DATE: May 22, 2012

AGENDA ITEM # 8

AGENDA REPORT

TO: City Council

FROM: Jim Gustafson, Engineering Services Manager

SUBJECT: Review of the proposed Miramonte Avenue and Covington Road traffic signal

RECOMMENDATION:

A. Review original recommendation for installation of a traffic signal at Miramonte Avenue and Covington Road
B. Reconfirm Council direction to proceed with a design workshop for a traffic signal at this location

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SUMMARY:

Estimated Fiscal Impact:

Amount: $250,000 (Design and construction of a traffic signal)

Budgeted: Yes; CIP Project 09-33

Public Hearing Notice: Not applicable

Previous Council Consideration: January 4, 2011 and February 14, 2012

CEQA Status: An Initial Study is required to determine the appropriate CEQA document and process

Attachments: None

BACKGROUND

Council was requested to reconsider the installation of a traffic signal at the intersection of Miramonte Avenue and Covington Road by 11 residents during the Public Comment period of the April 24, 2012 meeting. At the suggestion of Councilmember Packard, the Council requested a future Council meeting agenda item to discuss the proposed traffic signal at Miramonte Avenue and Covington Road, specifically reviewing the anticipated safety-related aspects of the improvements.

The Circulation Element of the Los Altos General Plan 2002-2020 identified the intersection as congested under both current and future conditions when the Plan was adopted in 2002. Implementation Program Element C9:4 of the General Plan states "Consider installation of a traffic signal or other control device (e.g., traffic circle/roundabout) at a stop sign-controlled intersection if one or more of the controlled movements operates at Level of Service (LOS) E or F, signal warrants are met to the satisfaction of the Public Works Department, or a safety problem exists." The average vehicle delay qualifying for intersection LOS E and LOS F begins at 35 seconds and 50 seconds respectively.

The traffic signal was a Tier 1 (High Priority) project in the Fehr & Peers Report accepted by Council on January 4, 2011.

The traffic signal is part of the adopted Capital Improvement Program, with design authorized at the February 14, 2012 meeting.

DISCUSSION

The collision data for the Miramonte Avenue and Covington Road intersection reflected in the Fehr & Peers Report do not suggest the existing stop-controlled intersection is unsafe. It is noted that the three signal warrants met that are the basis for the recommendation to install a signal are based on traffic volumes and school proximity. Other features incorporated in the recommendation are to install curbs at the corners, improve crosswalk markings and shorten the pedestrian crossing distances which are all features that should improve pedestrian safety.

A recent study by The National Cooperative Highway Research Program (NCHRSP) Report 617 calculated Accident Modification Factors (AMFs) for 48 types of intersection modifications using actual crash histories from five states, including California, with 14 years of crash data. Accident modification factors were developed using before-and-after-improvement crash histories and provided a metric to estimate effects of intersection modifications. With a high level of certainty, an AMF after installation of a traffic signal at an urban four-way intersection was calculated at 0.77, representing a 23% reduction in all crashes. Although the report is very comprehensive, pedestrian accident data for the post-signal intersection change is not isolated from other types of collisions.

Data collected during the Fehr & Peers Study presented on January 4, 2011, indicate that the peak traffic hour in the 24-hour sampling period occurs from 8:00am to 9:00am on school

days. Blach Junior High School classes typically begin at 8:12am, so the data probably understates actual vehicle and pedestrian intensity compared to that of a different sampling start time that ended at 8:30am. With that minor error in mind, the following occurs at the intersection on a typical school peak hour morning:

- 97 pedestrians cross at least one leg of the intersection per hour
- 1218 total vehicles including bicycles pass through the intersection per hour
- 328 vehicles including bicycles leave the intersection heading towards the school per hour
- 74 vehicles per hour including bicycles turn right from Miramonte Avenue onto Covington Road heading towards the school
- The average delay for the right-turning movement onto Covington Road towards the school is 74 seconds

Average vehicle delays reflect intersection LOS E on school mornings measured in May 2010 and October 2010, LOS C (average) during most of the rest of the day, and LOS B most of the day during the summer.

The author of the Fehr & Peers Report presented to the Council on January 4, 2011 and provided the following information on May 9, 2012 in response to the pedestrian/bicyclist safety question:

The main intention (both at the time the report was prepared and now) was to prioritize the safety of school children traveling through the intersection on foot or by bicycle. Based on observations and public testimony, vehicles were traveling on the shoulders to jump the queue to make a right-turn and were affecting the safety of children walking or bicycling. Thus, the recommendation for a traffic signal included constructing built-up asphalt corners at the intersection to protect areas for students to wait without adding vehicle lanes. This would also provide a protected area for students to dismount or re-mount their bicycles to walk through the intersection.

