SACOG

Transportation Committee

Item #14-4-5
Action

March 27, 2014

Fiscal Year 2014-15 Provisional Budget for the Capitol Valley Regional Service Authority for Freeways and Expressways (CVR-SAFE)

Issue: Should the Transportation Committee recommend that the Capitol Valley Regional Service Authority for Freeways and Expressways (CVR-SAFE) release the draft Fiscal Year (FY) 2014-15 provisional budget for public comment?

Recommendation: That the Transportation Committee recommend that the CVR-SAFE Board release a draft FY 2014-15 provisional budget for public review and comment and direct staff to continue strategic planning efforts previously requested by the Board. A CVR-SAFE final provisional budget is anticipated for action in May, with a revised FY 2014-15 budget and associated strategic plan to be available no later than December.

Discussion: CVR-SAFE is comprised of Sutter, Yuba, Yolo, Sacramento, El Dorado, and San Joaquin counties. The revenues for the CVR-SAFE are collected as a $1 fee assessed at the time of vehicle registration in the participating counties. These revenues are mandated to be used to provide call box services and provide other motorist aid services such as Freeway Service Patrol and 511 traveler information services. CVR-SAFE bylaws require that a budget be approved before July 1 of each fiscal year.

The proposed draft CVR-SAFE budget submitted for review (Attachment A) is balanced for normal expenditures. Revenues for the overall CVR-SAFE draft budget are estimated at $2.22 million, while expenditures are budgeted at $2.0 million. Ongoing operations for all program elements are included in the provisional budget as well the continuation of two previously awarded, multi-year consultant contracts to provide ongoing call box maintenance and technical support on the call box modernization effort described below. In the provisional budget, the $220,000 in surplus revenues would add to the program's cash position, and it would grow to a total balance of $5.3 million by the end of FY 2014-15. Additional costs, however, are anticipated to be proposed in a revised budget that will be included in the strategic plan. These new costs will include the full implementation of the call box modernization program. In December, a revised budget will be provided to the CVR-SAFE Board for consideration and the projected year-end cash position will be updated.

Two counties, Sutter and Yolo, are projected to have expenditures that exceed the revenues collected within their counties during the new fiscal year. Both of these counties generate a relatively low amount of vehicle license fee revenue to support the significant inter-regional travel they accommodate along their roadways. Yolo County is currently estimated to over expend its CVRS budget by $65,400 and Sutter County to over expend its CVR-SAFE budget by $16,300. It is required that the CVR-SAFE budget acknowledge that vehicle registration funds collected in El Dorado, Sacramento, San Joaquin, and Yuba counties will need to be spent in order to cover the over-expenditures projected in these counties. Staff recommends this regional approach to balancing the budget because the over-expenditures in Sutter and Yolo counties represent only 4 percent of the total CVR-SAFE operating budget for FY 2014-15. Furthermore, no service reductions are needed in the donor counties to accommodate this budget gap closure, and there are benefits to maintaining consistent service levels across the CVR-SAFE region. Strategies to avoid the county-level budget imbalance are being explored through the CVR-SAFE strategic planning effort that will be provided to the CVR-SAFE Board later this year.

Progress is moving forward on the strategic planning effort to address long term needs for the CVR-SAFE program and to identify opportunities for the significant cash balance that has been accrued. A notable milestone was achieved in August 2013 when the CVR-SAFE Board selected a new call box maintenance services contractor, CASE Systems. The firm offered the most competitive bid based on general call box maintenance services, price per site for permanent call box removals, and reductions in cost when call boxes are permanently removed. The transition of the CVR-SAFE call box system over to CASE Systems was completed in December 2013. With the full transition complete, staff is moving forward with a call box program analysis that is the key element to the CVR-SAFE strategic planning effort.

