



Agenda Report

Fullerton Transportation and Circulation Commission

MEETING DATE: FEBRUARY 3, 2025

TO: TRANSPORTATION & CIRCULATION COMMISSION

SUBMITTED BY: PUBLIC WORKS/TRAFFIC ENGINEERING DIVISION

PREPARED BY: DAVID ROSEMAN, CONTRACT TRAFFIC ENGINEER

SUBJECT: CONSIDERATION OF STAFF RECOMMENDATION TO SIGNALIZE THE INTERSECTION OF EUCLID STREET & VALLEY VIEW DRIVE

SUMMARY

Consideration of a staff recommendation to install a new traffic signal at the intersection of Euclid Street & Valley View Drive.

RECOMMENDATION

It is requested that the Commission take the following actions:

1. Concur with the Contract Traffic Engineer's findings that signalization is the most appropriate traffic control measure for the intersection of Euclid Street and Valley View Drive.
2. Recommend to the City Council that a new traffic signal at the intersection of Euclid Street and Valley View Drive be approved, that engineering design efforts commence, and that staff pursue possible grant funding for its construction.

DISCUSSION

Euclid Street is a 64-foot wide north/south major arterial street with two through lanes and a left-turn lane in each direction. Approximately 24,000 vehicles travel on Euclid Street through the intersection with Valley View Drive each weekday. Euclid Street has both compound horizontal and vertical curves as it approaches and departs from Valley View Drive. Euclid Street is posted with a 35mph speed limit south of Valley View Drive and 40mph speed limit north of Valley View Drive. On-street parking is prohibited on

the west side of the street. As a result of a 20-foot outside lane, on-street parking is permitted on the east side of Euclid Street from 102-feet south of Valley View Drive and continuing southerly. Early Morning Parking between 2:00am and 5:00am is prohibited on both sides of the street.

Valley View Drive is a 36-foot wide east/west collector street east of Euclid Street with one lane of traffic in each direction. Valley View Drive serves as the primary ingress/egress access to and from Euclid Street for many residents living east of Euclid Street and it is also the only continuous roadway connection between Harbor Boulevard and Euclid Street between Chapman Avenue to the south and Valencia Mesa Drive to the north. Valley View Drive west of Euclid Street is a short discontinuous local street that is the sole ingress/egress access for eleven homes. The weekday traffic volume on Valley View Drive approaching the Euclid Street intersection from the east is slightly more than 1,000 vehicles per day, while approximately 100 vehicles per day approach the intersection from the west. The prima facie speed limit on Valley View Drive is 25mph both east of and west of Euclid Street. On-street parking is permitted on Valley View Drive with the exception of Early Morning Parking between 2:00am and 5:00am.

The intersection of Euclid Street and Valley View Drive is shown in Exhibit “A” (Attachment 1). Residents residing near the intersection have expressed traffic safety concerns regarding the intersection over the years. Those safety concerns have centered around crash rates, speed of traffic on Euclid Street, lack of gaps on Euclid Street traffic during peak traffic flows, poor visibility of conflicting traffic, and difficulty making turns into and out of the neighborhoods. As a result of the residents’ concerns, City traffic engineers have conducted studies, implemented striping and signage modifications and improvements, installed speed feedback signs, trimmed landscaping, and monitored operations and crash statistics at the intersection. Despite all these efforts, traffic flow characteristics on Euclid Street remain unaffected and crashes continue to occur.

In late 2023, City traffic engineers conducted a preliminary traffic safety review of the intersection and recommended that a full traffic signal study be conducted. A few months later a virtual community meeting was held between City staff, Fullerton Police, and residents of the area to discuss intersection safety concerns and to brainstorm possible safety enhancement measures. Out of that discussion it was clear that the installation of a traffic signal was the option with the highest potential to reduce crash rates and address the majority of the residents’ safety concerns. City Traffic Engineers then moved forward to conduct a comprehensive traffic signal study, the results of which are outlined here within.

The California Manual of Uniform Traffic Control Devices (CA MUTCD) provides traffic engineers with guidance in determining when an intersection should be considered for signalization. The CA MUTCD outlines an engineering study process in which physical conditions, traffic flow, pedestrian activity, and crash performance are evaluated against established criteria or warrants. The warrant study process doesn’t result in an absolute yes or no answer to the question of signalization, rather engineers are encouraged to

look beyond the numbers of the warrants and to exercise engineering judgement when evaluating unique characteristics of an intersection and its traffic operations. Therefore, the warrants are more of a guide for engineers and officials in the decision-making process.

