

Department of Public Safety Telecommunications Bureau (Report Highlights)

March 2001

The Telecommunications Bureau maintains DPS' telecommunications system. The system allows DPS officers to communicate with dispatchers using mobile and handheld radios.

Our Conclusions: DPS' telecommunications system relies on outdated and obsolete analog technology that DPS needs to replace with digital technology over the next several years. Compounding the problem, the Bureau also faces a shortage of telecommunications technicians, who will be critical to the process of changing the system over to digital technology.

DPS' Radio Network Operates on Obsolete Technology

DPS depends on its radio network to provide statewide communications with its officers in the field. In addition, ten other state agencies also rely on the network for their communication needs:



Microwave Radio Network Users

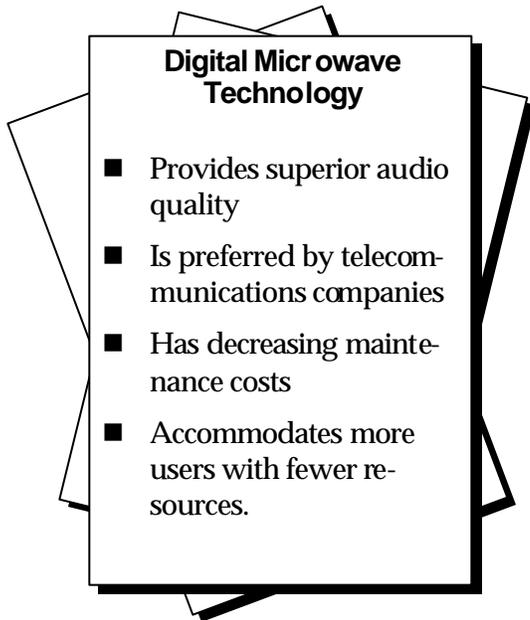
- Department of Public Safety
- Arizona National Guard
- Arizona State Parks
- Department of Agriculture
- Department of Corrections
- Department of Health Services
- Department of Juvenile Corrections
- Department of Liquor License and Control
- Department of Transportation
- Game and Fish Department
- State Land Department

Seventy-six remote sites located throughout Arizona and its bordering states make up the microwave radio network. Each site typically has a building containing the radio equipment, a tower with antennas, emergency generators, and batteries.

Current system obsolete—This radio system relies on analog microwave radio equipment that is no longer manufactured. Using obsolete technology means that:

- DPS must rely on spare parts to maintain its system. DPS estimates it has only a three-to five-year supply of parts.
- DPS cannot expand its system to accommodate growth or to eliminate "deadspots." There are deadspots on 5 to 10 percent of the highway miles DPS patrols.

In addition, digital microwave technology offers many advantages over analog:



Almost all of the other Western states have already converted to digital.

DPS has delayed addressing the outdated system—A 1994 study by DPS recommended immediate conversion to digital technology if any **one** of six circumstances occurred; **three** have already occurred. For example, vendors have notified DPS that they will no longer support the obsolete analog radio equipment.

Costs of conversion—DPS’ preliminary estimates are that it will cost over \$55 million to convert its radio network to a digital system. However, DPS still needs to develop a conversion plan to provide specific information on such things as:

- **Operational requirements**—For example, DPS estimates it may need to both add new tower sites and replace or improve 95 percent of its existing towers.
- **Method of conversion**—DPS may be able to replace the system in phases, doing one-third of the system at a time.
- **Costs**—If the conversion is phased, less up-front monies will be required.

DPS should plan now for the conversion—There is a greater urgency now to get the process underway.

- It could take up to 15 years to complete the system.
- Radio frequencies are limited and are becoming scarce.

DPS should:

- ✓ Develop a plan for converting to a digital telecommunications system as soon as possible.
- ✓ Seek grants to help finance the cost of digital conversion.
- ✓ Seek funding from the Legislature.

Future Staff Vacancies Could Impact Conversion to Digital System

In the next three to five years, one-fourth of DPS’ telecommunications staff expect to retire. These experienced technicians ensure the continuous operations of the communications system. Because of this knowledge, they will play a pivotal role in the conversion to digital.

DPS has difficulty attracting new technicians—Several high-tech industries, including Arizona Public Service (APS) and Salt River Project (SRP), compete for the same applicants. While DPS’ entry-level salary is not too far below these companies, the private sector offers hiring bonuses.

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*Private sector hiring bonuses range
 from \$2,000 to \$10,000.*
 ◆————◆

DPS can improve its recruiting efforts—DPS has taken some steps to improve recruiting. It has:

- Developed an apprentice program.
- Considered modifying its background requirements to ensure a broad applicant pool.

DPS can also:

- Increase its recruiting efforts for entry-level trainee positions at technical schools.
- Review the feasibility of offering hiring bonuses from vacancy savings, similar to a Department of Administration program.

DPS should:

- ✓ Continue efforts to hire apprentices and trainees.
- ✓ Assess offering hiring bonuses.

To Obtain More Information

- A copy of the full report can be obtained by calling (602) 553-0333 or by visiting our Web site at:

www.auditorgen.state.az.us

- The contact person for this report is ***Dot Reinhard***.