An initial call box modernization analysis (Attachment B) was prepared by CVR-SAFE staff in coordination with TeleTranTrek Services. The analysis identifies both challenges and opportunities to the CVR-SAFE callbox program. The challenge is the need for costly equipment upgrades, including new digital services, which could run as high as $2.29 million to complete. The opportunity is to move forward with a call box removal effort that promises significant long-term cost savings for the CVRS. Changes in state call box guidelines now allow for greater spacing between call boxes, and there is recent precedent for Caltrans and the California Highway Patrol (CHP) to approve plans by a peer SAFE agency to reduce more than 10 percent of their call boxes in a particular year. With call box activity continuing to decline in the CVRS region, these statewide policy changes provide an opportunity to re-evaluate the appropriate number and location of call boxes in the region. Initial scenarios suggest upgrade costs could be reduced by up to $978,000 if 55 percent of the call boxes in the CVRS are removed.

In order to refine the initial budget estimates, a call box site removal effort is proposed to be the focus of CVR-SAFE staff and contractor efforts over the next five months. This report will provide the CVR-SAFE Board with a recommendation of call boxes to remove and a refined budget estimate that will inform the completion of the strategic plan. As described in more detail at the end of the Attachment B, the site removal report anticipated to be complete by October is the first step in a two-year process to implement a call box modernization program. Upon completion of the analysis and adoption by the CVRS Board in November, the call box modernization program can be submitted to the CHP and Caltrans for final action. Confirmation of call boxes to remove will target the equipment upgrade investments that follow in later months.

While the practicality of a dramatic reduction in call boxes is to be further analyzed, significant savings are projected from even a modest call box reduction effort. Savings captured from call box removals can be used to support new or expanded cost-effective services by CVR-SAFE that meet the required nexus to “motorist aid services or support,” as required by the SAFE authorizing legislation. CVR-SAFE service change opportunities are being analyzed through the strategic planning effort and include an expanded mobile call box program that has considerable promise. Additional elements of the strategic plan include an analysis of county budget balances and a review of all existing core services provided by the CVR-SAFE.

Approved by:

Mike McKeever
Chief Executive Officer

MM:MH:gg
Attachments

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Attachment A

CAPITOL VALLEY REGIONAL SAFE PROPOSED FY 2014-15 PROVISIONAL BUDGET (DRAFT)

	FY 2012-13 Actual	FY 2013-14 Adopted Budget	FY 2013-14 Estimated Actual	**FY 2014-15 Proposed**
REVENUE				
Interest	$ 13,469	$ 10,000	$ 9,000	**$ 10,000**
Registration Fees	2,261,155	2,178,964	2,095,158	**2,178,964**
Reimbursements from Glenn County	15,610	13,000	13,000	**13,000**
Reimbursements from Placer County	2,892	2,500	2,500	**2,500**
Knockdown Recovery	23,173	16,000	3,000	**16,000**
TOTAL REVENUE	$ 2,316,299	$ 2,220,464	$ 2,122,658	$ 2,220,464
EXPENDITURES				
Call Box Maintenance: CASE, Inc. (includes Placer and Glenn counties)	$ 459,684	$ 469,373	$ 469,373	**$ 445,770**
Freeway Service Patrol - Sacramento County	706,000	720,200	720,200	**720,200**
Freeway Service Patrol - San Joaquin County on I-205	66,801	113,000	60,000	**113,000**
Freeway Service Patrol - Yolo County	26,250	26,800	26,800	**26,800**
Freeway Service Patrol - El Dorado County	52,159	31,116	31,116	**31,116**
SAFE portion of Statewide CHP Coordinator	3,960	5,500	4,900	**5,500**
Private Call Answering Contract - Fixed call boxes (voice & TTY)	15,358	36,000	17,000	**36,000**
Private Call Answering Contract - Bike Trail Boxes - TTY only	7,500	9,000	9,000	**9,000**
SACOG Services (staff time and indirect costs)	84,765	201,871	105,000	**200,000**
Cellular Phone Service (including Placer/Glenn County)	111,508	125,000	110,000	**125,000**
Consultant: TeleTranTrek, Inc.	50,870	98,861	80,000	**110,000**
Insurance	8,524	9,000	9,000	**9,000**
Public Information	0	2,000	0	**2,000**
Legal Services	6,149	6,000	2,000	**2,000**
DMV Fees	11,107	12,000	11,000	**12,000**
Meetings/Printing	628	4,000	500	**3,000**
511/STARNET - Capital Improvements Project	60,965	60,000	60,000	**60,000**
511/STARNET - Maintenance & Operations	75,094	75,000	75,000	**75,000**
511 Program Management - San Joaquin County	12,800	15,000	10,000	**15,000**
Callbox (CBX) Removals/Telephony Upgrades				**TBD***
TOTAL EXPENDITURES	$ 1,760,122	$ 2,019,721	$ 1,800,889	$ 2,000,386
REVENUE LESS EXPENDITURES	556,177	200,743	$ 321,769	220,078
PROJECTED ENDING CASH BALANCE	**4,575,246**	4,775,989	5,097,758	**5,317,836**

