



Memorandum

ENGINEERING & CAPITAL PROJECTS

File No. DR15-0037

CUP 15-0023

To: Steve Power, Principal Planner

From: Frank Rivera, Principal Civil Engineer *FXR*

Date: May 9, 2018

Subject: PROPOSED WASH N GO CAR WASH AT 495 TELEGRAPH CANYON ROAD
A.P.N. 639-080-6800

Background

We have received a developer request for an automated car wash that will provide one car wash tunnel with 15 on-site parking spaces on a 0.55-acre vacant gasoline station site. The parking spaces will be for vacuuming purposes. The proposed project is located at the northwest corner of Telegraph Canyon Road and Halecrest Drive, just east of the northbound on-ramp to Interstate-805. The proposed project replaces a gas station constructed in 1972 that had 8-fueling stations, a mini market and a smog/auto repair facility. When initially constructed, access to/from the site was through two unrestricted driveways located along the north curblines of Telegraph Canyon Road and one driveway along the west curblines of Halecrest Drive.

In 2005, the city of Chula Vista completed the widening of westbound Telegraph Canyon Road to provide for a fourth westbound lane so that at the I-805 northbound on-ramp, there would be two right-turn lanes to access the I-805 freeway. Prior to 2005, Telegraph Canyon Road was a 6-lane arterial roadway and the westbound approach had three lanes of which the left lane (#1 lane) was a through lane, the center lane (#2 lane) was a combination through & right turn lane and the lane closest to the curb (#3 lane) was a right turn only lane.

Traffic Levels of Service & Traffic Counts

Telegraph Canyon Road is currently a 7-lane divided arterial roadway with an average daily traffic count of approximately 61,271 vehicles per day dated April 2015. Count locations are mid-block between Halecrest Drive and Crest Drive/Oleander Avenue. The most recent traffic monitoring run for the corridor dated 2014 shows traffic Levels of Service (LOS) during the three peak periods: AM period = LOS A; Mid-Day period = LOS A; PM Period LOS = A for both westbound & eastbound directions.

In accordance with Growth Management Oversight Commission Traffic Threshold Standards, the LOS measurement of arterial segments at freeway ramps shall be a consideration in situations where proposed developments may have a significant impact at interchanges.

Historical Average Daily Traffic (ADT) Counts for Telegraph Canyon Road east of I-805:

Year 2004 68,662 ADT – Telegraph Canyon Road as a 6-lane arterial roadway.

Year 2006 72,925 ADT – Westbound 7-lane arterial road widening project completed in 2005.

Year 2013 57,309 ADT – SR-125 Toll Road opened in November of 2007.

Year 2015 61,271 ADT – Most recent traffic count completed in April 2015.

Roadway Widening of 2005

The widening for the fourth westbound lane begins west of Crest Drive approximately mid-block and is 1,100-feet in length. The new lane (#4 lane) was constructed along most of the frontage of the Canyon Plaza Shopping Center and the two gas station parcels west of the shopping center. The widening ends at the base of the northbound on-ramp at I-805. This #4 curb lane becomes a mandatory right turn lane for the northbound on-ramp to I-805. The # 3 lane is still a mandatory right turn lane for the northbound on-ramp, but you can access either the middle on-ramp lane or, if you are in a carpool or eligible vehicle, the left “diamond” on-ramp lane. The #2 lane was revised with this project to become a westbound through lane only.

This fourth westbound lane required street widening and necessitated a partial right-of-way acquisition along the frontage of two gasoline station parcels located east and west of Halecrest Drive. Just prior to commencing roadway construction, both parcels were full service gas stations with ancillary services. The parcel located east of the Halecrest Drive intersection, at 501 Telegraph Canyon Road, remains in business today as a full-service gasoline station.

