TRAFFIC OPERATIONS MANUAL

Chapter 115
Call Boxes

October 2025

California Department of Transportation
Division of Traffic Operations

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Section 1 Introduction

The California Department of Transportation (Caltrans) and the California Highway Patrol (CHP), in collaboration with the California Service Authority for Freeway Emergencies/Expressways Committee (CalSAFE), developed these guidelines, also known as the CHP/Caltrans Call Box and Motorist Aid Guidelines, as part of the Service Authority for Freeway Emergencies/Expressway (SAFE) Call Box Program.

The SAFE Call Box Program operates motorist aid call boxes in 28 counties. This program is supported by registered vehicle owners in California who pay one dollar per vehicle registration annually to fund this public service to all road users on the State Highway System (SHS).

CalSAFE is made up of representatives from each county or regional SAFE organization, CHP, and Caltrans. Members of CalSAFE actively provide input to develop these guidelines. Caltrans and CHP appreciate these regional and county governmental agencies for their efforts to provide the resources and administrative support to ensure that the SAFE Call Box Program is successful in providing motorist aid services on the SHS.

This chapter is intended to provide guidelines for the installation, operation, and maintenance of call boxes as part of the SAFE Motorist Aid Call Box Program to ensure standardization and integration along the SHS.

Topic 1 Background

In 1985, California Governor George Deukmejian signed Senate Bill (SB) 1199, adding Section 131.1 to Chapter 1, Division 1 and Chapter 14 to Division 3 of the Streets and Highways Code (SHC) as well as Sections 2421.5 and 9250.10 to the California Vehicle Code (CVC). These additions allow counties to generate revenue for the purpose of purchasing, installing, operating, and maintaining an emergency motorist aid system. This legislation, effective January 1, 1986, required that the California Department of Motor Vehicles collect revenue and that CHP and Caltrans provide review, approval, and operation services.

Topic 2 Legislative History

The following legislative history outlines the legislative intent to develop California SAFE motorist aid systems on a county-by-county basis at no cost to the State.

- SB 1199, Craven, 1985 effective January 1, 1986, provided the basic format for the formation of SAFEs, outlined governmental responsibilities and revenue-generating policies, and prescribed locations for call box placement. SB 1199 also included emergency mechanical service patrols and other motorist assistance programs.

- SB 1597, Craven, 1986 effective January 1, 1987, amended Chapter 14, Section 2554 of the SHC by deleting emergency mechanical service patrols and changed the legislation to be directed solely and entirely to call boxes.
- Assembly Bill [AB] 3660, Farr, 1986 effective January 1, 1987, amended Chapter 14, Section 2554 of the SHC and Section 2421.5 of the CVC to permit the placement of call boxes on state highway routes, which connect segments of the California Freeway and Expressway System and are under CHP jurisdiction.
- SB 202, Bergeson, 1986 effective January 1, 1987, amended Chapter 14, Sections 2550, 2551, 2554, and 2555 of the SHC to permit county transportation commissions to serve as SAFEs and determine how generated revenue was to be obligated, including revenue bonds.
- SB 592, Morgan, 1987 amended Chapter 14, Sections 2550, 2551, 2554, and 2555 and added Sections 2550.1 and 2556 to the SHC. Effective January 1, 1988, permitted the Metropolitan Transportation Commission to serve as the SAFE for all nine Bay Area Counties if the counties elected to be included.
- SB 2182, Bergeson, 1988 effective September 22, 1988, amended Chapter 14, Section 2559 of the SHC and removed all references to call box systems as "emergency" and declared it a misdemeanor to damage or destroy a call box. Stated that no reimbursement to local governments by the state would be required by call box legislation. Authorized reimbursement of expenses for members of a SAFE board.
- AB 2937, Johnson, 1990 effective January 1, 1991, amended Chapter 14, Section 2551 of the SHC and provided for the installation of call boxes on state highways and county expressways using SAFE funds.
- SB 1254, Johnston, 1991 enacted October 5, 1991, amended Chapter 14, Section 2556 of the SHC and allowed for the establishment of a SAFE by the Sacramento Area Council of Governments to function as a SAFE for any or all of Sacramento, Yolo, Yuba, Sutter, and San Joaquin counties.
- AB 1390, O'Connell, 1991 enacted October 7, 1991, amended Chapter 14, Section 2551 and authorized a county and its cities to designate a Council of Governments to serve as a SAFE for the county.
- SB 565, Bergeson, 1991 enacted October 8, 1991, amended Chapter 14, Section 2557 of the SHC and allowed for use of SAFE funds, which are in excess of the amount needed for the motorist aid system of call boxes, to be used for additional motorist aid services or support.
- AB 1077, Bronzan, 1992 effective January 1, 1993, amended Chapter 14, Section 2557 of the SHC and requires that SAFE motorist aid systems meet the standards of Title II of the Americans with Disabilities Act (ADA) of 1990.
- AB 3020, Bowler, 1996 enacted September 30, 1996, amended Chapter 14, Section 2557 of the SHC and established that in counties with a population of

over 6,000,000 persons, call boxes may be installed along unincorporated county roads. This amendment added and deleted routes in the California Freeway and Expressway System.

- SB 396, Kelley, 1997 enacted July 21, 1997, amended Chapter 14, Section 2557 of the SHC and authorized SAFEs to contract with CHP or a private entity to handle calls in accordance with a contract that shall contain guidelines for services to be provided, including, but not limited to, reporting requirements, immediate transfer of emergency calls and traffic management information to CHP, performance standards, and coordination with the eligible tow service providers.
- SB 1740, Murray, 2002 enacted September 9, 2002, amended Chapter 14, Section 2557 of the SHC and authorized a SAFE to develop policies relating to retention of records, including records relating to the authority's operations, contracts, and programs, and the length of time that the authority will retain the records.
- SB 795, Karnette, 2003 enacted September 11, 2003, amended Chapter 14, Section 2551 of the SHC and authorized a SAFE to operate the Freeway Service Patrol in the county or region in which the SAFE was created; clarifies that Caltrans and CHP shall be reimbursed for costs specifically associated with their review and approval of motorist aid system implementation plans; removes the two-year restriction period that a SAFE can issue revenue bonds for each county within its jurisdiction; authorizes a SAFE to contract with CHP or a private or public entity to handle call box calls; and requires a SAFE that contracts with a private or public entity to comply with the specifications set forth in these guidelines, but for those contracts commencing on or before July 1, 2003, the performance standards in those contracts shall remain in effect until modifications are made to the guidelines.
- SB 516, Fuller, 2015 enacted October 4, 2015, amended Chapter 14, Section 2557 of the SHC and authorized a SAFE to determine how moneys received are to be used by the SAFE for the implementation, maintenance, and operations of a motorist aid system, including call boxes. This amendment additionally authorizes the use of those moneys for traveler information systems, intelligent transportation system architecture and infrastructure, other transportation demand management services, and safety-related hazard and obstruction removal. SB 516 requires Caltrans and CHP to review and approve plans, and amendments to plans, for implementation of a motorist aid system of call boxes pursuant to specified guidelines.

