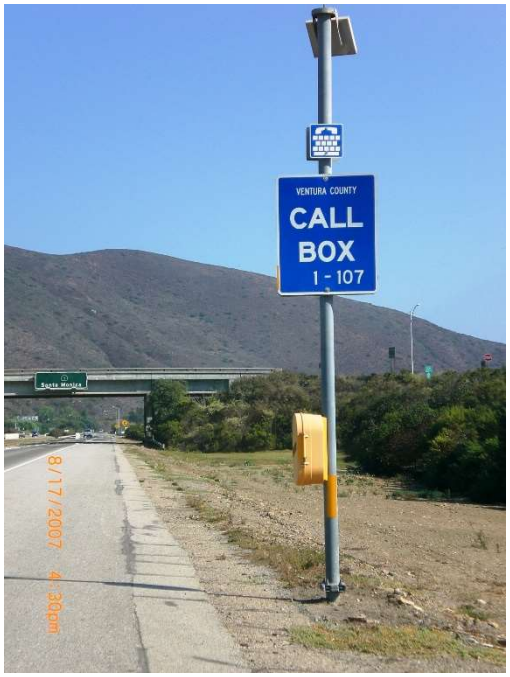
POTENTIAL ALTERNATIVES TO KNIGHTSCOPE CALL BOXES AND MAINTENANCE FOR THE VENTURA COUNTY SAFE



Prepared by TeleTran Tek Services, Inc.

November 1, 2024

Summary

No highway call boxes, other than the current Knightscope K1, meet all the requirements of the *CHP/Caltrans Call Box and Motorist Aid Guidelines*, in particular those requirements related to dual voice capability, an available telephone handset and inclusion of a TTY device for ADA compatibility.

No new technologies for accessing roadside assistance were found in the literature. The primary sources for roadside assistance other than call boxes are Freeway Service Patrols and manufacturers' in-vehicle non-emergency and emergency communications. Although not currently available for large-scale implementation, Intelligent Transportation System roadside-to-vehicle communication technology may provide new ways to access roadside assistance.

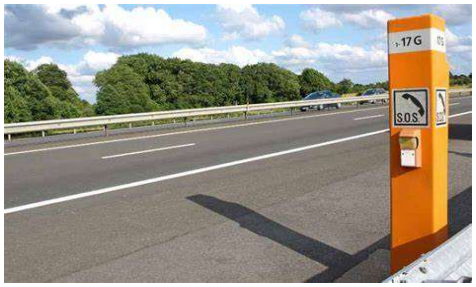
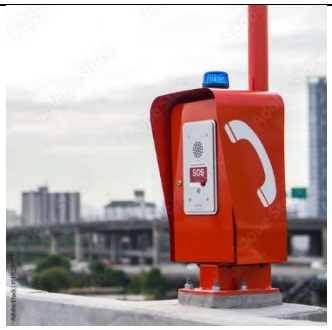
Other Call Box Devices

The *CHP/Caltrans Call Box and Motorist Aid Guidelines* lay out the requirements for California call box systems. These include, among others:

1. The dual voice capability by which both parties to the call can speak with and hear the other party. Also, sufficient volume at both ends of the call to hear the other speaker.
2. A telephone type handset to enhance the dual voice capability and reduce the impact of roadway noise.
3. Simplicity of operation. A push-to-talk button is specifically excluded.
4. A TTY device provided at the call box for individuals with speech or hearing disabilities.

Put simply, no other call box device on the market meets all these requirements. Most devices labeled as call boxes are instead designed for use outside apartments or buildings, for police or fire dedicated communications, in urban locations like parks or parking lots — and not for the challenges provided in the noisy, wet and dangerous highway environment.

According to the manufacturers' websites, there are other call box devices designed for highway deployment. None are currently installed in the United States but can be found around the world in such places as Europe, England and Canada. Some are solar-powered; others require fiberoptic or other power sources. Some involve only push-to-talk or nonverbal communication. Those that have dual voice use GSM 3G cellular or VOIP and lack handsets and TTYs. Without U.S. maintenance support and a simple method for connecting to CHP, none of these offer a feasible alternative for the Ventura County SAFE.

China	Italy	Thailand
		

Alternative Technologies

No new technologies for accessing roadside assistance were found in the literature. This can be attributed in part to the growth around the country, and in fact in other countries, of public programs like Freeway Service Patrol. These programs are usually only available on major highways.

Several vehicle manufacturers offer in-vehicle emergency communications as part of their safety and security features. These often come at an additional cost to the buyer and are primarily available only on mid- to higher-end vehicles.

- General Motors (OnStar): Provides automatic crash response, stolen vehicle assistance, and roadside assistance.
- Ford: Offers FordPass Connect, which includes emergency assistance and roadside services.
- Toyota: Includes Safety Connect with features like emergency assistance, stolen vehicle locator, and roadside assistance.
- Volvo: Provides an emergency assistance service that automatically contacts emergency services in the event of a serious crash.

- Mercedes-Benz: Offers Mbrace, which includes emergency call services and roadside assistance.
- BMW: Includes BMW Assist, which provides emergency services and roadside assistance.
- Audi: Offers Audi Connect CARE, which includes emergency call services and roadside assistance.
- Tesla: Includes emergency response through its mobile app and incar connectivity features.
- Volkswagen: Provides Carnet, which includes emergency assistance and roadside services.
- Stellantis (Chrysler, Dodge, Ram, Jeep): Equipped with the Emergency Vehicle Alert System (EVAS) that notifies drivers of nearby emergency vehicles.

Over the last two decades, the U.S. Department of Transportation, in cooperation with the National Transportation Safety Board and vehicle manufacturers, has championed the development of new technologies to enhance traffic safety and reduce highway congestion. Referred to collectively as Intelligent Transportation Systems (ITS), these advances in technology will rely heavily on significantly enhanced communications speeds, in-vehicle specialized radios and roadside transmitters/sensors. With necessary programming, that combination would provide the perfect foundation for expanded access to roadside assistance. SAFE funds should be eligible to help pay for this.