

TRANSPORTATION IMPACT ANALYSIS

VETPOWERED

San Diego, California
September 2021

(PTS #686230)

LLG Ref. 3-21-3348



**Linscott, Law &
Greenspan, Engineers**

4542 Ruffner Street
Suite 100

San Diego, CA 92111

858.300.8800 T

858.300.8810 F

www.llgengineers.com

EXECUTIVE SUMMARY

Linscott, Law & Greenspan, Engineers (LLG) has been retained to prepare the following Transportation Impact Analysis associated with the VetPowered Project (hereafter referred to as the Project). The proposed Project includes the construction of a two-story, 24,000 square-foot building for VetPowered, LLC, which provides advanced manufacturing and 3D printing sales and services to the shipbuilding defense, aerospace, marine, and space industries. The Project site is located at 3030-3032 Main Street within the Barrio Logan Community Planning Area of the City of San Diego. The Project site is currently occupied by several vacant buildings. Access to the site is proposed via one (1) driveway along Main Street and an alley along the northern perimeter of the site.

Due to the unique nature of the Project, no similar land use was identified from the City of San Diego *Trip Generation Manual (2003)*, and therefore, a site-specific trip generation was calculated. The Project is estimated to generate approximately 184 ADT with 43 total AM peak hour trips (24 in, 19 out) and 39 total PM peak hour trips (17 in, 22 out). Additionally, a trip generation calculation was also conducted per the Institute of Traffic Engineers' (ITE) *Trip Generation Manual, 10th Edition* based on "Specialty Trade Contractor" land use, which was deemed as the comparable and pertinent land use category for the proposed Project. Based on the ITE trip generation calculations, the Project is estimated to generate approximately 245 ADT with 40 total AM peak hour trips (29 in, 11 out) and 47 total PM peak hour trips (15 in, 32 out).

Based on the City of San Diego Transportation Study Manual (TSM) (dated September 29, 2020), the proposed Project evaluated transportation impacts under the California Environmental Quality Act (CEQA) using a Vehicle Miles Traveled (VMT) metric, pursuant to guidance from the Governor's Office of Planning and Research (OPR) in December 2018 (*Technical Advisory on Evaluating Transportation Impacts in CEQA*).

Using the SANDAG screening map (Series 14, base Year 2016) for commercial employment projects, the Project is located in census tract 39.02 and would be expected to generate 22.4 VMT/employee, which is 82.5% of the regional average VMT/employee and less than the 85% VMT threshold for a Commercial Employment project.

Per the City of San Diego TSM, the threshold for Small Project is 300 daily unadjusted driveway trips. The proposed Project is calculated to generate less than 300 average daily trips using either both the site-specific or ITE trip generation calculations.

Given that Project's VMT per employee is less than the 85% threshold per the SANDAG Screening map and that the Project's trip generation (on a site-specific basis and per ITE) is below the small project threshold (of 300 daily trips), the Project is screened out of preparing additional Transportation VMT analysis and presumed to have a less than significant transportation VMT impact.

TABLE OF CONTENTS

SECTION	PAGE
1.0 Introduction.....	4
2.0 Project Description	5
2.1 Project Location	5
2.2 Project Description.....	5
2.3 Project Trip Generation.....	6
3.0 Report Approach	13
3.1 VMT Background	13
3.2 Transportation Analyses	13
3.3 Local Mobility Analysis	13
4.0 VMT Significance Criteria & Methodology	14
4.1 Significance Criteria	14
4.1.1 City of San Diego Screening Criteria	15
5.0 Project VMT Analysis	17
5.1 Screening Criteria	17
6.0 Conclusions.....	19

APPENDICES

APPENDIX

- A. Applicant-Provided Project Background Information
- B. Excerpts from ITE’s *Trip Generation Manual (10th Edition)*
- C. SANDAG Series 14 (Base Year 2016) VMT/Employee Screening Map

LIST OF FIGURES

SECTION—FIGURE #	FOLLOWING PAGE
Figure 2–1 Vicinity Map	10
Figure 2–2 Project Area Map	11
Figure 2–3 Project Site Plan	12

LIST OF TABLES

SECTION—TABLE #	PAGE
Table 2–1 Project Trip Generation	8
Table 4–1 VMT Significance Thresholds	14
Table 5–1 VMT Screening Criteria – Project Applicability	17

TRANSPORTATION IMPACT ANALYSIS

VETPOWERED

August 2021

1.0 INTRODUCTION

Linscott, Law & Greenspan, Engineers (LLG) has prepared this Transportation Impact Analysis Report for the VetPowered Project (hereafter referred to as the “Project”). The proposed Project includes the construction of a two-story, 24,000 square-foot building for VetPowered, LLC, which provides advanced manufacturing and 3D printing sales and services to the shipbuilding defense, aerospace, marine, and space industries. The Project site is located at 3030-3032 Main Street within the Barrio Logan Community Planning Area of the City of San Diego. The Project site is currently occupied by several vacant buildings. Access to the site is proposed via one (1) driveway along Main Street and an alley located along the northern perimeter of the site.

