Central Coast Transportation Consulting
Traffic Engineering & Transportation Planning

MEMORANDUM

Date: March 15, 2024

To: Community Development Department, City of Arroyo Grande

From: Michelle Matson and Joe Fernandez, CCTC

Subject: 418 East Grand Avenue Car Wash – Transportation Memorandum of Assumptions

This Transportation Memorandum of Assumptions has been prepared for the car wash proposed at 418 East Grand Avenue. The project would replace four existing homes with a single-bay automated car wash and would consolidate access on the parcel from four existing driveways to a single proposed driveway on Oak Street. A site plan and vicinity map is provided as **Attachment A.**

In summary, the project would have a less-than-significant impact on Vehicle Miles Traveled (VMT). The project will eliminate two driveways on East Grand Avenue, which will reduce conflict points and improve access management. The project would not introduce geometric or operational elements that are inconsistent with design standards, and would not exacerbate any high-collision locations.

Payment of City impact fees will constitute the project's fair share contribution to future roadway improvements. We recommend red curb striping adjacent to the project driveway consistent with CAMUTCD guidance. We do not recommend further LOS analysis given the low project trip generation, existing setting, and other recent analysis.

EXISTING SETTING

Roadway Segments

East Grand Avenue is a four-lane primary arterial with a center two-way-left-turn lane, sidewalks, planned Class II bike lanes, and a speed limit of 35 miles per hour. The City's Circulation Element reported 17,400 daily vehicles on East Grand Avenue between the project site and Halcyon Road in 2018. This corresponds to level of service (LOS) A per Table 4-5 of the City's Transportation Impact Study Guidelines. Traffic volumes have declined on this segment, which carried approximately 19,500 daily vehicles in 2000. The Circulation Element includes a streetscape project on East Grand Avenue from the City limits to El Camino Real. The streetscape project will likely include raised medians and designated center turn lanes to consolidate access and reduce conflict points.

El Camino Real is a two-lane arterial with intermittent Class II bike lanes and sidewalks in the vicinity of the project. The City's Circulation Element reported 2,310 daily vehicles just north of East Grand Avenue in 2018. This corresponds to LOS A per Table 4-5 of the City's Transportation Impact Study Guidelines.

Oak Street is a two-lane local road with on street parking and discontinuous sidewalks.

The roadways widths of East Grand Avenue and Oak Street on the project frontage do not meet the City's Engineering Standards. Engineering Standard 7010 requires 12-foot travel lanes and eight-foot parking lanes on Oak Street which is currently less than 40 feet wide. On Grand Avenue, 12-foot travel lanes, a 14-foot center turn lane, and five-foot bike lanes, and 10-foot sidewalks are required. The current roadway width is 60 feet with an eight-foot sidewalk on the north side. No widening is recommended on Oak Street; however, widening,

a design exception, or additional right-of-way may be required by the City to accommodate the desired roadway section and future Class II bike lanes on East Grand Avenue.

Intersections

The Circulation Element studied the intersection of East Grand Avenue/El Camino Real using traffic counts collected in 2019. The drivers on the side-street El Camino Real approach experience high levels of delay (LOS E/F during AM/PM) but the volumes did not warrant a traffic signal. The Circulation Element plans a traffic signal or roundabout at this intersection, a project that is also included in the City's Development Impact Fee Nexus Study.

CCTC studied the intersection of Halcyon Road/E Grand Avenue in 2019 for the East Grand Village project. That study concluded that the intersection would operate acceptably at LOS D with that project and all other planned projects in the area, and no capacity expansion was warranted.

PROJECT ANALYSIS

CEQA Analysis

The City's Multimodal Transportation Impact Study Guidelines include thresholds of significance for transportation impacts under the California Environmental Quality Act (CEQA). The Guidelines note that local-serving retail projects smaller than 50,000 square feet can be presumed to have a less-than-significant impact to transportation.

The proposed 2,560 square foot project is local-serving in nature, as it is one of many carwash sites available in the area. As a result, it can be presumed to have a less-than-significant impact on transportation.

Trip Generation

Trip generation data for car washes is available from the Institute of Transportation Engineers, the San Diego Association of Governments, and a survey of another local site. The local survey data is used in the estimate below since it is local, higher than the other sources, (presenting a conservative analysis), and it includes both peak hour and daily trip rates. Trips from the four homes that would be removed as a part of the projects were subtracted from the trip generation estimate. A substantial portion of the car wash users are expected to be pass-by or diverted link trips from drivers on US 101 and East Branch Street.

The project's trip generation is shown in **Table 1**.

Table 1: Project Trip Generation

Project Trip Generation								
		Daily	AM Peak Hour			PM Peak Hour		
Land Use	Size	Total	In	Out	Total	In	Out	Total
Car Wash[1]	1 Stall	840	33	33	66	46	46	92
Pass-by Trips (Car Wash)[3]		*-190*	*-14*	*-14*	*-28*	*-19*	*-19*	*-38*
Car Wash Trip Subtotal		650	19	19	38	27	27	54
Existing Residential[2]	*4 DU*	*-38*	*-1*	*-2*	*-3*	*-2*	*-2*	*-4*
Net New Vehicle Trips		***612***	***18***	***17***	***35***	***25***	***25***	***50***

DU=Dwelling Units; ITE = Institute of Transportation Engineers.