* The provisional budget covers CBX planning activities between July 1 and December 31. Costs associated with actual CBX removal and telephony upgrades will be incorporated into the final FY 14/15 budget that will be prepared for Board action in the October-December 2014 period.

Call Box Program Modernization

Capital Valley Region Service Authority for Freeways & Expressways (CVR-SAFE)

Background

When initially installed in 1994, Capitol Valley Regional Service Authority for Freeways and Expressways (CVR-SAFE) roadway call boxes offered vital motorist aid. The conditions at that time were dramatically different than those existing today.

- **Cellular Technology:** Analog cellular signal was the only cellular service available. The slow transmission speed of analog cellular worked fine for voice calls, but worked poorly for transmitting data. The latter limitation made the use of call boxes as communications devices for any peripheral equipment like traffic counters inefficient at best.
- **Cellular Service:** There were multiple cellular providers available for each type of analog cellular technology, making procurement of cellular service reasonably competitive. Cellular networks provided cellular service coverage primarily in urban areas, with limited or no service in more rural areas. As cellular service providers expanded their cell sites over time, CVR-SAFE installed more rural call boxes.
- **Call Volumes:** In 1995, its first full year of operation, CVR-SAFE received almost 72,000 call box calls, higher than any annual call volume experienced since.
- **Available Motorist Aid Alternatives:** When the CVR-SAFE was formed, freeway call boxes were the only way for most stranded motorists to call for assistance from the highway. Call box call volumes were therefore quite high. Specialized motorist aid services such as Freeway Service Patrol and 511 did not exist.
- **Call Answering:** Call box calls were exclusively answered by the California Highway Patrol (CHP), as required in the enabling call box legislation. Per CHP requirements, call box calls were the third priority in the CHP Communications automatic call distributor queue. Average wait times for call box callers to have their calls answered were greater than 60 seconds.
- **Accessibility for Persons with Disabilities:** Standards for providing accessibility to call box services for persons with mobility or hearing/speech disabilities were nonexistent, and could only be inferred from draft accessibility guidelines from the federal government. Call boxes did not contain teletypewriter or text telephone (TTY) for the hearing or speech impaired equipment, nor did the CHP Communications Centers that answered call box calls.

Because motorist aid services were so limited at that time, the *Call Box Guidelines* in effect when the CVR-SAFE system was installed stated that call box spacing should be based, as a primary factor, on the volume of traffic that travels by the call box location, using statistics

provided by Caltrans. The higher the Average Daily Traffic (ADT), the closer the call box spacing recommended, as shown in the Table 1.

Average Daily Volume (ADT)	**Call Box Spacing Guidelines**
Lower than 40,000	1 mile or more
40,000 to 75,000	.5 mile to 1 mile
75,000 to 100,000	.25 mile to .5 mile
Higher than 100,000	.25 mile

CVR-SAFE did not install call boxes spaced at one quarter-mile intervals. Call boxes on urban highways were generally spaced at half-mile intervals in pairs, with call boxes on highways in more rural areas generally spaced at one to two miles.