2.0 PROJECT DESCRIPTION

2.1 Project Location

The Project site is located at 3030-3032 Main Street within the Barrio Logan Community Planning Area of the City of San Diego. The Project site is currently occupied by several vacant buildings. Access to the site is proposed via one (1) driveway along Main Street and an alley located along the northern perimeter of the site.

The Project is located in the Barrio Logan Planned District (BLPD-SUBD-B) Zone, 2035 Transit Priority Area (TPA), and Residential Parking Standard TPA within the Barrio Logan Community Planning area. The Project site is located within the BLPD-SUBD-B zone, which permits any nonresidential use in the IH-2-1 zone. The proposed Project land uses were deemed consistent with the Barrio Logan Community Plan.

Figure 2–1 shows the vicinity map. *Figure 2–2* shows a more detailed Project area map.

2.2 Project Description

The Project site encompasses approximately 0.32 acres and is currently occupied by several vacant buildings. All existing buildings will be demolished as a part of the project.

The Project proposes the construction of a two-story, 24,000 square-foot building for VetPowered, LLC, which provides advanced manufacturing and 3D printing sales and services to the shipbuilding defense, aerospace, and space industries. Services include off-site rapid prototyping and reverse engineering services (3D Printing, 5-axis Computer Numerical Control (CNC) machining, 5-axis CNC milling, 5-axis CNC turning, CNC laser and 5-axis CNC waterjet cutting) and machinery repair services. VetPowered sells, services, and installs most brands of Advanced Manufacturing equipment and provides preventive maintenance, emergency repair, and support for all types of Commercial, Industrial, and Test equipment.

The first floor of the building (approximately 12,000 square feet) will include a commercial product showroom displaying advanced manufacturing and 3D printing equipment, a product demonstration area, a customer interaction and commercial sales area, and service/repair and product storage areas for advanced manufacturing and robotics equipment. The second floor of the building (approximately 12,000 square feet) will include administrative spaces for commercial sales staff, equipment technicians, general administration, equipment preparation areas, sales and accounting functions, and technical support.

The Project serves a very specialized clientele, which includes shipbuilding, defense, aerospace, marine, and space industries. Based on VetPowered's experience, approximately 97% of their customers are located within a three (3) mile radius from the Project site (see *Attachment A* for map illustrating locations of their clientele). In general, given the size of the machinery, employees travel to the customers to service or sell equipment and very few customers walk in (an average of five (5) walk-in customers per month).

The Project proposes seventeen (17) full-time employees and zero (0) part-time employees. For repair services, employees are estimated to use nine (9) company service vehicles on a daily basis. The company vehicles will leave the site at approximately 6:00 AM and return at 6:00 PM every day. Six (6) deliveries are expected to be made to the Project site every week – three (3) via tractor-trailer and three (3) via smaller trucks/vehicles.

Figure 2–3 depicts the conceptual site plan. *Appendix A* contains a letter from the Owner / Permittee summarizing the Project’s background and operations.

2.3 Project Trip Generation

Due to the unique nature of the Project, no similar land use was identified from the City of San Diego *Trip Generation Manual*, and therefore, a site-specific trip generation was calculated based on the following trip types associated with the Project:

- *First Floor: Repair, Sales, Delivery and Product Storage*
 - Walk-In Customers
 - Service Vehicles
 - Deliveries
- *Second Floor: Administrative Functions*
 - Office space for employees

Walk-in Customers: Based on information provided by the Owner/Permittee, although approximately five (5) customers are expected to walk in per month, to be conservative for the purposes of the trip generation calculations, five (5) customers are assumed to walk in per day. A trip generation of 2 trips per customer was assumed.

Service Vehicles: Although the service vehicles are projected to leave the site at 6:00 AM and not return to the site until 6:00 PM, to be conservative for the purposes of the trip generation calculations, the service vehicles were assumed to return to the site and leave the site one additional time between 6:00 AM and 6:00 PM. Therefore, a trip generation of 4 trips per service vehicle was assumed.