Topic 3 Statewide Call Box Systems Standards

The legislative history provides a picture of legislative intent that California SAFE motorist aid systems should be developed on a county-by-county basis at no cost to the state. To implement motorist aid call boxes statewide, there must be overall planning and

development to provide standardization and compatibility. Motorists who travel from one SAFE jurisdiction to another must be able to receive a minimum standard level of service. Consequently, each call box project must be designed to be integrated as part of the statewide roadway system. To achieve that integration, the following standards must be met:

- Call boxes shall be easily identifiable to the motoring public. This requires that call boxes be a uniform color and signed identically. The signs should be the same shape, color, and design so that motorists will be able to find assistance easily, regardless of where they reside or travel in California. However, at times, other entities within a region may require a different size or color call box sign or call box pole. Therefore, some flexibility may be required. For example, brown call box signs are required by the California Coastal Commission. Refer to the *California Manual on Uniform Traffic Control Devices (CA MUTCD)*, Section 2I.03 for more information on sign specifications.
- Every call box must have a unique number to simplify identification for service providers, automated dispatch systems (such as those used by CHP and SAFE private call centers), law enforcement officers, and the motoring public. The numbering system approved by Caltrans and CHP is explained in Appendix 115 A, "Statewide Call Box Numbering System."
- Call box design type and dimensions must be consistent with the standard design specifications that are appropriate for each site location. Refer to Section 5, "Design and Construction" and Appendix 115 E, "Call Box Placement Criteria" for more information.
- Any other motorist aid systems to be installed pursuant to SHC, Section 2557(d) shall meet or exceed all specifications and guidelines established by Caltrans and CHP.
- SAFEs that provide mobile call box functionality within their 511 Motorist Assistance Program may place 511 decals on the exterior of the call box. These decals may be placed on the door exterior, the traffic side of the call box, or both to increase motorist awareness of call box functionality within the 511 Program. These decals must not significantly detract from the fact that the device is a call box and must not significantly diminish the nighttime visibility of the call box.
- The 511 Motorist Assistance and Traveler Information System (511) enhances traveler safety, mobility, and efficiency by providing real-time traffic, transit, rideshare, and roadside assistance information through its website, mobile apps, and interactive voice response system.

  Some regions include motorist assistance options within their systems, providing an alternative to traditional freeway call boxes by allowing motorists to request help from inside their vehicle. Calls connect to a live operator who confirms location and coordinates appropriate roadside support. Where Freeway Service

Patrol (FSP) operates, units may be dispatched to provide no-cost assistance for common non-emergency issues such as flat tires, stalls, overheating, or running out of gas.

511 motorist assistance options are not available statewide.

Section 2 Roles and Responsibilities

Topic 1 Joint Roles and Responsibilities

Joint roles and responsibilities of Caltrans and CHP include:

- Caltrans and CHP will assist each SAFE in developing plans to install, operate, maintain, and remove motorist aid systems of call boxes.
- Caltrans and CHP will assist the SAFE with planning and design specifications for call box motorist aid projects.
- Caltrans Division of Traffic Operations and CHP Office of the Commissioner will execute final approval of any call box implementation plan or installation plan.
- The regional SAFE will provide a Call Box Removal Notification Letter to Caltrans and CHP when removing more than 25 percent of the total number of call boxes in their system.

Topic 2 Caltrans

The role of Caltrans is as follows:

- Work cooperatively with the SAFEs to guide the development of call box site plans.
- Provide representatives to participate in reviews or consultations requested by the SAFE.
- Work cooperatively with the SAFEs to establish guidelines for the size, shape, color, location on post, and design of call box signs. Caltrans shall review and approve any new designs for call box signs before their installation on the call boxes.
- Review call box system plans, installation or replacement instructions, and crash test data and reports with a primary consideration for safety.
- Issue encroachment permits to the SAFE for the construction and maintenance of a call box.
- Notify the SAFE of call boxes that will be negatively impacted by roadway construction. This could include call boxes blocked by a barrier rail, a newly constructed curb, or any other obstruction. Caltrans will notify the SAFE if a roadway pavement project will result in an uneven transition between the surface of the roadway and the pathway leading to the call box. Caltrans will also notify the SAFE of call box installations that will be removed due to roadway construction. Caltrans will provide a notice to the SAFE at least 30 days before impacting a call box. If a temporary barrier is to be placed in front of a call box,

the SAFE shall decide whether to remove or cover the call box during construction.

- Consider a claim from a local agency, should an occasion arise where a local agency believes Caltrans damaged a call box, in which case the local agency must file a damage claim with Caltrans using Form LD-0274, "Claim Against Department of Transportation for Amounts $10,000 or Less."
- Inspect installations, replacements, and upgrades that are relevant to ensure compliance with the terms of an encroachment permit. For example, to ensure a site is complying with slope requirements, Caltrans must perform an inspection to confirm slope compliance. However, it is the SAFE's responsibility to ensure a site is ADA-compliant.
- Provide Caltrans representation on the California Statewide Motorist Aid Committee.
- Review and approve plans and any proposed amendments to the SAFE's motorist aid system implementation plan according to SHC, Section 2557(d). As part of this review, ensure that teletype (TTY) devices in call boxes are included as part of the implementation plan.
- Negotiate a cooperative agreement with each SAFE individually to comply with reimbursement procedures (see Section 7, "Billing and Reimbursements").

