

April 29, 2020

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

**SUBJECT: SLOVER INDUSTRIAL CENTER TRIP GENERATION ASSESSMENT**

Dear Ms. Tracy Zinn:

Urban Crossroads, Inc. is pleased to provide the following Trip Generation Assessment for Slover Industrial Center development which is located south of Slover Avenue and west of Juniper Avenue in the City of Fontana. The purpose of this work effort is to determine whether additional traffic analysis is necessary for the proposed Project based on the City's Traffic Impact Analysis (TIA) Guidelines (October 2019).

**PROPOSED PROJECT**

The Project is proposed to consist of a single building with 115,719 square feet of warehousing use and 20,421 square feet of high-cube cold storage warehousing use (15% of the overall 136,140 square foot building). The proposed Project is anticipated to be completed and occupied by Summer 2021. The Project driveways are proposed to allow for full turning movements (no restricted turning movements) for both passenger cars and trucks. Trucks are anticipated to circulate in a counterclockwise direction around the building, entering from the west and exiting from the east on Slover Avenue.

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 (10<sup>th</sup> Edition, 2017) for the proposed warehousing use (ITE Land Use Code 150) and high-cube cold storage warehousing use (ITE Land Use Code 157) (see Table 1). The following summarizes the proposed land uses and vehicle mixes:

- **Warehousing (ITE Land Use Code 150):** The vehicle mix has been obtained from the ITE's Trip Generation Manual Supplement (dated February 2020). This study 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%.
- **High-Cube Cold Storage Warehouse (ITE Land Use Code 157):** 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 Trip Generation Manual Supplement (dated February 2020). This study provides the following vehicle mix: AM Peak Hour: 73.0% passenger cars and 27.0% trucks; PM Peak Hour: 77.0% passenger cars and 23.0% trucks; Weekday Daily: 65.0% passenger cars and 35.0% trucks. 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 <sup>1</sup>	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</b>									
Warehousing <sup>3</sup>	TSF	150	0.131	0.039	0.170	0.051	0.139	0.190	1.740
Passenger Cars (AM-87.0%; PM-85.0%; Daily-73.0%)			0.114	0.034	0.148	0.044	0.118	0.162	1.270
2-Axle Trucks (AM-2.17%; PM-2.51%; Daily-4.51%)			0.003	0.001	0.004	0.001	0.003	0.005	0.078
3-Axle Trucks (AM-2.69%; PM-3.11%; Daily-5.59%)			0.004	0.001	0.005	0.002	0.004	0.006	0.097
4-Axle+ Trucks (AM-8.14%; PM-9.39%; Daily-16.90%)			0.011	0.003	0.014	0.005	0.013	0.018	0.294
High-Cube Cold Storage Warehouse <sup>3</sup>	TSF	157	0.085	0.025	0.110	0.032	0.088	0.120	2.120
Passenger Cars (AM-73.0%; PM-77.0%; Daily-65.0%)			0.062	0.018	0.080	0.025	0.067	0.092	1.378
2-Axle Trucks (AM-9.37%; PM-7.98%; Daily-12.15%)			0.008	0.002	0.010	0.003	0.007	0.010	0.257
3-Axle Trucks (AM-2.97%; PM-2.53%; Daily-3.85%)			0.003	0.001	0.003	0.001	0.002	0.003	0.082
4-Axle+ Trucks (AM-14.66%; PM-12.49%; Daily-19.01%)			0.012	0.004	0.016	0.004	0.011	0.015	0.403
<b>PCE Trip Generation Rates<sup>4</sup></b>									
Warehousing <sup>3</sup>	TSF	150	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 = 2.0)			0.006	0.002	0.007	0.003	0.007	0.010	0.157
3-Axle Trucks (PCE = 2.5)			0.009	0.003	0.011	0.004	0.011	0.015	0.243
4-Axle+ Trucks (PCE = 3.0)			0.032	0.010	0.042	0.014	0.039	0.054	0.882
High-Cube Cold Storage Warehouse <sup>3</sup>	TSF	157	0.085	0.025	0.110	0.032	0.088	0.120	2.120
Passenger Cars			0.062	0.018	0.080	0.025	0.067	0.092	1.378
2-Axle Trucks (PCE = 2.0)			0.016	0.005	0.021	0.005	0.014	0.019	0.515
3-Axle Trucks (PCE = 2.5)			0.006	0.002	0.008	0.002	0.006	0.008	0.204
4-Axle+ Trucks (PCE = 3.0)			0.037	0.011	0.048	0.012	0.033	0.045	1.209

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

<sup>2</sup> TSF = thousand square feet

<sup>3</sup> 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.