Deliveries: Although six (6) deliveries are expected to be made to the Project site every week, to be conservative, six (6) deliveries are assumed per day. A trip generation of 2 trips per delivery was assumed and a Passenger Car Equivalent (PCE) factor was applied to the three (3) deliveries via tractor-trailer. According to Highway Capacity Manual 6th edition, PCE is defined as the number of passenger cars that are displaced by a single heavy vehicle of a particular type under the prevailing traffic conditions. Heavy vehicles have a greater traffic impact than passenger cars since:

They are larger than passenger cars, and therefore, occupy more roadway space; and their performance characteristics are generally inferior to passenger cars, leading to the

formation of downstream gaps in the traffic stream, which cannot always be effectively filled by normal passing maneuvers.

Exhibit 12–25, PCE’s for Heavy Vehicles in General Terrain Segments, (obtained from “Highway Capacity Manual prepared by Transportation Research Board) summarizes PCE factors for trucks. The type of terrain in the project area is level, which corresponds to a PCE factor of 2.0

Office: Per the information provided by the Owner/Permittee, a total of 17 full-time employees and zero (0) part-time employees are proposed for the site. The second floor of the proposed building will provide ancillary administrative space and touchdown space for employees in support of the sales, repair, and delivery operations. For the trip generation calculations, the City’s single-tenant office trip rate *per the Trip Generation Manual, May 2003* was used for the entire second floor.

The following is a summary of the assumptions used in the daily trip generation calculations:

- 5 Walk-In Customers (2 trips per day)
- 9 Service Vehicles (4 trips per day)
- 3 Tractor-Trailer and 3 Smaller Truck Deliveries (2 trips per day with 2.0 PCE factor for the tractor-trailer deliveries)
- Employees trips using City’s trip generation rate for single-tenant office (10 trips per 1,000 square feet)

Table 2–1 summarizes the site-specific Project trip generation. As shown in *Table 2–1*, the Project is estimated to generate approximately 184 ADT with 43 total AM peak hour trips (24 in, 19 out) and 39 total PM peak hour trips (17 in, 22 out).

Additionally, the trip generation was calculated based on the trip rates published in the Institute of Traffic Engineers’ (ITE) *Trip Generation Manual, 10th Edition* for the “Specialty Trade Contractor” land use, which was deemed as the comparable and pertinent land use category for the proposed Project. **Table 2–2** summarizes the Project trip generation based on the ITE rate. As shown in *Table 2–2*, the Project is estimated to generate approximately 245 ADT with 40 total AM peak hour trips (29 in, 11 out) and 47 total PM peak hour trips (15 in, 32 out). **Appendix B** includes excerpts from the ITE Trip Generation Manual for the “Specialty Trade Contractor” land use.

**TABLE 2-1
PROJECT TRIP GENERATION: SITE-SPECIFIC RATES**

Land Use	Parameters	Daily Trip Ends (ADTs)		AM Peak Hour					PM Peak Hour						
		Rate	Volume	% of ADT	In:Out		Volume			% of ADT	In:Out		Volume		
					Split	In	Out	Total	Split ^a		In	Out	Total		
<i>Proposed Land Use</i>															
Repair, Sales and Delivery ^a	5 customers	2 /customer ^b	10	40%	50% :50%	2	2	4	60%	50% :50%	3	3	6		
	9 service vehicles	4 /service vehicle ^c	36	25%	0% :100%	0	9	9	25%	100% :0%	9	0	9		
	3 small truck deliveries	2 /delivery ^d	6	67%	50% :50%	2	2	4	33%	50% :50%	1	1	2		
	3 tractor-trailer deliveries	4 /delivery ^{d,e}	12	67%	50% :50%	4	4	8	33%	50% :50%	2	2	4		
<i>Subtotal</i>			<i>64</i>			<i>8</i>	<i>17</i>	<i>25</i>			<i>15</i>	<i>6</i>	<i>21</i>		
Office ^f	12 KSF	10 /KSF	120	15%	90% :10%	16	2	18	15%	10% :90%	2	16	18		
Total Proposed		—	184	—	— —	24	19	43	—	— —	17	22	39		

Footnotes:

- a. The City of San Diego Trip Generation Manual does not have a trip rate for the proposed project land use. A daily trip rate of 2 per customer, 2 per service vehicle and 2 per delivery was applied.
- b. While the customers are expected to arrive at various times throughout the day, to be conservative, it was assumed that all customers arrive and depart during the AM and PM commuter peak hours. Therefore, for the purposes of the trip generation calculations, 2 customers were assumed to visit the project site during the AM peak hour 3 customers were assumed to visit the project site during the PM peak hour.
- c. The service vehicles leave the site at 6:00AM and return at 6:00PM, which are outside of the commuter AM and PM peak hours; however, to be conservative, all of the service vehicles were assumed to leave during the AM peak hour and return during the PM peak hour.
- d. Two deliveries were assumed to occur during the AM peak hour and one delivery was assumed to occur during the PM peak hour.
- e. A Passenger Car Equivalence (PCE) factor of 2.0 was applied to the tractor-trailer deliveries since tractor-trailers are larger than passenger cars, and therefore, occupy more roadway space.
- f. 17 employees are expected to generate 34 ADT at 2 trips per employee. However, to be conservative, the single-tenant office trip rate from the City of San Diego Trip Generation Manual was used.

