

# Connections

## INSIDE THIS ISSUE

Geospatial Data (cont.)	2
NG9-1-1 Master Plan Update	3
Telemedicine Pilot Project	4



333 Guadalupe St.,  
Suite 2-212,  
Austin, Texas 78701

Telephone: 512.305.6911

Email: [csecinfo@csec.texas.gov](mailto:csecinfo@csec.texas.gov)

Web: [csec.texas.gov](http://csec.texas.gov)

[facebook.com/TXCSEC](https://www.facebook.com/TXCSEC)

[twitter.com/CSEC911](https://twitter.com/CSEC911)

## WE WANT TO HEAR FROM YOU

If you have story ideas for future issues of *Connections*, please send an email to:

[CSECSupportTeam@mcp911.com](mailto:CSECSupportTeam@mcp911.com)

## Geospatial Data Quality Leaps Forward

In the year and a half since the councils of government (COGs) and regional planning commissions (RPCs) in the state of Texas embarked on a project to improve the quality of their geographic information system (GIS) data, remarkable progress has been made.

The Enterprise Geospatial Database Management System (EGDMS) is where GIS data resides in a Next Generation 9-1-1 (NG9-1-1) system. The National Emergency Number Association (NENA) recommends that GIS data matches legacy automatic location identification (ALI) information at a rate of 98 percent before the data is used to locate emergency callers. That threshold also must be met before a 9-1-1 entity can connect to CSEC's State-level Emergency Services Internet Protocol (IP) Network, or ESInet.

In Texas, the current emphasis is being placed on matching ALI data to road centerline (RCL) data. (Eventually efforts will be made to match the ALI data to site structure address points data.)

In November 2014, only six COGs/RPCs had achieved a match rate between the ALI and road centerline data of at least 90 percent, and 14 were below the 80 percent threshold. Today, the picture is much brighter, as a dozen COGs/RPCs have a greater

### Hard Work Pays Off

The following COGs and RPCs have achieved a minimum 90% match rate between their ALI and road centerline data. Those indicated by an asterisk (\*) have met the NENA-recommended 98 percent match rate.

<b>Brazos Valley COG*</b>	<b>99.6%</b>
<b>Deep East Texas COG*</b>	<b>99.6%</b>
<b>Rio Grande COG*</b>	<b>99.1%</b>
<b>Heart of Texas COG*</b>	<b>98.6%</b>
<b>Panhandle RPC*</b>	<b>98.6%</b>
<b>West Central Texas COG</b>	<b>97.7%</b>
<b>Concho Valley COG</b>	<b>97.6%</b>
<b>Golden Crescent RPC</b>	<b>97.2%</b>
<b>Nortex RPC</b>	<b>96.1%</b>
<b>South Plains Association of Governments</b>	<b>95.3%</b>
<b>North Central Texas COG</b>	<b>91.7%</b>
<b>Permian Basin RPC</b>	<b>91.1%</b>

Source: CSEC

than 90 percent match rate, and only four are below the 80 percent mark, said Vonda Payne, CSEC's implementation program manager.

"Of those four, each has contracted for technical assistance to help them get over the hump, so we should see more progress soon," Payne said.

She added that the data-scrubbing effort kicked into high

Continued on page 2

## Geospatial Data Quality Leaps Forward

Continued from page 1

gear after the state legislature provided funding for the development of the EGDMS, which resides in two data centers operated by GeoComm, which is the GIS software and related services provider that operates the system.

“That made it real,” Payne said. “In the beginning, back in 2003, the thought was that Next Generation 9-1-1 would arrive by 2010, and by 2014 it still wasn’t close to arriving. So, data improvement wasn’t a priority. Getting the funding for the EGDMS helped get people focused on this.”

Some COGs and RPCs had a tougher task in this regard than others. One was Golden Crescent RPC (GCRPC), which started with a match rate of 41 percent, which was a challenge because GCRPC had volunteered to be among the first to connect to CSEC’s State-level ESInet.

“The 98 percent match is a requirement, so we not only had to get it done, we had to get this onto the front burner,” said Donna Burger, GCRPC’s 9-1-1 database technician.

That was easier said than done because Burger is GCRPC’s only data steward, and as such she has many addressing duties. Consequently, a decision was made to hire 911 Datamaster to assist.

“There is no way I would have been able to do all of this by myself,” Burger said. “Hiring 911 Datamaster enabled us to get this done a lot faster.”

Today, GCRPC’s ALI-to-RCL match rate is 97.2 percent.

The situation was much worse at West Central Texas COG (WCTCOG), according to Linda Gallion, 9-1-1 GIS specialist.

