

May 10, 2022

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### **100 W. ALONDRA BOULEVARD TRIP GENERATION ASSESSMENT**

Mr. Yemi Alade,

Urban Crossroads, Inc. is pleased to submit this Trip Generation Assessment for the proposed 100 W. Alondra Boulevard development (**Project**), which is located on the southwest corner Main Street and Alondra Boulevard within the City of Carson. It should be noted that this trip generation assessment has been prepared in accordance with the County of Los Angeles [Transportation Impact Analysis Guidelines](#) (dated July 23, 2020) (**County Guidelines**) since the City has not adopted their own guidelines.

### **PROPOSED PROJECT**

There are two existing office/warehouse buildings on-site totaling 99,098 square feet of office space (2-story office) and 74,166 square feet of warehousing space. The existing buildings will be demolished and redeveloped to accommodate 286,821 square feet of warehousing use (Building 1 with 183,921 square feet and Building 2 with 102,900 square feet). There are two points of access proposed on Alondra Boulevard, two points of access on Broadway Boulevard, and the access points on Main Street and Gardena Boulevard are anticipated to be in a similar location to the existing access points.

### **TRIP GENERATION**

#### **EXISTING TRAFFIC**

There are two existing office/warehouse buildings on-site totaling 99,098 square feet of office space (2-story office) and 74,166 square feet of warehousing space. The uses on the site are currently vacant and not generating measurable traffic. In an effort to understand the existing traffic associated with the current uses, trip generation has been calculated for the existing uses based on the Institute of Transportation Engineers (ITE) [Trip Generation Manual](#).

For purposes of this trip generation assessment, the following ITE land use code and vehicle mix will be utilized for the warehousing use:

- ITE land use code 150 (Warehousing) has been used to derive site specific trip generation estimates for both the existing and proposed Project. A warehouse is primarily devoted to the storage of materials but may also include office and maintenance areas. The vehicle mix has been obtained from the latest ITE’s Trip Generation Manual. 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 1 summarizes the ITE trip generation rates.

**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</b>									
Warehousing <sup>1,3</sup>	TSF	150	0.131	0.039	0.170	0.050	0.130	0.180	1.710
Passenger Cars (AM=88.2%, PM=83.3%, Daily=64.9%)			0.120	0.030	0.150	0.034	0.116	0.150	1.110
2-Axle Trucks (AM=1.97%, PM=2.79%, Daily=5.86%)			0.002	0.001	0.003	0.003	0.002	0.005	0.100
3-Axle Trucks (AM=2.44%, PM=3.46%, Daily=7.27%)			0.002	0.002	0.004	0.003	0.003	0.006	0.124
4+-Axle Trucks (AM=7.39%, PM=10.45%, Daily=21.97%)			0.007	0.006	0.013	0.010	0.009	0.019	0.376
General Office	TSF	710	1.34	0.18	1.52	0.24	1.20	1.44	10.84

<sup>1</sup> Trip Generation & Vehicle Mix Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, Eleventh Edition (2021).

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

<sup>3</sup> 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.

Table 2 summarizes the existing trip generation. The existing uses generate 1,202 two-way trips per day, with 163 trips during the AM peak hour and 156 trips during the PM peak hour. Trip generation for the existing use has been reflected in both actual vehicles and passenger car equivalent (PCE) on Table 2. The existing uses would generate 1,272 two-way PCE trips per day with 165 PCE AM peak hour trips and 160 PCE PM peak hour trips.

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. PCE factors are as follows: 1.5 for 2-axle trucks, 2.0 for 3-axle trucks, and 3.0 for 4+-axle trucks.