The environment within which call boxes operate today includes many technological and programmatic changes from 20 years ago when the program was started.

- **Cellular Technology:**
  - All cellular service now available is based upon digital cellular technology, with transmission speeds effective for both voice calls and data transmission. When digital cellular retrofits were made to current call boxes, the fastest speed available was 2G. Today, most cellular sites provide 2G, 3G and even 4G speeds.
  - Call boxes can now serve as communications devices for numerous types of peripheral equipment such as traffic counters, cameras, weather equipment and roadside terminals for the new Connected Vehicle Initiative being supported by the U.S. Department of Transportation and NHTSA.
  - Satellite service call boxes are now available for use in locations where cellular signal is not available. They are quite expensive to purchase ($8,000 per unit), as is satellite service ($1.50/minute). CHP has expressed some concern about satellite call boxes since they cannot support all ADA features, such as TTY devices (teletypewriter or Text Telephone) for the hearing or speech impaired.
- **Cellular Service:** The number of cellular service providers has been reduced by 50 percent because of mergers among cellular providers. That has in turn reduced potential competition among providers. Cellular networks now provide cellular service coverage along all urban and most rural highways.

- **Available Motorist Aid Alternatives:** The vast majority of motorists now have personal cellular phones that can be used to call for assistance from most locations along the highways.
  - A growing majority of personal cell phones are now smartphones, with the added capability of sending assistance requests by SMS messaging or by data transmission to websites created for that purpose.

  - Freeway service patrol vehicles now roam many urban highways during peak traffic hours, providing not only tows but also simple mechanical and flat tire repair services, as well as free fuel in limited amounts.
  - 511 services now provide not only traffic and public transportation information, but also provide a direct link to call box operators via cell phone. The latter service is referred to as "Mobile Call Box or "511 Roadside Assistance."
  - In addition to traditional motorist aid providers like AAA, many automobile insurance companies and automobile manufacturers now offer motorist aid services through 1-800 or similar phone numbers.

- **Call Answering:** Call box and 511 Roadside Assistance calls are now answered throughout the CVR-SAFE area, and most other locations in California, by private call centers, which handle obtaining assistance for the majority of motorists' needs. By agreement with CHP, calls involving medical assistance, and reports of crimes or objects in the travel lanes are transferred live to the CHP for assistance. Privatization of call box call answering has resulted in a significant decrease in call wait time, and a corresponding increase in customer service to callers.
- **Call Volumes:** Call box call volumes have dropped nearly 90% from their highs in 1995.
  - Call volumes (rounded) over recent years:
    - 1995: 71,978
    - 1999: 43,742
    - 2002: 30,000
    - 2007: 15,000
    - 2012: 8,100
  - About 7% of calls answered by the Call Box Answer Center are Mobile Call Box calls.

- **Accessibility for Persons with Disabilities:** Standards for providing accessibility to call box services for persons with mobility or hearing/speech disabilities have still not been adopted by the federal government. However, the *Call Box Guidelines* jointly developed by CHP, Caltrans and call box programs specify that all call boxes must contain TTY equipment for use by people with hearing/speech disabilities. In addition, the *Guidelines* now lay out site design requirements related to both mobility accessibility and elimination of transverse walls.

Because of lowered call volumes and the greater availability of alternate sources of motorist aid, Caltrans and CHP, in cooperation with the California SAFE Committee, revised the ADT recommendations to allow greater spacing for a given traffic volume level. The Table below shows the revised spacing criteria.

AVERAGE DAILY TRIPS (ADT)	SUGGESTED SPACING
Lower than 40,000	2 miles or more
40,000 to 75,000	1 mile to 2 miles
75,000 to 100,000	.5 mile to 1 mile
Higher than 100,000	.5 mile

The *Guidelines* now recognize that factors other than ADT will impact spacing decisions and may be considered. Among them are variations in terrain, available revenue, urban/rural characteristics, call box usage, and proximity to roadside services, cellular coverage area and isolation.

