

Staff Report

STOP SIGNS ALONG JEWEL DRIVE AT DIAMOND STREET AND GARNET DRIVE

October 12, 2010

BACKGROUND:

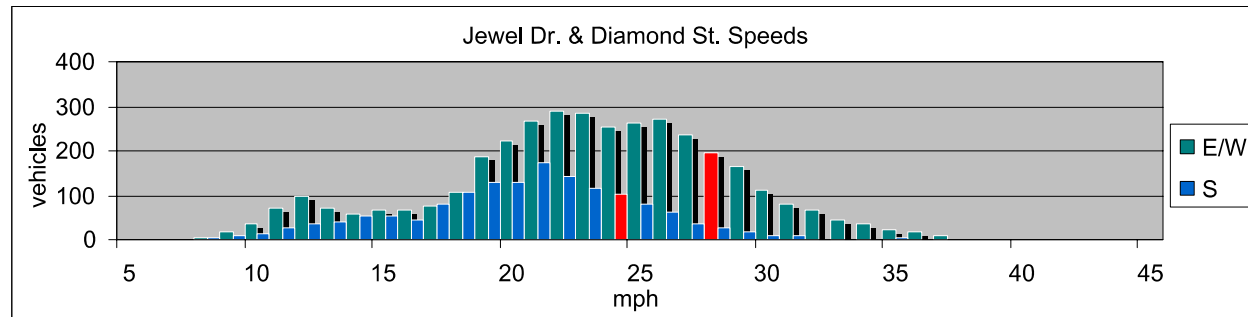
On July 13, 2010, the City Council referred a petition requesting that Stop Signs be placed at Jewel Drive at its intersection with Diamond Street, thereby making the intersection an All-Way Stop. Staff then initiated an engineering study of the intersection in accordance with Federal standards for creating an All-Way Stop condition. This included data collection on the existing operational characteristics (speed, geometrics, sight distance, etc.), crash history, and traffic volumes.

During the City Council meeting on August 31, 2010, Council's direction was modified to include a more comprehensive look at the Jewel Drive corridor that added the Garnet Drive intersection as part of the study area. Following that meeting, staff began data collection at the Garnet Drive intersection to be analyzed and compared to the Diamond Street information.

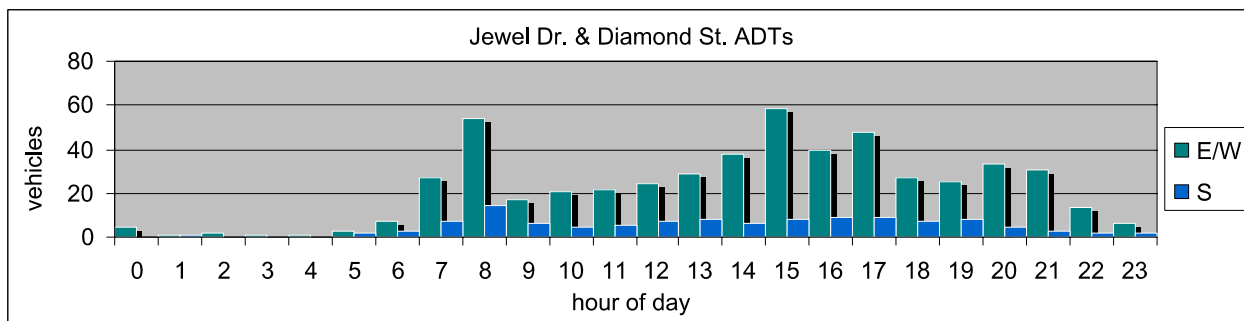
Currently, the Jewel Drive and Diamond Street intersection is a stop controlled intersection, stopping only Southbound traffic along Diamond Street. Similarly, the Jewel Drive and Garnet Drive is also stop controlled, stopping Eastbound traffic on Garnet Drive. There are several criteria that are reviewed during the engineering study including, stopping sight distance, operating speed of traffic, traffic volumes, and crash history.

JEWEL DRIVE AND DIAMOND STREET:

The 85th percentile speed is the rate at which 85 percent of drivers travel, or slower. It thus represents what the majority of drivers perceive as a reasonable operating speed on a particular roadway. Based upon a speed study conducted while Kate Mitchell Elementary School was in session, Jewel Drive was found to have an 85th percentile speed of 28 MPH (Diamond Street was 24 MPH). Given these speeds, there exists enough sight distance from all approaches of the intersection to safely stop at this intersection.



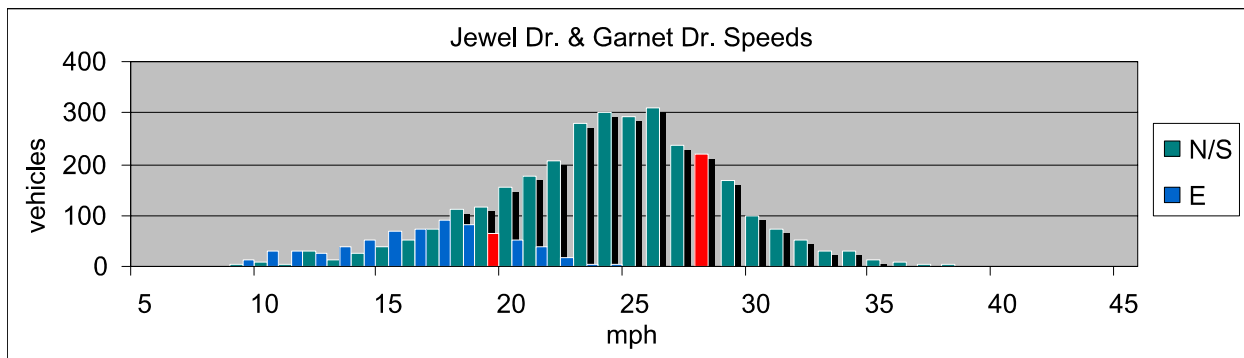
With respects to the traffic volume thresholds needed to warrant an All-Way Stop, the major street, Jewel Drive, needs to have a sustained entering hourly volume of 300 vehicles per hour (vph) for eight continuous hours, and at the same time the minor street, Diamond Street, needs to have at least 200 vph for the same period of time. It was found that Jewel Drive did not meet this criterion on an average weekday or weekend day; and Diamond Street also never met its respective threshold.