Topic 3 California Highway Patrol

The role of CHP is as follows:

- Provide field and communications centers support section representation on SAFE motorist aid committees.
- Review all final call box motorist aid technical and operational specifications as they relate to CHP communications centers.
- Answer all call box motorist aid telephone calls and provide central dispatching services for SAFE call box motorist aid systems in areas of CHP jurisdiction and within the Caltrans right-of-way, if the SAFE is not contracted the answering of call box calls to a private vendor, private call answering center (PCAC).
- Provide communications center staffing to handle dispatching services (see Appendix 115 B, "California Highway Patrol Reimbursable Position Formula" for staffing formulas).
- Make call center building modifications to accommodate additional equipment for call box motorist aid services.
- Maintain, in cooperation with Caltrans, the statewide numbering system for the unique identification of all individual call boxes.
- For non-privatized SAFEs:

  - Provide to the SAFE, at no cost, the citation of the motorist and a record of the identity and mailing address of the responsible party, so that the SAFE can bill the motorist for remuneration of damage incurred. If a call box is damaged or knocked down, the call handler will include that information on the Computer-Aided Dispatch (CAD) log entry.
- For privatized SAFEs:
  - Investigate all crime or traffic-related incidents involving a call box. If a privatized SAFE requires a crime or traffic damage report, the privatized SAFE will be provided one by CHP at no cost, so the privatized SAFE can bill the motorist for remuneration of damage incurred.
- Allow a party of proper interest to review any collision reports in their entirety upon request. The review must take place at the CHP area office where the report is on file.
- Negotiate and execute a reimbursable services contract with each SAFE that identifies the responsibilities of each party. SAFEs can decline a call-answering contract with CHP if no such services are needed or required. However, a contract is still needed for any services that require planning and implementation.
- Provide CHP representation on the California Statewide Motorist Aid Committee. Assist the SAFEs with any matters that require CHP's assistance.
- Develop, in conjunction with the SAFEs, a set of policies and procedures encompassing all aspects of the handling of freeway call box calls. These procedures include a portion of the CHP communications center standard operating procedure and will strive for consistency in all affected call centers. These policies and procedures may be revised upon a mutual agreement between CHP and SAFE.
- Review and approve all proposed amendments to the SAFE's motorist aid system implementation plan according to SHC, Section 2557(d). As part of this review, ensure that TTY devices are integrated into all call boxes and are included as part of the implementation plan.
- Provide call box knockdown data if requested by a SAFE. This data would be in the form of CAD Incident Reports.

Topic 4 Service Authority for Freeway Emergencies/Expressways

The SAFE performs the following:

- Schedule an initial meeting immediately after the formation of the SAFE with representatives from CHP and Caltrans to discuss their SAFE program.

- Form a technical advisory committee (TAC), if needed, and include representation from Caltrans and CHP to provide consultation and review of proposals based on the interests and concerns of the county and state agencies involved, as well as compliance with the ADA, if necessary and appropriate for public safety. This TAC shall provide ongoing consultation and review throughout project development and implementation. The SAFE will schedule the first TAC meeting following the formation of the SAFE and TAC. Upon approval of the initial implementation plan and the completion of the project implementation, a SAFE may elect to dissolve the TAC.
- Develop plans and specifications for site locations, call box spacing, and equipment for their call box system within the general guidelines.
- Develop the standards of service and reliability that it intends to achieve with its call box motorist aid system and use those standards as the basis of its system plan.
- Consult with CHP and Caltrans during project plan development to ensure that the proposed call box location, system operation, and safety performance are compatible with existing and planned CHP operating standards and Caltrans safety standards.
- Reimburse CHP for all costs incurred as a direct result of establishing a call box motorist aid system according to the terms in Section 7, "Billing and Reimbursements."
- Reimburse Caltrans for costs incurred for necessary call box safety review, permits, and other related services according to the terms in Section 7, "Billing and Reimbursements."
- Install and operate call box equipment.
- Maintain the call boxes in good working order. The SAFE or the SAFE's maintenance contractor will be required to possess and understand Caltrans-approved detailed written installation and replacement instructions for call boxes. The SAFE maintenance contractor, if applicable, shall provide a performance bond to ensure that work to repair inoperable instruments or systems shall be initiated within two working days. The two-day period shall begin when the contractor is notified of a malfunction.
- Arrange for testing of call box designs incorporating new or changed features that may affect crashworthiness or motorist safety, as determined by Caltrans or CHP. The SAFE shall submit the plans (including detailed drawings showing weights, locations, and model numbers of all components), installation or replacement instructions, and test results to CHP and Caltrans for review and approval of new or modified products before final approval or installation.
- Test proposed technical design or operational features offered by competitive call box vendors that affect motorist or dispatch use or management

applications (see Section 5, Topic 2 "Call Box Requirements"). The SAFE shall submit the plans (including detailed drawings showing weights, locations, and model numbers of all components), installation or replacement instructions, and test results to CHP and Caltrans for review and approval of new products before final approval or installation.

- Provide detailed installation instructions, plans, and specifications to Caltrans at least one month before conducting qualification crash tests. After crash testing is completed, SAFE shall submit test results, photos, and videos of the crash tests for review and approval by Caltrans.
- Maintain a record of all units struck by vehicles, organized by location number. These records should contain information such as CHP photographs and collision reports submitted to the SAFE, if available.
- Notify the Caltrans district Office of Encroachment Permits before an installation begins and when the work is completed so Caltrans may inspect and approve the work, according to the terms of the installation encroachment permit.
- Conduct a public information meeting to share information about call boxes.
- Under CVC, Section 2421.5, CHP and SAFE shall negotiate and sign an STD 213, "Standard Agreement" form outlining the terms and conditions of call box answering services to be provided before the commencement of the service term or period.
- Comply with Section 3, Topic 2, "Required Call Box Accessibility Features" of this chapter, and ensure call boxes are equipped with TTY devices or comparable equipment as indicated.
- Assess the SAFE motorist aid program and its call box system, as needed, for any modifications or changes.