The Guidelines also state that a SAFE may not permanently remove more than 10% of its call box system per year without the written approval of CHP and Caltrans. Those agencies have in the past approved permanent removal projects exceeding the 10% limit for other SAFEs, but have required in those instances that a detailed justification and system analysis be submitted in support.

Primarily because of the reduction in call volume experienced in the last decade, as well as the costs to retrofit sites, CVR-SAFE conducted an initial permanent removal in 2006 of just over 200 call box sites from the then-total system of 1,450 sites. Operational, equipment and site retrofit savings from those removals were well over $500,000. Most other larger SAFEs and many medium-sized SAFEs also performed site removals around this time, and some thereafter.

Call for Action

The declining demand for call boxes provides an opportunity for targeted removals that are cost-effective. For those call boxes that remain, there is the need to upgrade the cellular service and equipment for a sustainable long-term program. The improvement needs are described below.

Digital Cellular Service & Equipment Upgrades

CVR-SAFE and the other Call Box Programs that use AT&T Cellular for their cellular service have recently been informed that AT&T Cellular will completely discontinue providing 2G cellular service by December 2016. The cellular service contract under which CVR-SAFE and AT&T Cellular currently operate has actually expired, although AT&T Cellular continues at this point to honor its terms and pricing.

All current CVR-SAFE call boxes contain 2G technology. CVR-SAFE must therefore upgrade its call box system to at least 3G technology. AT&T Cellular has already begun to reduce the number of available 2G channels it will provide in favor of increasing the number of its 3G and 4G channels. The impact over the next two years will be to make it more difficult for the existing 2G call boxes to connect to the cellular system, increasing the likelihood that connected calls will be dropped.

The reduction in and eventual cessation of 2G cellular service will require CVR-SAFE to upgrade its call box technology, and to do so sooner rather than later. Procurement for a new cellular service contract also provides an opportunity to reduce costs. Other SAFEs have recently realized considerable cost savings from the rates being paid currently by CVR-SAFE. Such terms may be available to the CVR-SAFE through a statewide cellular compact.

A Challenge and Opportunity

The combination of the need to procure ongoing cellular service and the need to upgrade call box equipment to the 3G platform creates both a challenge and an opportunity for CVR-SAFE.

The challenge is that the equipment upgrade to allow CVR-SAFE call boxes to continue to communicate effectively with the cellular network will likely be an expensive proposition, since each call box must be upgraded. As noted in the following section, the estimated cost to retrofit a single call box is $1,305 to $1,450.

While upgrading call boxes will be costly, there is an opportunity for CVR-SAFE. Removing some call boxes will avoid a proportion of these costly equipment upgrades. CVR-SAFE will also obtain ongoing savings for operational costs such as cellular service and call box maintenance. Every call box removed would lower the overall technology retrofit cost to CVR-SAFE. Additional savings might be realized by combining procurements for the equipment retrofit and the permanent removals. Those funds could then be used by CVR-SAFE for other eligible motorist aid purposes.

Initial staff analysis suggests an opportunity to increase the spacing between call boxes, and thereby reduce the number of call box sites currently operated by CVR-SAFE. Identifying priority locations for call boxes is a next step in the call box reduction effort. Elsewhere in the state, other SAFEs have approached site reduction through analysis of two key questions:

- What are the anticipated long-term costs for equipment upgrades and ongoing operations and maintenance? Key factors considered:
    - Currently-needed and future technology retrofits required because of changes to cellular provider technology
    - Site retrofits to enhance accessibility
- Are there more cost-effective alternatives available for motorist aid services? Key factors considered:
    - Does the SAFE program offer good connections to emergency responders and associated services? (e.g., 511 services, mobile call box programs)
    - Are there rural areas where the cellular signal is not sufficient to support reliable personal or alternative communications?

