INMOTION TECHNOLOGY

Georgia Trauma Care Network Commission Case Study

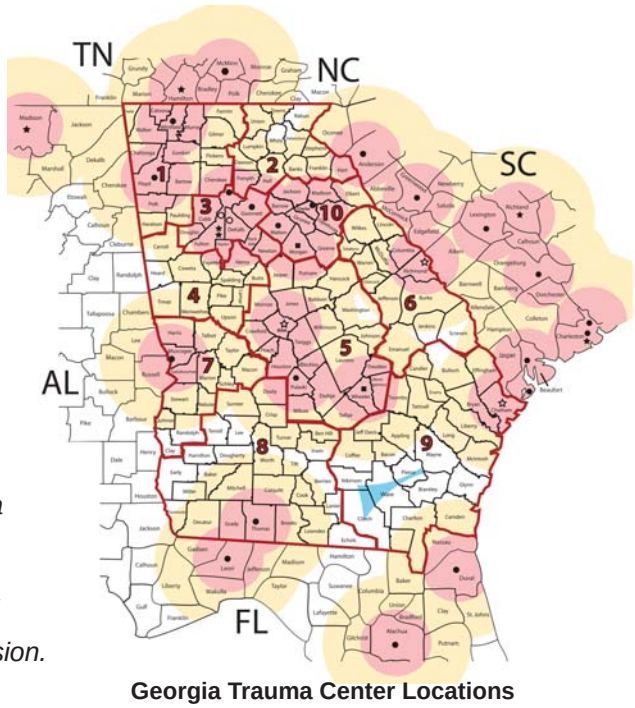
IMPROVING STATE-WIDE EMERGENCY COMMUNICATIONS

Trauma is the leading cause of death in the United States, accounting for more than 160,000 fatalities each year and has been the leading cause of death among children for decades.[1] The first 60 minutes after a trauma are known as the "critical hour" for providing care.

BACKGROUND

The Georgia Trauma Care Network Commission (GTCNC) was established in 2007 to address the insufficient number of trauma centers in Georgia and the lack of an organized and coordinated trauma system. The Georgia trauma system under development will be comprised of integrated regional systems and plans and a centralized statewide Trauma Communications Center (TCC) as a core common component. The TCC will coordinate trauma system activities by maintaining and providing information on trauma centers' status and, when appropriate, on pre-hospital capabilities. This information will be used to ensure that patients meeting Trauma System Entry Criteria (TSEC) will have access to definitive trauma care at an appropriate level of state-designated trauma center. A regionalized system approach to organizing emergency care and hospital services will also benefit disaster/terror preparedness, better manage emergency cardiac, stroke and surgery cases, and emergency patient flow to and from all hospitals within Georgia's healthcare safety net.

"GTCNC needed to create a new public service that would assure anyone seriously injured anywhere in the state would be transported quickly to a trauma center fully capable of providing the treatment necessary to save their life and enable their best possible recovery", said Dennis W. Ashley, M.D., Chair, Georgia Trauma Care Network Commission.



Georgia Trauma Center Locations

GTCNC contracted with Georgia Tech Research Institute (GTRI), a highly regarded applied research and development organization solving some of the toughest problems facing government and industry across the nation and around the globe, to assist in the development of a state-of-the-art trauma communications system for Georgia.

[1] Model Trauma System Planning and Evaluation, U.S. Department of Health and Human Services, February 2006.

Georgia Trauma Commission
GEORGIA TRAUMA CARE NETWORK COMMISSION

QUICK FACTS

GEORGIA TRAUMA COMMUNICATIONS REQUIREMENTS

- Future-proof communications platform.
- Quick identification of trauma system patients in the field and voice connection with Trauma Communications Center (TCC).
- Decrease response and patient transfer times to improve outcomes.
- Reduce communications costs and increase efficiency.
- Single TCC as core component in all regional plans and serving entire state.
- Improve overall operations through online training and record keeping.
- Adopt a future-proof technology that would grow with the state's needs.
- Work seamlessly across a patchwork of dispatch and data systems.