Section 3 Program Elements

Topic 1 CHP Dispatch Service

Call box calls will be handled by CHP dispatch centers as third-level priority, after 9-1-1 and allied agency calls. The CHP standard level of service for freeway call box calls is as follows:

- Call box calls should be handled ideally no longer than 60 seconds after the first ring. Experience shows that when emergency communications traffic becomes unusually heavy, call box traffic also increases, and motorists may have to wait extended lengths of time for service. SAFEs must recognize that this should be expected.
- In situations where a "dedicated" call box operator setup is established, the SAFE may contract with CHP for a different level of service. Any change in level of service shall be funded by the requesting SAFE and shall be defined in writing within the approved STD 213, "Standard Agreement" Form with the requesting SAFE.

Topic 2 Call Box Motorist Aid System

New call box motorist aid systems shall be designed with full duplex voice communications between the motorist and the dispatcher. This design permits the motorist to receive the precise type of assistance required at the earliest possible time. It also enables the motorist to request special types of tow services and arrange for payment before the service is dispatched. The following are mandatory standards that apply to a full duplex system:

- Normal telephone handset operation.
- Sufficient audio level at the handset (motorist) and through the system (dispatcher) to overcome heavy traffic noise.
- A signal or message to inform the motorist of the status of the call, such as "All circuits busy."
- Simple functionality to complete connection after accessing the call box. There shall be no requirement for multiple complex operations, such as push-to-talk transmission.
- Clear written instructions using universally understood symbols, where possible.
- Multilingual written instructions that are deemed appropriate by the SAFE.
- Sufficient lighting, such as backlighting, to illuminate operating instructions, pushbuttons, keypads, and all other essential components.

- A time-phase disconnect feature to eliminate excessive line costs or system congestion.

Required Call Box Accessibility Features

All call boxes, regardless of the type of radio technology used (such as digital cellular or satellite), must contain TTY devices or comparable alternative equipment as approved by CHP. All SAFE call boxes must comply with the ADA by providing equal access to deaf and hard-of-hearing people so that they have equal opportunity to receive the same information and services as hearing people. Currently, TTYs are the only CHP-approved devices that provide deaf and hard-of-hearing people with equal access to call boxes. Devices with "yes-no" functionality alone or call connect lights with tapping protocols are insufficient. This guidance is intended to reflect the current United States Access Board ADA guidelines regarding call box accessibility. If new guidelines are adopted that expressly require or permit devices other than TTYs, then those devices may be permitted in call boxes in place of TTYs.

In addition, CHP will not approve SAFE motorist aid implementation plans or system changes that include horns or other similar audible alerts on or by call boxes that are activated by a public safety dispatcher (PSD) to alert a motorist to return to the call box for further exchange of information unless an equivalent visual alert (such as a flashing light) is also provided. For more information, refer to Appendix 115 H, "Satellite Call Boxes."

Topic 3 California Highway Patrol Communications Center

The CHP communications center will adhere to the following guidelines:

- Additional equipment, including working positions and automated systems to accommodate call box telephone traffic, will be integrated to serve the functions of all dispatch traffic, and will not solely serve the needs of a call box motorist aid system. Call box motorist aid systems must interface with this equipment.
- Equipment installed at CHP communications centers to accommodate the call box motorist aid system will meet CHP standards.
- Whether requested and funded by the SAFE or otherwise, CHP will consider adding the following equipment to communications centers that will perform the following:
    - Automatically log all telephone and radio traffic and compile statistics to assist in center management, calculate costs, and system management.
    - Automatically distribute all telephone traffic, by priority, to the first available dispatcher.

  - Automatically transmit a tone announcement to call box callers informing them of the procedures that will be followed in handling their call.
  - Provide a taped message when a call is queued, notifying the caller that dispatch has been reached and to hold for the first available operator.
  - Provide automatic call box identification by number and location, and display reference information for service providers such as hospitals or fire departments within the jurisdiction of that call box.
- For non-privatized SAFEs, all CHP services will be reimbursed following the procedures outlined in Section 7, "Billing and Reimbursements."
- Initially, CHP will hire an appropriate number of personnel needed to handle anticipated call box calls at the agreed-upon level of service. These positions will only be authorized by the Legislature after the steps required by Section 28 of the 1988 Budget Act are met. SAFEs are required to submit a letter requesting a specific number of positions to handle call box calls. The SAFE must specify that it will reimburse CHP for all personnel costs associated with those positions. It normally takes 60 to 90 days to provide CHP with the authorized positions requested. Refer to Appendix 115 D, "Sample Position Request Letter" for a sample letter.
- Once the motorist aid system is fully implemented, CHP will periodically reevaluate the number of personnel needed to handle actual call box calls at the applicable level of service. Recommendations for additional personnel or personnel reductions will be relayed to the appropriate SAFE in writing.
- All additional CHP communications personnel hired to accommodate call box motorist aid calls will perform all normal duties of dispatchers and will not function exclusively to respond to call box motorist aid calls unless agreed to by CHP and the SAFE.

Topic 4 System Management

Call box motorist aid systems will be managed as follows:

- System diagnostic messages will be transmitted directly to maintenance or system management locations of the SAFE's choosing. With the sole exception of the alarms discussed below, CHP will not assume responsibility for any maintenance messages or information.
- Alarms that may signify vandalism or a knockdown may be registered in the appropriate CHP communications center.
- No aspect of the call box equipment or system shall interfere with or prevent planned future enhancements of the state or CHP communication systems.
- Equipment added to or replaced in CHP communications centers by CHP will interface with and not inhibit or interfere with the operation of established call

box motorist aid systems. Unanticipated problems will be corrected as rapidly as resources permit.

Section 4 Private Call Answer Centers

According to CVC, Section 2421.5, a SAFE may elect to contract the call box answering responsibilities with a PCAC. The SAFE shall include CHP in its planning efforts and jointly develop an action plan to transfer the call box call answering responsibilities to the PCAC.

If a SAFE is procuring PCAC services through a competitive bid process, CHP shall review and provide comments to the SAFE during the request for proposal (RFP) development within 30 business days, participate in the bidder's conference, and participate in the evaluation panel for the selection of the PCAC contractor.

