



February 3, 2023

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Principal
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Re: Oro Valley Tropical Smoothie | Traffic Impact Statement
SWC La Canada Dr/Lambert Ln, Oro Valley, AZ

1 INTRODUCTION

This Traffic Impact Statement (TIS) was prepared for the Oro Valley Tropical Smoothie (Project) located on the southwest corner of La Canada Drive and Lambert Lane in the Town of Oro Valley, Arizona (Town).

The purpose of this study was to document existing conditions and the proposed Project site plan, as well as calculate anticipated site-generated trips associated with the Project.

The Project will develop a 0.81-acre parcel with 1,544 square feet (SF) of gross floor area (GFA) of fast-food restaurant use, as shown in the site plan (Attachment A). The Project is forecast to generate 69 AM peak hour trips, 51 PM peak hour trips, and 722 average daily trips (ADT) based on the Institute of Transportation Engineers (ITE) Land Use 934 "Fast-Food Restaurant with Drive-Through Window". After adjustments for pass-by trips, the Project is forecast to generate approximately 33 AM peak hour trips, 21 PM peak hour trips, and 656 daily trips.

Since the Project is expected to generate fewer than 100 peak hour trips, the Project warrants a TIS. This TIS has been prepared in accordance with the Arizona Department of Transportation's (ADOT) Traffic Guidelines and Processes (TGP) 240 Traffic Impact Analysis & Statement for review and approval by the Town, as the Town defaults to ADOT's traffic study scoping guidelines.

2 PROJECT BACKGROUND

The Project site is located on the southwest corner of La Canada Drive and Lambert Lane in Oro Valley, Arizona, as shown in Figure 1. The Project site is an existing undeveloped parcel. The site is bounded by parking to the north, La Canada Drive to the east, and the Canada Crossroads strip mall buildings to the south and west.

The Project's primary site access will be achieved through one existing full-access driveway along La Canada Drive. Motorists can access the site via existing right-in/right-out driveways along Lambert Lane and La Canada Drive using the internal circulation within the larger commercial development. The anticipated Project opening year is 2023.

Figure 1: Project Location



3 EXISTING CONDITIONS

3.1 Existing Roadways

Lambert Lane is a 4-lane, east-west divided roadway. The cross section includes pavement, raised median, and curb and gutter on both sides of the roadway. The north side of the roadway provides sidewalk, and the south side of the roadway provides a bi-directional bike path. There is a 45 mile per hour (mph) posted speed limit on Lambert Lane. Lambert Lane is classified as an Urban Minor Arterial based on the ADOT Statewide Federal Functional System Online Map.

La Canada Drive is a 4-lane, north-south divided roadway. The cross section includes pavement, raised median, and curb and gutter on both sides of the roadway. The west side of the roadway provides sidewalk, and the east side of the roadway provides a bi-directional bike path. The posted speed limit is 45 mph adjacent to the Project site. La Canada Drive is classified as an Urban Minor Arterial based on the ADOT Statewide Federal Functional System Online Map.

3.2 Intersections

Lambert Lane and La Canada Drive is a four-leg signalized intersection. The northbound, southbound, and eastbound approaches consist of one dedicated left-turn lane, two through lanes and one dedicated right turn lane; the westbound approach consists of one dedicated left-turn lane, one dedicated through lane, and one shared through/right-turn lane.

4 PROPOSED SITE CONDITIONS

4.1 Site Access, Circulation and Parking

The Project primary site access will be achieved through one existing full access driveway along La Canada Drive. Motorists can access the site via existing right-in/right-out driveways along Lambert Lane and La Canada Drive.

using the internal circulation within the larger commercial development. There are no sight distance concerns at any of the existing site access driveway locations.

Operations information was provided by the tenant who operates the Houghton Town Center restaurant, located at Houghton Road/Old Vail Road in Tucson, AZ. The peak business hours of the restaurant are between 11 AM – 1 PM, with 11 AM – 12 PM being the typical peak hour. The busiest day occurred in May 2021 with a peak hour of approximately 26 entering vehicles. The typical peak hour maximum number of vehicles in the drive-through queue is 6-7. Vehicles typically complete the entire drive-through transaction within about 2 minutes.

There is a single-lane drive-through proposed on the site. The driveway will begin at the northwest corner of the site which travels along the west side of the building and continues to the pickup window on the south side of the building. The drive-through exit will be on the southeast corner of the site.

Parking will be provided for this development on all sides of the building. There will be a total of 32 parking spaces, including 2 accessible spaces, provided by the Project.