**TABLE 2: EXISTING TRIP GENERATION SUMMARY**

Land Use	Quantity Units <sup>1</sup>	AM Peak Hour			PM Peak Hour			Daily
		In	Out	Total	In	Out	Total	
<b>Actual Vehicles:</b>								
Warehousing	74.166 TSF							
Passenger Cars:		9	2	11	3	9	12	82
2-axle Trucks:		0	0	0	0	0	0	8
3-axle Trucks:		0	0	0	0	0	0	10
4+-axle Trucks:		1	0	1	1	1	2	28
Total Truck Trips (Actual Vehicles):		1	0	1	1	1	2	46
General Office	99.098 TSF	133	18	151	24	118	142	1,074
<b>Total Trips (Actual Vehicles)<sup>2</sup></b>		<b>143</b>	<b>20</b>	<b>163</b>	<b>28</b>	<b>128</b>	<b>156</b>	<b>1,202</b>
<b>Passenger Car Equivalent (PCE):</b>								
Warehousing	74.166 TSF							
Passenger Cars:		9	2	11	3	9	12	82
2-axle Trucks (PCE = 1.5):		0	0	0	0	0	0	12
3-axle Trucks (PCE = 2.0):		0	0	0	0	0	0	20
4+-axle Trucks (PCE = 3.0):		3	0	3	3	3	6	84
Total Truck Trips (PCE):		3	0	3	3	3	6	116
General Office	99.098 TSF	133	18	151	24	118	142	1,074
<b>Total Trips (PCE)<sup>2</sup></b>		<b>145</b>	<b>20</b>	<b>165</b>	<b>30</b>	<b>130</b>	<b>160</b>	<b>1,272</b>

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

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

## **PROPOSED PROJECT**

In order to develop the traffic characteristics of the proposed Project, trip-generation statistics published in the ITE Trip Generation Manual (11<sup>th</sup> Edition, 2021) for Warehousing (ITE Land Use Code 150) was used. The trip generation rates are summarized on Table 1. Table 3 shows the resulting Project trip generation summary, which shows the Project is anticipated to generate a total of 492 two-way trips per day with 50 AM peak hour trips and 53 PM peak hour trips. The PCE trip generation is also provided which shows the Project would generate 760 two-way PCE trips per day with 61 PCE AM peak hour trips and 68 PCE PM peak hour trips.

**TABLE 3: PROJECT TRIP GENERATION SUMMARY**

Land Use	Quantity Units <sup>1</sup>	AM Peak Hour			PM Peak Hour			Daily
		In	Out	Total	In	Out	Total	
<b>Actual Vehicles:</b>								
Warehousing	286.821 TSF							
Passenger Cars:		34	9	43	10	33	43	318
2-axle Trucks:		1	0	1	1	1	2	30
3-axle Trucks:		1	1	2	1	1	2	36
4+-axle Trucks:		2	2	4	3	3	6	108
Total Truck Trips (Actual Vehicles):		4	3	7	5	5	10	174
<b>Total Trips (Actual Vehicles)<sup>2</sup></b>		<b>38</b>	<b>12</b>	<b>50</b>	<b>15</b>	<b>38</b>	<b>53</b>	<b>492</b>
<b>Passenger Car Equivalent (PCE):</b>								
High-Cube Cold Storage	286.821 TSF							
Passenger Cars:		34	9	43	10	33	43	318
2-axle Trucks (PCE = 1.5):		2	0	2	2	2	3	46
3-axle Trucks (PCE = 2.0):		2	2	4	2	2	4	72
4+-axle Trucks (PCE = 3.0):		6	6	12	9	9	18	324
Total Truck Trips (PCE):		10	8	18	13	13	25	442
<b>Total Trips (PCE)<sup>2</sup></b>		<b>44</b>	<b>17</b>	<b>61</b>	<b>23</b>	<b>46</b>	<b>68</b>	<b>760</b>

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

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

### **TRIP GENERATION COMPARISON**

Table 4 shows the trip generation comparison between the existing uses and the proposed warehouse project. The resulting net new trips are identified on Table 4. As shown, the Project is anticipated to generate 710 fewer two-way trips per day with 113 fewer AM peak hour trips and 103 fewer PM peak hour trips. Similarly, the Project would generate 512 fewer two-way PCE trips per day with 105 fewer PCE AM peak hour trips and 92 fewer PCE PM peak hour trips.

