Environment | Planning | Development Solutions, Inc.

To:	Jeff Alvarez
From:	Hashem Basrawi
Date:	1/10/2023
Site:	630 Batavia, Orange Self Storage Development
Subject:	Trip Generation Screening Analysis

This technical memorandum provides an evaluation of the proposed industrial project located at 630 North Batavia Street in the City of Orange. The purpose of this analysis is to determine whether a Level of Service (LOS) Analysis would be required for the project. The existing 3.06-acre site is currently developed with two light manufacturing buildings totaling 47,932 square feet (sf). The project proposes to demolish the existing buildings and construct three new self-storage buildings totaling 133,378 sf (Building A – 8,693 sf, Building B – 105,717 sf, and Building C – 18,968 sf). The project site plan is shown in Figure 1.

Project Trip Generation

A project trip generation analysis was prepared to determine the potential change in site trip generation resulting from the project. The trip generation includes credit for the existing manufacturing use and the proposed warehouse use using trip rates from the Institute of Transportation Engineers (ITE), Trip Generation Manual, 11th Edition. Table 1 presents the trip generation estimate for the proposed project.

As shown in Table 1, the existing use is estimated to generate 228 daily trips including 33 AM peak hour trips and 35 PM peak hour trips. The City of Orange *Traffic Impact Analysis Guidelines for Vehicle Miles Traveled and Level of Service Assessment* dated June 2020 ("City of Orange TIA Guidelines") does not have methodology for converting heavy truck trips to passenger car equivalent (PCE) trips. Therefore, the San Bernardino CMP Appendix B – Guidelines for CMP Traffic Impact Analysis Reports (2016) PCE factors were used as they are widely adopted throughout southern California. In addition, the vehicle split percentages came from the South Coast Air Quality Management District (SCAQMD) Warehouse Truck Trip Study (July 14, 2014) as these splits are widely used in the SCAQMD region for industrial projects. With PCE factors used, the trip generation of the existing land use would be 324 daily trips including 46 trips during the AM peak hour and 50 trips during the PM peak hour.

The proposed self-storage is forecast to generate 193 daily trips including 12 trips during the AM peak hour and 20 trips during the PM peak hour.

The net PCE trip generation for the proposed project is 131 fewer daily trips including 34 fewer AM peak hour PCE trips and 30 fewer PM peak hour PCE trips.

The City of Orange TIA Guidelines states that a traffic impact analysis (TIA) with level of service (LOS) analysis is required for projects that meet the following criteria:

- Projects that generate 100 or more trips during any peak hour
- Projects on the Arterial Highway System that generate 1,600 Average Daily Trips
- Projects that will add 51 or more trips during either the AM or PM peak hours to any intersection
- Any project where variations from the standards and guidelines provided in the City of Orange TIA Guidelines are being proposed

- When determined by the City Traffic Engineer that existing or proposed traffic conditions in the project vicinity have unique characteristics that warrant evaluation.

As shown in Table 1, the project would not generate 100 trips during any peak hour, 1,600 daily trips, or add 51 peak hour trips to any intersection. Furthermore, the project would not change the design of any driveways or streets that would conflict with the standards or guidelines of the City of Orange TIA Guidelines. Therefore, the project should be exempt from the requirement to prepare a LOS TIA.

If you have any questions about this analysis, please contact me at (909) 525-0528 or hashem@epdsolutions.com.

