BEYOND PHASE II

An in depth look at
Automatic Collision Notification
and Telematics

First We Need LOCATION

- Finding the caller was our first concern
- ***Getting help to the caller is the goal!!!***
- What else can help us respond faster and more efficiently?
  - *Knowing if there are serious injuries?*
  - *Knowing if the vehicle rolled over?*
  - *Knowing if someone was ejected?*
  - *Is the vehicle on fire?*

9-1-1 depends upon location

- Master Street Address Guides provide landline caller location, NOW
- Wireless 9-1-1 calls do not provide location
  - And many callers cannot provide a dispatchable location

Wireless E9-1-1 will provide location data with the call, greatly improving the ability to respond.

Two Technologies Give Us Location

- Wireless E 9-1-1
  - Determined by GPS
  - Or, Determined by the Network
  - Fully deployed by 2005
  - Must upgrade PSAP to handle lat/lon coordinate location
- Telematics
  - Determined by GPS
  - Available today on almost 3 million cars
  - PSAP provided both lat/lon coordinates and physical street location
  - No upgrades needed

How are wireless E911 and Telematics Alike

- They both use wireless technology for communications
- They both use Global Positioning System locations
- They provide audio connection to the car

How do they differ?

- Telematics provides:
  - Vehicle embedded phone or Bluetooth phone console
  - 3 watt power cellular
  - Owner database
  - Vehicle Description
  - Medical references
  - Airbag or seatbelt tensioner deployment, ignition state
  - Vehicle diagnostics, fire

- Wireless E9-1-1 provides:
  - Handheld cell phone
  - 0.6 watt power cellular
  - No owner data
  - No vehicle data
  - No medical references
  - No other data relating to the incident

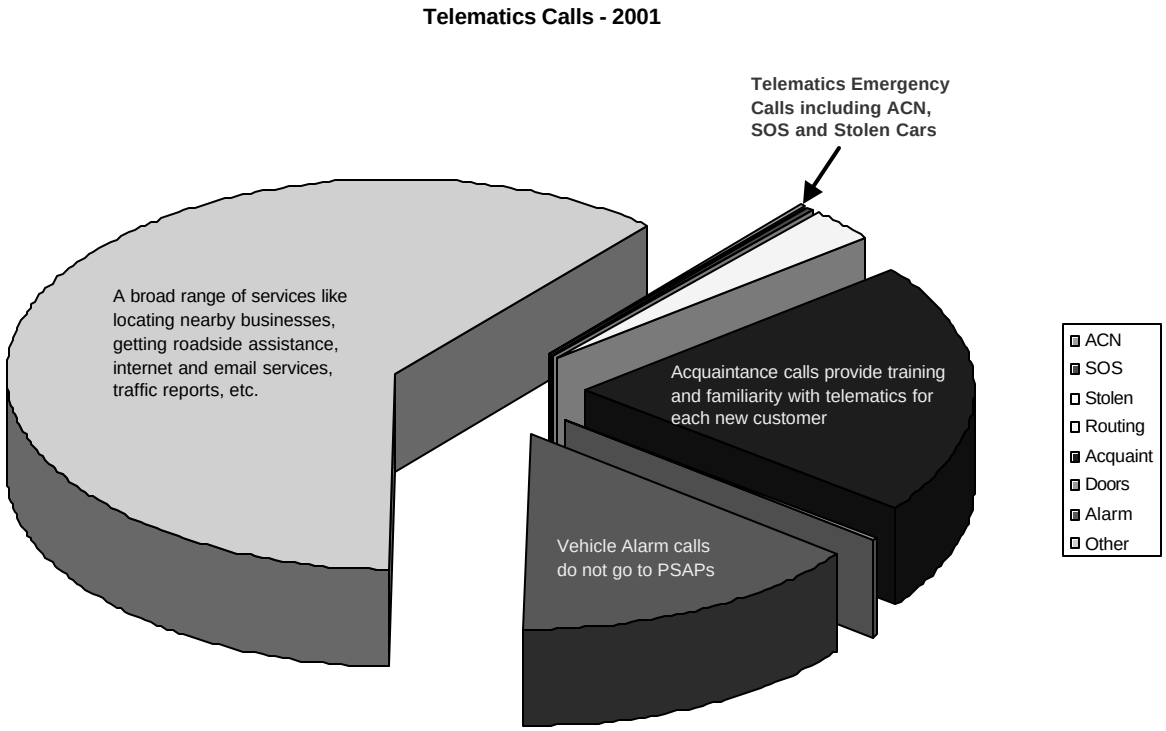
Other Differences

- Telematics is:
  - A maturing technology
  - Uses highly reliable vehicle electronics
  - Is becoming a standard product in new vehicles
  - Embedded in the car and linked to its systems
- Wireless E9-1-1 is:
  - A new set of technologies
  - Based upon handheld miniature electronics
  - Will become a widely dispersed product
  - Usually loose in the car and can be difficult to find after a collision

Why are the differences important?

- To help realize how important telematics is to us today
- To make better use of telematics call data today and in the future
- To form a perspective on how the two technologies will compare in the future
- To appreciate data that can be provided to medical personnel by telematics

Less than 1% of Telematics calls are Emergency Calls



Other Telematics Features

- Owner's personal website to update records
- Diagnostic monitoring in car, tire pressure, brake conditions, oil pressure and temperature, etc.
- Diagnostic alerts may avoid accident if owner gets problem repaired in timely manner
- Vehicle voice portal acoustically modeled to accommodate high noise environment of moving vehicle

What about ACN?

- Automatic Collision Notification provides nearly instant notification of serious accidents…
  - PSAPs will be alerted even if the occupants are not capable of notifying them
  - Incident location will always be provided
  - Vehicle data may help responders select equipment they will need to the incident site
  - Third party notification of incident (family)

Today's ACN

- Telematics provides ACN today, alerted by airbag or seatbelt tensioner deployment
- Telematics Service Providers know the velocity of the vehicle at the time of deployment…an indicator of injury severity
- Telematics Service Providers can provide you an audio link to talk to the occupants, if they are able to do so

Tomorrow's ACN

- Sophisticated Data from the car…
  - Delta Velocity of the crash
  - Principal direction of force
  - Rollover and final resting position
  - Number occupants, seatbelt usage
  - Occupant weight, ejection alert
  - Updated urgency algorithm specifically for each vehicle

Who gets what (data)?

- PSAPs Need:
  - Location of incident
  - Nature of emergency
  - Audio contact with occupants, if possible
  - Callback Number
  - Telematics contact, incident number and callback number
- ACN Data to Medics
  - Will help medical response planning
  - Will assure proper assets are on-site
  - May determine mode of transport
  - Allow hospitals to get appropriate resources available upon arrival

Where will these technologies fail us?

- When we do not have cellular service…we do not have telematics nor Wireless E9-1-1!
- When the GPS antenna cannot "see the sky" it cannot effectively provide a location
  - *However, most GPS receivers capture the last "good, known location" and that can provide a reference point for responders.*

And, there's one more technology to consider…

- What about "handheld telematics"
  - To be offered by AAA Response and others, where their calls will be forwarded to their response center for telematics services, but
  - Will they dial "9-1-1" in emergencies??
  - System is not embedded or connected to vehicle
  - They may not provide other data with the call, but they will provide location, and callback number
  - They will not provide ACN services
  - No safety value if driver forgets to bring phone