General Notes:

1. The existing warehouse use is vacant. Therefore, no trip credit was taken..
2. ADT = Average daily traffic volumes
3. KSF = Thousand square feet

**TABLE 2-2
PROJECT TRIP GENERATION: INSTITUTE OF TRANSPORTATION ENGINEERS (ITE) RATES**

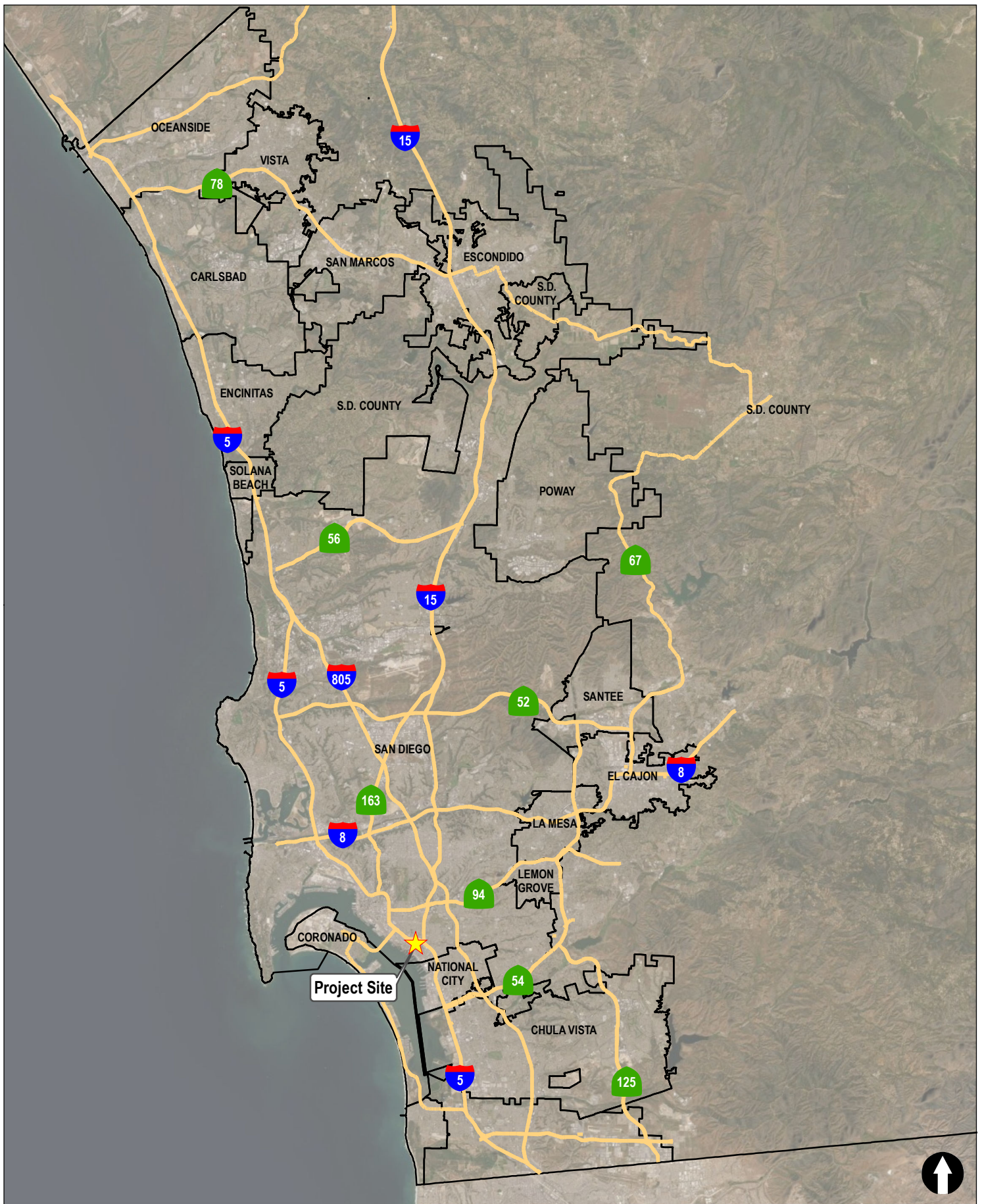
Land Use	Size	Daily Trip Ends (ADT)		AM Peak Hour					PM Peak Hour				
		Trip Rate ^a	Volume	Trip Rate ^a	In:Out Split %	Volume			Trip Rate ^a	In:Out Split %	Volume		
						In	Out	Total			In	Out	Total
Specialty Trade Contractor	24 KSF	10.22 / KSF	245	1.66 / KSF	73:27	29	11	40	1.97 / KSF	32:68	15	32	47

