



On Parole in New Mexico

In 2003, when the Bureau of Justice Statistics issued statistics on the number of people in the United States on probation or parole, the tally came to just under 4.85 million—roughly 4.1 million probationers and 775,000 parolees. All these individuals required some degree of supervision—a daunting challenge for community corrections both then and now. This challenge, however, became a little less daunting with the introduction of Global Positioning System (GPS) technology.

Beginning in the late 1990s, probation and parole departments began using passive monitoring systems, whereby a monitoring “bracelet” tracks an offender’s location via GPS technology. With passive systems, however, an officer only receives information when the offender returns home and reports in using a device connected to a modem and landline phone. Passive systems do not provide real-time or even near real-time references, which could potentially prevent incidents such as a rape and murder committed by a sex offender on probation in New Mexico in early 2003. That incident, along with the support of the State’s governor, resulted in funding for the New Mexico Corrections Department to purchase a system based on more advanced technology that employed active tracking.

Active tracking, via GPS technology, constantly tracks an offender’s location and uses cellular technology to provide near realtime reporting. A probation or parole officer can use the cellular system to locate an offender any time. The technology also allows the officer to draw an “invisible fence,” or exclusion zone, around an area such as a playground. If an offender ventures inside a forbidden area, the bracelet sends an automatic alarm telling him to leave the area immediately. At the same time, it broadcasts a similar real-time alarm to the probation or parole officer.

Faced with the prospect of purchasing innovative yet essentially untested technology, the New Mexico Corrections Department called on the National Institute of Justice’s Rural Law Enforcement Technology Center

(RULETC) in Hazard, Kentucky, and its technology partner, the Eastern Kentucky University (EKU) Justice and Safety Center, for help. In February 2004, the Post-Incarceration Active Remote Offender Location Evaluation (PAROLE) project began.

According to project staff, the problem the New Mexico Corrections Department faced was the same one faced by many law enforcement and correctional agencies: the agency did not have the time or the facilities to test the available technologies.

Corrections department representatives identified four active tracking systems for evaluation and defined their requirements:

GPS . . . EXACTLY

GPS, short for Global Positioning System, is a “constellation” of 24 satellites orbiting the Earth and their corresponding ground stations. These satellites are positioned 10,600 miles above the surface and make two complete orbits every 24 hours. They are spaced so that at any point on Earth, four are above the horizon.

Each satellite contains a computer, an atomic clock, and a radio. With an understanding of its own orbit and the clock, each continuously broadcasts its changing position and time. In addition, once a day, each satellite checks its own sense of time and position with a ground station and makes any minor corrections. GPS receivers on the ground contain a computer that can triangulate its own position based on the information received from three of the four satellites.

Originally called NAVSTAR (Navigation System with Timing and Ranging), GPS was developed and is operated by the U.S. Department of Defense. Before

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- Tests should be conducted in New Mexico, where the technology would be used.
- The devices had to work not only in large urban areas such as Albuquerque and Santa Fe but also in more remote areas away from major thoroughfares such as Roswell and Hobbs.

Each of the four systems underwent the same 2-day testing protocol. This protocol did not rank the systems in any way or include any procurement recommendations. Although each of the systems had differences, they all depended on a cellular infrastructure to report data. All four performed with some success in the urban area used in the evaluation; however, none of the four could locate a cellular signal in the remote area.

“If the device is operating in a noncoverage area, it continues to collect data, but it can’t report it until it returns to an area with a cellular signal. The devices consistently track the offender, but an officer can only poll them if cellular coverage is available,” says Todd Depp, a member of the project staff. Depp notes, however, that with continuing advancements in cellular technology, improvements relating to coverage areas are likely to occur.

“They [Eastern Kentucky University] have quite a reputation for the quality of their work and their helpfulness to criminal justice agencies,” says Erma Sedillo, deputy secretary of operations for the New Mexico Corrections Department. “We had [the project team] do all the leg-work for us. I think they did very thorough testing. They did things we would never have thought of, like putting it in a bucket of water [to test the ability to interrupt bracelet circuitry so that it may be removed without an alarm].

“The New Mexico Corrections Department will consider the testing outcome in making its purchase decision,” Sedillo says, adding that “input has made us look twice at all the products based on the results of the testing.” Knowing about the limitations in rural areas, she says, will also enable the department to come up with a plan that combines active and passive technologies utilizing GPS.

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GPS . . . Exactly (continued)

its civilian applications, GPS was used to provide round-the-clock navigation capabilities for military ground, sea, and air forces during all types of weather.

Scientists are now using GPS to measure such things as volcanic activity and the movement of polar ice sheets and the Earth’s tectonic plates. GPS receivers also are increasingly becoming consumer products. In addition to their outdoor use (hiking, cross-country skiing, ballooning, flying, and sailing), GPS receivers can be used in cars to relate the driver’s location with traffic and weather information.

The PAROLE project team has issued a preliminary evaluation report to the New Mexico Corrections Department. The final report, which is currently under review by the National Institute of Justice, will be available to the general public later this year. Although cellular coverage and capabilities differ from State to State and community to community, this final report should provide information that can help other agencies make informed decisions.

For more information about the Post-Incarceration Active Remote Offender Location Evaluation project, contact the Justice and Safety Center of Eastern Kentucky University, 859-622-8261.



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