

## Missouri's Department of Transportation Standardizes on NavCom's GPS Technology to Build and Upgrade Critical Roads throughout State

From preliminary topographical surveys to earth moving and construction, our State Departments of Transportation face new challenges on every project. To conquer these challenges and increase the efficiency of their survey crews, the Missouri Department of Transportation (MoDOT) went looking for the latest in GPS RTK technology. After evaluating various GPS solutions, MoDOT chose to standardize on Eagle Point's Flex System consisting of a NavCom integrated RTK GPS receiver and SMI controller software – an economical, easy-to-use and efficient package, integrating seamlessly into the agency's project requirements.

### FINDING THE RIGHT SOLUTION

MoDOT oversees both new construction and reconstruction of their vast highway network, requiring years of planning and a small army of people working throughout the rugged terrain in all weather conditions and employing scores of technology. "Prerequisites for our RTK solution were not only accuracy and reliability, but the need for easy to use, durable systems that offered flexibility and compatibility with our existing Windows®-based utility programs" explains Loran Chick, MoDOT's Registered Highway Liaison Surveyor.

Having evaluated the NavCom RT-3010S using SMI controller software from long-time partner Eagle Point, MoDOT determined the NavCom unit to be a definitive fit. The system's Windows®-based utility program offered full compatibility with MoDOT's existing programs, thereby eliminating the costly expense of changing utility programs and re-educating crews on the proprietary software of other GPS systems. This seamless integration provided an immediate recognized value. With the additional time saving benefits and product features, including built-in communication radios and improved under-canopy operability, NavCom's RT-3010S GPS with SMI's software quickly became the survey instrument of choice for MoDOT surveyors.

### ROAD BUILDING IS COMPLICATED, THE EQUIPMENT SHOULDN'T BE

A recent project along a 52-mile stretch of Route 67 in the Southeast District of Missouri called for the expansion of a two-lane road into a four-lane divided highway from Poplar Bluff just north of Arkansas to St. Louis. In addition to the size of the project, the hilly Ozark Mountain landscape coupled with the extensive tree canopy within the Mark Twain National Forest posed additional challenges for MoDOT.

"We've had three crews working this site using the RT-3010S system in all phases of the project – from the preliminary research through design, construction and post-construction quality assessment. Previous to switching to NavCom, we were establishing coordinates the old-fashioned way, and it took days. With the RT-3010S, the system is ready to go out of the box and establishing coordinates takes only minutes. This time savings alone provides us with a significant reduction in costs" said Chick.

Enhancements in the RT-3010S software also allow for robust use of marginal measurements when GPS



coverage is spotty in areas of foliage, a benefit not typically achieved in a highly portable RTK solution. MoDOT crews have been impressed that the RT-3010S allows them to work efficiently throughout the mountainous and tree-lined areas of Route 67 with little to no loss of performance integrity.

Today MoDOT has more than 40 NavCom RT-3010S units hard at work on large-scale projects throughout the state. "We use this equipment daily in the field, and for non-stop use like ours, the hardware and software's reliability is as important as the GPS function itself," said Chick. "We don't have the luxury of taking time off for equipment that needs constant repair or must be handled with kid gloves, and our NavCom systems go the distance."

### ELIMINATING BARRIERS THROUGH MULTI-USE FUNCTIONALITY

MoDOT's other key selection criteria for the NavCom GPS system included multi-use functionality. The RT-3010S is the only system on the market equipped with built-in spread spectrum radios providing a short range communication alternative when external cell phones or UHF radio links are either unavailable or unnecessary. "Within major cities, we generally use cell phones for data transmissions, but the built-in radios have been a great asset in rural areas with limited cell phone coverage." Chick continues, "The built-in radios allow for continuous workflow, lowering communication costs as well as lightening each crew member's equipment load."

As much as time and cost efficiency are important factors for all MoDOT projects, equipment that provides versatility and solutions to common obstacles is invaluable. In addition, the GPS units are interchangeable and function as either a base station or a rover, providing added flexibility for the crews. The intuitive design of the RT-3010S, coupled with SMI's straight forward interface, provides a turnkey operation, eliminating the need for extensive training. As Chick says "To start the unit, we basically remove it from the box and turn it on."

NavCom's RT-3010S is a fully integrated solution ideally suited as a pole-mounted RTK rover or a tripod-mounted RTK base station for rapid centimeter-level accuracy. The RT-3010S solution is designed for productivity with minimal setup time.



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