MEMORANDUM

TO:         Board of Supervisors

FROM:       Aaron Brusatori, PE
            Director

SUBJECT:    SR 88 Corridor Improvement Project

DATE:       December 4, 2013

RECOMMENDATION:

Staff recommends that the Board identify items for which they desire further analysis or review. Recommendations from the Board will be noted for incorporation into further project changes to be made during the PS&E phase of the project. During the PS&E phase of the project, staff will work with ACTC to identify funding sources, such as safe routes to schools, which can be used to complete specific portions of the planned project. We recommend that STIP funding currently programmed for PS&E and ROW not be changed in the RTP and that STIP funding be programmed for construction of $12.5M of priority improvements. This would provide for delivery of specific operational and safety improvements within the Pine Grove corridor.

BACKGROUND:

The project will improve SR 88 by widening the shoulders to eight feet along the length of the project. Six foot sidewalks will be added to the south side of the highway from Ridge Road to Berry Street and on both the north and south side from Berry Street to just east of Pine Grove Elementary School. The hairpin intersection of Climax Road will be realigned to the west and a passing lane will be added to eastbound SR 88 at the intersection. The geometrics of the currently signalized SR 88/Ridge Road intersection will be expanded to include a second left turn lane from Ridge Road onto eastbound SR 88. A second through lane will be added to eastbound SR 88 at the Ridge Road intersection and will terminate just east of the intersection. Driveways on to the highway will be consolidated and parking will be formalized with the addition of a parking lot at Irishtown. The eastern terminus of Church Street onto SR 88 will be closed off to incoming traffic. The intersection of SR 88/Volcano Road will become signalized and will be realigned to improve the existing skewed geometry. The west driveway of Pine Grove Elementary School will be realigned to exit onto Volcano Road, improving the existing conflict with the current location on SR 88 immediately east of Volcano. Retaining walls will be constructed where necessary when the embankment/cut slope of the roadway and sidewalks would otherwise encroach into areas that have constraints and to improve sight distance. The intersection of Tabeaud Road/SR 88 will be signalized and the existing climbing lane will be extended to the intersection and dropped just west of the intersection. Dedicated turn pockets
will be added at the intersections along the project limits and the two way left turn lane will be maintained through town.

The total estimated capital cost for the project, escalated for the year of construction is $44,000,000 for the build alternative, which includes right of way and constructions costs.

| Project Limits | 10-AMA-88  
| PM 21.6-24.6 (3 Miles Long) |
|----------------|----------------------------------|
| **Current Capital Outlay Support Estimate** | $4,400,000 |
| **Current Capital Outlay Construction Estimate** | $30,200,000 |
| **Current Capital Outlay Right-of-Way Estimate** | $2,400,000 |
| **Funding Source** | STIP, To Be Determined |
| **Funding Year** | 14/15 through 16/17 and beyond |
| **Environmental Determination or Document** | IS/MND |

**DISCUSSION/SUMMARY:**

Amador County Transportation and Public Works (Staff) performed an initial review of the SR 88 Corridor Improvement Project in February/March of 2014 to assess whether any potential general or specific project-related questions of the final draft proposed project should be addressed or vetted further by the County prior to project approval (Completion of the PA&ED Phase). In April of 2014, Staff made comments on the Geometric Approval Drawings (GADs) and transmitted those comments to the Amador County Transportation Commission staff (ACTC) requesting responses from the Consultant Engineer and additional information be provided so that Staff could complete a thorough review of the project. On May 28, 2014, Staff received some responses to our initial comments (not to be misconstrued as resolution), however, none of the additional requested project information was furnished to the Staff at that time. Staff received the balance of the requested information on September 26, 2014 from ACTC.

Over the past two months Staff has reviewed the project information (Project Report, Final GADs, Technical Studies, etc.), conducted several meetings with the Consultant Engineer and others and performed follow-up reviews of the project to address the following Staff questions:

1. "What operational improvements can be made to the corridor while reducing the overall cost of the project?"
2. "How can the County phase and/or stage any improvements to the corridor to provide the maximum return on investment for the Region?"
3. "What else should be done (if any) to maximize the possibility of success for questions 1 and 2 prior to commencing with the next phase of the project?"

**ANALYSIS:**

Staff focused its continued review effort in four (4) areas: Pine Grove Elementary School and Volcano Road Intersection, Operational and Safety Improvements Priorities, Identification of Future Cost Savings, and Identified Risks. The project review was performed based on all material and information obtained by Staff from February 2014 through December 2014.
Focus: Operational and Safety Improvements Priorities

The scope of this project has created some uncertainty about how to fund and construct the entire project. As a result, the project will require phasing to be complete construction over time. Segments have been identified based on general priorities, possible funding availabilities, geographic convenience and Caltrans operational needs during the Project Approval and Environmental Document (PA&ED) Phase. During the Plans Specifications and Estimates (PS&E) Phase, Staff and County Board of Supervisors will need to establish specific project priorities. Full funding for the complete project construction may never materialize. An effort needs to be put forth to identify specific priorities for this project which can utilize available funds to develop constructible project segments.

Staff identified that the Project Report and Environmental Document does not identify a specific phasing plan, rather leaves future phase development open-ended, presumably so that the County can determine the project priority at the time funds are available and the need is eminent. Staff recognized the need to preliminarily identify and memorialize an objective evaluation of potential phasing. In October of 2014, Staff requested that ACTC direct their Consultant Engineer to perform and produce a technical memorandum to identify a "Sequencing of Improvements" for the proposed project based on the projected operational benefits to SR 88 through completion of all phases. On November 10, 2014 the ACTC delivered the technical memorandum to Staff.