Figure 1: Project Site Plan

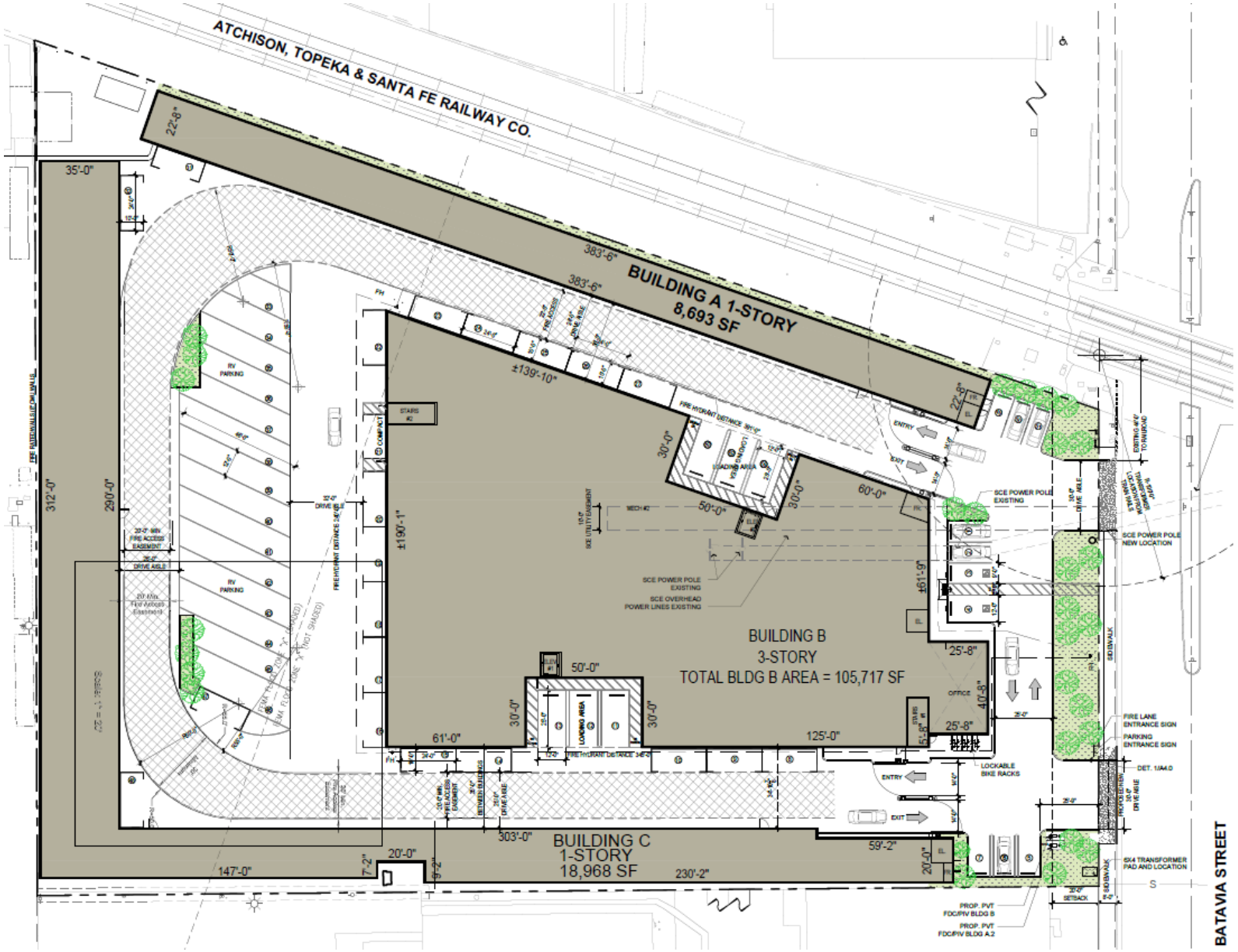

Table 1: Project Trip Generation

				AM Peak Hour			PM Peak Hour		
Land Use		**Units**	**Daily**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
Trip Rates									
Manufacturing[1]		TSF	4.75	0.46	0.22	0.68	0.21	0.53	0.74
Mini-Warehouse[2]		TSF	1.45	0.05	0.04	0.09	0.07	0.08	0.15
Total Vehicle Trip Generation									
Existing Manufacturing	47.932	TSF	228	22	10	33	10	26	35
Vehicle Mix[3]		***Percent***							
Passenger Vehicles		72.50%	165	16	8	24	7	19	26
2-Axle Trucks		4.60%	10	1	0	1	0	1	2
3-Axle Trucks		5.70%	13	1	1	2	1	1	2
4+-Axle Trucks		17.20%	39	4	2	6	2	4	6
		100%	228	22	10	33	10	26	35
PCE Trip Generation[4]		***PCE Factor***							
Passenger Vehicles		1.0	165	16	8	24	7	19	26
2-Axle Trucks		1.5	16	2	1	2	1	2	2
3-Axle Trucks		2.0	26	3	1	4	1	3	4
4+-Axle Trucks		3.0	117	11	5	17	5	13	18
Total Existing PCE Trip Generation			324	32	15	46	14	36	50
Total Project Trip Generation									
Proposed Self-Storage	133.378	TSF	193	7	5	12	9	11	20
Net Trip Generation									
Net (PCE) Project Trips			-131	-24	-10	-34	-5	-26	-30
Net Project Trips (Total Trips)			-34	-15	-6	-21	-1	-15	-16

TSF = Thousand Square Feet

PCE = Passenger Car Equivalent

[1] Trip rates from the Institute of Transportation Engineers, *Trip Generation,11th Edition, 2021*. Land Use Code 140 - Manufacturing.

[2] Trip rates from the Institute of Transportation Engineers, *Trip Generation,11th Edition, 2021*. Land Use Code 151 - Mini Warehouse.

[3] Vehicle Mix for Warehouse (Without Cold Storage), South Coast Air Quality Management District (SCAQMD), Warehouse Truck Trip Study, July 14, 2014.

[4] Passenger Car Equivalent (PCE) factors from San Bernardino County CMP, Appendix B - Guidelines for CMP Traffic Impact Analysis Reports in San Bernardino County, 2016