4.2 Trip Generation

Before reductions due to pass-by trips, the Project is forecast to generate approximately 69 AM peak hour trips, 51 PM peak hour trips, and 722 daily trips on a typical weekday based on the Institute of Transportation Engineers (ITE) Trip Generation Manual (TGM), 11th Edition.

After adjustments for pass-by trips, the Project is forecast to generate approximately 33 AM peak hour trips, 21 PM peak hour trips and 656 daily trips. These are the estimated new trips that are expected to be added to the roadway network. Calculated trip values are shown in Table 1. A detailed trip generation calculation sheet is included in Attachment B.

4.3 Pass-By Trips

Pass-by trips are intermediate stops made by motorists traveling from an origin to a primary trip destination. Pass-by trips are attracted to a trip generator from existing adjacent street traffic “passing by” the use. These trips are not new trips added to the roadway by the proposed development; however, they are still accounted for at the site driveways. Since pass-by trips come from existing traffic already traveling past the site, these trips are deducted from the total new trips generated by the proposed development.

Based on appendices contained within the ITE TGM, Fast-Food Restaurant with Drive-Through Window AM/PM peak hour average pass-by percentages are 50%/55%.

Table 1: Project Trip Generation

Land Use	ITE Code ¹	Size	Unit	AM Peak Hour			PM Peak Hour			Daily Volume
				In	Out	Total	In	Out	Total	
Fast-Food Restaurant with Drive-Through Window	934	1.54	KSF GFA ²	35	34	69	27	24	51	722
Total Driveway Trips				35	34	69	27	24	51	722
Fast-Food Restaurant with Drive-Through Window Pass-By Trips at 50% and 55% (AM and PM) ³				-18	-18	-36	-15	-15	-30	-66
Pass-By Driveway Trips				-18	-18	-36	-15	-15	-30	-66
Total New External Trips				17	16	33	12	9	21	656

1. Land Use Code (LUC), per ITE TGM, 11th Edition.

2. KSF GFA = 1,000 square feet of gross floor area

3. Pass-by trip rates summarized from ITE TGM Appendices.

5 CONCLUSIONS

The following conclusions are made based on the findings of the Project TIS:

1. The Project is expected to generate approximately 69 AM peak hour, 51 PM peak hour and 722 daily trips based on the ITE Trip Generation Manual, 11th Edition. After adjustments for pass-by trips, the Project is forecast to generate approximately 33 AM peak hour trips, 21 PM peak hour trips and 656 daily trips.
2. The Project is not expected to have a significant impact to the surrounding roadway infrastructure as it is expected to generate under 100 peak hour trips.
3. There are no sight-distance concerns at the existing Project driveways.

6 RECOMMENDATIONS

In summary, the proposed Project is expected to have no significant impact on the adjacent roadway network. The following recommendations were developed based on the findings of the Project TIS:

1. Design and construction of the proposed Project improvements should conform to the Town of Oro Valley design guidelines, as applicable.

Sincerely,
Greenlight Traffic Engineering, LLC


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Attachments:

- A – Lambert/La Canada Tropical Smoothie Site Plan
- B – Trip Generation Calculations

ATTACHMENTS

Trip Generation Analysis

Project: 221043 ONET SR 92 Tropical Smoothie
Originator: Maria Jimenez
Checked: Collette Frohlich, PE
Date: 3/30/2022
Data Source: Dynamic Civil Designs Site Plan
Reference Manual: ITE Trip Generation Manual, 11th Edition

Size: 1.54
Independent Variable: GFA
Time Period: Weekday (Monday - Friday), Peak Hour Adjacent Street Traffic
Setting/Location: General Urban/Suburban

Land Use	LUC	Units	Size	AM Calc			PM Calc			ADT Calc			AM			ADT		
				In	Out	Total	In	Out	Total	Total	In	Out	Total	In	Out	Total		
TRIP ENDS																		
Fast-Food Restaurant with Drive-Through Window	934	1000 SF GFA	1.54	51%	49%	44.61	52%	48%	33.03	467.48	35	34	69	27	24	51	722	
										Subtotal Trip Ends	35	34	69	27	24	51	722	
PASS BY TRIPS																		
Fast-Food Restaurant with Drive-Through Window ¹	938								50%		55%		18	18	36	15	30	362
										Subtotal Pass-By	18	18	36	15	15	30	362	
										External Trip Ends	17	16	33	12	9	21	360	

1. Pass-by rates were taken from the ITE Trip Gen Manual, 11th Ed Pass-by Tables.