In the fall of last year City traffic engineers gathered data and performed numerous on-site observations at various times of the day and night to complete the CA MUTCD warrant studies for the Euclid Street and Valley View intersection. Ultimately, it was determined that three of the nine warrants related to school zones, roadway networks and railroads were not applicable and therefore discarded. A variety of traffic, physical, and crash data was gathered to complete the remaining six warrant studies. As anticipated, the pedestrian crossing warrant was not satisfied due to low pedestrian activity at the intersection. Therefore, the focus of the study effort shifted to the three warrants related to traffic flow, the one warrant related to coordinated traffic signal systems, and the one warrant related to crash experience as outlined below.

Traffic Flow Studies The CA MUTCD has three traffic volume warrants setting criterion for intersection traffic volumes levels over eight hours, four hours, and the peak hour. Based on the traffic volume data gathered, the intersection of Euclid Street and Valley View met all three traffic volume warrants suggesting, that purely based on traffic flow, the intersection is a good candidate for a traffic signal not only during the peak periods, but all day.

Coordinated Signal System Warrant This warrant considers the spacing of traffic signals and if signalizing the intersection would improve the platooning of vehicles and progressive operation of the roadway. Essentially determining if the physical location of the intersection is a good place for a traffic signal based on signal timing parameters. The intersection of Euclid Street and Valley View Drive is over 2,000 feet to the next signalized intersection to the south and just shy of 2,000 feet to the next signalized intersection to the north, thus satisfying the warrant. Therefore, this warrant suggests that the intersection is located in a good place for a traffic signal.

Crash Experience Warrant This warrant is not without controversy in the court of public opinion. To satisfy the warrant, an intersection would have to experience five or more reported crashes within a twelve-month period susceptible to correction by a traffic signal. This limit of five crashes per year is generally not well received by a public that feels that the government should do everything possible to prevent serious crashes. The crash experience warrant also requires a certain minimum level of traffic flow through the intersection and that all other safety and enforcement alternatives be attempted first without success. In the case of the Euclid Street and Valley View Drive intersection, there is sufficient traffic volume, and the City has taken all reasonable steps to improve safety to date. In review of the available crash data, it was discovered that there was a total of six reported crashes at the intersection in the last two years; However, only two of those six crashes, which both involved injuries, may have been preventable had a traffic signal been in place. Based on the aforementioned findings, the number of crashes per year, does not rise to the level that satisfies the warrant.

However, in reviewing the factors contributing to the reported crashes, it is very likely that the physical intersection layout with its vertical and horizontal curves and random traffic arrival patterns were contributing factors to the crashes. Therefore, it is reasonable to assume that any other minor traffic control measures, short of signalization, are unlikely to result in a significant reduction in the crash rate or severity of crashes at the intersection.

It should also be noted that staff evaluated sight distance at the intersection to determine safe stopping distances. Results of that evaluation indicated that technically there is sufficient motorist sight distance of conflicting traffic flows in all directions when factoring in the applicable approach speeds. However, it was also observed that some motorists misjudged approaching higher speed vehicles and made poor choices as to when to make turns on to or off Euclid Street. This misjudging of vehicle speeds could again be related to the horizontal and vertical curves and the random nature of the traffic arrival patterns.

Another physical intersection condition that could be contributing to crashes is intersection lighting. Currently, the intersection has only one dedicated streetlight on the northeast corner, and thus it is relatively dark at night or during poor weather conditions. Should the intersection be signalized, the intersection would be equipped with dedicated safety lights which would significantly improve lighting at night and in inclement weather.