The final piece of analysis is the accident history. In order to warrant the All-Way Stop, an intersection must have five or more reportable crashes in a 12-month period of time that, based upon the manner of crashes, could be prevented by the installation of additional Stop Signs. Given this, crashes in the area of Jewel Drive and Diamond Street saw only two non-collision crashes, one in 2007 and the other in 2008. It should be noted that non-collision crashes involve only one vehicle hitting a roadside feature, not another vehicle. These crashes also took place in the horizontal curve just east of, and not within, the intersection itself. **Based upon this analysis, none of the warrant criteria for an All-Way Stop was met at Jewel Drive and Diamond Street.**

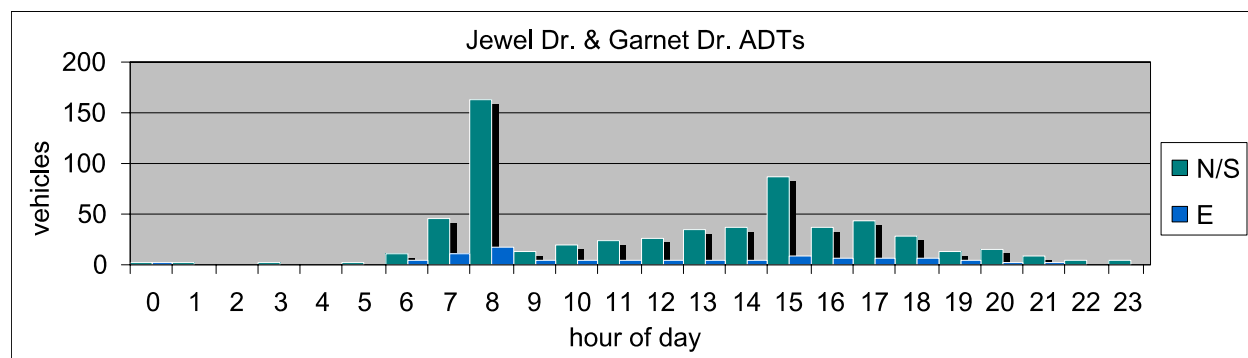
JEWEL DRIVE AND GARNET DRIVE:

Using data collected in the month of September directly following the Diamond Street study, staff found that the 85th Percentile speed along Jewel Drive in this segment of roadway was 28 MPH (Garnet Drive was 19 MPH). Using the same criteria, this intersection also has an adequate amount of sight distance to safely stop without the use of additional signs.



The traffic volumes at this intersection (following the same threshold as in the Diamond Street study) were not found to equal or exceed 300 vph for any hours of the day. The peak hours did coincide with pick-up and drop-off times for Kate Mitchell Elementary,

reinforcing the school's influence on local traffic throughout the neighborhood. However, as with the previous case, Garnet Drive never exceeded the 200 vph mark as specified in Federal guidelines.



The crash history at this location found that there was only one reported vehicle-vehicle accident in 2008, which resulted in property damage only. There was not enough information in the police report to ascertain the exact cause of the accident. Nevertheless, the number of crashes seen at the Garnet Drive intersection again does not meet the criteria of 5 or more in a 12-month period. **The results of this study are again that an All-Way Stop condition is not warranted at Jewel Drive and Garnet Drive.**

STAFF COMMENTS:

The Federal guidelines for creating an All-Way Stop condition at an intersection establish several criteria to assess the operations and safety of intersection for the public who are using it. The intent of these guidelines is to ensure that the use of Stop Signs is done in a manner that is consistent for all roadways on a nationwide basis, thereby creating uniformity in its application. The reason for doing so relates directly to whether the motoring public respect stop signs or not throughout the community. It should be noted that the Federal guidelines state "YIELD or STOP signs should not be used for speed control" in Section 2B.04, No. 05 of the Manual on Uniform Traffic Control Devices (MUTCD).

Given the results of the study and that none of the criteria were met for either Diamond Street or Garnet Drive along Jewel Drive, staff does not recommend the installation of additional Stop Signs at either location.

However, staff understands that the traffic control issues within neighborhoods are very important to residents. While the staff must base its recommendations on nationally accepted standards in the traffic engineering profession, it is also recognized that, in the past, the City Council has directed staff to install stop signs at locations that were not "warranted" by a traffic analysis. This was done to allay the concerns of neighborhood residents and with the realization that the cost to install a stop sign is minimal. Therefore, the City Council may direct staff to install stop signs at one, or both, of the intersections as requested.

Finally, because calming of traffic along residential streets is a city-wide issue, the current year's Capital Improvements Plan includes funding for a Traffic Calming Study. This study will identify a number of alternatives to slow drivers who drive at excessive speeds. The results of this study will not only create a "tool box" of best practices to slow down such drivers, but will also include an educational tool to guide citizens who desire to initiate a traffic calming study in their neighborhood. Public input and community feedback will play an important part in this study.