**TABLE 4: TRIP GENERATION COMPARISON**

Land Use	AM Peak Hour			PM Peak Hour			Daily
	In	Out	Total	In	Out	Total	
Actual Vehicles:							
Existing Use							
Passenger Cars:	142	20	162	27	127	154	1,156
Trucks:	1	0	1	1	1	2	46
Existing Trips (Actual Vehicles) <sup>2</sup>	143	20	163	28	128	156	1,202
Proposed Project							
Passenger Cars:	34	9	43	10	33	43	318
Trucks:	4	3	7	5	5	10	174
Total Project Trips (Actual Vehicles) <sup>2</sup>	38	12	50	15	38	53	492
Passenger Cars:	-108	-11	-119	-17	-94	-111	-838
Trucks:	3	3	6	4	4	8	128
<b>Net New Project Trips (Actual Vehicles)<sup>2</sup></b>	<b>-105</b>	<b>-8</b>	<b>-113</b>	<b>-13</b>	<b>-90</b>	<b>-103</b>	<b>-710</b>
Passenger Car Equivalent (PCE):							
Existing Use							
Passenger Cars:	142	20	162	27	127	154	1,156
Trucks:	3	0	3	3	3	6	116
Existing Trips (PCE) <sup>2</sup>	145	20	165	30	130	160	1,272
Proposed Project							
Passenger Cars:	34	9	43	10	33	43	318
Trucks:	10	8	18	13	13	25	442
Total Project Trips (PCE) <sup>2</sup>	44	17	61	23	46	68	760
Passenger Cars:	-108	-11	-119	-17	-94	-111	-838
Trucks:	7	8	15	10	10	19	326
<b>Net New Project Trips (PCE)<sup>2</sup></b>	<b>-102</b>	<b>-3</b>	<b>-105</b>	<b>-8</b>	<b>-85</b>	<b>-92</b>	<b>-512</b>

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

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

## FINDINGS

The County Guidelines identifies a project would require the preparation and submission of a Transportation Impact Analysis for development projects that generate a net increase of 110 or more daily trips. The proposed Project is anticipated to generate a net reduction (fewer trips) in comparison to existing uses on the site. As such, no additional traffic operations analysis has been recommended.

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

Respectfully submitted,

URBAN CROSSROADS, INC.



Charlene So, PE  
Principal



May 16, 2022

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**100 W. ALONDRA BOULEVARD VEHICLE MILES TRAVELED (VMT) SCREENING EVALUATION**

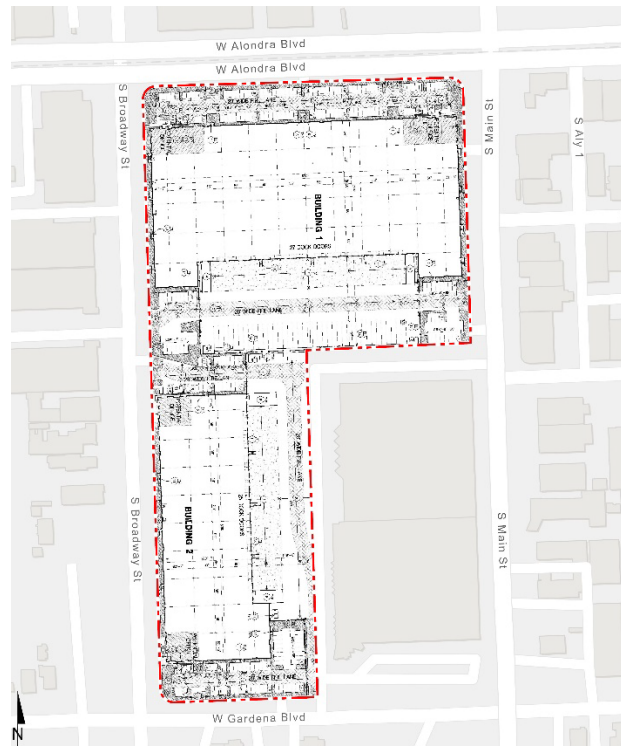
Mr. Yemi Alade,

Urban Crossroads, Inc. is pleased to provide the following Vehicle Miles Traveled (VMT) Screening Evaluation for 100 W. Alondra Boulevard development (**Project**), which is located in the City of Carson.