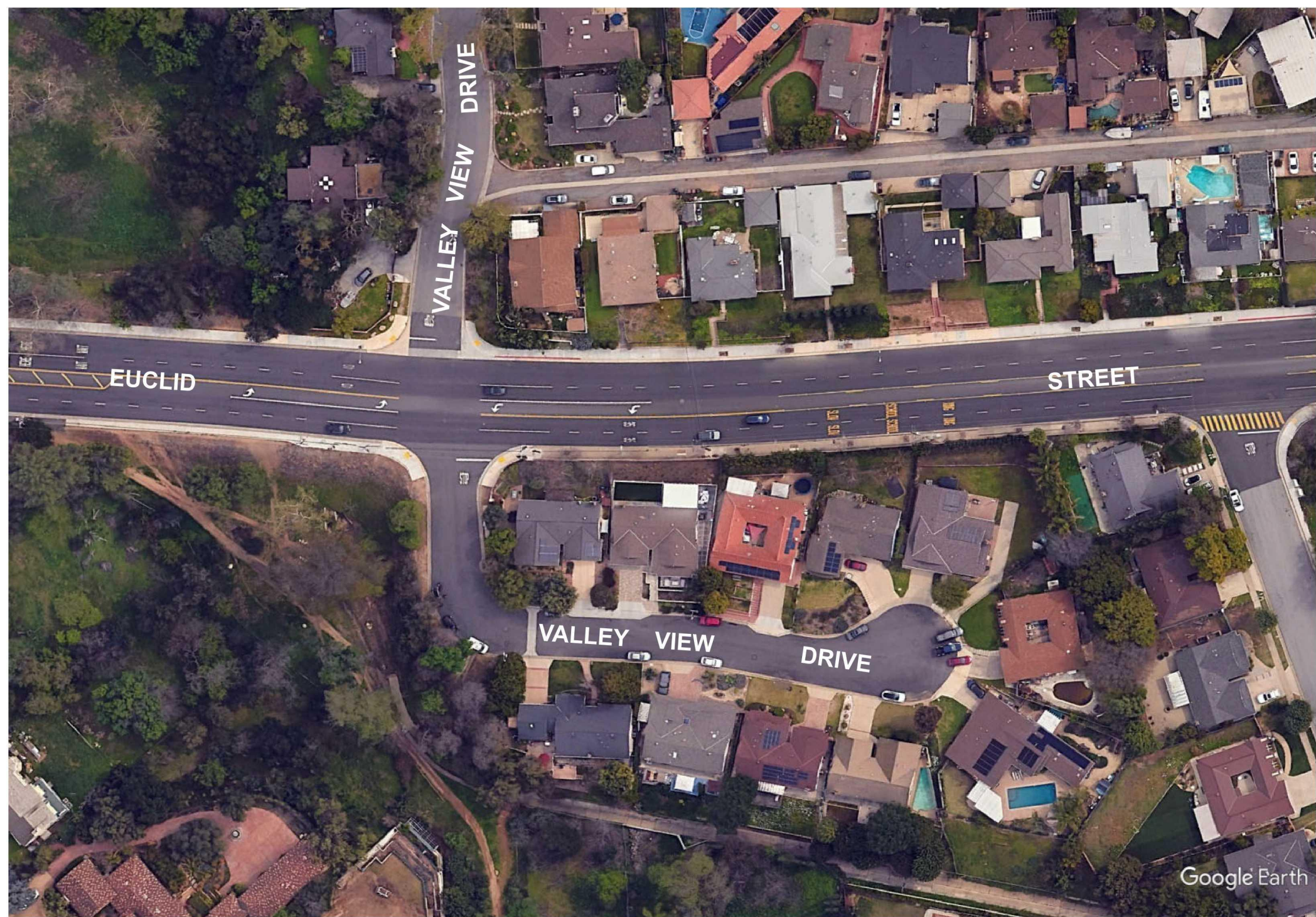
Based on the results of the traffic signal study, it is the recommendation of the Contract Traffic Engineer that the intersection of Euclid Street and Valley View Drive is a good candidate for signalization. His recommendation is based on the intersection satisfying four CA MUTCD warrants, personal observations of the intersection and traffic flow, and input received from the public. Furthermore, it is his professional opinion that the installation of a traffic signal would improve pedestrian safety and prevent future injury crashes. The City Traffic Engineer is in concurrence with the recommendation of the Contractor Traffic Engineer.

In November, City traffic engineers and Fullerton Police meet with those residents that were a part of the previous virtual meeting to discuss the data collected, the results of the traffic study, and to seek resident input. The residents in attendance were generally supportive of the study effort, the results presented, and they expressed their desire that the traffic signal be installed as soon as practicable.

The installation of a traffic signal is a major engineering design and construction effort that is likely to take two to three years to complete and cost upwards of \$450,000. Therefore, should the Commission and the City Council concur with the installation of a traffic signal, a new Capital Improvement Project would need to be established and funding allocated to begin the design process. Furthermore, it is suggested that the findings from this study effort be included in the Citywide Safe Streets and Roads for All Action Plan, currently being developed, so that the project to install a traffic signal at the intersection could become eligible to receive State or Federal grant funding.

Attachments:

- Attachment 1 - Exhibit "A" Vicinity Map



EUCLID STREET & VALLEY VIEW DRIVE

Attachment 1- Vicinity Map