Topic 1 Transfer of Responsibilities

The transfer of call box answering responsibilities from CHP to a PCAC shall be jointly coordinated by the SAFE and CHP and conducted in four phases as follows:

Phase 1

In Phase 1, CHP and the SAFE shall jointly develop a four-phase action plan to begin transferring call box answering responsibilities to the new PCAC contractor. The action plan shall include, at a minimum, providing the CAD call box location description information to the SAFE and assisting with developing the operational procedures and protocols (call type transfer matrix) for the PCAC. CHP and the SAFE shall begin Phase 1 immediately after the SAFE has entered into an agreement or contract with the PCAC contractor. CHP and the SAFE shall determine the actual start date of Phase 2 and estimate the start dates for Phases 3 and 4. In Phase 1, CHP and the SAFE shall estimate the number of authorized full-time personnel years (PYs) required for Phases 2 through 4 if above 1/10 of a PY. When Phase 1 begins, after a formal written notification to CHP, the SAFE shall continue to fund the PYs for 6 months after CHP receives the formal written notification. CHP will make an assertive effort to vacate the SAFE-funded PYs as quickly as possible within 6 months. The SAFE will be required to reimburse CHP for only the filled SAFE-funded positions (positions above 1/10 PY) during that time.

Phase 2

Phase 2 shall start with a partial transfer of the call boxes to the PCAC and will allow for a minimum 2-week evaluation period to measure the success of the partial transfer and to determine when the remainder of the call boxes can be transferred to the PCAC. The partial transfer of call boxes should consist of call boxes with a significant call volume to evaluate the performance of the new PCAC. CHP and the SAFE shall determine the actual start dates to begin Phases 3 and 4. CHP shall retain the full amount of authorized PYs agreed upon by CHP and the SAFE in Phase I, and invoice the SAFE for reimbursement for the entire quarter that the completion date falls in.

Phase 3

Phase 3 shall begin immediately when all call boxes are transferred and answered by the PCAC. In Phase 3, CHP and the SAFE shall reduce the number of authorized PYs in Phase 2 by 50 percent. CHP shall provide staff resources during the two peak, 8-hour shifts to handle the residual workload after the completion of Phase 2. CHP will assist the PCAC, as necessary, with learning their new responsibilities. The residual workload has been significant in some CHP centers after the call box answering responsibilities have been transferred to the PCAC. If the SAFE requests that CHP provide staff resources to assist with the residual workload after the call-answering responsibilities have been transferred to the PCAC, the SAFE shall reimburse CHP for the PY costs.

Phase 4

The Phase 4 start date will be the date that all call box answering responsibilities have been transferred to the PCAC and the CHP communications center staff are no longer required to assist the PCAC with call-box-related issues, other than calls transferred to CHP. CHP and the SAFE shall mutually agree on the completion date of Phase 3. When Phase 4 commences and with the next full quarter, CHP will no longer invoice the SAFE for reimbursement of any PSD PYs.

Call box programs with PCAC operations active as of July 2023 shall be deemed to be in Phase 4.

Remote Agent Messaging System

The SAFE and the local CHP will agree on whether Remote Agent Messaging System (RAMS) terminals will be provided at each communications center at no cost to CHP. The SAFE and CHP shall jointly agree upon resource increases to meet CHP operational needs and RAMS message and screen menu designs. The SAFE shall retain ownership and maintain the RAMS equipment and data circuit. A minimum of two RAMS terminals are required to maintain equipment redundancy. The RAMS terminals shall consist of the following:

- Data circuit(s) that deliver a good quality computer processing unit.
- Non-glaring type monitor screen to prevent excess ambient lighting.
- Mouse.
- Keyboard.
- Alternating current power strip.

If necessary, additional electrical circuits and receptacles may be installed to accommodate the RAMS terminals.

The SAFE shall work with CHP in developing a call type transfer matrix for the PCAC to determine which call types are routed through the RAMS and which are live transferred to the CHP communications center.

SAFEs with a PCAC have two options to handle rotation tow calls that occur when a motorist requests a rotation tow. The SAFE may:

- Option 1: Process rotation tow requests themselves and not send rotation tow requests to CHP through the Freeway Service Patrol (FSP) or other providers.
- Option 2: Contract with CHP so that a rotation tow is deployed as requested by a call box motorist.

If Option 2 is selected, then the local SAFE and CHP shall enter into a funding agreement based on the CHP workload calculation. If the service provided by CHP is calculated to be less than 10 percent of a PY, CHP will not seek reimbursement from the SAFE. If the formula shows that a reimbursement is above the 10 percent threshold, then payment for these services shall be paid at the PSD rate. The SAFEs operating under Option 2 shall provide rotation tow data from its call answering centers to CHP monthly, or as requested by CHP.

CHP Workload Calculation: The following formula for calculating the CHP workload for requesting rotation tow services for motorist aid call box callers shall apply to each CHP communications center servicing a SAFE. The *Number of Rotation Tow Requests* variable in the formula shall be taken from the data provided to CHP by the SAFE at an interval set by CHP.

Number of Rotation Tow Requests x 1.5 minutes (Average length of time required for CHP to place a call to rotation tow vendor).

3,600 seconds/hour x 1,758 hours/year = PY

When computations using the Reimbursable Positions Formula (see Appendix 115 B, "California Highway Patrol Reimbursable Position Formula") yield results that include a decimal point (for example, 4.2), the following method of rounding will be used:

0.01 to 0.09 = No reimbursement

0.10 to 1.00 = 1

1.01 to 1.09 = 1 + exact fraction

1.10 to 2.00 = 2

Section 5 Design and Construction

Topic 1 Call Box Site Requirements

Call box locations must meet the following requirements:

- Call box locations must be selected to have minimal impact on normal highway operation.
- Locations for call box installations shall conform to and be placed according to the typical call box site plans for given conditions unless prior authorization for a different site plan has been permitted by the local Caltrans district office. Refer to Appendix 115 E, "Call Box Placement Criteria" for more information on call box sites.

