Appendix L

Trip Generation Memorandum

memorandum

DATE: November 6, 2018

TO: Jeremy Johnson, County of San Bernardino

FROM: Sandipan Bhattacharjee, Translutions, Inc.

SUBJECT: Alder Logistics Center – Trip Generation

Translutions, Inc. (Translutions) is pleased to provide this memorandum discussing the potential trip generation for the proposed Alder Logistics Center project. The project will include 174,780 square feet of warehousing use and will be located on the northerly terminus of Alder Avenue between the Interstate 10 freeway and Slover Avenue, in the Bloomington area of unincorporated San Bernardino County. The project site is currently occupied by Gene Belk Briners, a food processing company supplying the food service industry. Figure A illustrates the site plan for the project.

PROJECT TRIP GENERATION

Total trip generation for the proposed project are based on trip generation rates for Land Use 150 - " Warehousing" from Institute of Transportation Engineers' (ITE) *Trip Generation* (10th Edition). Typically, in the Inland Empire, traffic generated by warehousing projects is further classified into automobile and truck traffic. The Fontana Truck Trip Generation Study (August 2003) is used to identify the vehicle mix for such facilities. Based on the Truck study, of the total trip generation, approximately 20.43% are trucks and the remaining 79.57% is automobile traffic. Further, trucks are classified based on axle-type based from Truck Study, which shows that approximately 17% of the truck traffic is comprised of 2-axle trucks, 23% of 3-axle trucks, and the remaining 60% of 4+-axle trucks.

The trip generation for the proposed project is based on the above discussion. Trip generation rates for Land Use 150 – "Warehousing" from Institute of Transportation Engineers' (ITE) *Trip Generation* (10th Edition) has been used to identify total vehicle trips. Based on the area of the proposed project, the project is anticipated to generate 32 trips during the a.m. peak hour, 36 trips during the p.m. peak hour, and 306 daily trips. Of these, automobile trips are forecast to account for 24 trips during the a.m. peak hour, 27 trips during the p.m. peak hour, and 242 daily trips. The trip generation for the proposed project is shown on Table A.

Since automobile and truck traffic behave differently in a traffic stream of mixed traffic in terms of acceleration, deceleration, and maneuvering, the concept of passenger car equivalents (PCE) is applied to convert trucks to equivalent passenger cars. San Bernardino County Transportation Authority (SBCTA) guidelines recommends using a PCE conversion factor of 1.5 passenger cars per 2-axle truck, 2.0 per 3-axle truck, and 3.0 per 4 (or more)-axle truck. Applying these PCE rates to the forecast truck types, the project is forecast to generate 43 PCE trips during the a.m. peak hour, 49 PCE trips during the p.m. peak hour, and 403 daily PCE trips. The PCE trip generation for the proposed project is also shown on previously referenced Table A. Since the trip generation of the project is less than 50 trips during any peak hour, and based on our conversation, it is our professional opinion that a traffic study should not be required and that the project impacts are anticipated to be less than significant.

PROJECT TRIP DISTRIBUTION

Based on other traffic studies in the area prepared by Translutions, it is anticipated that 50% of the trips will travel east on Slover Avenue and the remaining 50% will travel west on Slover Avenue. Truck traffic is anticipated to travel on Cedar Avenue and Sierra Avenue to the I-10 freeway. As the project trip generation is less than 50 PCE trips during any peak hour, all intersections will have less than 50 peak hour project PCE trips.

IMPACT ANALYSIS FOR CALIFORNIA ENVIRONMENTAL QUALITY PLAN (CEQA) – CHECKLIST

This section evaluates the CEQA checklist for impact evaluation.

A. Will the project conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system?

Based on the results of the analysis, the project generates minimal trips. Based on thresholds identified in the plans, ordinances, and policies in San Bernardino County, the project impacts are considered less than significant. The project is consistent with adopted plans and policies related to non-motorized travel in the area. Therefore, the project impact is considered less than significant.

B. Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

Based on the results of the analysis, the project generates minimal trips. Based on thresholds identified in the San Bernardino County Congestion Management Plan, since the project generates less than 50 peak hour trips, project impacts are considered less than significant. The project does not conflict with the County's CMP and does not propose changes to the County's LOS standards. Therefore, the project impact is considered less than significant.

C. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

The nearest airport to the project site is the Riverside Municipal Airport (approximately 8-miles aerial). The project does not propose any use that would affect or conflict with air traffic patterns. Therefore, the project impact is considered less than-significant.

D. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Design of driveways will be based on City Code, which sets the standard for such design. It is not anticipated that traffic hazards will increase. The project use is compatible with other land uses in the immediate vicinity of the project. Therefore, the project impact is considered less than significant.

E. Result in inadequate emergency access?

The project will not result in inadequate emergency access. Therefore, the project impact is considered less than significant.

F. Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

The project will not change roadway designations from those in the County's General Plan. The project will also not result in removal of any of the facilities listed above. Therefore, the project impact is considered less than significant.

CONCLUSION

The County of San Bernardino requires a traffic study if the trip generation of a project is more than 50 trips during a peak hour. Based on the above calculations, the project is forecast to generate 43 PCE trips during the a.m. peak hour, 49 PCE trips during the p.m. peak hour, and 403 daily PCE trips. Since the trip generation of the project is less than 50 trips during any peak hour, and based on our discussion, a traffic study should not be required. The project impacts to the Transportation/Traffic section under CEQA are anticipated to be less than significant.

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Table A - Project Trip Generation

Land Use	Units	Peak Hour						Daily
		AM Peak Hour			PM Peak Hour			
		In	Out	Total	In	Out	Total	
Total Vehicle Rates								
Trip Generation Rates[1]	Per TSF	0.131	0.039	0.170	0.051	0.139	0.190	1.740
PCE Inbound/Outbound Splits		77%	23%	100%	27%	73%	100%	50%/50%
Passenger Car Equivalent Rates Calculations								
Passenger Cars								
Recommended Mix (%)[2]		79.57%	79.57%	79.57%	79.57%	79.57%	79.57%	79.57%
PCE Factor[3]		1.0	1.0	1.0	1.0	1.0	1.0	1.0
PCE Rates		0.613	0.031	0.135	0.041	0.110	0.151	1.385
2-Axle Trucks								
Recommended Mix (%)[2]		3.46%	3.46%	3.46%	3.46%	3.46%	3.46%	3.46%
PCE Factor[3]		1.5	1.5	1.5	1.5	1.5	1.5	1.5
PCE Rates		0.007	0.002	0.009	0.003	0.007	0.010	0.090
3-Axle Trucks								
Recommended Mix (%)[2]		4.64%	4.64%	4.64%	4.64%	4.64%	4.64%	4.64%
PCE Factor[3]		2.0	2.0	2.0	2.0	2.0	2.0	2.0
PCE Rates		0.012	0.004	0.016	0.005	0.013	0.018	0.161
4-Axle Trucks								
Recommended Mix (%)[2]		12.33%	12.33%	12.33%	12.33%	12.33%	12.33%	12.33%
PCE Factor[3]		3.0	3.0	3.0	3.0	3.0	3.0	3.0
PCE Rates		0.048	0.014	0.063	0.019	0.051	0.070	0.644
Warehouse Net PCE Rate		0.680	0.051	0.223	0.067	0.182	0.249	2.280
Total Project Trip Generation (Trips, By Vehicle Type)								
Warehouse	174.78 TSF							
Passenger Cars		18	6	24	7	20	27	242
2-Axle Trucks		1	1	2	1	1	2	11
3-Axle Trucks		1	1	2	0	2	2	15
4+ Axle Trucks		3	1	4	2	3	5	38
Total Vehicles		23	9	32	10	26	36	306
Total Project Trip Generation (Passenger Car Eqivalent Trips, By Vehicle Type)								
Passenger Cars		18	6	24	7	20	27	242
Truck PCE								
2-Axle Trucks		1	2	3	1	2	3	17
3-Axle Trucks		2	2	4	0	4	4	30
4+ Axle Trucks		9	3	12	6	9	15	114
Total Truck PCE		12	7	19	7	15	22	161
Total PCE		30	13	43	14	35	49	403

Notes: Per TSF = Per Thousand Square Feet

[1] Rates based on Land Use 150 - "Warehousing" from Institute of Transportation Engineers (ITE) Trip Generation (10th Ed.).

[2] Recommended Truck Mix Percentages per City of Fontana Truck Trip Generation Study for Heavy Warehouse uses, August 2003

[3] Recommended PCE Factor per SBCTA guidelines.