Georgia Tech Research Institute

Georgia Trauma Care Network Commission

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AUTOMATIC VEHICLE LOCATION SYSTEM (AVLS) REQUIREMENTS

- Implement a state-wide system to advise Georgia ambulances transporting trauma patients of the closest appropriate trauma center
- Install GPS-based displays in ambulances for navigational assistance and in the future two-way messaging
- Provide real-time ambulance tracking and status information within Dispatch & Command Centers or on handheld mobile devices
- Provide a secure wireless network within ambulances for mobile devices, laptops and telemedicine equipment
- Display the locations of all ambulances across multiple agencies to most effectively coordinate response actions in a mass casualty incident

THE SOLUTION

The Georgia Trauma Care Network Commission (GTCNC), the Georgia Emergency Management Agency / Homeland Security (GEMA/HS), and the Georgia Tech Research Institute (GTRI) created the Georgia EMS AVLS Program, a state-wide system to provide a display of ambulance positions and to assist the Georgia Trauma Communications Center to advise EMS agencies and hospitals of the closest appropriate designated trauma centerto transport or transfer trauma system patients. This system would also be a significant asset to state emergency management ina Mass Casualty Incident (MCI).

One of the goals of the program is to deploy AVLS to a majority of primary 911 Zone Providers across the state, in order to provide the people in Georgia with a powerful trauma communications center and mass casualty incident management asset.

After a competitive procurement process, GTRI selected In Motion Technology as the equipment vendor for the state-wideGPS-based Automatic Vehicle Location System (AVLS).

In Motion Technology's onBoard™ Mobile Gateway turns ambulances into wireless hotspots, providing seamless, secure connectivity to laptops, EKG/ECGs, RFID tags, vehicle diagnostic systems and advanced GPS/AVLS. The Gateway can be equipped with up to 6 network cards and roams across networks to provide uninterrupted data communications, even in the most rural parts of the state. Network cards can be swapped out, allowing agencies to add or change networks based on technology, coverage or price. This feature will also allow Georgia's first responders to adopt the latest 4G wireless technologies – and fall back to existing networks – without the expense, hassle and risk of changing devices or communications infrastructure.

Enabled with the latest GPS technology, the Gateway feeds precise vehicle location information to computer-aided dispatch and other management systems, allowing agencies to dispatch the closest available vehicle, determine highly accurate ETAs, and provide drivers with turn-by-turn directions to the scene.

In Georgia, vehicle location information is also fed to the GEMA/HS State Operations Centerand other command centers for statewide coordination of EMSresources. Each ambulance has been equipped with a Garmin personal navigation device (PND) and ambulances can be dispatched via the PND. In addition, the PNDs have been customized to enable two-way messaging so that medics can send preliminary information back to dispatch centers.

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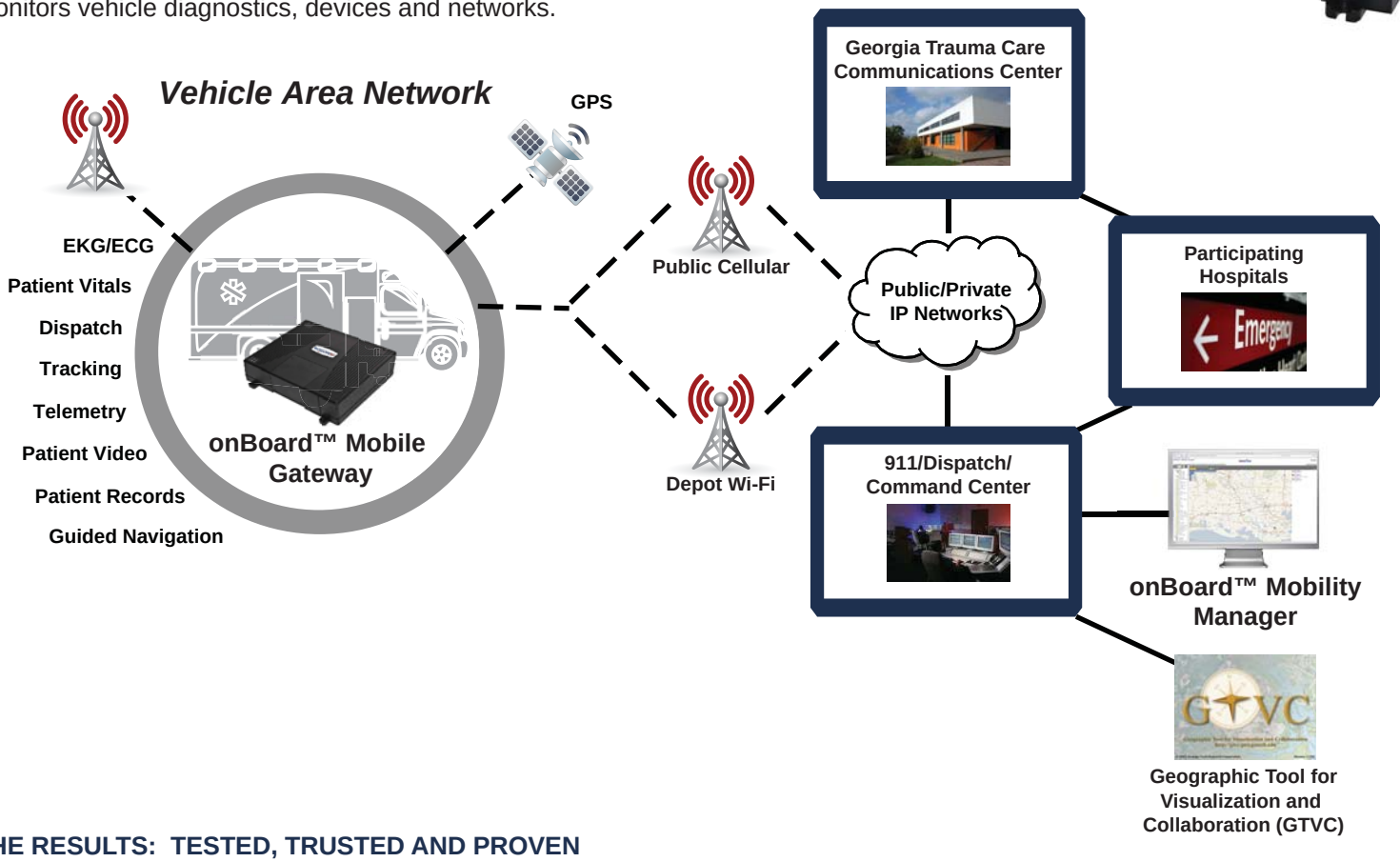
The onBoard™ Mobility Manager provides each EMS agency with the ability to analyze information from Gateways in the field via a dashboard which shows ambulance locations and monitors vehicle diagnostics, devices and networks.