1. Trip Generation obtained from Broad Street Quiky Car Wash Counts, June 2019.

2. ITE Land Use Code #210, Single-family detached housing. Average rates used.

3. Lowest restaurant and gas station pass by rate is for a Gasoline/Serice Station (Land Use Code #944) which has a PM peak hour pass by rate of 42%. Assumed rate for car wash in AM and PM. Peak hour pass-by trips multiplied by a factor of 5 to determine daily pass-by trips.

Source: ITE Trip Generation Manual, 11th Ed. and Trip Generation Handbook, 3rd Ed., 2017.

The project would conservatively generate 612 net new daily trips, 35 net new AM peak hour trips, and 50 net new PM peak hour trips.

Trip Distribution

Table 2 summarizes the project trip distribution.

Table 2: Trip Distribution

Trip Distribution	
Location	**% of Trips**
US 101 N	20%
US 101 S	20%
E Branch St	10%
Oak St Area	10%
Halcyon N	10%
Halcyon S	10%
E Grand (W)	20%
Total	**100%**

The project generates the most traffic during the PM peak hour. Based on the trip generation and distribution above, the project would add 20 or more new peak hour trips to the following intersections:

1. East Grand Avenue/Oak Street (45 PM peak hour trips spread among four turning movements)
2. East Grand Avenue/El Camino Real (25 PM peak hour trips split among two through movements)

The addition of project traffic is not expected to impact any intersections or roadway segments. The planned East Grand Avenue corridor improvements will likely include access restrictions to reduce conflict points and focus traffic at controlled locations like East Grand Avenue/El Camino Real, where a signal or roundabout is planned once warranted. The Circulation Element shows that at least 46 additional vehicles on the southbound

El Camino Real approach are needed to trigger the signal warrant. The addition of project trips would not trigger the signal warrant since it adds traffic to the East Grand Avenue approaches.

The East Grand Avenue/Oak Street intersection serves a relatively small area compared to adjacent streets to the east and west. As a result, no traffic control upgrades (e.g. signal or roundabout) would occur at this location. The grid network to the north enables drivers to use a variety of routes to and from the project.

Based on this analysis no further LOS study is recommended.

Site Access & Circulation

There are currently four detached homes on the project site served by two driveways on East Grand Avenue and two driveways on Oak Street. The project proposes access via a single driveway on Oak Street roughly 60 feet north of East Grand Avenue. This access consolidation conforms to Access Management best practices by reducing conflict points, particularly on arterial roadways.

Street features including landscaping, utility poles, street furniture, signs, and parked vehicles can inhibit sight distance in urban areas. Per CAMUTCD guidance, "At all intersections, one stall length on each side measured from the crosswalk or end of curb return should have parking prohibited. A clearance of 6 feet measured from the curb return should be provided at alleys and driveways." (See Figure 3B-21(CA) for guidance). We recommend 6 feet of red curb striping on both sides of the new driveway consistent with CAMUTCD guidance.

Safety Analysis

The City's Systemic Safety Analysis Report (SSAR) and Local Road Safety Plan (LRSP) were reviewed in the context of the proposed project.

A mid-block pedestrian fatality occurred near the intersection of East Grand Avenue/Bell Street in 2018. The LRSP recommends an interim two-stage pedestrian crossing with a refuge median, high-visibility crosswalk, and Rectangular Rapid Flashing Beacon (RRFB) at the East Grand Avenue/Bell Street intersection.

The roadway segment of El Camino Real from Halcyon Road to East Grand Avenue was evaluated in the SSAR due to high overall crash rates. The SSAR recommends dynamic feedback signs and improved signage and delineation (bicycle lane conflict zone green paint, chevron signs on curve) on this segment.

The LRSP recommends striping and pavement improvement markings on the roadway segment of East Grand Avenue from El Camino Real to Courtland Street.

Collision data was also obtained from the Statewide Integrated Traffic Records System (SWITRS) for Oak Street and East Grand Avenue in the vicinity of the project between 2019 and 2023 as summarized below.

- Oak Street: No reported collisions.
- West Grande Avenue (400 block): Four collisions were reported.
    - One sideswipe collision was reported was reported due to a westbound unsafe lane change.
    - One rear end collision was reported with southbound vehicles.
    - Two broadside automobile right-of-way collisions were reported, including one due to a westbound left turning driver and one due to an eastbound left turning driver.
- West Grand Avenue & Oak Street: One sideswipe collision was reported due to an eastbound unsafe lane change.

There are no collision patterns or recommendations. The project will eliminate two driveways on East Grand Avenue, which will reduce conflict points and improve access management. The project would not introduce

geometric or operational elements that are inconsistent with design standards, and would not exacerbate any high-collision locations. The project's impact fee payments will constitute its fair share contribution towards future improvements in the area.

Please let us know if you have any questions.

ATTACHMENT

Attachment A: Site Plan and Vicinity Map

REFERENCES

California Department of Transportation. 2014 Edition, Revision 6. California Manual on Uniform Traffic Control Devices.

Central Coast Transportation Consulting. 2019. East Grand Village Transportation Impact Analysis Report.

City of Arroyo Grande. 2021. Circulation Element.

_____. 2024. Development Impact Fee Nexus Study Update.

_____. 2002. East Grand Avenue Enhancement Plan.

_____. 2021. Local Road Safety Plan.

_____. 2021. Systemic Safety Analysis Report.

_____. 2021. Multimodal Transportation Impact Study Guidelines.

Institute of Transportation Engineers (ITE). 2021. Trip Generation Manual, 11th Edition.

San Diego Association of Governments. 2002. (Not So) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region.

Attachment A - Site Plan and Vicinity Map

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