

# The ROVER Reporter

A QUARTERLY PUBLICATION OF eGPS SOLUTIONS

SUMMER 2008

## Atlanta's I-85 and Hwy. 316 Interchange

**T**he I-85 and Hwy. 316 Interchange is a \$147+ million dollar project that was designed to solve many of Gwinnett county's traffic problems. These problems that presented themselves during design were connecting the traffic from Hwy. 316 to Pleasant Hill Road, constructing a bridge over 5 lanes of traffic, navigating the HOV lanes through the interchange, and how to rebuild the interchange while not disrupting the daily traffic flow. The project is expected to be completed December 31, 2008 and has constantly been ahead of schedule. eGPS is proud to be part of this project. Carl McNally, co-owner of McNally & Patrick, Inc. in Lawrenceville and an eGPS subscriber, has been working the interchange and eGPS was able to discuss this project with him.



**Q:** How long have you been surveying?

**A:** My first experience surveying was in the summer of 1964; this was a summer job for Thiele Kaolin Company in Sandersville, Ga. Our job was looking for lost corners on property Thiele had bought in Warren and McDuffie Counties. In 1970 I moved to Smyrna, Ga. and worked for Shirey & Nelson for a while before moving to Lawrenceville to take a job with Hannon, Meeks & Bagwell. I became registered in July 1976 and in October of that year started McNally, Patrick & Associates with my long-time friend Ray Patrick. The Company later became McNally, Patrick & Cole. Roy Cole was associated with the firm until 1984, when he left to start a building and construction business. Our firm then became McNally & Patrick, Inc.

**Q:** What was the last project you worked on that was similar to this one?

**A:** The I-85 and Hwy. 316 Interchange is the largest project we have worked on to date. However, we have worked on many state highway projects since 1978. The very first was the extension of Hwy. 316 from Pike Street to U. S. Hwy. 29. Currently, we are working on the Rome Bypass; 7 miles of limited access divided highway. The Fall Line Freeway which is 8 miles limited access divided highway is currently under construction in Wilkinson and Baldwin Counties. All of our high-

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### Welcome to Our Newest Subscribers:

GeoDigital International, Inc.  
Barrett-Simpson, Inc.  
Charles H. Tomberlin & Associates  
Georgia Land Surveying Co.  
Greenhorn & O'Mara

### Mark Your Calendar:

#### July 17 – 19

SAMSOG Summer Meeting  
Sea Palms Resort  
St. Simons Island, GA

#### August 20 -23

FSMS Annual Conference  
Tampa Waterside Marriott  
Tampa, FL

#### September 15 – 19

ION GNSS  
Savannah Convention Center  
Savannah, GA



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jobs are similar in that they require staking for bridges, roadway, drainage structures, retaining walls, paving overlays, light standards, etc. The main differences are reflected in the length of project, whether or not it is new construction or widening. The Georgia Hwy. 316 – I-85 project was really a very large widening project. The traffic is a major concern, the safety aspect as well as the noise.

**Q:** *What differences in technology have you seen when comparing these projects?*

**A:** Transit and chain with some EDM involved on the early projects; the constant struggle to maintain a control network versus today's ease of re-establishing work (or control points) for staking. With GPS and eGPS we are able to go immediately to work.

**Q:** *What part of this project have you been working on? What is your role?*

**A:** This was the first project on which we used GPS. We had the project divided between two crews, each working either the north or south bound (portions of the site). I helped in coordinating their control points and instructing them in the use of the GPS for application. We had previously done this by using conventional methods.

**Q:** *What different types of surveying: conventional, robotics, integrated (GPS & Robotics) have you used or integrated on this project?*

**A:** Grades have been set on this project using a level and rod, by trigonometric leveling and by GPS so it could be said that all types of establishing elevations have been used. The scope of the job horizontally has dictated the use of the horizontal layout method that would be best suited for the degree of accuracy required for each particular task.