**PROJECT OVERVIEW**

There are two existing office/warehouse buildings on-site totaling 99,098 square feet of office space (2-story office) and 74,166 square feet of warehousing space. The existing buildings will be demolished and redeveloped to accommodate 286,821 square feet of warehousing use (Building 1 with 183,921 square feet and Building 2 with 102,900 square feet). A preliminary site plan can be found on Exhibit 1.

**EXHIBIT 1: PRELIMINARY SITE PLAN**



## **BACKGROUND**

Changes to California Environmental Quality Act (CEQA) Guidelines were adopted in December 2018, which requires all lead agencies to adopt VMT as a replacement for automobile delay-based level of service (LOS) as the new measure for identifying transportation impacts for land use projects. This statewide mandate went into effect July 1, 2020. To aid in this transition, the Governor's Office of Planning and Research (OPR) released a Technical Advisory on Evaluating Transportation Impacts in CEQA (December of 2018) (**Technical Advisory**) (1). Based on OPR's Technical Advisory, the County of Los Angeles Public Works has prepared their Transportation Impact Analysis Guidelines (**County Guidelines**) (2). Based on consultation with the City of Carson, VMT analysis guidelines and thresholds are not yet available. As such, this analysis has utilized the County Guidelines for the review of applicable VMT screening criteria.

## **VMT SCREENING**

Consistent with County Guidelines, land use projects that meet certain screening criteria based on their location and project type may be presumed to result in a less than significant transportation impact. The following VMT screening criteria were selected for further evaluation based on their applicability to the proposed Project:

- Non-Retail Project Trip Generation Screening
- Proximity to Transit Based Screening

A land use project need only meet one of the above screening criteria to result in a less than significant impact.

## **NON-RETAIL PROJECT TRIP GENERATION SCREENING**

The County Guidelines identify that projects anticipated to generate low traffic volumes (i.e., fewer than 110 daily net new trips) are presumed to have a less than significant impact absent substantial evidence to the contrary.

## **EXISTING TRAFFIC**

There are two existing office/warehouse buildings on-site totaling 99,098 square feet of office space (2-story office) and 74,166 square feet of warehousing space. The uses on the site are currently vacant and not generating measurable traffic. In an effort to understand the existing traffic associated with the current uses, trip generation has been calculated for the existing uses based on trip generation rates collected by the Institute of Transportation Engineers (ITE) Trip Generation Manual, 11<sup>th</sup> Edition, 2021 (3). Table 1 summarizes the ITE trip generation rates.



**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</b>									
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General Office	TSF	710	1.34	0.18	1.52	0.24	1.20	1.44	10.84

<sup>1</sup> Trip Generation & Vehicle Mix Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, Eleventh Edition (2021).

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<sup>3</sup> 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.

Table 2 summarizes the existing trip generation. The existing uses generate 1,202 daily vehicle trip-ends per day.

**TABLE 2: EXISTING TRIP GENERATION SUMMARY**

Land Use	Quantity Units <sup>1</sup>	AM Peak Hour			PM Peak Hour			Daily
		In	Out	Total	In	Out	Total	
<b>Actual Vehicles:</b>								
Warehousing	74.166 TSF							
Passenger Cars:		9	2	11	3	9	12	82
2-axle Trucks:		0	0	0	0	0	0	8
3-axle Trucks:		0	0	0	0	0	0	10
4+-axle Trucks:		1	0	1	1	1	2	28
Total Truck Trips (Actual Vehicles):		1	0	1	1	1	2	46
General Office	99.098 TSF	133	18	151	24	118	142	1,074
<b>Total Trips (Actual Vehicles)<sup>2</sup></b>		<b>143</b>	<b>20</b>	<b>163</b>	<b>28</b>	<b>128</b>	<b>156</b>	<b>1,202</b>

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

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

### Proposed Project

In order to develop the traffic characteristics of the proposed Project, trip-generation statistics published in the ITE Trip Generation Manual (11<sup>th</sup> Edition, 2021) for Warehousing (ITE Land Use Code 150) was used. The trip generation rates are summarized on Table 1. Table 3 shows the resulting Project trip generation summary, which shows the Project is anticipated to generate a total of 492 vehicle trip-ends per day.