Given these considerations, CVR-SAFE staff has identified two scenarios to analyze for potential call box reduction efforts:

1. Install call boxes only along more rural sections of highways where much lower traffic levels reduce the likelihood that another motorist with a functioning cell phone or other device would help a motorist without one. These could be installed at the currently stated minimum spacing of two miles for lower ADT levels, as laid out in the *Guidelines*, or perhaps greater spacing such as three miles.
2. In addition to #1 above, install call boxes along other sections of highways, including urban highways, at spacing of two to three miles as a safety net.

Based on these two scenarios, it is estimated that the current number of CVR-SAFE call boxes could be reduced from 1,131 to between 295 and 760 call boxes through a permanent removal project that would expand the spacing between call boxes. The actual number of call box sites to be installed and specific site spacing would ultimately be determined following a field site evaluation, taking into account such specific factors as:

- Highway Width:
- Site Accessibility, and
- Average Daily Traffic

Since such a field survey has not been conducted in CVR-SAFE for over a decade, the call box removal estimates are based on prior surveys and the urban/rural highway miles in the CVR-SAFE region. In the Capitol Valley region, two-lane undivided highways typically have call boxes installed as single units. Divided highways typically have call boxes installed in pairs across from each other.

The numbers presented in the table below are based on installations in pairs since most Capitol Valley highways are divided highways. The estimates therefore present the highest projected number of call boxes for these corridors. Based on these variables, call box totals are identified in the table with corresponding reduction total scenarios.

PROJECTED CALL BOX SYSTEM			
APPROACH	**HIGHWAY MILES**	**NUMBER OF CALL BOXES**	
		2-Mile	**3-Mile**
Deployed in Rural Areas Only	440	440 (61% reduction from today)	295 (74% reduction from today)
Deployed in both Rural and Urban Areas	760	760 (33% reduction from today)	510 (55% reduction from today)

It should be noted that in many locations, especially those in urban areas, this increased call box spacing would not comply with current spacing requirements of the *Guidelines*. Exceptions based on changed conditions would therefore need to be sought from the

oversight agencies. In addition, changes to the *Guidelines* through the California SAFE Committee and the oversight agencies to reflect the current reality would appear appropriate.

Next Steps

Before any specific determinations on the selection of permanent removals can be made, an analysis of existing site conditions is needed. This can be accomplished through a combination of methods:

- A desk review of photographs of existing call box sites, combined with a review of data and other information, can initially identify which sites would be the best removal candidates, taking into consideration accessibility issues and desired spacing parameters. The desk review would also include research on factors such as the most recently published ADT information from Caltrans, existing FSP beat locations and usage. SACOG staff can prepare this analysis with the assistance of TeleTranTrek, Inc. that is currently under contract through CVR-SAFE and proposed for another year of services in the draft FY 2014-15 budget.
- A field inspection of all call box sites will then be conducted to confirm or modify preliminary decisions from the desk review, and to document all information necessary to develop specific staff recommendations on permanent removals for the CVR-SAFE Board of Directors. The field inspection would also provide specific justifications necessary for the request that must be transmitted to Caltrans and CHP to conduct an overall one-time system reduction. SACOG staff can perform the majority of the fieldwork with training and guidance from the SAFE contractor.