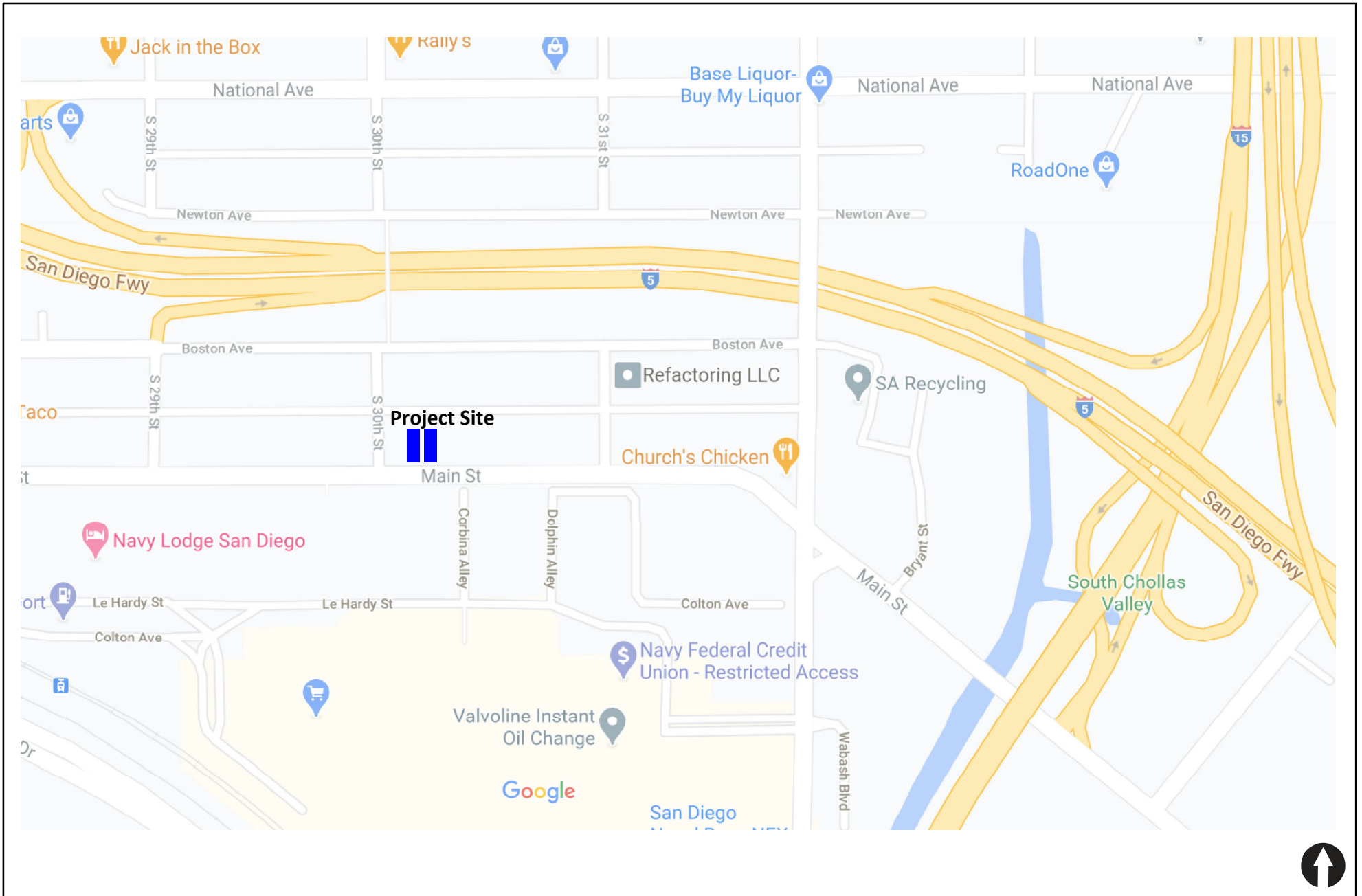
Footnotes:

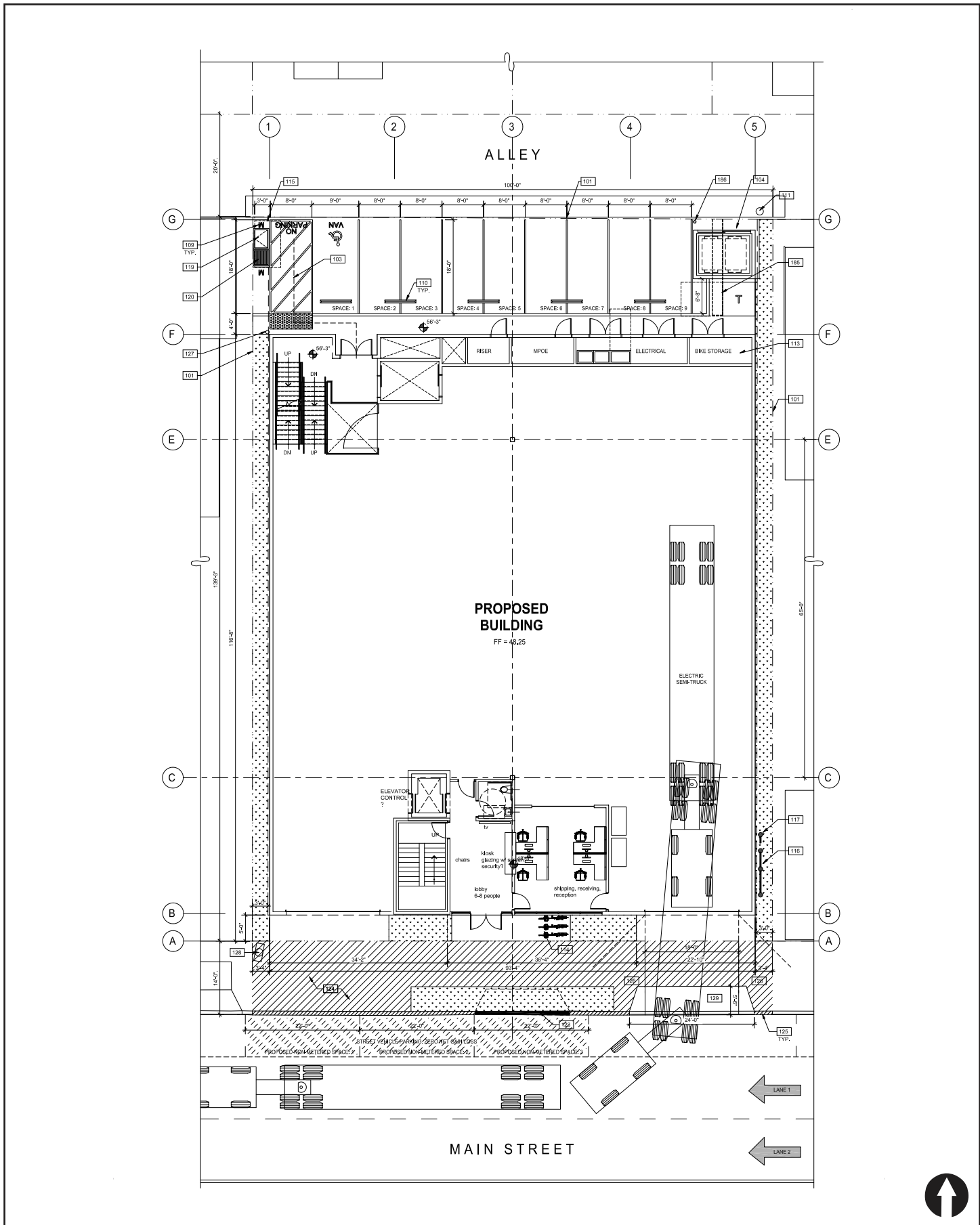
- a. Trip rates for “Specialty Trade Contractor” as outlined in ITE’s *Trip Generation Manual (10th Edition)*.

General Notes:

- 1. KSF = 1,000 Square Feet.







3.0 REPORT APPROACH

3.1 VMT Background

Vehicle Miles Traveled (VMT) is defined as the “amount and distance of automobile travel attributable to a project” per CEQA Guidelines Section 15064.3. VMT and VMT/capita or VMT/employee is a measure of the use and efficiency of the transportation network as well land uses in a region. VMT is calculated based on individual vehicle trips generated and their associated trip lengths. VMT is estimated for a typical weekday for the purposes of measuring transportation impacts. For commercial employment uses, the metric is employee VMT/employee.