“When we started, we didn’t realize the condition that our data was in,” Gallion said. “It was bad.”

That might be something of an understatement, as WCTCOG started with a match rate of **zero** percent. One of the first things Gallion did was create a map overlay in which each error was represented by a dot. The result was eye opening.

“I saw a sea of dots,” she said. “It was overwhelming. What I learned, at least in this case, was to not look at the big picture.”

The situation was created largely by the fact that the WCTCOG’s four data stewards each handled the addressing task a little differently.

“We had multiple meetings to try to get everyone on the same page,” Gallion said. “Everyone took notes, and then went their separate ways.”

By November 2014, the match rate had improved to 50.7 percent and today stands at 97.7 percent. While WCTCOG achieved this noteworthy success on its own, it did get a boost from 911 Datamaster’s Spatial Station software, which enabled error sorting that made the task much more manageable, Gallion said.

“You can correct thousands of errors in just a few clicks.” ■

*“Getting the funding for the EGDMS helped get people focused on this.”*

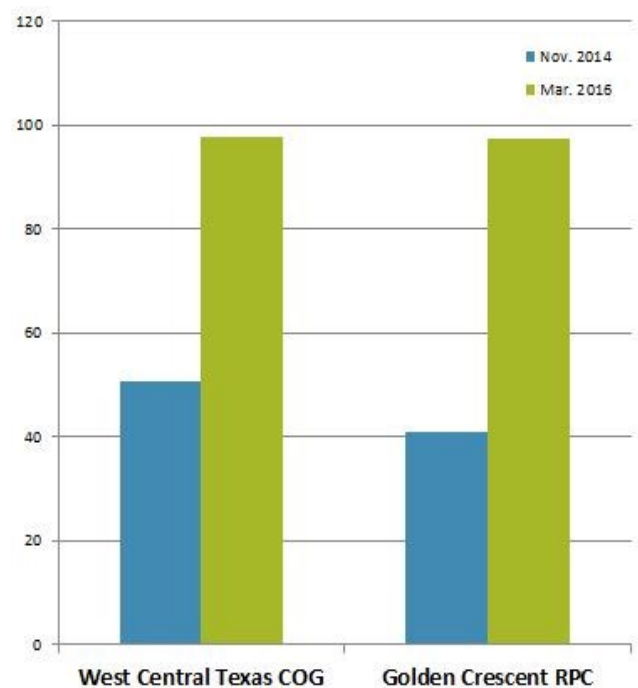
– Vonda Payne, CSEC



*“What I learned, at least in this case, was to not look at the big picture.”*

– Linda Gallion,  
WCTCOG

### ALI-to-RCL Match Rate Improvement



Source: CSEC

## ECAC Works to Update CSEC NG9-1-1 Master Plan

The Emergency Communications Advisory Committee (ECAC), which advises CSEC regarding policy matters related to the CSEC State-Level ESInet, is busy developing recommendations that will be included in the upcoming CSEC NG9-1-1 Master Plan update.

The plan communicates CSEC's vision for the State of Texas NG9-1-1 system and defines the transition activities associated with its development and deployment. It is updated every two years, with the current update covering the 2018-2019 biennium.

The goal is to define the tasks upon which the ECAC will focus during the 2018-2019 biennium, according to Kelli Merriweather, CSEC's executive director.

"We need to identify the key policies that need to be defined, or refined, and prioritize those, in order to establish a work plan for the Committee for the next two years," Merriweather said.

Potential policy considerations currently being discussed include the following:

- Interoperability and Interconnectivity
- GIS Data Standard Revisions
- Awareness and Outreach

An important element of the interoperability and interconnectivity discussion centers on 9-1-1-focused third-party applications, such as RapidSOS, which promise a better way to call 9-1-1.

"We need to develop policies for how we handle not only their emergence but also their proliferation," Merriweather said. "Such apps are coming out of the woodwork, and we need to be able to deal with them consistently across the state. If we don't, it will be a problem."

Merriweather added that the GIS standards—first developed by ECAC and approved by CSEC in 2015—need revision largely because the National Emergency Number Association (NENA) currently is revising its GIS data standards.

"Our approach is to strictly align with the NENA standards, unless there is a very specific reason for establishing an exception across the state program," Merriweather said.

One exception concerns the NG9-1-1 architecture. NENA envisions the first hop call routing occurring at the national level, the second at the state level and the final hop occurring at the local public safety answering point (PSAP).

However, that vision depends on a state having just one ESInet. Texas ultimately will have multiple ESInets; in addition to CSEC's State-level ESInet, North Central Texas COG, Capital Area COG, Greater Harris County 9-1-1, and Bexar Metro 9-1-1 are planning to launch regional ESInets, and more likely will emerge. That will create some call-routing challenges for service providers, according to Merriweather.

