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16. Abstract

This research was an evaluation of the Arizona Department of Transportation's (ADOT's) intelligent transportation systems (ITS) in rural Arizona, with the objectives of 1) Measuring the performance and documenting the benefits of deployed systems and ADOT's rural ITS program; 2) Identifying and documenting operating and maintenance (O&M) costs and issues; 3) Determining travelers' perceptions and reactions to rural ITS ser-vices; and 4) Determining how well ADOT has adhered to the vision of its 1998 ITS Strategic Plan. Eighteen ITS elements were selected for detailed study. The methodology included: literature review (earlier ITS plans, performance measures); surveys of and interviews with institutional users (ADOT, Department of Public Safety, other agencies) and the general public; ITS infrastructure performance data collection and information analysis.

The study concluded that: 1) ADOT has succeeded in mainstreaming the use of high-profile ITS elements (Variable Message Signs, cameras, Road Weather Information Systems) within rural Districts and has suitable plans for deployment/enhancement of these devices and systems; 2) Several other ITS elements are worthy of broader deployment; 3) Overall performance of most deployed systems is good; 4) Key needed improvements should focus on field equipment performance, communication systems, central software, information quality and format, maintenance, and public outreach; 5) O&M costs for rural ITS are substantial; 6) Maintenance of ITS systems is a high priority for ADOT both for operational and potential liability reasons; 7) Travelers are gaining familiarity with and perceive ITS elements as useful; and 8) ADOT has adhered well to the 1998 ITS Strategic Plan's vision.

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