As part of the 2005 roadway widening project, Caltrans required that the easterly gas station driveway at 495 Telegraph Canyon Road become an entrance only driveway and that the westerly driveway be closed off since it was too close to the freeway on-ramp. Due to the right-of-way needs for the roadway project and the closure of the westerly driveway, this gas station was closed. When the new street improvements were constructed, the remaining easterly driveway was modified to comply with the Caltrans comments and included “DO NOT ENTER” signage so that vehicles could only enter the project site from Telegraph Canyon Road. No restrictions were recommended on the single driveway located on Halecrest Drive.

Halecrest Drive has two southbound lanes and one northbound lane near the intersection with Telegraph Canyon Road. The two southbound lanes are south-to-west right turn lanes onto Telegraph Canyon Road. The southbound # 1 lane is restricted to the westbound # 1 & # 2 through only lanes while the southbound # 2 lane is restricted to the # 3 & # 4 west-to-north freeway on-ramp.

Caltrans Proposed Project Comments

As part of the plan review process for the proposed car wash at 495 Telegraph Canyon Road, in 2017 Caltrans provided comments which do not mention any restrictions on the remaining Telegraph Canyon Road driveway other than for the remaining easterly driveway to be located at least 50-feet away from the northbound on-ramp. The site plan submitted shows that the driveway will be located closer to 75-feet away from the on-ramp, thus meeting the Caltrans requirements. No comments were received from Caltrans that the easterly driveway be restricted to a one-way entrance only operation. Therefore, the proposed project will use the Telegraph Canyon Road driveway as a two-way access driveway.

Vehicle Trip Generation Rates

A trip generation study was conducted to show that the car wash project will generate approximately 1/3 to 1/2 of the typical daily vehicular trips that the previous gas station generated and that during the morning & evening peak periods, the car wash will generate approximately 13 and 30 peak period trips respectively. Below is a comparison to the previous land use trip generation rates:

Gas Station Trips (previous use)

The previous business had 8 gasoline fueling stations with a trip generation rate of 160 vehicles per fueling station per day totaling approximately 1,280 trips per day.

A.M. trip generation is 7% of daily trips = 90 trips per peak A.M. period

P.M. trip generation is 8% of daily trips = 102 trips per peak P.M. period.

Car Wash Trips (proposed use)

According to discussions with the applicant, the automated car wash is expected to generate between 350 to 450 vehicles per a 12-hour work schedule. The maximum rate the car wash tunnel can process vehicles is about 40 to 50 vehicles per hour. Assuming a 50 vehicle per hour maximum rate X 12-hour work day between the hours of 8:00 a.m. & 8:00 p.m. would generate a maximum number of 600 vehicles per day. Due to the cyclical nature of the car wash business, the mid-day period tends to be the busiest, whereas early in the morning, it is not as busy.

Using the Institute of Transportation Engineers Trip Generation rate of 600 vehicles per day for a car wash X 0.55-acre site = 330 vehicles per day. Therefore, we have used the worst-case scenario of 600 vehicles per day for the Peak Period Analysis below:

Peak Period AnalysisGas Station

A.M. trip generation: 7% of daily trips = 1,280 vehicles X 0.07 = 90 A.M. peak period vehicles.

P.M. trip generation: 8% of daily trips = 1,280 vehicles X 0.08 = 102 P.M. peak period vehicles.

Automated Car Wash

A.M. trip generation: 4% of daily trips = 600 vehicles X 0.04 = 13 A.M. peak period vehicles.

P.M. trip generation: 9% of daily trips = 600 vehicles X 0.09 = 30 P.M. peak period vehicles.

Peak Period Summary

A.M. trip generation car wash versus full-service gasoline station = 77 less trips (-86%).

P.M. trip generation car wash versus full-service gasoline station = 92 less trips (-71%).

Caltrans Ramp Metering Schedule

A few years after the westbound roadway widening project was completed, Caltrans widened the north bound on-ramp to add a carpool lane and ramp metering. The ramp metering rate is based on traffic volumes and speeds throughout the freeway system. Typical hours of operation are dependent on the above. The westbound #3 & #4 lanes serve as queuing lanes for the freeway when the ramp metering system is operational.