The Consultant Engineer recommended the following sequencing of improvements (in general):
1. Install Hybrid Beacon (Signal) at the Pine Grove Town Hall.
2. Construct an Eastbound Right-Turn Pocket at the SR 88 / Tabeaud Road Intersection.
3. Construct Improvements at SR 88 / Ridge Road.
4. Construct Improvements at SR 88 / Volcano Road.
5. Construct Improvements at SR 88 / Irishtown Road.
6. Construct Improvements at SR 88 / Tabeaud Road.
7. SR 88 / Climax Road Intersection Realignment.

The full technical memorandum is available upon request to Staff.

On an independent parallel path, Staff also considered the sequencing of the improvements of the proposed project. Staff considered both the documented objective criteria and other subjective criteria recommending the following areas for priority improvement through SR 88 Corridor in Pine Grove.
1. SR 88 ‘Hawk Crossing’ Pedestrian cross walk near the Town Hall or Signal at Irishtown Road.
2. SR 88 at Volcano Road (Including access improvements to the Elementary School)
3. SR 88 at Ridge Road
4. SR 88 at Tabeaud Road

Focus: Pine Grove Elementary School and Volcano Road Intersection (potential 1st segment of construction)
The August 12, 2014 Project Update Presentation estimated a cost of $12.5M to construct planned improvements from Irishtown Road to Hilltop Road, including improvements to access the elementary school site. Staff worked with the Consultant Engineer on November 18, 2014 to evaluate two potential alternative access scenarios in effort to reduce construction capital costs and right-of-way needs/costs at the elementary school site. The Consultant Engineer determined that the estimated costs of either of the potential alternatives may exceed the cost of the proposed elementary school site access alternative.

Through Staff discussions with the Consultant Engineer, it was discovered that a "reduced scope" elementary school site access alternatives does exist, which is similar to the current proposal. This alternative could reduce the construction capital costs, but still requires right-of-way acquisition.

**Focus: Identification of Future Cost Savings**

Below is an initial list of items identified by Staff that may contribute towards future cost savings for the proposed project. Prior to proceeding with any project construction phase, cost saving approaches and ideas should be considered by Staff.

1. Modify geometric features throughout the project to reduce the need for retaining walls.
   a. Various proposed retaining walls on the south side of SR 88 from Climax Road to Ridge Road.
   b. Various proposed retaining walls on Volcano Road and Elementary School site.
   c. Various proposed retaining walls on the south side of SR 88 from Hilltop Road to East of Tabeaud Road.
2. Implement a technological solution for traffic management at the Elementary School site during school "rush hour" times (early morning and early afternoon). Modify school access concept to allow bus access utilizing a bus priority signal with a pre-emption system for school hours only. This technology currently exists and is relatively inexpensive to deploy. This could be used in either an interim or ultimate solution.
3. Expand Environmental Limits to include lands to the North of the Elementary School for an access alternative.
4. Eliminate all non-essential geometric elements between proposed traffic signals.
5. Eliminate all non-essential construction material costs (i.e. extra pavement earmarked for SR 88 overlays, cross slope corrections, etc.)

**Focus: Identified Risks**

Staff does not recommend proceeding with development of the complete Plans, Specifications and Estimates or acquiring all Rights-of-Way (PS&E) at this time. Staff recommends completing each of these tasks by segment phase. The Project Report documents several risks that could impair the project development during the PS&E. These risks include, but are not limited to:

2. Property Owners unwilling to sign Right-of-Way agreements (Medium, 20-39% probability)
3. Project Owner is unable to obtain funding for project (High, 40-59% probability)
4. New or revised design standard is released (Medium, 20-39% probability)

In addition to those risks noted above, Staff is specifically concerned with:

1. Administration of Right-of-Way acquisition - The long duration required for ultimate project completion may compel the County into difficult right-of-way acquisition administration issues. Staff has been informed that there are time limits for holding acquired property for a specific project. If the project or project segment is not constructed promptly, reversion of Right-of-Way may be required.

2. Stale PS&E - Also noted in the Project Report, additional costs will be associated with keeping any design current over time. Associated costs will likely be high to develop and redevelop new versions of project segments.

3. Supplemental Environmental Documentation - Also noted in the Project Report and Environmental Document, supplemental environmental documentation for future segments is highly likely. Supplemental environmental documentation may include, but is not limited to; revised project footprint, updated traffic analysis, updated biological, new permitting requirements and ultimately could require new mitigation measures.
AMADOR COUNTY TRANSPORTATION COMMISSION

SR-88/PINE GROVE CORRIDOR IMPROVEMENTS

Technical Memorandum
(Amador County suggested school access)

Prepared by: Richard T. Liptak, PE, Project Manager

November 26, 2014

As requested, we have prepared the following Technical Memorandum and attached exhibit to provide the results of our investigation into Amador County’s suggested alternative layout at the Pine Grove Elementary School.

In general, the solution proposed by Aaron and Jered at the County includes preserving the existing ATI business. To accommodate this idea, they suggested building an access road to ATI at that connects to SR-88 an acceptable distance from the SR-88/Volcano road intersection and building a ring road around the school site.

The resulting layout includes a new access road that connects to SR-88 two hundred feet east of the current access and creates a new ring road around the school site to provide access to the school from Volcano Road. The current entrance to the school would be maintained, but the current exit from the school would be eliminated. The exit from the school will be off Volcano Road. Parent parking will be provided along the ring road just north of the school entrance from SR-88.

From an engineering point of view, our recommendation is to drop this alternative from further consideration because this alternative is twice the cost of the minimum school alternative. Also, the addition of major impacts to BLM property necessary to build the ring road and the loss of many trees will add a minimum of one year to the schedule for environmental clearance.

The proposed solution will cost $4 million.