

Attachment 1

Santa Cruz County Regional Transportation Commission Service Authority for Freeways and Expressways

2004 Operational and Financial Report

Background

In 1989 the Regional Transportation Commission was designated as the Service Authority for Freeway Emergencies for Santa Cruz County. As the SAFE the Regional Transportation Commission initiated a \$1 vehicle registration fee on all vehicles registered in Santa Cruz County. According to State law, the funds raised are to be used to develop and maintain a motorist aid system consisting of roadside call boxes along state highways and freeways. Any extra funds may be used for other motorist aid components such as Freeway Service Patrol (FSP), changeable message signs, and related programs.

In addition to the SAFE's primary purpose of instituting and operating a motorist aid call box system, the SAFE is involved in the Freeway Service Patrol (FSP) program, the Traffic Operations System (TOS) and the Safe on 17 Program. Due to the nature of the projects and in order to achieve some cost savings, all of the projects involve some level of partnership with the California Highway Patrol, Caltrans and the Metropolitan Transportation Commission (MTC) for the San Francisco Bay area.

Call Box Program

Call box installation in Santa Cruz County began in December 1990. The call box system now consists of 124 solar powered, cellular telephone service call boxes along Highways 1, 9, 17, 129, and 152. Motorists may use call boxes to request assistance or report incidents. SCCRTC contracts with the California Highway Patrol (CHP) to answer call box calls at its dispatch center in Salinas. Call box calls are considered third priority calls after 911 emergency calls and allied agency calls. SCCRTC contracts with Comarco Wireless Technologies for call box installation and maintenance and with AT&T Wireless (which recently bought Cellular One) for callbox cellular phone service.

Call boxes make regular maintenance calls every 72 hours to a maintenance computer. If a call box fails to make a maintenance call, a Comarco technician is dispatched to the call box. The call boxes also include a number of triggers for alarm calls that can indicate vandalism, knockdown, tampering or other problems. In response to alarm calls technicians, CHP officers or both are dispatched to the call box. In addition, call boxes are visited twice per year to perform preventive maintenance which consists of cleaning, testing and repair.

Call Box Usage

Call boxes have been in Santa Cruz County since 1991. Call box usage has decreased significantly during the existence of the call box program as shown below:

Annual Number of Call Box Calls – Santa Cruz County

Year	Hwy 1	Hwy 9	Hwy 17	Hwy 129	Hwy 152	Total
1991	4289	975	4131	383	598	10376
1992	4294	855	3959	342	632	10082
1993	4450	587	3712	204	415	9368
1994	3746	490	3383	250	283	8152
1995	3423	402	3373	281	297	7776
1996	3128	488	3158	184	192	7150
1997	2863	448	2606	171	214	6302
1998	2638	257	2807	163	170	6035
1999	3159	417	2441	187	224	6428
2000	2267	347	2102	191	152	5059
2001	1696	617	1499	102	223	4137
2002	1310	512	1331	110	178	3441
2003	1293	545	1317	104	176	3435
1991-2003 Reduction	69.8%	44.1%	68.1%	72.8%	70.6%	66.9%

The number of call box calls has decreased at a similar rate across the entire State. The decrease is mainly as a result of the proliferation of cellular phones. Nevertheless, many people do not have cellular phones. It is expected that the majority of people who do not have cellular phones cannot afford them and therefore probably cannot afford newer, more reliable vehicles.

Unlike cellular phones, call boxes are more powerful, have antennas mounted on a 14 foot pole and use enhanced antennas where necessary; therefore, they are much more likely than cellular phones to capture a cellular signal, especially in more remote locations. The CHP cannot determine the location of a regular cellular telephone call but knows exactly where each call box is located and from which call box a call originates; therefore, needed services are likely to get to a call box more quickly than to a cellular phone location. Call boxes will continue to serve as a way to access roadside assistance for those who need it on Santa Cruz County highways.

New Cellular Service Carrier

In January 2001, the Regional Transportation Commission entered into a 10-year contract with Cellular One for cellular telephone service to the call boxes. For the first 5 years the rate is \$5 per call box per month for 35 minutes of air time per call box per month. This is the lowest call box rate in the State. For the following 5 years the rate is \$6 per call box per month. On average, call boxes are charged with about 20 minutes of cellular air time per month. Maintenance calls last about 20 seconds and are charged as a full minute.