"The service providers will need to know which Location Validation Function to ping, and which ESInet to use, in order to deliver the call to the right PSAP," Merriweather said.

"Consequently, we will need to create a Forest Guide, which is based on GIS data, that will be used by service providers, and the ECAC will need to develop policies around its use."

Regarding awareness and outreach, Merriweather said that a "tremendous need exists" for CSEC and the ECAC to provide leadership and information to smaller 9-1-1 entities that don't possess the level of 9-1-1 expertise that is common at the district and COG level.

"Some don't fully understand at the municipal level why NG9-1-1 is important and what the decision points are," she said. "Specifically, we need to educate and inform them about the importance of GIS data, which is the heart of NG9-1-1, because it is what call-routing will be based upon."

In addition to the above, the ECAC must stay attuned to 9-1-1 evolution over the next two years.

"Things are moving fast, and the Committee has to stay on top of it all," Merriweather said. ■

*"We need to identify the key policies that need to be defined, or refined, and prioritize those, in order to establish a work plan for the Committee for the next two years."*

— Kelli Merriweather,  
CSEC



*"[Third-party 9-1-1 applications] are coming out of the woodwork, and we need to be able to deal with them consistently across the state."*

— Kelli Merriweather,  
CSEC

## Telemedicine Pilot Project Could be a Game Changer

The Telemedicine Medical Services Pilot Project, which was established by House Bill 479 in September 2015, is a joint effort between CSEC and the Texas Tech University Health Sciences Center (TTUHSC) to assess the feasibility of connecting trauma doctors to emergency medical technicians (EMTs) in the field via highly secure broadband connections.

Under current Texas law, EMTs only can treat patients when they are able to do so under a doctor's direction. Typically, that's not a problem in urban areas, where secure wireless connections between ambulance crews and trauma centers are common. However, in the state's rural areas, such connections, for the most part, simply don't exist.

"In such places, ambulances are used strictly for transport," said Kevin Rohrer, CSEC program manager.

Specifically for that reason, the telemedicine pilot project is targeting West Texas, which not only is very rural, but also is teeming with oil fields and fracking operations that have proliferated in recent years.

"When accidents occur in an oil field, we're not talking about paper cuts," Rohrer said. "Rather, they're dealing with fractured and severed limbs, concussions, serious burns, rattlesnake bites, and more."

Telemedicine involves much more than video conferencing. The ambulances used for the pilot project are equipped with numerous cameras and camera-enabled sensors that will enable trauma doctors to not only assess the patient's overall condition, but also to examine wounds, both inside and outside the body. Meanwhile, a variety of diagnostic instruments will keep doctors apprised of a patient's vital signs and other telemetry data that will enable faster and more accurate diagnosis, which in turn will help doctors to provide clearer and more timely instructions to the EMTs.

In addition, EMTs participating in the project are being outfitted with headsets similar to Google Glass that will enable them to venture up to 300 yards from their ambulance and still be able to receive instructions from doctors.

The hope is that emergency telemedicine one day will be available to rural citizens across the state, to improve their prospects for survival during the so-called "Golden Hour," the first 60 minutes after a trauma or cardiac event that often mean the difference between life and death.

"If this project is successful, it can increase the coordination of patient care once they get to the hospital," said Sharon Rose, RN, TTUHSC's EMS telemedicine project manager. "If an emergency room physician can see and assess a patient that is en route, they can call in surgical teams and other specialists and have them ready the moment that the patient hits the doors. This will speed up their care and that will make a big difference."

*"When accidents occur in an oil field, we're not talking about paper cuts."*

*— Kevin Rohrer, CSEC*

The telemedicine pilot project has special meaning to Rohrer, who several years ago was involved in a serious motorcycle accident that occurred when he failed to negotiate a curve and crashed into a rancher's fence. Fortunately, the accident occurred in an urban area where EMTs were able to connect with trauma doctors at the scene.

"At one point, I heard the emergency room doctor say to the paramedics, 'He's going into shock, hit him with the morphine now,'" Rohrer said. "Because of the telemetry data he was receiving from the scene in real time, the doctor knew what was going to happen before the paramedics who were monitoring me in the ambulance."

Without that connection between the EMTs and the trauma doctor, Rohrer would have gone into shock while en route to the hospital and his life would have been in jeopardy.

"That's what we're trying to bring to the rural parts of Texas." ■



Emergency telemedicine would enable rural EMTs to deliver on-scene treatment similar to their urban counterparts. (Amarillo Globe-News)