



When someone calls 9-1-1, seconds can mean the difference between life and death. However, in 2007, the California Technology Agency (CTA) identified that 4.9 million, 42.4 percent of the 11.6 million wireless Enhanced 9-1-1 (E9-1-1), calls received a busy signal. The California Public Utilities Code requires all wireless calls be routed to the California Highway Patrol (CHP) unless additional criteria is met. To improve emergency response times, the CTA's 9-1-1 Division initiated a project to take a historical, pictorial, and analytical approach to review cell towers routing to the CHP. Through collaboration with the Public Safety Network and the CHP, the Routing on Empirical Data (RED) project was implemented.

The RED project conceptualized, designed, and implemented innovative methods to analyze E9-1-1 call data. Additionally, it identified essential data on E9-1-1 call location and the corresponding location of cellular towers. The wireless caller's location and cell tower location were used to determine the jurisdiction where calls originated to optimize routing on more than 140,000 wireless sectors in the state. This data was needed to convince local dispatch centers to accept additional wireless sectors, dramatically reducing 9-1-1 system busy signals and improve law enforcement response times. The benefits of RED project are:

- ✦ Reduction in missed E9-1-1 calls from 4.9 million in 2007 to 639,000 in 2011
- ✦ Enabled an increase in wireless call volume from 11.6 million in 2007 to 14.2 million in 2011
- ✦ Allowed California to distribute an additional 2.6 million wireless calls across the state

The greatest benefit is ensuring that people in emergency situations can get through to emergency responders, shaving minutes from response times. This dramatically improves life-saving outcomes for the public who call 9-1-1 and increases the chance of survival for a person in cardiac arrest or a family whose house is on fire.

The RED Project has received several awards for its innovation and collaboration, including:

- ✦ 2012 Presidential Award of Excellence from the National Emergency Number Association
- ✦ 2012 Best of California Award for Best IT Collaboration
- ✦ 2011 Cross-Boundary Collaboration and Partnership Award
- ✦ 2011 Best of California Award for Outstanding IT Services and Support Award