AT&T Wireless recently acquired Cellular One and the transition took effect in September 2003. When a company takes over another, the new company acquires assets, liabilities and responsibilities and any contracts with the initial company remain in effect with the new company. Initially AT&T Wireless seemed unwilling to honor the contract and has been charging \$25 to \$30 per call box per month. Following a string of phone conversations, e-mails and written correspondence (see Attachment 1), in recent conversations our local AT&T Wireless representative stated that the account will be reviewed to issue the proper credits in accordance with our existing contract. Cellular service payments have not been made since AT&T Wireless took over but as soon as the appropriate credits are issued by AT&T Wireless, payments to AT&T Wireless will be issued.

Expected Call Box Improvements

For a number of years, there have been discussions about making accessibility improvements to call boxes and call box sites to ensure that the service is accessible to motorist in wheel chairs and to deaf and hard of hearing motorists.

ADA Improvements

Recently crash tested and approved new call box site configurations are allowing call box programs to change call box sites to be more accessible to people in wheel chairs. The Santa Cruz County call box program has about 20 call box sites which could benefit from employing the recently approved site types. The total cost for these improvements is estimated at \$20,000 to \$30,000.

A law suit against the Los Angeles County SAFE and other developments have made three options available for improving access to deaf and hard of hearing call box users. These options include two TTY (teletype device) types and a YES/NO call box. The TTYs have been installed in all call boxes in Los Angeles County, Ventura County, Orange County and some call boxes in Monterey County. The YES/NO call boxes have been installed on some call boxes as a pilot project in the San Francisco Bay Area. There are concerns that the YES/NO call box will not meet the Americans with Disabilities Act (ADA) requirements for equal access because they can provide non spoken communication only through YES/NO questions.

Staff has been working with the Elderly and Disabled Transportation Advisory Committee and the local deaf and hard of hearing community to obtain feedback on which option would be best for Santa Cruz County. Staff has also obtained the following capital cost information from Comarco Wireless Technologies:

Component	Price	Install	Tax	Total Unit Cost	Total Cost
Yes/No	\$1,360.60	\$110.00	\$108.85	1,579.45	\$195,852
Comarco TTY & Adaptor	\$1,750.84	\$150.00	\$140.07	\$2,040.91	\$253,073
US Commlink TTY	\$1,200.00	\$150.00	\$96.00	\$1,446.00	\$179,304

These estimated prices were provided in March 2003. Maintenance costs for these components and final capital cost and installation prices will be provided as a response to a request for proposals. The E&D TAC has recommended that a TTY option be used in Santa Cruz County.

Conversion to Digital Cellular Technology

The vast majority of call boxes in service today use analog cellular technology. Most cellular phones in use today employ digital cellular technology. Cellular carriers prefer digital technology because it can carry many more calls per cellular channel. Cellular companies have been pushing for permission to convert all of their analog cellular channels to digital. The federal government has told cellular companies that they must maintain some analog cellular service until 2007. However, cellular companies are not required to maintain a certain level of analog cellular service so they are reducing their number of analog cellular service channel. This reduces the number of analog cellular calls which can be carried simultaneously. As a result, some call box programs have been experiencing problems with call box calls not getting through to the answering centers. All call box programs are planning to convert to digital cellular technology soon. Call box programs that have experienced problems with analog cellular service have installed digital call boxes in the problem areas. Any new call boxes being installed now are digital call boxes.

In March 2003, Comarco Wireless Technologies provided a cost estimate of \$864.00 per call box to convert to digital, with a savings of \$150.00 per call box if the conversion is done together with the addition of one of the accessibility improvements for deaf and hard of hearing users. This means that the total cost for a digital conversion of the Santa Cruz County call box system could be \$90,000 to \$110,000. If Santa Cruz County call boxes are not converted to digital cellular technology, as AT&T Wireless reduces the number of analog channels some call box calls will not get through and if AT&T Wireless eliminates all analog channels in 2007, call boxes will not be able to make calls.

Private Answering Center

When the legislation authorizing the creation of SAFEs to implement call box programs was first enacted, the SAFEs were required to contract with the California Highway Patrol (CHP) for call box answering services. The CHP is responsible for answering cellular 911 calls and the same dispatchers could answer call box calls. However, since call box calls are not considered emergency calls, the CHP assigned them third priority after 911 and allied agency calls. As cellular phone usage grew, cellular 911 calls skyrocketed in the major metropolitan areas and call box users were waiting extended periods of time to have their calls answered.