3.2 Transportation Analyses

This potential transportation impacts of the proposed Project are based on VMT to satisfy the California Environmental Quality Act (CEQA) guidelines through Senate Bill 743 (SB 743). Public Resources Code section 20199, enacted pursuant to SB 743, identifies VMT as an appropriate metric for measuring transportation impacts along with the elimination of auto delay/Level of service (LOS) for CEQA purposes statewide. The justification for this paradigm shift is that auto delay/LOS impacts may lead to improvements that increase roadway capacity and therefore sometimes induce more traffic and greenhouse gas emissions. In contrast, constructing projects in VMT-efficient locations assists California in meeting greenhouse gas emissions targets. Therefore, consistent with SB 743 and CEQA Guidelines 15064.3, the CEQA significance determination for the Project is based only on VMT and not on LOS.

3.3 Local Mobility Analysis

Per the City of San Diego Transportation Study Manual (September 29, 2020), a Local Mobility Analysis (LMA) is not required as the Project is consistent with the zoning and is expected to generate less than 1,000 unadjusted daily trips.

4.0 VMT SIGNIFICANCE CRITERIA & METHODOLOGY

A Transportation Study Manual (TSM) has been published by the City of San Diego on September 29, 2020, pursuant to guidance from the Governor’s Office of Planning and Research (OPR) in December 2018 (*Technical Advisory on Evaluating Transportation Impacts in CEQA*).

Given that the City of San Diego has developed significance thresholds and technical methodologies, the TSM was utilized for this chapter to perform a Project-Specific VMT analysis.

4.1 Significance Criteria

According to the City of San Diego’s TSM, the City’s transportation VMT thresholds of significance are shown in *Table 4–1*.

**TABLE 4–1
VMT SIGNIFICANCE THRESHOLDS**

Land Use Type ¹	Thresholds for Determination of a Significant Transportation VMT Impact ²
Residential	15% below regional average ³ Resident VMT/Capita
Commercial Employment	15% below regional average ³ Employee VMT/Employee
Industrial Employment	Regional average ³ Employee VMT/Employee
Regional Retail	Zero net increase in total regional VMT ³
Hotel	See Commercial Employment
Regional Recreational	See Regional Retail
Regional Public Facilities	See Regional Retail
Mixed-Use	Analyze each land use individually per above categories
Redevelopment	Apply the relevant threshold based on proposed land use (ignore the existing land use)
Transportation Projects	Zero net increase in total regional VMT ³

Source: Table 3: Transportation VMT Thresholds of Significance by Land Use per the TSM, September 29, 2020

Footnotes:

1. See Appendix B of the TSM for specific land use designations.
2. Projects that exceed these thresholds would have a significant impact.
3. The regional average and total regional VMT are determined using the SANDAG Regional Travel Demand Model. The specific model version and model year will be approved by the Development Services Department's Transportation Development Section.

4.1.1 *City of San Diego Screening Criteria*

According to the TSM, a project that meets at least one of the following screening criteria would be presumed to have a less than significant VMT impact due to project characteristics and/or location.

1. **Residential or Commercial Employment Project Located in a VMT Efficient Area:** The project is a residential or commercial employment project located in a VMT efficient area (15% or more below the base year regional average VMT/capita or VMT/employee) based on the applicable location-based screening map produced by SANDAG.
2. **Industrial Project Located in a VMT Efficient Area:** The project is an industrial employment project located in VMT efficient area (in an area with average or below average base year VMT/employee) based on the applicable location-based screening map produced by SANDAG.
3. **Small Project:** The project is a small project defined as generating less than 300 daily unadjusted driveway trips using the City of San Diego trip generation rates/procedures.
4. **Locally Serving Retail/Recreational Project:** The project is a locally serving retail/recreational project defined as having 100,000 square feet gross floor area or less and demonstrates through a market area study that the market capture area for the project is approximately three miles (or less) and serves a population of roughly 25,000 people or less. Locally serving retail is consistent with the definitions of Neighborhood Shopping Center in the San Diego Municipal Code Land Development Code Trip Generation Manual. Locally serving recreation is consistent with the land uses listed in Appendix B of the TSM, given that it meets the square footage and market capture area above. Adding retail/recreation square footage (even if it is 100,000 square feet gross floor area or less) to an existing regional retail shopping area is not screened out.
5. **Locally Serving Public Facility:** The project is a locally serving public facility defined as a public facility that serves the surrounding community or a public facility that is a passive use. The following are considered locally serving public facilities: transit centers, public schools, libraries, post offices, park-and-ride lots, police and fire facilities, and government offices. Passive public uses include communication and utility buildings, water sanitation, and waste management.
6. **Affordable Housing:** The project has access to transit* and is wholly or has a portion that meets one of the following criteria: is affordable to persons with a household income equal to or less than 50% of the area median income (as defined