Topic 2 Call Box Requirements

Call boxes must adhere to the following requirements:

- The highest operable part of the call box shall not be higher than 4.6 feet (ft), and the handset cord must be at least 2.4 ft long.
- Call boxes located on poles or posts in areas exposed to traffic will be mounted on a breakaway support using a design approved by Caltrans. At sites where a proposed breakaway support design has not been crash-tested and approved, the SAFE is responsible for having the necessary full-scale crash tests performed and obtaining Caltrans approval before installation. All crash testing shall be performed following the latest American Association of State Highway and Transportation Officials' *Manual for Assessing Safety Hardware* (MASH) standards. Additionally, the following crash testing requirements apply:
    - New or modified designs, equipment, installation methods, or changes in component weight or location shall be crash-tested by an independent contractor following the latest MASH standards.
    - Caltrans may grant an exception to full-scale crash testing if both of the following conditions are demonstrated through engineering analyses:
        - The changes made to the call box installation do not cause the weight of the installation to exceed the weight of previously crash-tested and approved call box installations, such as the weight range between 256 pounds (lbs) and 331 lbs.
        - The center of gravity (CG) of the call box installation remains within the range of other previously tested call box installations, such as a CG range between 76 inches (in) and 111 in.

        - Call box installations may be modified if the resulting modification results in raising the overall installation CG without compromising the safety performance, if the overall installation weight is not increased. Likewise, if a modification is made to the call box that lowers the overall installation CG, then the weight of the installation must also be reduced. Performing modifications that result in a lower installation CG is not recommended. When additional weight is added to an installation, it should result in raising the overall installation CG.
    - At least 30 days before crash testing, dimension plans clearly showing orientation, weight, finish of components, specifications of equipment, and detailed installation instructions shall be submitted to Caltrans for review and approval.
    - Caltrans shall be notified 2 weeks before conducting a crash test, and Caltrans may witness installation and testing.
    - The independent contractor conducting the crash tests shall submit a formal written report containing all data, information, and results necessary to evaluate the crash tests for Caltrans to review and approve.
- Call boxes may be mounted on existing Caltrans structures where the call box will not interfere with the safety and function of the structure. The installation of call boxes on existing Caltrans structures with yielding or breakaway supports will not be permitted.
- No unauthorized marking shall be placed on the call box, call box signpost, or pole.
- The standard call box sign shown on Caltrans sign specification SG25(CA) is the only approved sign and must be used. Signs should be an appropriate size for the community or environment and should be easily readable by motorists. Refer to the *CA MUTCD* Section 2I.03 and the California Sign Specifications for more information.
    - Special signs are designed to be used in the coastal zone, on scenic highways, in state parks, or in communities that request special signage. To keep signage compatible with scenic values for routes on scenic highways, the SAFE may specify special signs. The SAFE coordinator will notify the Caltrans district scenic highway coordinator of proposals involving special signs on scenic highways.
- The call box shall be painted or finished with the shade of yellow conforming to Caltrans specifications. Call boxes installed along low-volume, two-lane scenic byways may be painted or finished with a shade of green conforming to Caltrans specifications. However, since the yellow color is the standard and statewide consistency across counties is needed, the installation of green call boxes along low-volume, two-lane scenic byways should be limited. To ensure that the number of green call boxes is kept to a minimum, information about

requests should be provided to the California Statewide Motorist Aid Committee so that the number of call boxes can be documented.

- In addition, call boxes that are painted green and located adjacent to a state highway and within 12 ft of the traveled way may be marked with a Type L-1 Object Marker. If used, the Type L-1 marker with the 8 in x 24 in target plate shall be used on state highways in advance of the green-colored call box. Refer to the *CA MUTCD*, Section 2C for more information on Type L-1 Object Markers.

Topic 3 Call Box Spacing

The SAFE should determine call box spacing for roadway corridors while considering various factors, such as location, traffic conditions, and availability of other motorist aid alternatives. Other motorist aid alternatives can include FSP, cellular telephone coverage, 511 Program availability, and local commercial business accessibility. Call box implementation should be considered where other motorist aid alternatives are limited.

Topic 4 Call Box Removal, Relocation, and Repairs

In the event of a call box removal, relocation, or repair, the following procedures will be followed:

- Caltrans will notify the SAFE at least 30 days in advance of the performance of any work that will require the temporary or permanent removal, removal from service (operationally referred to as "bagging"), or relocation of any call boxes.
- Caltrans will notify the SAFE at least 30 days in advance of the completion of any work that requires the temporary removal, removal from service, or relocation of call boxes.
- The SAFE or its designated contractors will perform all temporary or permanent call box removal or relocation.
- Caltrans will instruct its engineers and contractors to work with SAFEs to include adequate turnouts for call box placement, where possible, when restriping, widening, or performing other work that will result in the permanent elimination of adequate shoulder width in areas with existing call boxes.
- Should a call box be taken out of service for repair or temporarily removed due to roadway construction, its location pair in the other direction shall also be removed from service or temporarily removed. Any exceptions shall be reviewed and approved by the local Caltrans district.
- There may be factors, including significant decreases in annual call volume, administrative issues, and operational issues, which warrant the removal of call boxes systemwide. The SAFE will develop a systemwide call box removal plan

that shall include a list of recommended call box sites to be removed, the resulting spacing between remaining adjacent call box sites, and justification for removal. If call boxes are being removed because of low call box usage, call box usage data for each call box shall also be provided. However, it should be noted that a call box may be removed due to systemwide decreases in call volume. The SAFE shall notify CHP and Caltrans 30 days before the planned removal date of the affected call boxes. Permanent removal of call boxes will also require an encroachment permit from Caltrans.

- A SAFE does not need to submit a Call Box Removal Notification Letter to CHP and Caltrans for the removal of individual call boxes. However, removals greater than 25 percent of the call box system do require a Call Box Removal Notification Letter.
- Where a call box has been removed, the site shall be restored to its original pre-installation conditions, unless another form of motorist aid signage replaces the call box (such as 511). In this case, the location shall be graded, paved, or otherwise modified according to the instructions outlined in the Caltrans encroachment permit. Otherwise, in the event of a complete removal, all call box materials (such as pedestrian pads, asphalt paths, retaining walls, handrails, and other materials) shall be removed from the site. The surface area where the call box was installed shall be graded flush with the surrounding soil.
- Along freeways, expressways, and divided conventional highways, call boxes shall be removed from both sides of the roadway to maintain call box pairing.

