

ComCARE Alliance

Communications for Coordinated Assistance and Response to Emergencies

Telematics Systems Improve Safety on America's Roads

Telematics, with their emergency notification systems, provide significant safety benefits to the public. Automobile crashes remain the leading killer of Americans aged five to twenty-nine and claim roughly 42,000 lives a year. More lives can be saved on America's roads if emergency response times are reduced and if the right care is dispatched. Telematics systems can provide emergency medical personnel with the notice, location, and information they need to dispatch the appropriate level of care as quickly as possible.

Mayday Systems

Similar to safety benefits provided by the proper use of seat belts and airbags, telematics Mayday systems represent the next generation of in-vehicle safety technology. Mayday systems automatically notify a private call center, such as GM OnStar, ATX Technologies, or AAA Response, that a vehicle's airbag has been deployed, or an emergency call button has been pushed. The Mayday system immediately opens a voice connection between the passenger and the operator in the Mayday call center. In other emergencies, pressing an emergency button results in an immediate connection with the call center. After conferring with the passengers, the dispatcher can then notify emergency responders about the incident, the apparent condition of the passengers, and the exact location of the crash as identified by the Global Positioning System (GPS) antenna attached to the vehicle, and connect them in a conference call.

Immediate access to real-time information enables responders to react more quickly to an emergency situation. First, emergency responders are automatically notified of a crash, whether or not the victim is able to call for help. Second, they don't bear the burden of inadequate location information. All too often in emergency situations, public safety dispatchers receive wireless calls from victims or Good Samaritans alerting them to an emergency, but the caller often fails to provide accurate location information due to unfamiliarity with the area or distraction caused by the crash's commotion.

In-vehicle wireless voice connection to the vehicle's passengers enables call dispatchers to begin to gauge the severity of the crash. Crash victims, if able to speak, can immediately inform dispatchers about the number of victims and any apparent injuries sustained, giving emergency responders firsthand information about the crash prior to arriving at the scene, thus enabling them to dispatch suitable resources to administer the appropriate level of care.

Automatic Crash Notification (ACN)

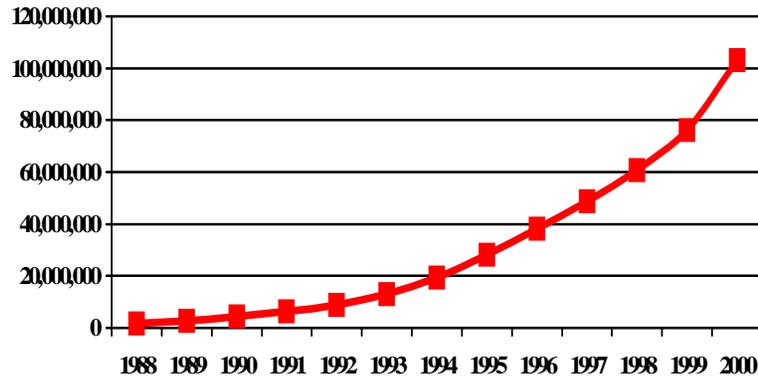
Automatic Crash Notification, or ACN, takes the safety benefits of Mayday systems to the next level of communication, providing emergency responders with data that indicates the severity of the crash and the nature of injuries sustained. In the event of a crash, an installed ACN device automatically transmits, in real-time, crash data retrieved from in-vehicle sensors.

ACN data may include the principal direction of force, the difference in pre and post-crash velocity, and whether or not the vehicle rolled over. Coupled with location information and brand and make of vehicle, crash data helps emergency responders dispatch the right care such as Medivac helicopters and advanced life support if the data predict severe injury, or just a squad car and tow truck. ACN data will also let emergency medical technicians and hospital staff anticipate and prepare treatment for a victim, on site and in the hospital, immediately after a crash. Unlike Mayday, the data emitted by ACN devices gives responders an accurate depiction of the situation they will encounter, further refining their ability to respond and to administer the most appropriate and effective medical care. As personal digital assistants (PDAs) and laptop computers are increasingly installed in ambulances, the initial crash data can be updated by emergency technicians en-route to the hospital, further honing the medical response and treatment procedure.

Stripped of personal information to preserve citizen privacy, ACN data could build a valuable aggregate database of crash and injury data. This database could serve government, industry, the emergency medical community, and safety experts as a valuable tool for automobile design and as an audit on the efficacy of matching emergency care resources with crash victims' needs. The National Highway and Traffic Safety Administration, for instance, could have immediate access to data on all crashes rather than the small sample it gets today, long after the crashes have occurred.

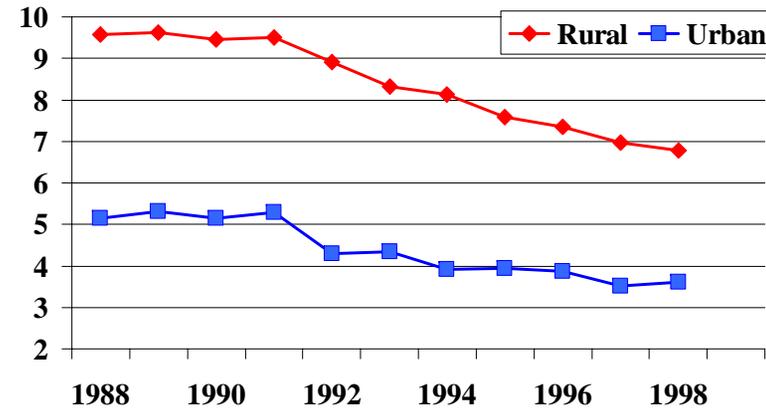
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The Explosion of Wireless Subscribers in the U.S...



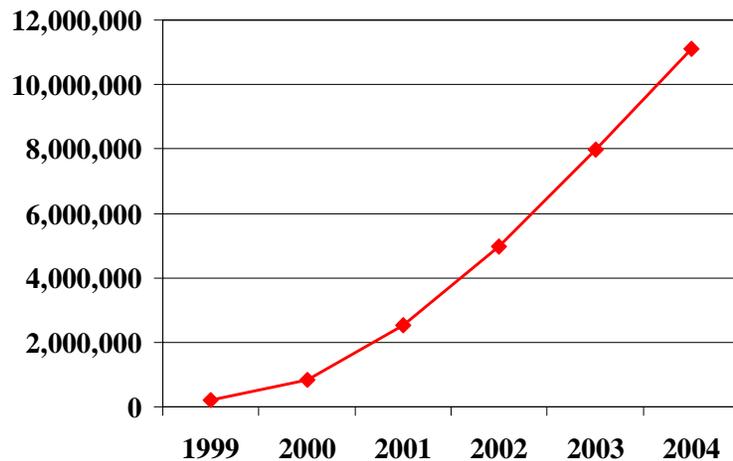
(Source: CTIA/2000)

...Tracks the Reduction in EMS Notification Times for Fatal Crashes



(Source: NHTSA/1998)

Projected Explosion of Automotive Telematics Subscribers...



(Source: The Strategis Group, Inc./1999)

...Supports Mayday and ACN Systems...

- * Notify EMS in Real Time
- * Accelerate EMS Response
- * Help Send the Right Care

The ComCARE Alliance
National Mayday
Readiness Initiative