**Q:** *What type of equipment are you using and what size crew do you have?*

**A:** We have had 2 two-man crews on the majority of this project using the whole gamut of surveying equipment including Topcon total stations and robotic instruments, SMI Data Collection software and Trimble R8 GPS Rovers.

**Q:** *How long do you plan for this project to take?*

**A:** The job was originally planned for completion in three years by the end of 2008. However, we are currently ahead of schedule by approximately four months.

**Q:** *How has the RTN Technology helped your progress, meeting deadlines and achieving completion, expenses?*

**A:** It enabled us to do some work at night and also gave the ability for one man to use the GPS to set points for signs, cameras, lighting, etc.

**Q:** *How have technology advancements helped you meet your goals with this project?*

**A:** On this project we have used robotics and GPS, something we have not done before. GPS was used extensively for horizontal control network and vertical was utilized extensively relative to the projects proposed grades. On this project we staked 11 bridges of multiple lengths with the longest being 5 miles. We utilized the GPS for the horizontal beam alignment. My

professional opinion is that GPS has enabled us to keep the project on schedule. As we continue to utilize GPS we are discovering more applications relative to our projects resulting in time saved. In the 70's surveyors joked that every project was tied to the lone bench mark located at the county courthouse steps – now we carry our

vertical and horizontal control in the back of our truck!

**Q:** *Gwinnett County holds a reputation of being a progressive thinking county, how has that impacted your part of the Interchange expansion and integrating RTN survey practices with DOT standards?*

**A:** Gwinnett County GIS requires that we have state plane coordinate values for boundaries and construction plans. Also Georgia DOT construction plans are tied to the state plan coordinate system.

**Q:** *How did you overcome the extensive traffic control demands of this project?*

**A:** Coordination with the prime contractor for the lane closures was required for safe working conditions during the daylight and nighttime hours and was key to the completion of this extensive project in a timely manner. Using GPS along with our eGPS subscription allowed us to spend the very least amount of time possible out in the road. The ability to get quick and accurate readings at night was, I believe, most beneficial to us on this project

*We would love to share your eGPS projects. Contact Martha Vaughn [mvaughn@eGPS.net](mailto:mvaughn@eGPS.net) or 770-695-3361 for more info.*



# Lance Andre Joins eGPS In Florida

Lance Andre joined eGPS Solutions in June 2008 as a sales and support technician. He brings over 19 years of technical engineering experience, and a solid background in GNSS development and technology which includes: backgrounds in product management, RTK base station network management, and training.

Prior to eGPS Solutions, Mr. Andre was a GNSS and SMI Product Manager for Eagle Point Software in Dubuque, Iowa. He was solely responsible for the design, implementation, training & support of the Geo++ RTK networking product line in North America.



Mr. Andre's exceptional background includes 8 years in the U.S. Marine Corps. Over the course of his military career, he served as an infantry unit's leader and forward observer for the 155mm Artillery. He is a veteran of Operation Desert Shield / Operation Desert Storm. Mr. Andre holds a BS in Engineering from Kennedy Western University and an AS in Applied Science from Southwest Iowa College.

## Product Showcase Sokkia on the Network

Great news for Sokkia users! eGPS Solutions recently had success getting the Sokkia GSR2700 ISX to operate with CarlsonSurvCE 2.0 on our network in the Tampa area through the implementation of an Airlink modem. Neither Sokkia nor Carlson support could tell us why or when a cell phone would work, but the Airlink unit worked great and information streamed normally. The Sokkia unit comes with internal GSM modems that we have yet to try. More news on that as it becomes available.

Until we test further, Sokkia users can purchase or rent an Airlink modem from eGPS Solutions. We are an authorized Airlink dealer. The purchase price is approximately \$905 for a complete package including the modem, cable, antennas and activation. Airlink users will also need to budget monthly service charges from your preferred carrier such as Verizon or Alltel. Rental fees, including all accessories and network access are priced at \$20 per day, \$40 per week or \$125 per month.

Our sales and rental professional, Martha Vaughn, can answer your purchase or rental questions. Martha can be reached at 770-695-3361 or [mvaughn@egps.net](mailto:mvaughn@egps.net).