Once the sites to be retained, permanently removed or relocated have been identified, CVR-SAFE can begin specific planning, procurement of vendor services, and implementation steps for the upgrades, which would include the following elements:

1. **New Cellular Service Contract**: Before equipment upgrades can be done, CVR-SAFE must determine which form of digital cellular service will be implemented: (1) GSM service provided by AT&T Cellular or T-Mobile Cellular, or (2) CDMA service provided by Verizon Wireless or Sprint Wireless. GSM and CDMA service each require different call box technology. CVR-SAFE must also determine whether the cellular service must be competitively bid, could be procured under an existing cellular compact, or obtained under the terms of a contract held by another SAFE.
2. **Call Box Technology Upgrades**: Because of the technical nature of the work, either the incumbent or another call box equipment and maintenance vendor must perform this element of the overall program.
3. **Call Box Site Retrofits**: This element of the overall program will be most cost-effective if both of its components below are procured from the same vendor and performed concurrently as that vendor follows along each highway. That vendor does not necessarily have to be the incumbent call box maintenance vendor. However, cost savings might be obtained if the same vendor performed both the Site Retrofits and Technology Upgrade elements of the program.

- Permanent Removals: Based upon the projections discussed above, between 371 and 836 call boxes could be permanently removed (33% and 74% of the current system respectively), depending upon the spacing and location (urban v. rural) decisions made by the CVR-SAFE Board.
- Accessibility Retrofits/Relocations: One of the factors to be considered in selecting sites for permanent removal is how accessible that site is to persons with mobility disabilities. To the greatest extent possible, sites with accessibility issues would be permanently removed or relocated to avoid the cost of accessibility retrofits such as changing the site to an L or M configuration. Nevertheless, to maintain relatively uniform spacing, some sites with accessibility issues would need to be retrofitted or relocated instead of removed.

High Level Cost Estimates

The cost estimates presented below are based on estimates from CASE Systems., the CVR-SAFE contractor for call box maintenance services. Differing pricing may be obtained once the necessary procurements and negotiations have been completed. The totals shown include a 20 percent contingency to cover, among other unknowns at this time, costs related to relocations or other site work on some remaining sites that will need changes to achieve ADA compliance. The exact amount of such contingent costs will not be known until the Desk Review and Field Survey have been completed and approval of the Site Removal Plan by the CVR-SAFE Board of Directors and the oversight agencies has been obtained.

PROJECTED CALL BOX SYSTEM			
APPROACH	**HIGHWAY MILES**	**NUMBER OF CALL BOXES**	
		2-Mile	**3-Mile**
Deployed in Rural Areas Only	440	440	295
Deployed in both Rural and Urban Areas	760	760	510

Site Removals

The maintenance contract with CASE Systems sets forth a fixed price of $350 per permanent removal approved by the CVR-SAFE Board. Some additional costs may be necessary for the removal of now-unusable asphalt paths installed in the 1990's for accessibility purposes.

Cost of Removals					
Boxes Removed	836	691	621	371	0
Percent Removed	74%	61%	55%	33%	n/a
Cost of Removals @ $350 Each + 20% Contingency	$351,120	$290,220	$260,820	$155,820	$0

Digital Equipment Upgrades

The current Universal Price List from CASE Systems lists the price of a CDMA 3G digital equipment upgrade kit as $1,450. CASE Systems has also indicated verbally that the cost for a GSM equipment upgrade kit, once available, would be about the same. That price is for single unit upgrades. The actual price CVR-SAFE would pay after issuing an RFP or conducting negotiations would likely be less because of the quantities involved. For planning purposes, this report will use a 10 percent decrease in price for the lower costs, or $1,305.00.

The Table below shows the Universal Price List (UPL) and reduced prices depending upon the number of sites remaining in service after permanent removals approved by the CVR-SAFE Board.

Digital Upgrade					
Number of Boxes Upgraded	295	440	510	760	1,131
Discounted Cost ($1,305 + 20%)	$461,970	$689,040	$798,660	$1,190,160	$1,776,400
UPL Cost ($1,450 + 20%)	$513,300	$765,600	$887,400	$1,322,400	$2,523,000

Five-Year Life Cycle Costs

The costs to have call boxes permanently removed would be offset by savings in the cost to maintain those removed boxes the monthly cellular service fee. Those savings will vary depending upon the number of sites permanently removed.

