Executive Summary:

The City of Temecula requested an analysis be performed along the loop street of Redhawk Parkway and Vail Ranch Parkway to address resident's concerns about excessive vehicular speeds and visibility constraints. Willdan Engineering has been contracted to provide a review of the existing conditions, analyze the issues, provide options for consideration by the City, along with recommendations for best results. The findings and recommendations will be presented to City staff, City Council subcommittee members, neighborhood HOA, the Public Safety / Traffic Commission, and ultimately the City Council for final determinations.

The loop street of Redhawk Parkway and Vail Ranch Parkway is essentially a 4-lane divided highway with raised landscaped medians dividing the travel lanes. Left turn pockets are provided at intersections and bike lanes exist along the entire loop. There are several school crossings in the northeasterly portion of the Vail Ranch Parkway loop where a crossing guard is posted at the all-way stop controlled intersection of Camino Piedra Rojo to provide a supervised crossing for students during school hours. At other adjacent intersections, students cross Vail Ranch Parkway unassisted at mid-block or stop controlled locations. In order to avoid delays caused by the crossing guard and stop signs, parents currently utilize Johnston Drive as a bypass route to and from the middle school. An additional controlled crossing at Camino Rubano would be helpful for students living west of the loop street. A review of visibility indicates that visibility is marginal for conditions and speeds at several intersections along the loop.

Field observations also revealed much heavier volumes in the southwesterly portion of the loop (Redhawk Parkway). Our review also determined that speeds are an issue especially where the 85th% speed is 52 mph. A review of traffic conditions at the intersection of Peppercorn Drive indicates that the long vehicle queues during peak school periods justifies consideration of an additional westbound left turn lane.

Recommendations:

As mentioned, Willdan Engineering was tasked with analyzing conditions on the loop and developing mitigation measures including the possible implementation of a "road diet" on the loop. The road diet on the loop would require the elimination of one travel lane in each direction. In order to maintain level of service "E" or better with just one lane in each direction and left turn lanes at intersections, segment traffic volumes need to be approximately 17,000 vehicles per day. The entire loop is well below that threshold with the exception of Redhawk Parkway from Peppercorn Drive to Vail Ranch Parkway. Based on the available capacity, this allows the City to consider a "road diet" solution on the remaining sections of the loop street and still maintain reasonable circulation and capacity with future growth. The advantages of having just one lane on the segment between Peppercorn Drive and Redhawk Parkway are:

- Improved sight distance for exiting side street traffic.

- Less lanes for exiting drivers to gauge the speed of approach vehicles
- Potentially reduced speeds along loop street by platooning vehicles into one lane and not allowing any passing
- Creation of a wide buffer zone between moving vehicles and bicyclists & pedestrians
- Create potential for adding right only lanes at key intersections
- Create potential for adding acceleration lanes at key intersections
- Reduces the number of moving travel lanes that pedestrians, school children, and bicyclists must cross
- Provides refuge area for pedestrians, school children and bicyclists when crossing
- Potentially reduces collisions

For these reasons, a "road diet" should be considered as the first feasible option for implementation on the loop. The "road diet" resolves most of the current issues on the loop. Since traffic volumes on Redhawk Parkway between Peppercorn Drive and Vail Ranch Parkway were much higher, the recommendation is to maintain two travel lanes on this segment.

Additional measures are also suitable for implementation at various locations, as well as cost effective, and Willdan Engineering would also recommend the following:

1. All-way stop on Vail Ranch Parkway at Niclyn Drive / Cinon Drive.
2. Reduce the posted speed limit to 40 MPH on Vail Ranch Parkway from Redhawk Parkway to Nighthawk Pass and on Redhawk Parkway from Vail Ranch Parkway to Peppercorn Drive due to visibility constraints. The current 85th percentile speed on these segments is 47 MPH or less.
3. Restripe for westbound left-turn lanes on Redhawk Parkway at Peppercorn Drive.
4. Speed feedback signage at various locations to remind drivers of the posted speed limits.
5. Modify signal operation to rest in red late at night from 10pm to 6am at all intersections.
6. At the intersection of Redhawk Parkway at Vail Ranch Parkway install the following improvements:
    - Restripe the free right turn at Redhawk Parkway / Vail Ranch Parkway to avoid yielding when entering the Southbound traffic lanes North of Via Cordoba.
    - Install a wide buffered bike lane.
    - Install a Southbound right turn only lane on Redhawk Parkway at Vail Ranch Parkway with green overlap arrow.
    - Allow the exiting traffic at Via Cordoba to have a separate acceleration lane.
7. Install center median on Redhawk Parkway at Via Saltio to allow left turns in (or U-turns), prohibit left turns out, and construct Southbound U-turn lane at on Redhawk Parkway at Wolf Valley Road
8. Install a Rectangular Rapid Flashing Beacon (RRFB) for the crosswalk on Vail Ranch Parkway at Camino Rubano.

