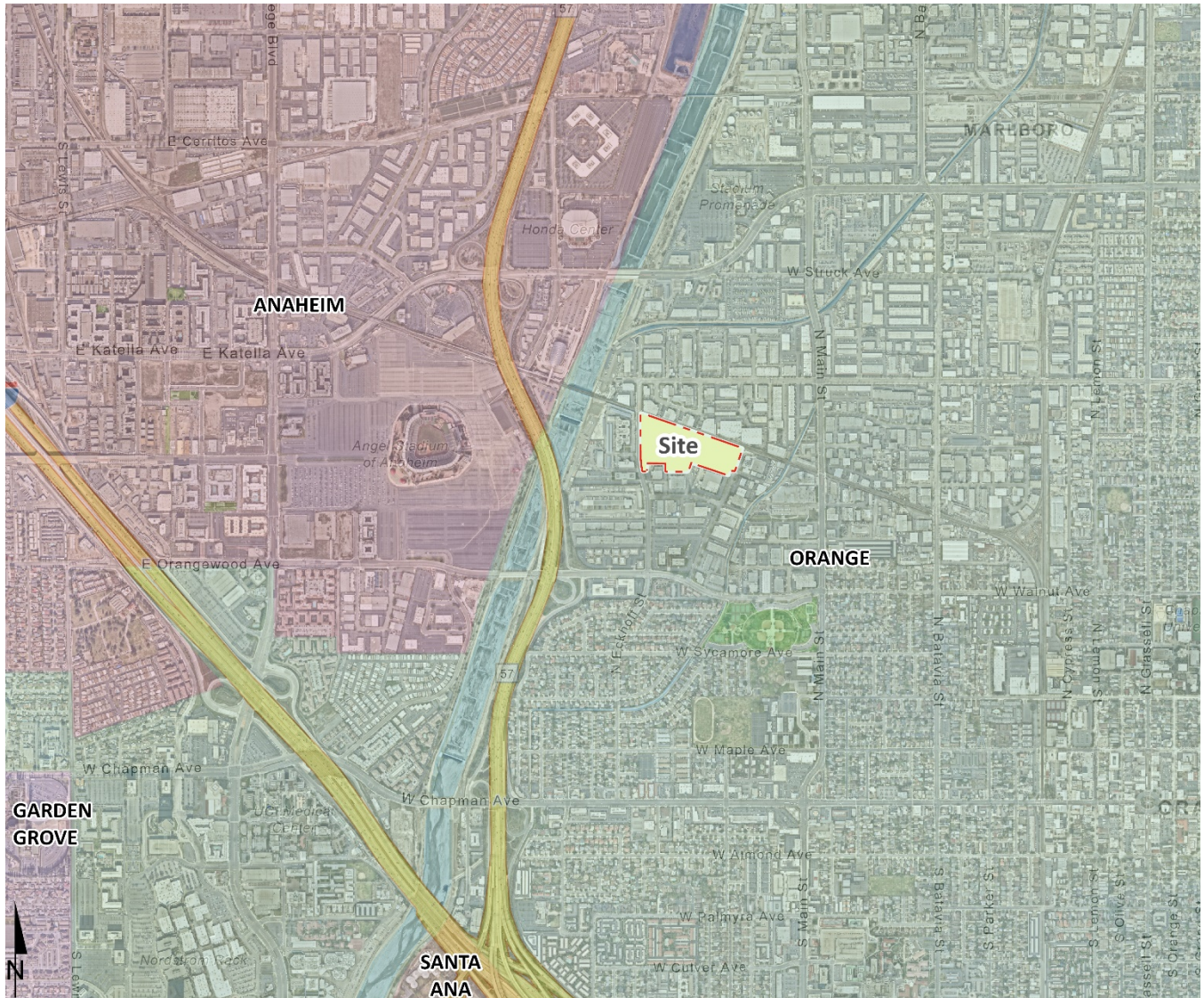


EXHIBIT 2: PRELIMINARY SITE PLAN