Topic 5 Call Box Retaining Walls

Retaining walls at call box sites are most often constructed in "cut" (Type "B") and "fill" (Type "C") sections of freeways and highways, and typically include one longitudinal wall and two transverse walls. The longitudinal wall is parallel to the flow of traffic, and the two transverse walls are installed perpendicular to the flow of traffic. For information on retaining wall policy for existing locations identified (or intended to be identified) under a retaining wall mitigation plan, refer to Appendix 115 F, "Call Box Retaining Wall Policy." New installations will follow the following steps:

1. All SAFE agencies should avoid the installation of call box site types "B" and "C" unless installed where shielded by existing roadway features, i.e., bridges, guard rails, etc. Greater latitude in spacing requirements should be used to allow for the installation of site types other than "B" or "C."
2. In the event spacing requirements recommend an optimal site that may require a retaining wall, the SAFE should first consider grading the surrounding area to convert the installation to an "A" site type.
3. If grading for a particular site is not reasonable, the SAFE will attempt to relocate the call box up or down the highway to an alternate site. Although each SAFE is

encouraged to maintain the spacing as outlined in this section, this particular safety issue should be weighed against the need for a "regularly spaced system." The Caltrans Headquarters (HQ) traffic reviewer, through the District SAFE Coordinator, should be consulted when issues arise. The SAFE should work with the HQ Traffic Reviewer through the district SAFE coordinator if spacing beyond 200 feet (along the roadway centerline) appears desirable.

4. If an alternate site cannot be found using options 2 or 3 above, consideration should be given to eliminating the site and its companion entirely.
5. Per item 1 above, if alternatives listed in 2 and 3 above do not yield a desirable site and because of a need for system continuity, a site or sites cannot be eliminated, the SAFE should work with the Caltrans HQ traffic reviewer through the district SAFE coordinator to install a "B" retaining wall that does not exceed 12 in above finished grade. Type "C" sites shall not use retaining walls greater than 4 in in height.
6. In the event the SAFE deems that a site cannot be moved and it requires special grading consideration, the SAFE should contact the Caltrans HQ traffic reviewer through the district SAFE coordinator to develop a solution.

Topic 6 Exceptions to These Guidelines for Design and Construction

Exceptions to these guidelines should be addressed before the permit application and review process. Exceptions may be given on a case-by-case basis for new and existing sites and shall be granted by the Chief of the HQ Division of Traffic Operations Office of Traffic Management and coordinated by the HQ reviewer through the district to the SAFE call box program coordinator.

Section 6 Call Box Motorist Aid System Review

This section provides a step-by-step outline of the Call Box Motorist Aid System Review process.

1. The SAFE will submit the following documentation to CHP and Caltrans for review:
   - Copy of the resolution that establishes the SAFE.
   - Proposed operational specifications of the system.
   - Proposed technical specifications and system architecture.
   - Proposed system description.
   - A 5-year implementation plan that includes the initial installation of call boxes encompassing the anticipated expansion from implementation to 5 years in the future. This shall include the location and number of call boxes to be installed each fiscal year. Refer to Appendix 115 G, "Implementation Plan" for more information on implementation plans.
2. The SAFE should allow up to 60 days for state review of and response to the initial system design RFP, and 60 days for any subsequent RFP review. If the state requires more than 60 days, the state will notify the SAFE in writing of the amount of time that will be required for the review, as well as an explanation of the reason for the delay.
3. Caltrans and CHP will attempt to respond in a timely fashion to all requests to review proposals. Providing early notice of planned systems will help to ensure the timely introduction of resource needs and authorizations into the state budget process, thus minimizing delays in the installation and operation of new systems.
4. The assumption of SAFE call box call responsibilities may require additional building space at CHP communications centers. Further, there may be circumstances where such space limitations could temporarily prevent CHP from supporting a county motorist aid call box system. In these cases, it may be necessary to make major alterations or to construct a completely new dispatch facility. These major capital projects require 3 years to complete from initial budgeting through the completion of construction.
5. Caltrans will issue an encroachment permit for design, construction, and installation work within the state highway right-of-way after CHP and Caltrans review and approve the final plans, detailed proposed installation and replacement instructions, and specifications for the motorist aid call box system. Additionally, Caltrans must ensure that the work will be contracted with proper safety precautions and that the proper liability insurance has been obtained before design, construction, and installation work.

6. An encroachment permit will also be required for the SAFE or SAFE contractor for maintenance, ongoing operations, or service work within the state right-of-way. Caltrans will issue this encroachment permit upon confirmation of the following:
    - All equipment and installation procedures to be used in ongoing operations, service, or maintenance work are equipped with proper safety devices.
    - Personnel involved are fully instructed on safety precautions to be observed.
    - Proper liability insurance is obtained.

Section 7 Billing and Reimbursements

The following section outlines billing and reimbursement procedures for Caltrans and CHP. Refer to SHC, Section 2557 (a) for clarification that SAFEs shall reimburse Caltrans and CHP for the review of plans and amendments for the implementation of a motorist aid system of call boxes.

Topic 1 Caltrans Reimbursement

Based on the provisions in the cooperative agreement between Caltrans and the SAFE, the SAFE shall reimburse Caltrans for costs incurred in providing services and assistance with the planning, safety review, preliminary system plans and installation instructions review, and implementation of call box and other motorist aid systems funded by a SAFE. SAFEs may, at their discretion and cost, conduct annual financial, compliance, and performance audits of all Caltrans work and charges related to agreements between the SAFEs and Caltrans. Caltrans will charge a SAFE for review, approval, and permit services only after such services have been provided.

Topic 2 California Highway Patrol Reimbursement

Based on the provisions in the STD 213, "Standard Agreement" form executed between CHP and the SAFE, the SAFE shall reimburse CHP for all costs incurred for services and assistance provided in the planning, implementation, and dispatch operation of call box motorist aid systems. For non-privatized SAFEs, this will include costs for CHP staffing, such as a SAFE coordinator position (Associate Governmental Program Analyst), PSD, Public Safety Operator, and Supervisor I or II (PSDS), in addition to costs for equipment and facilities. However, for fully privatized SAFEs, CHP staffing costs for PSDs and PSDSs will not be reimbursed if CHP cannot substantiate the residual workload. CHP will bill SAFEs quarterly for the costs outlined in this topic.

