



# COMMUNITY DEVELOPMENT AGENCY

## TRANSPORTATION DIVISION

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December 31, 2014

**To:** Board of Supervisors

**From:** John Kahling, Deputy Director, Engineering

**Subject:** Staff Report - Silva Valley Interchange Traffic Mitigation Project

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### Purpose

This memorandum will serve to present the Board of Supervisors with background related to the need to mitigate future traffic in the area of the intersection of Silva Valley Parkway and Serrano Parkway. Project alternatives will be presented, along with a recommendation from Transportation staff.

### Background

The U.S. 50/Silva Valley Parkway Interchange Phase 1 project will likely be completed in mid-2016. Once the interchange is opened, the Community Development Agency, Transportation Division (Transportation) expects traffic on Silva Valley Parkway between U.S. 50 and Serrano Parkway to increase from its current volume of approximately 9,700 vehicles per day to about 21,000 vehicles per day. This increase in traffic will have significant impacts on the intersections of Silva Valley Parkway and Entrada Drive, Silva Valley Parkway and Serrano Parkway, and Serrano Parkway and Village Green Drive. Residents of Serrano's Village A will be particularly impacted. The driveway serving Oak Meadow Elementary School (OMES) on Silva Valley Parkway will also be impacted by this increased traffic. Please see Vicinity Map (Figure A).

Transportation staff met with the superintendent and staff of the Buckeye Union School District on May 2, 2014 and discussed the impacts of the increased traffic on Oak Meadow Elementary School, which is located on Silva Valley Parkway between U.S. 50 and Serrano Parkway. The superintendent and his staff agreed with Transportation's proposal to permanently eliminate left turns out of OMES's primary school driveway.

Transportation staff held a public meeting regarding project alternatives on September 8, 2014. Long Range Planning staff and members of the Serrano El Dorado Owners' Association Board of Directors also attended this meeting. Significant input regarding project alternatives was received from the public at this meeting, leading Transportation to develop three project alternatives for mitigating future traffic through the corridor.

**Figure A – Vicinity Map**



At the September 16, 2014 Board of Supervisors (Board) meeting, as part of the minor update to Transportation's Capital Improvement Program (legistar file number 14-0141), the Board approved the Silva Valley Interchange Traffic Mitigation project, with the understanding that Transportation staff would return to the Board with project alternatives and a project recommendation at a later date. This allowed staff to set up a project to capture the costs of investigating the alternatives, meeting with the public, and developing a recommendation.

After the September 16 Board meeting, Long Range Planning staff prepared a Traffic Operations Analysis that evaluated the aforementioned alternatives and their potential to mitigate the increased traffic volume that will be brought on by the new interchange. After reviewing the completed analysis with Long Range Planning staff and evaluating other engineering-based criteria, Transportation staff concluded that Alternative 3 (see below) was the preferred project alternative.

Transportation staff and Long Range Planning staff met with the Serrano El Dorado Owners' Association Traffic Committee on November 18, 2014. After three hours of questions and discussion, the Traffic Committee voted unanimously to endorse Alternative 3, with the condition that the project include flashing beacons for the school speed zone warning signs on Silva Valley Parkway adjacent Oak Meadow Elementary School.

Transportation staff met with the operations manager of Buckeye Union School District on December 11, 2014, at which time the operations manager agreed on behalf of the school district to have the County install flashing beacons on the school speed zone warning signs on Silva Valley Parkway. Transportation staff and the operations manager of the school district agreed that if this component of the approved project were approved by the Board, the County would install the beacons and all associated hardware, and the school district would be responsible for operating and maintaining the beacons. This informal, staff-level arrangement would likely need to be memorialized in a formal agreement between the Buckeye Union School District and El Dorado County, which would be brought before the Board at a later date.

On December 15, 2014 Transportation staff and Long Range Planning staff attended a special meeting of the Serrano El Dorado Owners' Association Board of Directors (Association Board). Transportation staff presented its analysis of the three alternatives and its recommendation for Alternative 3. Staff then participated in another three hour discussion with the public and the Association Board. At the conclusion of the discussion, the Association Board voted unanimously to endorse Alternative 3, with conditions as follows:

1. The County will install flashing beacons on the school speed zone warning signs on Silva Valley Parkway adjacent Oak Meadow Elementary School.
2. The County will install cross walks at the intersection of Serrano Parkway and Village Green Drive.
3. Every year, El Dorado County will evaluate traffic through the corridor (Serrano Parkway from Silva Valley Parkway to Village Green Drive and Silva Valley Parkway from Serrano Parkway to Entrada Drive). This study should also

evaluate cut-through traffic on Village Green north from Serrano Parkway through to Silva Valley Parkway.