THE RESULTS: TESTED, TRUSTED AND PROVEN

During the first phase of this deployment in August 2010, the GTCNC piloted and purchased two hundred Gateways for two EMS Regions in central Georgia. The Gateways also had to work with the GEMA/HS Geographic Tool for Visualization & Collaboration (GTVC), a geographic information system used for managing resources during responses to emergencies and homeland security incidents.

Phase 1 Implementation

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Now in the second phase of this contract, GEMA/HS has secured federal grant funds for an additional 200-400 Gateways. In Motion Technology's solution enables improved resource deployment, vehicle management, dispatch, messaging and operations for each EMS agency and provides GEMA/HS designated command centers with a clearer picture of EMS operations for emergency response.

In Motion Technology has unparalleled experience serving the mobile communications needs of first responders and with more than 350 mission critical agencies across North America relying on the company's solutions to connect and manage their fleets.

AVLS BENEFITS

Improve Responses:

- Send ECGs to the hospital with the press of one button, without a cell phone, PDA or external modem and reduce door to balloon times.
- Send EPCR and be confident that records are transmitted from any location without worrying about an internet connection or waiting until returning to base.
- Set up a video connection for a "telemedicine" consultation with a specialist from a patient's home or the road.
- Maintain connectivity in rural areas.

Lower Costs:

- Track patients in a disaster situation.
- Consolidate communications over single network and reduce mobile data communications costs.

Improve Operations:

- Improve billing time and reduce billing staff.
- Move towards "paperless" billing.
- Access emergency preparedness plans, drug databases, training materials, etc.
- Provide operations with detailed incident scene information (e.g. with video).

FUTURE OPPORTUNITIES

In the future, the telecommunications platform provided under the AVLS program offers the potential to extend the capabilities of the hospital's emergency care center to the injury scene to improve triage, stabilization and transfer/transport of all emergency care patients. Emergency cardiac and stroke cases can be more efficiently addressed with early analysis of ECGs, video and patient care records by cardiologists and catheterization labs.

The third phase of this program will begin in late 2011 with the goal of having more than 90% of eligible ambulances in the state of Georgia as part of the AVLS program.

For individual EMS agencies, having a future-proof communications platform enables them to deploy new applications simply and cost-effectively that support their mission, and offers them opportunities to add additional features and functionality such as:

- Monitoring the location and temperature of on-board medications.
- Tracking expensive mobile assets (e.g. stretchers and 12-lead EKG monitors).
- Improving driver behaviour and insurance costs.
- Reducing fuel costs.
- Improving vehicle life expectancy and unit hours with proactive maintenance.

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