Section 8 Contract Agreements

Each SAFE will enter into individual agreements with Caltrans and CHP. These agreements will contain complete statements of responsibilities and negotiated positions of the agreeing parties.

The following terms and conditions must be established in agreements between CHP and the SAFE:

- Agreement length.
- Authority to contract – Legislation that establishes authority.
- Compensation – Amount to be reimbursed.
- Billing – Invoicing details.
- Scope of work – Specific CHP and SAFE responsibilities.
- Other terms and conditions may be established, as necessary.

A cooperative agreement developed jointly by Caltrans and each SAFE is the implementing document for Caltrans. Terms and conditions for the development of a call box motorist aid system are established in the Caltrans-SAFE cooperative agreement.

Section 9 Other Motorist Aid System Applications

Topic 1 Other Applications

The following describes other applications and locations of a call box system and other safety-related motorist aid systems.

Conventional Highway Applications

- A call box motorist aid system shall be established on portions of the California Freeway and Expressway System, county expressway system, state highway routes that connect segments of these systems, and unincorporated county roads. These routes will be located within the county where the authority is established and over which CHP or an agency designated by CHP has law enforcement responsibility.
- Through current and future reviews of the existing freeway and expressway system, SAFEs shall work with CHP and Caltrans in the development of motorist aid systems of call boxes on existing and newly constructed portions of roadways.

Toll Road Guidelines

- Motorist safety is the primary concern of CHP and Caltrans, whether on freeways, expressways, state highways, toll bridges, or toll roads. Motorist aid call boxes play an integral role in helping stranded motorists by providing a vital communication link with CHP dispatch centers. SAFEs can expand their call box system on toll roads in cooperation with the toll road authority.
- Neither public and private toll road authorities nor SAFEs are required to install roadside call boxes nor pay for the costs of call box design, approval, installation, maintenance, or repair, since that is not currently required of Caltrans or county departments of transportation or public works when a public road is constructed. The SAFE will negotiate with the toll road authority to determine the responsibility for all aspects of the acquisition, installation, operation, and maintenance of a motorist aid call box system. A cooperative agreement between the SAFE and the toll road authority may be necessary to outline their respective responsibilities.

Safety-Related Motorist Aid Systems

- Refer to SHC, Section 2557(d) for information on SAFE fund project eligibility.

New Technologies and Intelligent Transportation Systems Applications

- New call box technology plays an integral role in intelligent transportation systems (ITS). The current generation of call boxes, represented by the SAFE program, are expandable and programmable units. These "smart" boxes, with minor infrastructure changes, can become potential data links to other traffic-related monitoring, communication, and control functions that can potentially interface with the advanced transportation management system in traffic management centers (TMCs).
- SAFEs can consider expanding the scope of their call box infrastructure by integrating future technologies and applications, such as:
  - Traffic census.
  - Real-time or near-real-time traffic counts and speeds for traffic incident notification.
  - Closed-circuit television camera systems using miniature camera technology.
  - Automatic vehicle location and automated vehicle identification.
  - Traveler information systems using infrared, microwave, or standard low-powered radio frequency links.
  - Hazardous weather condition detection and reporting, such as fog and dust storm alerts.
  - Weigh-in-motion facilities.
  - Hazardous materials tracking.
  - Public transit, freight, and fleet management applications.
  - Cellular satellite, personal communications service, and other advanced communications backbone systems.
  - Pollution monitoring.

Topic 2 Responsibilities

The following responsibilities apply to the call box and other motorist aid systems discussed in Section 9, Topic 1 "Other Applications."

- CHP will fulfill the following responsibilities:
  - Review any proposed call box system or special project on any public or private toll road submitted by a SAFE that directly affects CHP operations.
  - Review any implementation plan submitted by a SAFE regarding the installation or removal of call boxes on public or private toll roads.

  - Coordinate specifications and development guidelines for any ITS-related call box applications that impact CHP communications centers or other field operations.
  - Assist SAFEs with planning and developing operational concepts and subsequent operational ITS-related call box application tests.
- Caltrans will fulfill the following responsibilities:
  - Review and approve any proposed call box system on any public or toll-authority-managed toll roads submitted by a SAFE.
  - Work with regional or local SAFEs to determine the location for motorist aid systems of call boxes on newly constructed highways.
  - Review and approve any call box installation implementation plan for public or private toll roads submitted by a SAFE.
  - Review cooperative agreements between SAFEs and toll authorities to ensure that they are consistent with contracts between Caltrans and the toll authorities.
  - Provide specifications for any motorist aid system.
  - Coordinate specifications and develop guidelines for peripheral equipment that can potentially integrate with call box installations for ITS-related call box applications.
  - Ensure that call box communications with TMC are designed according to approved standards for existing and planned TMC equipment.
  - Assist SAFEs with planning and developing operational concepts and subsequent operational tests of ITS-related call box applications.
- The county SAFE will fulfill the following responsibilities:
  - Submit a proposal with project operations and maintenance cost estimates to CHP and Caltrans for review and approval for any proposed call box system on a public or private toll road.
  - Coordinate with Caltrans on any projects that affect call box crashworthiness (such as CG or physical specifications) and coordinate with CHP on any projects that may affect dispatch or communication capabilities.
  - Enter into agreements with private or public toll road authorities for funding, placement, operation, and maintenance of call boxes on the SHS and submit to CHP and Caltrans.
  - If planning any ITS applications, define and plan for the integration of ITS-related technologies into the call box infrastructure, coordinate with Caltrans and CHP operational concepts, and design operational tests to determine the cost and technical feasibility of proposed concepts.

  - Reimburse CHP and Caltrans for any costs incurred during the review and approval process or negotiate payment to CHP and Caltrans for Call Box ITS applications.
- Public or private toll road authorities will fulfill the following responsibilities:
  - Coordinate with local SAFEs regarding call box location and implementation plans.
  - Enter into cooperative agreements with SAFEs for funding, placement, operation, and maintenance of call boxes and other motorist aid systems on the roadway.