Per the maintenance contract with CASE Systems, the overall monthly maintenance fee per call box would be reduced by $20/month if permanent removals are less than 50% of the call box system, e.g., less than 565 removals. The reduction becomes $28 per month if more than 50% of the call box system is removed. The contract allows for a residual monthly fee payment to cover the vendor's fixed costs no matter what the number of call boxes in service may be.

Cellular service costs through AT&T Cellular are estimated at $7.50 per call box per month for purposes of this report. These rates, however, may become considerably lower if CVR-SAFE is able to secure a lower rate through the state cellular compact. As the tables below show, the estimated maintenance and cellular service cost savings, taken together and projected over five years, would exceed the costs to perform the permanent removals and upgrade the remaining call box equipment in three of the four removal scenarios.

Estimated Five-Year Net Costs and Savings from Removals: Cellular @ $7.50/mo.					
Boxes Removed	836	691	621	371	0
Percent Removed	74%	61%	55%	33%	n/a
Maintenance Savings from Removals (@ $20-$28/mo.)	$1,404,480	$1,160,880	$1,043,280	$445,200	$0
Cellular Service Savings from Removals (@ $7.50/mo.)	$376,200	$310,950	$279,450	$166,950	$0
Gross Savings	$1,780,680	$1,471,830	$1,322,730	$612,150	$0
Cost of Removals	$351,120	$290,220	$260,820	$155,820	$0
Cost of Digital Upgrades (Discounted)	$461,970	$689,040	$798,660	$1,190,160	$1,776,400
Cost of Cellular Service (5 yr. @ $7.50/mo.)	$132,750	$198,000	$229,500	$342,000	$510,500
Total Costs	$945,840	$1,177,260	$1,288,980	$1,687,980	$2,286,900
Net Five Year Costs	**($834,840)**	**($294,570)**	**($33,750)**	**$1,075,830**	**$2,286,900**

Project Timeline

The following timeline presents an estimate of the time necessary to complete the tasks required for the callbox system modernization project. As described, the estimated time to complete the Project is 27 months. The time available between June 2014 and December 2016 is only 31 months. Given that, timely action by CVR-SAFE Board of Directors to approve the Site Removal Plan will be necessary.

Approval by the CVR-SAFE Board of the Site Removal Plan is the first major milestone. It may be possible to perform some of the tasks concurrently to shorten the project duration, subject to CVR-SAFE staff and consultant availability to do so. For example, it may be possible to draft major portions of the Cellular Service RFP concurrent with the Site Removal Plan, and bring both for approval to the Board at the same time. It may also be possible to conduct negotiations for equipment upgrade pricing while the procurement for cellular service is in process.

TASK	DURATION (MONTHS)	COMPLETION MONTH	COMPLETION MONTH
1. Perform Desk Review of Call Box Sites	1	1	June, 2014
2. Perform Field Survey of CVR-SAFE System	2	3	August
3. Prepare Site Removal Report	1	4	September
4. CVR-SAFE Board Adopts Site Removal Plan (Revised Cost Estimate Prepared)	1	5	October
5. Site Removal Plan Submitted to and Approved by CHP and Caltrans	3 **	8	January, 2015
6. Draft Cellular Service RFP	1	9	February
7. Conduct Procurement for Cellular Service (Selection of cellular vendor also selects type of cellular equipment to procure)	2-3	11-12	April-May
8. Negotiate Pricing for Cellular Upgrade Kit and Site Removals with CASE Systems; Issue Notice to Proceed with Project to CASE Systems. (Alternative: Conduct procurement for site work; adds 3-6 months to Timeline)	1-3	12-14	May-July, 2015
9. Equipment Upgrades and Site Work Performed	12-14	24-26	June-July, 2016
10. Project Completion	1	27	August, 2016

** The three-month window for oversight agency approval is the timeframe anticipated by the *Guidelines*. That three-month period is a best-case estimate, and based on past experience, could be longer. Therefore, efforts to keep the agencies' SAFE Liaisons informed and involved from the beginning are critical to keeping the approval process as short as possible.