**TABLE 3: PROJECT TRIP GENERATION SUMAMRY**

Land Use	Quantity Units <sup>1</sup>	AM Peak Hour			PM Peak Hour			Daily
		In	Out	Total	In	Out	Total	
Actual Vehicles:								
Warehousing	286.821 TSF							
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Total Truck Trips (Actual Vehicles):		4	3	7	5	5	10	174
<b>Total Trips (Actual Vehicles)<sup>2</sup></b>		<b>38</b>	<b>12</b>	<b>50</b>	<b>15</b>	<b>38</b>	<b>53</b>	<b>492</b>

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

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

### Trip Generation Comparison

Table 4 shows the trip generation comparison between the existing uses and the proposed warehouse project. The resulting net new trips are identified on Table 4. As shown, the Project is anticipated to generate 710 fewer daily vehicle trip-ends per day.

**TABLE 4: TRIP GENERATION COMPARISON**

Land Use	AM Peak Hour			PM Peak Hour			Daily
	In	Out	Total	In	Out	Total	
Actual Vehicles:							
Existing Use							
Passenger Cars:	142	20	162	27	127	154	1,156
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Existing Trips (Actual Vehicles) <sup>2</sup>	143	20	163	28	128	156	1,202
Proposed Project							
Passenger Cars:	34	9	43	10	33	43	318
Trucks:	4	3	7	5	5	10	174
Total Project Trips (Actual Vehicles) <sup>2</sup>	38	12	50	15	38	53	492
Net New Project Trips (Actual Vehicles) <sup>2</sup>	<b>-105</b>	<b>-8</b>	<b>-113</b>	<b>-13</b>	<b>-90</b>	<b>-103</b>	<b>-710</b>

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

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

The Project results in a net reduction of 710 daily vehicle trips below the 110 daily net new vehicle trips.

**Non-Retail Project Trip Generation screening criteria is met.**

## **PROXIMITY TO TRANSIT BASED SCREENING**

Consistent with guidance identified in the County Guidelines, projects located within a Transit Priority Area (TPA) (i.e., within ½ mile of an existing “major transit stop”<sup>1</sup> or an existing stop along a “high-quality transit corridor”<sup>2</sup>) may be presumed to have a less than significant impact absent substantial evidence to the contrary. However, the presumption may not be appropriate if a project:

- Has a Floor Area Ratio (FAR) of less than 0.75;
- Includes more parking for use by residents, customers, or employees of the project than required by the jurisdiction (if the jurisdiction requires the project to supply parking);
- Is inconsistent with the applicable Sustainable Communities Strategy (as determined by the lead agency, with input from the Metropolitan Planning Organization); or
- Replaces affordable residential units with a smaller number of moderate- or high-income residential units.

Based on map screening illustrated in Attachment A, the proposed Project does not appear to be located within a TPA.

**Proximity to Transit Based screening threshold is not met.**

## **CONCLUSION**

Based on our review of applicable VMT screening criteria, the Project is found to meet non-retail project trip generation screening; no further VMT analysis required.

If you have any questions, please contact me directly at [aso@urbanxroads.com](mailto:aso@urbanxroads.com).

Respectfully submitted,

URBAN CROSSROADS, INC.