4. Every year, the District 1 Supervisor will report to the Association Board on the status of the Country Club connection to Russi Ranch Road and Silva Valley Parkway.

Transportation does not believe that the Board is compelled to comply with the recommendations or conditions offered by the Serrano El Dorado Owners' Association Traffic Committee or by the Association Board. However, Transportation concurs with the Traffic Committee's recommendation to place flashing beacons on the school speed zone ahead warning signs along Silva Valley Parkway adjacent Oak Meadow Elementary School.

If Alternative 2 or 3 is selected by the Board, Transportation proposes to investigate the feasibility of cross walks at the intersection of Serrano Parkway and Village Green Drive. Given the existing geometrics of the intersection, installing crosswalks that comply with the Americans with Disabilities Act (ADA) may not be appropriate from a cost vs. benefit perspective, especially considering pedestrians can use existing crosswalks 750' to the west at Serrano/Silva Valley intersection.

#### **Alternatives Under Consideration**

The increased traffic on Silva Valley Parkway after the new freeway interchange opens will make it very difficult for residents of Serrano's Village A to get out of their neighborhood if the intersections at Entrada and Village Green are left in their current configurations. This problem will eventually be mitigated by the connection of Country Club Drive to Russi Ranch Drive and Silva Valley Parkway as shown on Figure TC-1 of the 2004 El Dorado County General Plan (the intersection of Country Club Drive and Silva Valley Parkway will be signalized). Near Silva Valley Parkway, Country Club Drive will pass through parcels currently owned by EDH 52 and Parker Development. Transportation staff is currently working with EDH 52 and Parker Development to identify an optimal alignment for Country Club Drive, but agreement on an alignment has not yet been reached, and funding for the project has not yet been identified.

Therefore, with the understanding that the Country Club Drive solution is at best several years away from implementation, Transportation has developed three alternatives to allow Village A residents better access to Silva Valley Parkway and Serrano Parkway. It is important to note that each of the proposed alternatives includes work as follows:

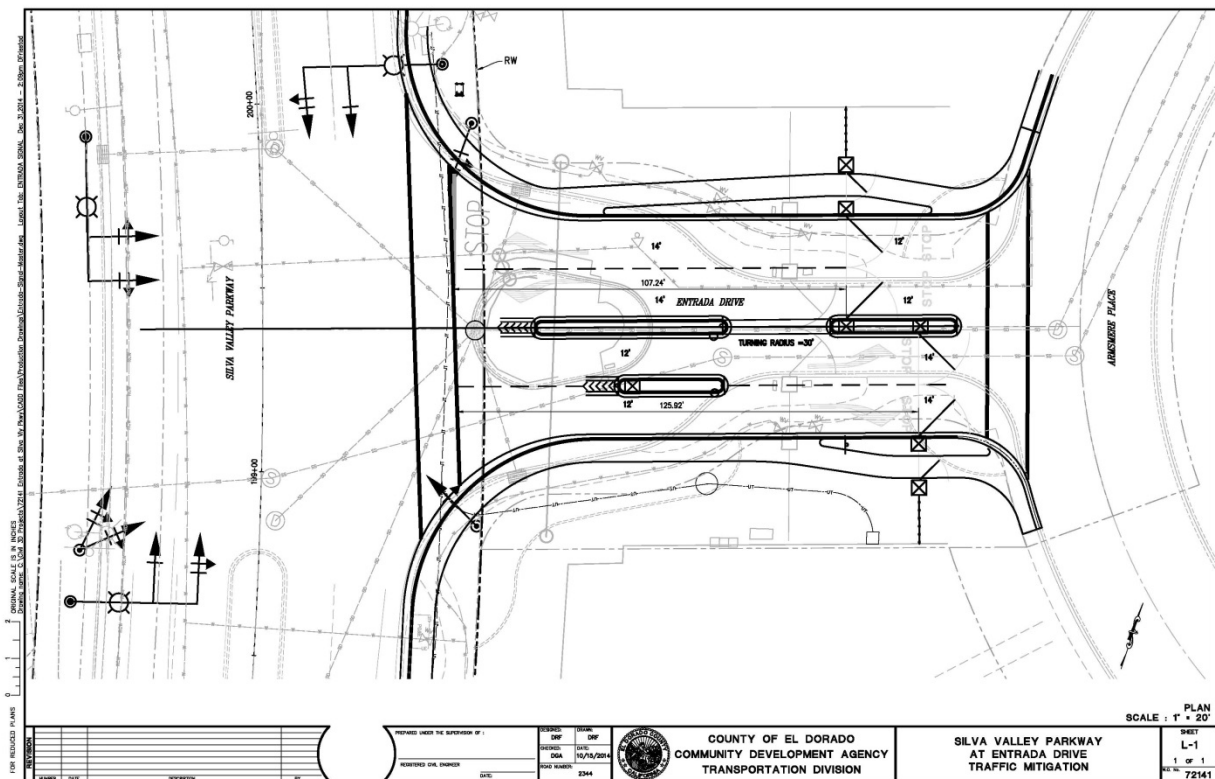
- A. Permanent, full-time elimination of left turns out of OMES driveway using concrete curb (School District preference)