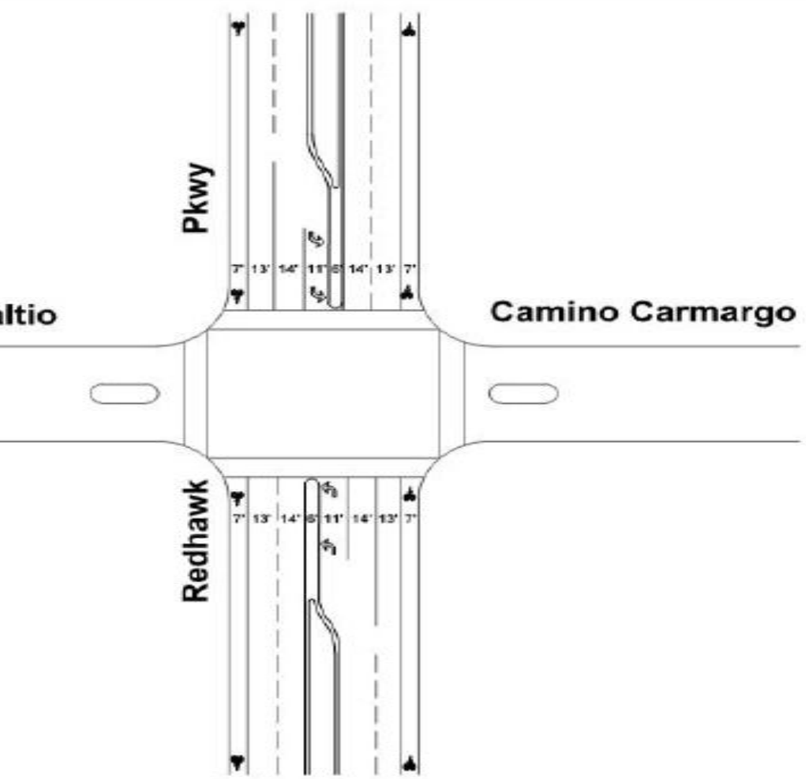
Summary:

Application of various measures will help the City of Temecula resolve issues along the loop street in the most cost-efficient manner. The program outlined will include public comments and be tailored to the needs of the residents and the City. Traffic volumes are such that the levels of service at key intersections will be maintained with the new striping proposed yet enhancing the flow where needed. Approximate cost estimates have been provided for many of the options to allow the City to gauge how many traffic calming features they wish to pursue. The options recommended were selected based on the lower cost for the most benefits, helping stretch the City's funding further.

Safety, walkability, bicycling and speed calming along the loop are some of the primary purposes for this type of project and implementation of these recommendations should assist significantly with those goals. Meeting with staff, Council, and residents will help ensure public input and buy-in for the proposals presented. Once implemented, a follow-up study should take place to see if further speed reductions are justified, if any measures need to be adjusted, and if enforcement strategies are being effective.

REDHAWK PKWY AT VAIL RANCH PKWY

NEIGHBORHOOD TRAFFIC CALMING ANALYSIS



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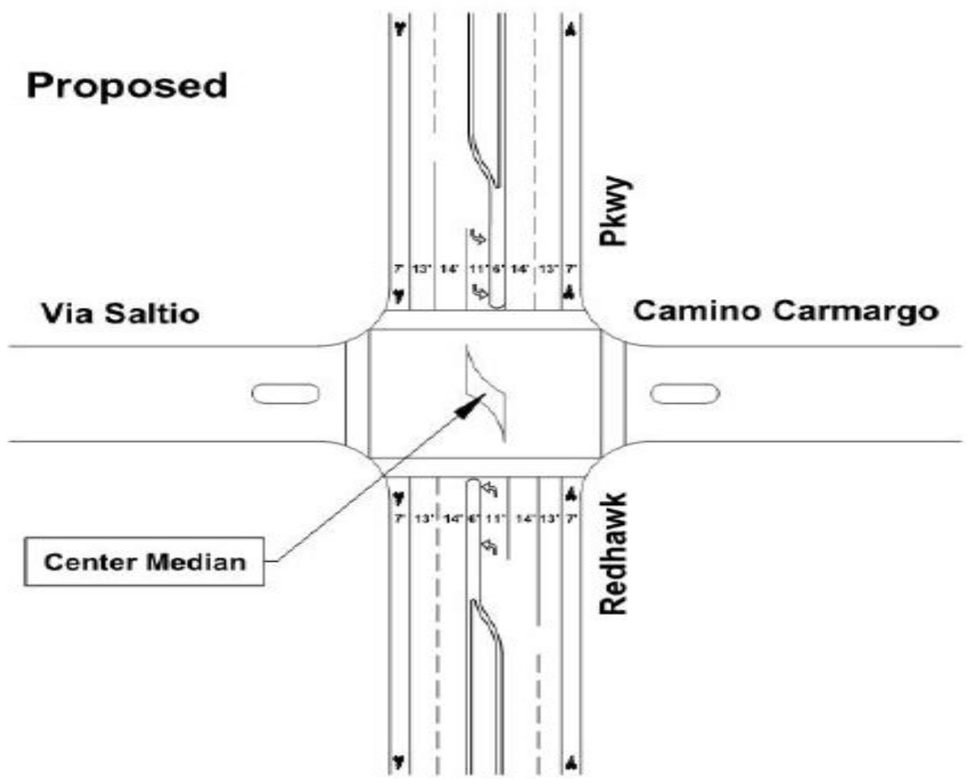