Observation and public testimony identified that the congestion at the intersection was significant, and contributed to the other circulation issues around Blach (students jumping out of cars while waiting in the queue, etc.). While it is recognized that the signal would also provide congestion/queue reduction benefits, this was not the primary reason it was recommended. To address the neighbors' concern about how a signal would fit within the character of Los Altos, it is recommended that it only be operational during peak times and flash in red (operate as an all-way stop) for the rest of the day. The cycle length would be short (approximately 60 seconds), so there would be few opportunities for vehicles to proceed through the intersection without slowing or stopping, as the queue lengths would still be about the same as what occurs with the stop signs today. Other pedestrian safety measures to be included with the signal were the addition of advanced stop bars to limit vehicle encroachment to the crosswalks and adding a crosswalk across the north leg of the intersection. If neighbors are concerned about traffic moving at the same time as pedestrians/cyclists, the City also may consider a "scramble phase" where all vehicle traffic is stopped and diagonal crossings would be permitted.

City staff concurs with Fehr & Peers that the addition of stop bars and curbs on the pavement prior to the crosswalk will limit vehicle encroachment on pedestrian traffic, that building out curbs will eliminate right-turning vehicles from presenting an additional conflict point with pedestrians and bicyclists, and the likely effects of short signal cycle times during peak traffic periods and reversion to an all-way stop with flashing red lights during the non-peak traffic periods are measures that would make the intersection perform better for all users.

The Fehr & Peers Report further provided the vehicle collision history in the Blach Junior High School Study area as follows:

Collisions were analyzed by several factors, such as location, crash type, parties involved, age, time of day and primary collision factor. These collisions were mapped within the study area and are presented on Exhibit 6 (of the Fehr & Peers Report). Thirty-four collisions were reported within the study area during the analysis period, with the majority of these collisions (32) being vehicle-vehicle collisions. The remaining two (2) included vehicle-bicycle collisions, which occurred at the Covington Road/Hayman Place and Covington Road/Grant Road intersections:

- At Covington Road/Hayman Place, a 73-year old bicyclist was hit when a driver opened the door of a parked car at approximately 8:30am on a Saturday morning in September 2005. The bicyclist was injured and the motorist was determined to be at fault in this collision.
- At Covington Road/Grant Road, a 12-year old bicyclist was hit by a vehicle making a right-turn at 3:00pm on a Monday afternoon in November 2005. No injuries were reported and the motorist was determined to be at fault in this collision.

No vehicle-pedestrian collisions were recorded during the analysis period. Twelve (12) injuries and no fatalities were reported.

A majority of collisions in the Blach Junior High School neighborhood (10 of 32) occurred at the Miramonte Avenue and Covington Road intersection including five (5) injury collisions. Eight (8) of these collisions were broadside collisions where a motorist turning collided with a vehicle proceeding straight through the intersection.

Although the Fehr & Peers review of the intersection in the December report indicates a signal will improve intersection performance and safety for all users, there are a number of considerations that should be taken into account:

- The intersection performs at LOS C (acceptable) during most of the day.
- The signal warrant for accident history is not met.
- Pedestrian volumes are highest at school arrival and departure times when motorists are generally alert to the presence of school children.
- There have been no accidents involving pedestrians or bicycles in the intersection during the Fehr & Peers Study period (six years).

- Traffic signals require ongoing maintenance and energy costs in addition to the capital costs associated with their design and construction.
- The installation of a signal is justifiable based on requirements in the Caltrans Traffic Manual though the signal warrants that are met do not compel installation of a signal.
- Nearby residents generally have indicated that they prefer the four-way stop signs.

If a signal is not installed, it is important to recognize that delays at the intersection during the morning commute cannot be relieved by other measures at the intersection alone, and could get slightly longer with time and student population growth projected at the Blach Junior High School campus. The recommendation to proceed with the signal is consistent with the Fehr & Peers Study of December 2010 that addressed mobility issues in the neighborhood.

The signal is budgeted at $250,000. The consultant has incurred a small amount of the design costs to prepare exhibits for future meetings. A topographic survey of the intersection was completed for signal pole and curb layout, and to identify any vegetation and utility impacts. Over $200,000 is remaining in the project if the design is terminated at this point of development.

FISCAL IMPACT

None

PUBLIC CONTACT

Posting of the meeting agenda serves as notice to the general public.

ALTERNATIVES

1. Defer the project until such time as the traffic conditions worsen at this intersection
2. Make no changes at this intersection