Halecrest Drive traffic signal is located about 200-feet east of the northbound I-805 ramp signal and operated by Caltrans since these two signals are linked to each other due to the proximity of the two intersections. This signal operates on a traffic actuated demand basis when there is a southbound vehicle waiting on Halecrest Drive to turn right from either of the two lanes. The first city operated traffic signal is located approximately 700-feet to the east of the Halecrest Drive intersection at the mid-block entrance to the Canyon Plaza Shopping Center/Woodland Hills Condominiums.

Traffic Collision History

A review of the reported traffic collisions on Telegraph Canyon Road over an 11-year period from 2006 through 2016 (the last complete year of data we have) shows that there were 12 reported collisions within the westbound frontage of the proposed project and 8 in the eastbound direction. An average of just over one westbound collision per year. None of the reported collisions in the westbound direction were related to the existing driveway.

Since this segment between the northbound freeway ramps and Halecrest Drive is only about 200-feet in length, the collision rate was calculated over the entire major intersection to major intersection limits of the I-805 northbound ramps to Crest Drive/Oleander Avenue which is approximately 0.38-miles in length. The longer study corridor limits is typical for collision rates. The collision rate over this 11-year period is 0.98 collisions per million vehicle miles of travel on Telegraph Canyon Road. This is 39% lower than the statewide collision rate for divided roadways with 4 or more lanes at 1.42 collisions per million vehicle miles. When the collision rate for the extremely atypical short segment is used, it is 2.03 collisions per million vehicle miles, which is higher by 43%.

The signalized intersection of Halecrest Drive had 20 reported collisions during the same period. The collision rate for the Halecrest Drive intersection is below the statewide average of 0.27 collisions per million vehicles entering the intersection, at 0.16, a rate that is 43% lower.

Based upon the above analysis, there is not a significant collision history for the segment of Telegraph Canyon Road that fronts the proposed project. In addition, with an 86% decrease in AM trip generation and a 71% decrease in PM trip generation, and given that reported traffic collisions were not related to this driveway, it is this office's opinion that vehicular ingress and egress from the proposed project's driveway onto Telegraph Canyon Road will not exasperate or increase this street segment's traffic collision rates.

Conclusions

The maximum volume of vehicles generated by the proposed project is estimated at 600 vehicles per day (or 50 vehicles per hour), with the busiest business time during mid-day hours. The hours of operation for the automated car wash begin at 8:00 A.M., which is after the westbound peak period traffic (between 7:00 a.m. to 8:00 a.m.). Based on the vehicle trip analysis and surrounding traffic volume analysis, the proposed car wash would have insignificant impacts to the current level of service along Telegraph Canyon Road during any of the mentioned peak periods and would not change the level of service from any current or proposed level of service.

- During the 8:00 a.m. to 9:00 a.m. peak period, the proposed project traffic volume increase is estimated to be approximately 2.2% of the 2,250-vehicle westbound traffic volume.
- For the 11:00 a.m. to noon mid-day peak period, the proposed project would generate approximately 2.4% of the westbound traffic volume.
- For the 3:00 p.m. to 4:00 p.m. peak period, the proposed project would generate approximately 1.6% of the 3,100-vehicle westbound traffic.

On Telegraph Canyon Road, the operational Level of Service at the I-805 northbound on/off ramps are negatively affected by the Caltrans ramp metering system. The system operates during the morning peak period until sometime after 8:00 a.m. depending on prevailing freeway speeds. Since, as analyzed above, the proposed project has minimal impact to traffic operations along Telegraph Canyon Road and the freeway ramps, and less impact than what the sites previous traffic volumes generated, the LOS measurement of arterial segments at the freeway ramps are not considered.

Cc: Caroline Young Associate Planner