Eventually, legislation was passed to allow the San Diego SAFE to contract with a private vendor for call box call answering services as a pilot project. After the success of the pilot project that option was made available to all other SAFEs. However, it has only been an option for the larger SAFEs or SAFEs that cooperate on one contract. MTC SAFE recently completed transferring all of its call box calls to a private call answering center with the exception of calls handled at the Salinas CHP dispatch center. At the Salinas CHP dispatch center MTC SAFE, SCCRTC SAFE and Monterey County SAFE share the call box call answering costs resulting in

cost savings for all three SAFEs. However, the cost per call at the MTC SAFE private call answering center is even lower. Therefore, SCCRTC SAFE and Monterey County SAFE staff have been investigating the possibility of joining MTC SAFE's private call answering center.

If SCCRTC SAFE joins the MTC SAFE private call answering center, a 28% reduction in call answering service costs would be realized in the first year and the total on going cost savings of 44% would be realized beginning in the second year. The first year cost savings is less because of some equipment and software that must be purchased to handle calls that must be transferred to the CHP and because SAFEs are required to pay the CHP during the transition period. In addition to achieving cost savings, SCCRTC SAFE will be able to obtain call answering reports which will show how long it is taking to answer and process calls. Currently, this information is not available from the CHP from small dispatch centers.

Funding

Funding for the call box program comes entirely from the \$1 vehicle registration fee levied on all vehicles registered in Santa Cruz County, estimated at \$235,000 this fiscal year. Attachment 1 shows past actual revenues costs and future projected revenues and costs. Vehicle registration fee revenues can change from year to year but over the long term seem to increase at a rate that is slightly above 1%. SCCRTC SAFE has implemented various measures to keep costs down and has been able to achieve costs savings in call answering, cellular and service, insurance premiums and statistical reporting. Initial installation of the call box system in 1990 cost about \$400,000 and was financed by a 12 year Certificate of Participation through the County which has been paid off. In 1999 and 2000, SCCRTC SAFE spent close to \$100,000 to upgrade the call box system to ensure Year 2000 compliance and to ensure the maintainability of the call boxes into the future.

FSP Program

As the SAFE, SCCRTC operates the Freeway Service Patrol (FSP) program in Santa Cruz County. This program consists of two tow trucks patrolling Highway 1 from Highway 9 to State Park Drive and Highway 17 from Granite Creek Road to the Santa Clara County Line. Both highway segments are patrolled during weekday commute periods (6:00 am to 9:00 am and 3:30 pm to 6:30 pm). The Highway 17 segment is also patrolled on Sundays from 1:00 pm to 7:00 pm all year round and Saturdays from 1:00 pm to 7:00 pm during the spring and summer tourist periods. The FSP program is designed to reduce congestion, improve safety, and reduce fuel consumption and auto emissions by reducing the congestion associated with collisions and other incidents. FSP tow truck drivers are trained and supervised by the CHP and assist stranded motorists, clear collisions and remove debris from the roadway to keep traffic moving.

FSP Assists and Benefits

The FSP program began in April 1994 with service on Highway 17. Service on Highway 1 began in July 2000, after the SCCRTC programmed Regional Share STIP funds for FSP service on that segment. FSP assists since the beginning of the Highway 1 service have been as follows:

Annual Santa Cruz County FSP Assists

Year	Highway 1	Highway 17
2000	1287	1144
2001	1312	1162
2002	1110	687
2003	1073	696

Note: In 2000 the Highway 1 service was in effect for only six months

The number of assists decreased statewide in the last two years as a result of the State’s economic downturn and the resulting lower traffic on state highways. Over 95% of motorists assisted by the FSP give the program an excellent service rating. Assists on Highway 1 are relatively constant, while assists on Highway 17 have followed the significant reduction in collisions associated with the Safe on 17 program.

Each time the FSP assists a motorist and removes a disabled vehicle from the roadway the FSP is also helping all those motorists who are commuting on the highway at that time. Based on studies performed in 1994 and 1997, in 2000 a tool to determine the benefits of FSP services was developed. The Santa Cruz County FSP program showed the following benefit cost ratios in 2000:

FSP Beat	Benefit Cost Ratio
Highway 1	16.5:1
Highway 17	2.5:1
Santa Cruz County Average	9.5:1

This means that on average \$1 spent on FSP in Santa Cruz County yields \$9.50 in benefits through reduced congestion delay and reduced fuel consumption. An hour of delay is estimated to have a cost of \$10. There are a number of additional benefits which were not quantified or assigned a dollar value in the studies and therefore are not included in the benefit cost ratio. These benefits include reduction of auto emissions, benefits to the assisted motorists, benefits to the CHP, benefits to freeway operators, improved safety and reduction of secondary collisions.