by California Health and Safety Code Section 50093), housing for senior citizens [as defined in Section 143.0720(e)], housing for transitional foster youth, disabled veterans, or homeless persons [as defined in 143.0720(f)]. The units shall remain deed restricted for a period of at least 55 years. The project shall provide no more than the minimum amount of parking per unit, per San Diego Municipal Code Section 143.0744. Only the portion of the project that meets the above criteria is screened out. For example, if the project is 100 units with ten deed-restricted affordable housing units, transportation VMT analysis would not be necessary for the ten affordable units but would be necessary for the remaining 90 units (unless they meet one of the other screening criteria). For purposes of applying the small project screening criteria, the applicant would only include the trip generation for the non-affordable housing portion of the project (since the affordable housing portion is screened out).

*Access to transit is defined as transit being located within a reasonable walking distance (1/2 mile) from the project driveway.

7. **Mixed-Use Project Screening Considerations:** The project's individual land uses should be compared to the screening criteria above. It is possible for some of the mixed-use project's land uses to be screened out and some to require further analysis. For purposes of applying the small project screening criteria, the applicant would only include the trip generation for portions of the project that are not screened out based on other screening criteria. For example, if a project includes residential and retail, and the retail component was screened out because it is locally serving; only the trip generation of the residential portion would be used to determine if the project meets the definition of a small project.
8. **Redevelopment Project Screening Considerations:** The project is a redevelopment project that demonstrates that the proposed project's total project VMT is less than the existing land use's total VMT. Exception: If a project replaces affordable housing (either deed restricted or other types of affordable housing) with a smaller number of moderate-income or high-income residential units, the project is not screened out and must analyze VMT impacts per Table 3 of the TSM.

5.0 PROJECT VMT ANALYSIS

5.1 Screening Criteria

Based on the Project's land uses, the Project's VMT would be evaluated as commercial employment and as a small project per Table Appendix B-1 of the TSM. Based on the screening criteria described in Section 4.3.1, the Project screen out from a VMT analysis as detailed below. *Table 5-1* summarizes the Project applicability of the TSM screening criteria.

**TABLE 5-1
VMT SCREENING CRITERIA – PROJECT APPLICABILITY**

Screening Criteria ¹	Applicable to the Project?
1. Residential or Commercial Employment Project Located in a VMT Efficient Area	Yes
2. Industrial Project Located in a VMT Efficient Area	No
3. Small Project	Yes
4. Locally Serving Retail/Recreational Project	No
5. Locally Serving Public Facility	No
6. Affordable Housing	No
7. Mixed-Use Project Screening Considerations	No
8. Redevelopment Project Screening Considerations	No

Footnotes:

1. City of San Diego TSM, September 29, 2020.

Screening Criteria:

Commercial Employment Project Located in a VMT Efficient Area: The project is a commercial employment project located in a VMT efficient area (15% or more below the base year average VMT/employee) based on the applicable location-based screening map produced by SANDAG. The San Diego average regional VMT/Employee is 27.2 (and 15% below 27.2 would equate to 23.12) per SANDAG Series 14 (Year 2016) data.

Result:

Using the SANDAG screening map for commercial employment projects, the Project is located in census tract 39.02 and would be expected to generate 22.4 VMT/employee, which is 82.5% of the regional average VMT/employee. *Appendix C* includes the result of the SANDAG map. Therefore, the Project is screened out on the Commercial Employment criteria and presumed to have a less than significant transportation VMT impact.

Small Project: The project is a small project defined as generating less than 300 daily unadjusted driveway trips using the City of San Diego trip generation rates/procedures. For purposes of applying the small project screening criteria, the Project would only include the trip generation for portions of the project that are not screened out based on other screening criteria.

Result:

As discussed in Section 2.3 of this report, based on the site-specific trip generation calculations, the Project is estimated to generate approximately 184 daily trips, and less than 300 average daily trips, which is the threshold for a small project.

Additionally, based on ITE trip generation calculations, the Project is estimated to generate approximately 245 average daily trips (ADT), and less than 300 ADT, which is the threshold for a small project.

Therefore, given that the Project's trip generation (on a site-specific basis and per ITE) is below the small project threshold (of 300 ADT), the Project is screened out on the Small Project criteria and presumed to have a less than significant transportation VMT impact.

6.0 CONCLUSIONS

Per the screening criteria outlined in the TSM guidelines and findings in the previous section, the Project is screened out of requiring a Transportation VMT analysis based on meeting the criteria of being in a VMT efficient area per the SANDAG screening map and a Small Project. Therefore, based on the above, the Project is presumed to have a less than significant transportation VMT impact.