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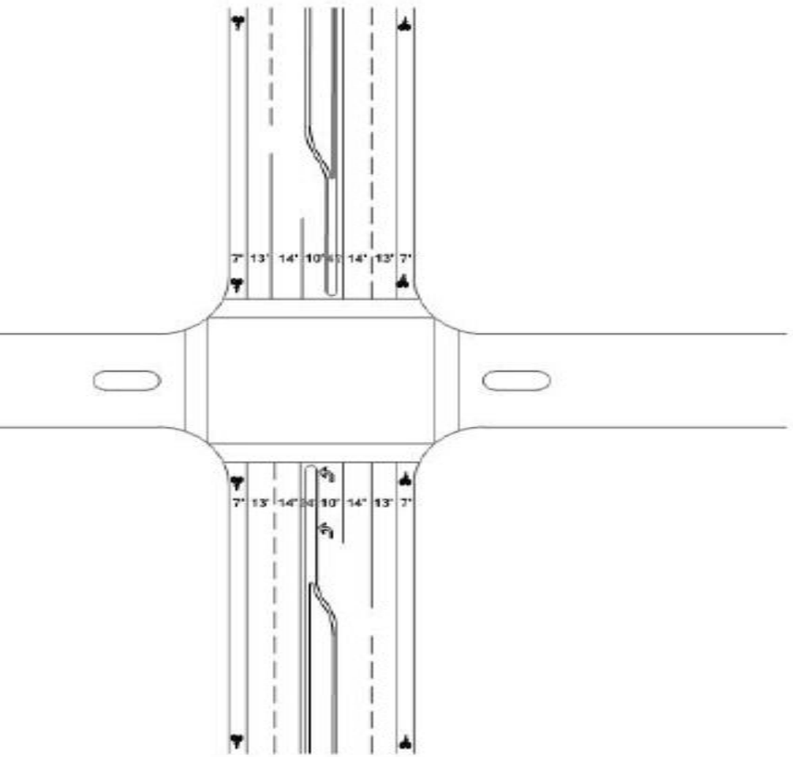

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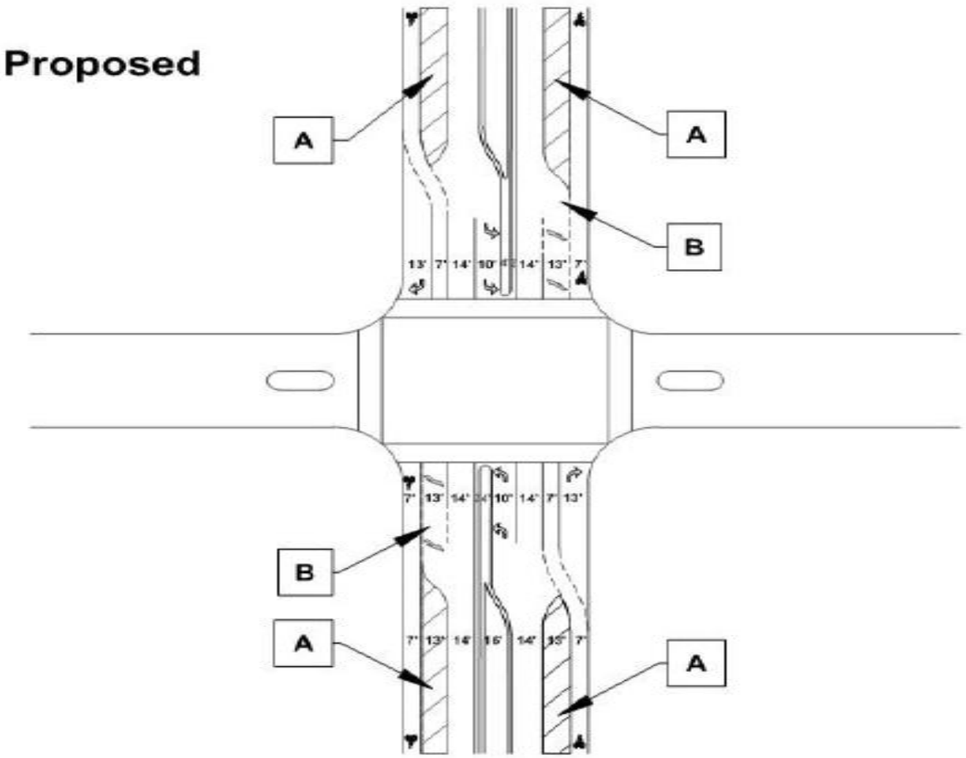

osed Road Diet

Notes

A Proposed Buffer Lane

B Proposed Acceleration Lane