Funding

The services provided by the FSP drivers are free to the motorists. The funding for the program comes from a combination of State FSP funds, SAFE funds and State Transportation Improvement Program (STIP) funds. Unfortunately, due to the State budget crisis, STIP funds are not available for fiscal year 03/04 and are unlikely to be available in fiscal year 04/05. Due to the benefits of the FSP program, the SCCRTC decided to use SAFE funds to make up the loss of STIP funds in FY 03/04 and not make any reductions in FSP service. The State FSP funds allocated to each FSP program are determined annually using a formula which includes population, freeway lane mile and hours of congestion. Because of the manner in which the data is collected, the congestion hours figure can fluctuate significantly from year to year. As a result, Santa Cruz County will receive about 9% less in State FSP funds for fiscal year 04-05.

If the SCCRTC feels that it may be too much for the SAFE fund to cover the STIP shortfall for another year, it may be possible to trim FSP service hours as shown in the following table without drastically affecting the overall service.

Service Options	Days	Service Period	Annual Hrs.	Reduction
Existing Service	Weekdays	6-9 am 3:30-6:30 pm	1560	
	All Sundays	1-7 pm	312	
	Tourist Sats.	1-7 pm	120	
Reduced Weekday Service Hours	Weekdays	6:15-8:45 am 3:45-6:15 pm	1300	13%
	All Sundays	1-7 pm	312	
	Tourist Sats.	1-7 pm	120	
Reduced Weekday and Weekend Service Hours.	Weekdays	6:15-8:45 am 3:45-6:15 pm	1300	17%
	All Sundays	1:30-6:30 pm	260	
	Tourist Sats.	1:30-6:30 pm	100	
Reduced Wkdy and Wknd Hours and Eliminate non-tourist Wknds	Weekdays	6:15-8:45 am 3:45-6:15 pm	1300	25%
	Tourist Sundays	1:30-6:30 pm	100	
	Tourist Sats.	1:30-6:30 pm	100	

The main part of the FSP service is provided during the weekday commute periods 3 hours in the morning and 3 hours in the afternoon. These periods could be trimmed at the beginning and at the end by 15 minutes. The tow truck drivers are usually ready to start their beats 15 to 30 minutes in advance; therefore, if an incident occurs before a driver's start time, the driver can be requested to start early. Likewise if an incident occurs just before the driver's end time, the driver can be requested to remain on the beat after the scheduled end time. The weekend service periods are 6 hours long from 1:00 pm to 7:00 pm. Weekend service could also be reduced by cutting 30 minutes from the patrol period at each end. During the non tourist weekends, service is designed to minimize the effects of storms. This service could be reduced by eliminating service during the non tourist periods and if a storm is expected to hit on any particular weekend, the tow operator can be requested to provide service on that weekend.

Because tow service providers must spread some significant fixed costs over the total number of hours in a contract a 25% reduction in service will not translate into a 25% reduction in towing costs. The towing cost reductions will be between 15% and 20% (approximately \$32,000 to \$43,000 annually) depending on the specific contract.

The FY 03-04 budget includes \$73,000 in SAFE funds to backfill for unrealized STIP funds. Although there are SAFE reserve funds to continue to backfill if STIP funds continue to be unavailable, the reserve funds would be exhausted rapidly.

Traffic Operations System

In the 1990s Caltrans began an effort to establish a traffic operations system (TOS) on the area's highways and freeways. The TOS system includes changeable message signs, highway advisory radio, extinguishable message signs, closed circuit TV cameras, traffic monitoring stations and traffic management centers. The system is designed improve response to traffic incidents, reduce incident related traffic congestion, improve the safety of the highways and better manage the transportation system by detecting traffic incidents, monitoring those incidents and providing information to the motorists about those incidents.

To help establish the TOS system in Santa Cruz County, SCCRTC SAFE paid for two of the three changeable message signs in Santa Cruz County. Ownership of the signs was transferred over to Caltrans and Caltrans maintains and operates the signs along with the rest of the TOS system. A TOS System Oversight Committee was also established to bring together the SCCRTC, two Caltrans districts, two CHP divisions, local law enforcement and public works departments to improve the use and effectiveness of the TOS system and improve response to traffic incidents. The TOS System Oversight Committee meets quarterly.