- B. The current number 1 lane westbound on Serrano Parkway will be converted to either an additional left turn lane or a through-left lane (i.e., traffic in that lane will have the option of turning left onto southbound Silva Valley or heading straight through on westbound Serrano)
- C. Add flashing beacons on school speed zone ahead signs on Silva Valley Parkway adjacent OMES if the school district agrees to operate and maintain the beacons.
- D. Evaluate need for lengthening left turn pockets at Silva Valley Parkway/Serrano Parkway intersection. Increase length of left turn pockets if warranted and if not cost prohibitive. Do not increase length of left turn pockets if the work triggers significant environmental mitigation.

**Alternative 1 – New Traffic Signal at Silva Valley Parkway and Entrada Drive**

In addition to the work described in items A-D above, the scope of this alternative includes installing a new traffic signal at the intersection of Silva Valley Parkway and Entrada Drive.

**Figure B – Draft Layout of Alternative 1 (New Signal at Entrada)**



Positives:

- 1) Allows Village A residents easiest access to southbound Silva Valley and U.S. 50.
- 2) Level of Service (LOS) B (14 second delay) at Silva Valley/Entrada.
- 3) Motorists leaving OMES and wishing to head south on Silva Valley could make a U-turn at Entrada instead of at Serrano.

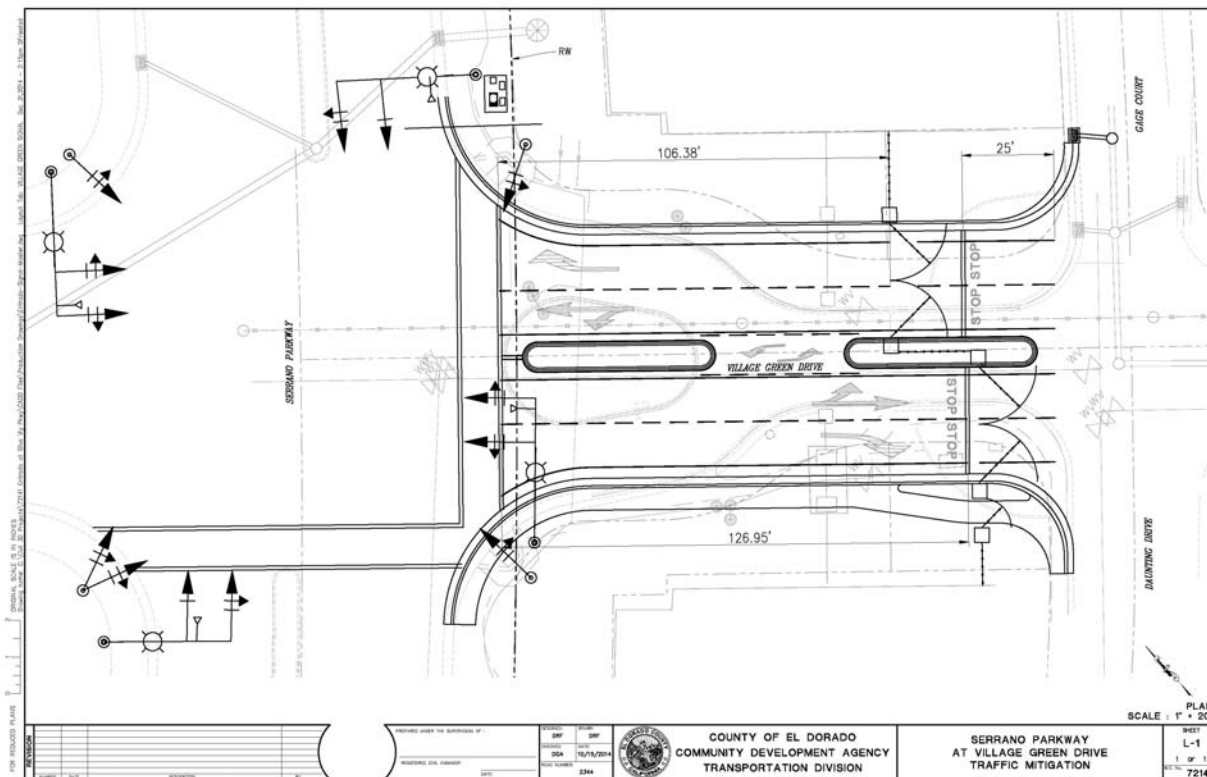
Negatives:

- 1) Cost: ~\$1.5M compared to \$250K-\$500K for Alternative 3.
- 2) More than 50% of the required improvements will be located on private property owned by Serrano. Funding agreement with Serrano would be required, unless the Board decides that the County should pay for all of the improvements, including all of the work on Serrano property.
- 3) Schedule: Utility relocation, environmental clearance, and right of way work will cause completion of project to occur well after opening of new interchange.
- 4) The neighborhood character of southerly half of Village A will be changed due to a doubling of cut-through traffic from Villages C and E using Russi Ranch to Village Green to Entrada as a shortcut to U.S. 50 instead of using Serrano Parkway.
- 5) Traffic flow will be disrupted on Silva Valley.
- 6) LOS F (57 second delay) at Serrano/Village Green.
- 7) Long term impacts of two signals along Silva Valley corridor once the signalized Country Club/Silva Valley Intersection is completed.

**Alternative 2 – New Traffic Signal at Serrano Parkway and Village Green Drive**

In addition to the work described in items A-D above, the scope of this alternative includes installing a new traffic signal at the intersection of Village Green Drive and Serrano Parkway and installing new signs that prohibit left turns out of Entrada Drive onto Silva Valley Parkway during commute times. Crosswalks will be included at the Serrano/Village Green intersection if appropriate from a cost vs. benefit perspective.

**Figure C – Draft Layout of Alternative 2 (New Signal at Village Green)**



Positives:

- 1) Allows Village A residents easy access to Serrano Parkway.
- 2) Left turns still allowed out of Entrada at off-peak times.
- 3) Minimal cut-through traffic via Russi Ranch.
- 4) All intersections operate at LOS D or higher.

Negatives:

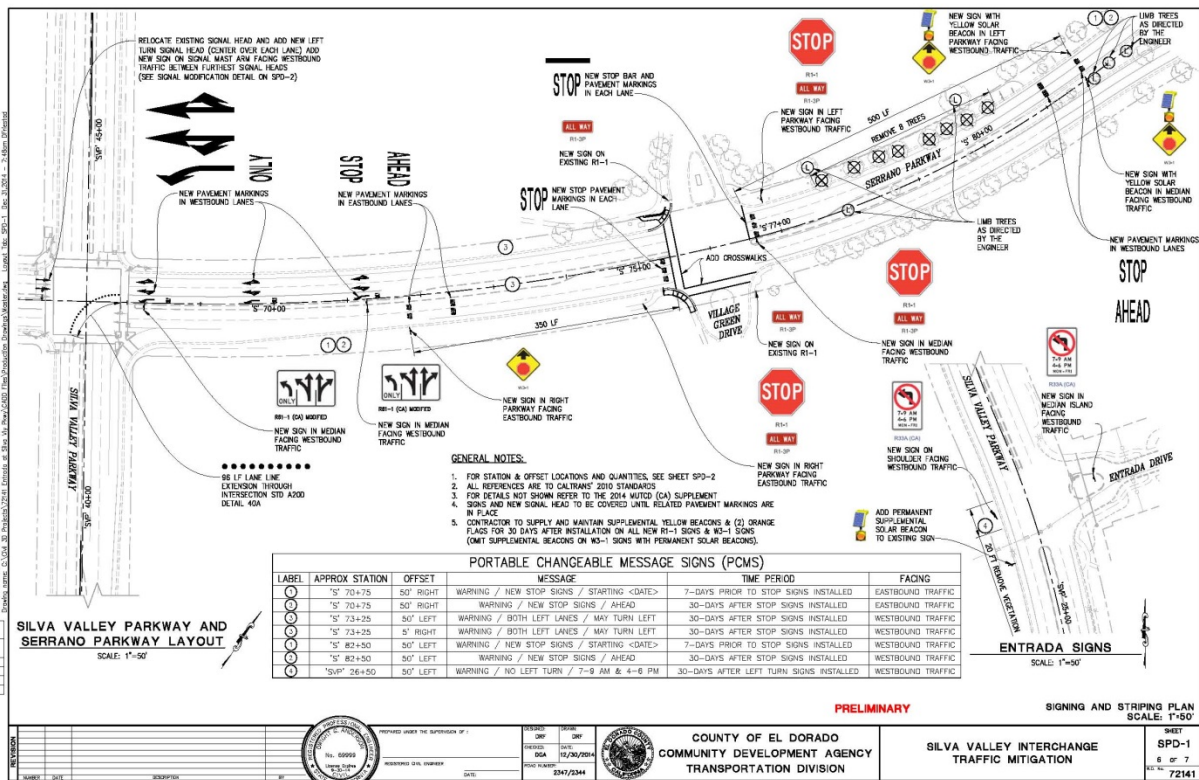
- 1) More circuitous route for Village A residents to get to southbound Silva Valley and U.S. 50 at AM and PM peak traffic times.
- 2) Cost: ~\$1.5M compared to \$250K-\$500K for Alternative 3.
- 3) More than 50% of the required improvements will be located on private property owned by Serrano. Funding agreement with Serrano would be required, unless the Board decides that the County should pay for all of the improvements, including all of the work on Serrano property.
- 4) Schedule: Utility relocation, environmental clearance, and right of way work will cause completion of project to occur well after opening of new interchange.

- 5) Due to proximity, coordination with signal at Silva Valley/Serrano would be required.
  - a. Result: decreased intersection throughput and longer delays at Silva Valley/Serrano.

### Alternative 3 – New 4-Way Stop Intersection at Serrano Parkway and Village Green Drive

In addition to the work described in items A-D above, the scope of this alternative includes installing a new 4-way stop intersection at Serrano Parkway and Village Green Drive and installing new signs that prohibit left turns out of Entrada Drive onto Silva Valley Parkway during commute times. Crosswalks will be included at the Serrano/Village Green intersection if appropriate from a cost vs. benefit perspective.

**Figure D – Draft Layout of Alternative 3 (All-Way Stop at Village Green)**



**Positives:**

- 1) Low cost. Approximately \$250K-\$500K, depending on whether or not new ADA-compliant crosswalks are installed and whether or not left turn pockets are lengthened.



- 2) Schedule: Can be completed prior to opening of interchange, primarily due to items 3-5 below.
- 3) Negligible environmental document.
- 4) Negligible right of way work.
- 5) No utility relocations.
- 6) Left turns still allowed out of Entrada at off-peak times.
- 7) Minimal cut-through traffic via Russi Ranch.
- 8) All intersections operate at LOS D or higher.

Negatives:

- 1) More circuitous route for Village A residents to get to southbound Silva Valley and U.S. 50 at AM and PM peak traffic times.
- 2) Additional stop sign on Serrano Parkway.
- 3) Removal of 9 trees in County r/w along Serrano Parkway is recommended.

**Recommendation**

The ultimate solution for Village A residents to access the new interchange is the connection of Country Club Drive from Russi Ranch Drive to Silva Valley Parkway. Issues during the right of way and design phases of the U.S. 50/Silva Valley Interchange project have precluded Transportation from having this connection in place prior the opening of the new interchange. Current estimates are that Country Club will be constructed between 2019 and 2024.

Since measures must be taken to allow Village A residents reasonable egress from their neighborhood once the new interchange opens in 2016, Transportation staff recommends the Board select Alternative 3 for reasons as follows:

- Lowest cost.
- Can be completed before new interchange opens.
- No need to sort out County costs vs. Serrano costs.
- Appropriate balance between considerations for Village A residents and considerations for motorists from entire corridor.