Alexander So  
Senior Associate

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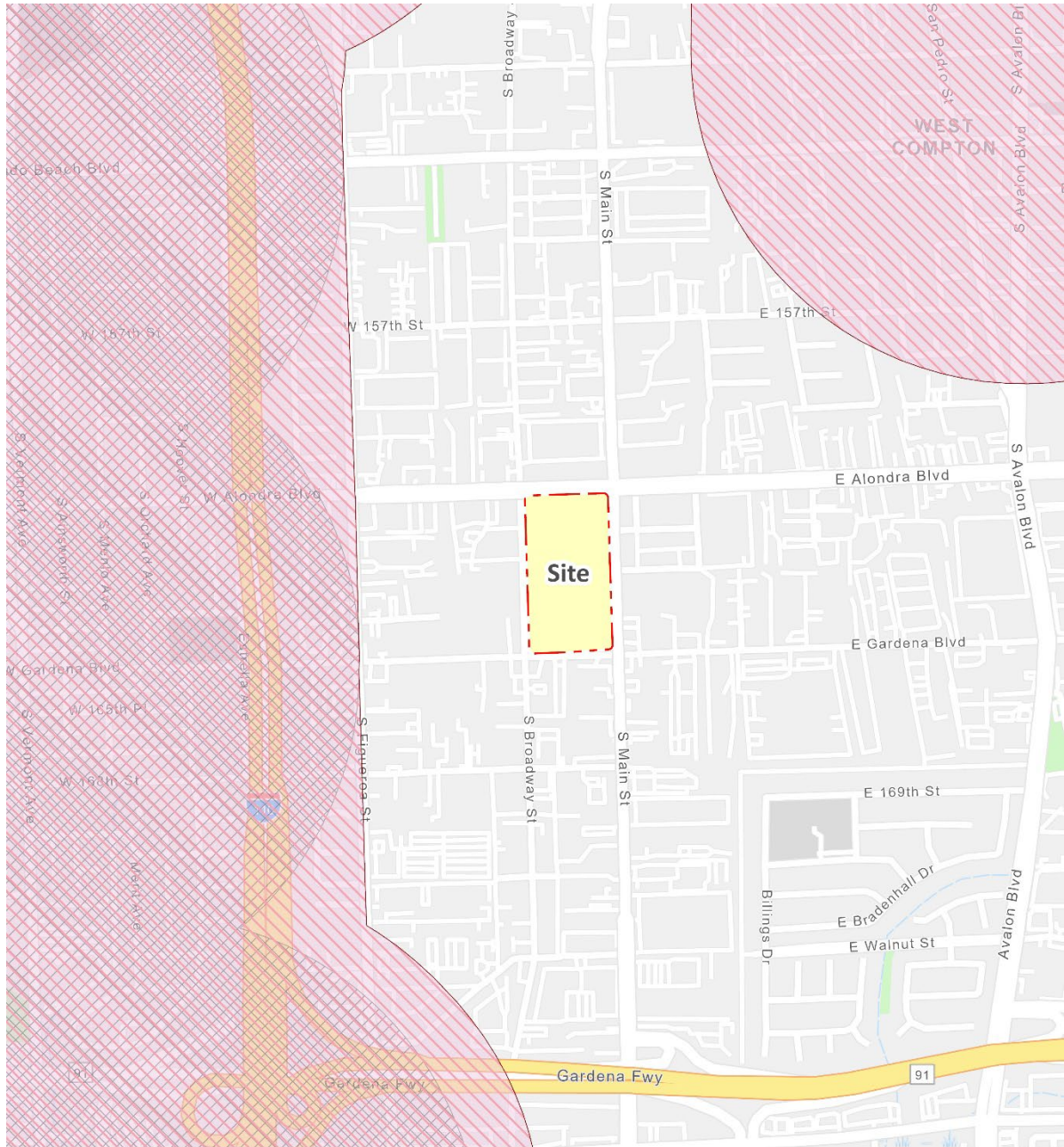
<sup>1</sup> Pub. Resources Code, § 21064.3 (“Major transit stop’ means a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.”).




<sup>2</sup> Pub. Resources Code, § 21155 (“For purposes of this section, a high-quality transit corridor means a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours.”).

## REFERENCES

1. **Office of Planning and Research.** *Technical Advisory on Evaluating Transportation Impacts in CEQA.* State of California : s.n., December 2018.
2. **Los Angeles County Public Works .** *Transportation Impact Analysis.* County of Los Angeles : s.n., July 2020.
3. **Institute of Transportation Engineers.** *Trip Generation Manual.* 11th Edition. 2021.

**ATTACHMENT A**  
**TPA MAP**



-  Transit Priority Area (TPA) in the SCAG Region for plan year 2040
-  High Quality Transit Areas (2016)
-  High Quality Transit Areas (2045)