Safe on 17 Program

The Safe on 17 Program began with a grant provided by the Office of Traffic Safety (OTS) to the CHP to establish a task force, analyze collisions on Highway 17 to determine causes, and establish a plan to reduce collisions. The Safe on 17 task force determined that speeding and other traffic violations were the primary causes, established an enforcement campaign, worked to have some road improvements made and led a public information campaign to encourage safer driving on the highway. The OTS grant was available for three years and resulted and much higher than expected collision reductions and the Safe on 17 Program received a number of awards for its success.

Due to the great success of the Safe on 17 Program after the OTS grant was exhausted the SCCRTC and MTC decided to use SAFE funds to continue extra CHP enforcement on Highway 17 for three years. Each agency will provide \$50,000 for three years to continue the enforcement. The task force continues to meet every six months and the CHP continues to conduct public information campaigns.

Attachment 1: January 6, 2004 Letter to Fortunata Hermoso of AT&T Wireless

January 6, 2004

Fortunata Hermoso, Corporate Sales Manager
AT&T Wireless
651 Gateway Boulevard
South San Francisco, CA 94080

RE: Wireless Service Contract for the Santa Cruz County Call Box Program

Dear Ms. Hermoso,

As you know from communications with Luis Pavel Mendez of my staff, the Santa Cruz County Regional Transportation Commission is the Service Authority for Freeway Emergencies (SAFE) for Santa Cruz County and as such owns and operates a system of 124 roadside call boxes located along Highways 1, 9, 17, 129 and 152. SCCRTC SAFE entered into an annual contract with Cellular One for wireless service to those call boxes. A copy of our current contract is attached. We understand that AT&T Wireless acquired Cellular One and has thereby assumed our contract. Unfortunately AT&T's billing has been inconsistent with the contract as follows:

1. Call Box Phone Numbers Dispersed: AT&T Wireless separated Our Cellular One account for the 124 call boxes into over 50 accounts. The accounts have now been consolidated back to one account but we are still getting bills for the old accounts.
2. Unnecessary Services: AT&T added unnecessary services such as PCS voicemail to our call box account wireless phone number. These unnecessary services are still showing up on the wireless phone bill with corresponding charges.
3. Incorrect Rate Plan: The existing contract establishes a rate plan of \$5.00 per month per call box with 35 minutes per call box per month pooled over the entire call box system. We have been getting charged at a rate that is about 6 to 7 times the contracted rate. Luis Mendez informed me that your legal department would be reviewing the contract and you would contact us after the review. Our Counsel has informed us that our current contract remains in effect with the new company. Therefore, we request that AT&T Wireless reinstate the current contracted rate and adjust all outstanding invoices accordingly.
4. Maintenance and Installation Support: The call box system is used by motorists on the side of the road to request roadside assistance, report collisions or request emergency services. Therefore the call boxes need to be working properly 24/7. We have had emergency situations where our call boxes have gone down. Therefore, we request that you immediately provide

use with contact information that we can use 24/7 in case of emergencies to ensure that a wireless problem with our call boxes will be diagnosed and corrected immediately.

5. Call Data: SCCRTC SAFE requires statistical analysis on the usage of the call box system. To provide this analysis we need the cellular call data. Consistent with the duties outlined in the current contract section 1. b., Cellular One provided that call data monthly. We would like to know whom we can contact at AT&T to obtain the cellular call data.

Luis Mendez informs me that he has been working with you and other AT&T Wireless employees to resolve these issues; however, it is taking some time to get them resolved. In the meantime, please be advised that we have no authority to pay invoices which are inconsistent with our contract. Luis Mendez informed me that you placed a special note on our account to make sure that under no circumstance is the wireless service to be cancelled to any of our call box numbers, pending resolution of these issues. Please confirm that indeed wireless service to any of our call box phone numbers will not be cancelled.

If there is anything that we can do to assist AT&T Wireless to resolve all of these issues at the earliest possible time, please let me know immediately. I can be reached at 831-460-3213.

Sincerely,

Linda Wilshusen
Executive Director

Enclosure – Copy of Contract between Cellular One and SCCRTC SAFE

cc: Crystal England, AT&T Wireless
Todd Hoyt, Commarco Wireless Technologies
Rahn Garcia, County Counsel