<sup>4</sup> PCE factors per City of Fontana Traffic Impact Analysis Guidelines, October 2019.

The resulting trip generation for the proposed Project is shown on Table 2 (in actual vehicles). As shown on Table 2, the proposed Project is anticipated to generate 248 trip-ends per day (2-way trips), with 19 trips generated during the AM peak hour and 24 trips generated during the PM peak hour.

**TABLE 2: PROPOSED PROJECT TRIP GENERATION SUMMARY (ACTUAL VEHICLES)**

Land Use	Quantity	Units <sup>1</sup>	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Warehousing	115.719	TSF							
Passenger Cars:			13	4	17	5	14	19	148
Truck Trips:									
2-axle			0	0	0	0	0	0	10
3-axle			0	0	0	0	0	0	12
4+-axle			1	0	1	1	2	3	34
- Truck Trips (Actual Vehicles)			1	0	1	1	2	3	56
<b>Total Trips (Actual Vehicles)<sup>2</sup></b>			<b>14</b>	<b>4</b>	<b>18</b>	<b>6</b>	<b>16</b>	<b>22</b>	<b>204</b>
High-Cube Cold Storage Warehouse	20.421	TSF							
Passenger Cars:			1	0	2	1	1	2	28
Truck Trips:									
2-axle			0	0	0	0	0	0	6
3-axle			0	0	0	0	0	0	2
4+-axle			0	0	0	0	0	0	8
- Truck Trips (Actual Vehicles)			0	0	0	0	0	0	16
<b>Total Trips (Actual Vehicles)<sup>2</sup></b>			<b>1</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>44</b>
Passenger Cars			14	4	18	6	15	21	176
Trucks (Actual Vehicles)			1	0	1	1	2	3	72
<b>Project Total Trips (Actual Vehicles)</b>			<b>15</b>	<b>4</b>	<b>19</b>	<b>7</b>	<b>17</b>	<b>24</b>	<b>248</b>

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

<sup>2</sup> TOTAL TRIPS = Passenger Cars + Truck Trips.

The City’s traffic study guidelines require that truck intensive uses translate heavy truck trips to passenger car equivalents (PCE). As shown on Table 3, the Project is anticipated to generate 366 PCE trip-ends per day, with 26 PCE AM peak hour trips and 31 PCE PM peak hour trips.

**TABLE 3: PROPOSED PROJECT TRIP GENERATION SUMMARY (PCE)**

Land Use	Quantity	Units <sup>1</sup>	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Warehousing	115.719	TSF							
Passenger Cars:			13	4	17	5	14	19	148
Truck Trips:									
2-axle (PCE = 2.0)			1	0	1	0	1	1	18
3-axle (PCE = 2.5)			1	0	1	0	1	1	28
4+-axle (PCE = 3.0)			4	1	5	2	5	7	102
- Truck Trips (PCE)			6	1	7	2	7	9	148
<b>Total Trips (PCE)<sup>2</sup></b>			<b>19</b>	<b>5</b>	<b>24</b>	<b>7</b>	<b>21</b>	<b>28</b>	<b>296</b>
High-Cube Cold Storage Warehouse	20.421	TSF							
Passenger Cars:			1	0	2	1	1	2	28
Truck Trips:									
2-axle (PCE = 2.0)			0	0	0	0	0	0	12
3-axle (PCE = 2.5)			0	0	0	0	0	0	4
4+-axle (PCE = 3.0)			1	0	1	0	1	1	26
- Truck Trips (PCE)			1	0	1	0	1	1	42
<b>Total Trips (PCE)<sup>2</sup></b>			<b>2</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>70</b>
Passenger Cars			14	4	18	6	15	21	176
Trucks (PCE)			7	1	8	2	8	10	190
<b>Project Total Trips (PCE)</b>			<b>21</b>	<b>5</b>	<b>26</b>	<b>8</b>	<b>23</b>	<b>31</b>	<b>366</b>

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

<sup>2</sup> TOTAL TRIPS = Passenger Cars + Truck Trips.

The Project is anticipated to generate fewer than 50 peak hour trips (both actual and PCE based). As such, a traffic impact analysis is not required for this Project based on the City of Fontana’s traffic study guidelines. If you have any questions, please contact me directly at (949) 336-5982.

Respectfully submitted,

URBAN CROSSROADS, INC.



Charlene So, PE  
 Associate Principal