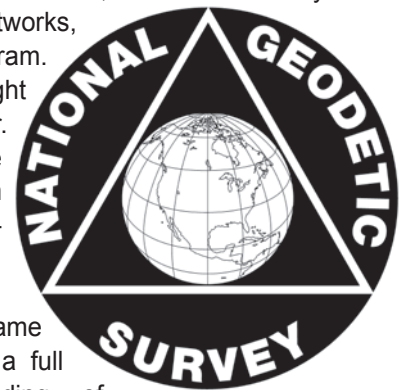


## Training Notes:

eGPS Solutions is a really big advocate for training and continuing education. In fact, on June 2nd, 3rd, and 4th of this year, we sent Lonnie and Jeff to training classes conducted by the National Geodetic Survey at their Corbin, Virginia training facility. The National Geodetic Survey ([www.ngs.noaa.gov/corbin](http://www.ngs.noaa.gov/corbin)) is the US government agency that leads the world in geodesy. The information packed sessions included topics such as OPUS, OPUS-RS, the NSRS history and future, Real Time Networks, and the NGS CORS program. These classes were taught by NGS instructor's Dr. Richard Sney, Mr. Dave Doyal, and Mr. William Henning with several additional guest speakers.

Lonnie and Jeff both came out of the classes with a full understanding of

all of the topics and have been given permission to use the teaching materials provided by the NGS at eGPS' roundtable meetings and other training venues. eGPS has made this investment of time and money to increase the value of our training with a goal to stay at the top of our industry.



# eGPS Offers Precision Ag

Farmers know how to use GPS to find their way on the road. Now they are farming in the 21st century with true *Precision Agriculture*. The Global Positioning System (GPS) is a revolution in the agriculture industry from finding the way to the middle of a corn field and accurate field guidance, to critical row crop driving and ultra-precise elevation mapping.

eGPS's Single Base option vectors signals from the closest base station which is good enough coverage for many farmers' fields within a 20-mile radius of the base station. If fields are more distant than about 20 miles from the base, operators must become fluent in reconnecting to adjacent base stations and recalibrating their tractors as they move to distant fields. Available in Georgia, Florida and Alabama.

The True VRS option (Virtual Reference Station) allows farmers with multiple and more distant fields to use GPS with continuous connection and calibration, so they can haul their tractors anywhere in Georgia and Florida, and easily farm with Precision Ag.



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## President's Corner

The days of summer are in full swing and eGPS continues to realize a steady growth in subscribers to the network. We have seen Surveying and Engineering companies in Florida and Georgia make necessary adaptations due to the nature of the economy today.

eGPS too has adapted.

We introduced our "Flex-Plan" with pricing which has helped many companies take advantage of our network, increase their productivity and cut costs. The "Pay-as-you-go" approach of the plan has really proven helpful where there is a need for continual network access, while already owned equipment is compatible to use for network access. We have also seen an increase in rover rentals in lieu of new sales of GPS rovers.

The economy today is a touchy subject with everyone and folks are forced into getting more out of their time on the job. With gasoline costs soaring, survey tasks must be done in less time to prevent return site visits and insure profitability. Doing more with less has been one of the reasons the majority of our users initially subscribed and the tougher the economic environment becomes the more benefits of using RTNs appear.

eGPS is committed to the success of each subscriber; will continue to train and assist our subscribers to increase their productivity and stay competitive in the marketplace. This is how we maintain our subscription renewals and prove our worth to you, our subscribers. We are adding 4 new sites in Georgia. They are located in Blakely, Sylvania, Waynesboro, and Waycross and should be installed mid-July. This leg of expansion will complete our 50km spaced network in all of South Georgia.

Please join me in welcoming aboard our newest addition Lance Andre at the SAMSOG Summer Meeting. He will be based out of Florida. We are excited to take advantage of his technical expertise of Geo++ in our Florida network.

Lonnie Sears, RLS  
President, eGPS Solutions

