

Technology Deployment Initiatives and Partnership Program Request for Funding FY 2005

FHWA Strategic Goal Area(s): Safety, Productivity

Focus Technology: None

Project Title: Evaluation of remote monitoring systems for road construction

Problem Statement: With an increasing annual program size and fluctuating project loads, and the number of project staff resources available to perform contract oversight at a fixed level, innovative ways to execute our responsibilities need to be identified and explored. Additionally, we are operating under an objective to minimize construction-engineering costs to optimize facility improvements.

Our typical projects include several site locations spread out over 2 to 5 miles and our typical staffing is around 2 to 4 people per project. The inspectors and project engineers are usually required to allocate their time to the sites or operations with the most risk and leave some work unsupervised for extended periods of time. Additionally, overtime hours needed to cover the understaffing continues to be a problem for our office.

A technology that allows one person to view two or more sites or simultaneous construction activities at the same time could potentially increase efficiency, reduce staff overload, and help intercept construction problems before they become unmanageable.

Proposal: To deploy a remote monitoring system at two construction sites during the summer of 2005. This system will be a portable or semi-fixed standalone system customized to each site's unique construction activity requirements. This will include installation, customization, training, and support required to deploy an autonomous wireless video surveillance and remote site management system. The time-lapsed digital imagery will be wirelessly transmitted for viewing at the project engineer's office and the engineering support personnel at Vancouver, WA.

Benefits: A remote monitoring system will enable the construction project engineer to oversee multiple construction sites on a project simultaneously. In addition, this will provide high-resolution data for the engineering support personnel in Vancouver, WA and their primary stakeholders. This will result in both time and cost savings for construction engineering. Data can be recorded and archived for future use if problems or questions arise. In areas where there is a confined construction activity or direct observation is either unpractical or dangerous, this will provide a safer method of monitoring.

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| <u>Resources/Cost:</u> | Remote Monitoring System | \$50,000 |
| | <u>Installation and Support</u> | <u>\$20,000</u> |
| | <i>TOTAL:</i> | <i>\$70,000</i> |

Duration: March 2005-October 2005

Organization/Method: The systems will be deployed and supported by the manufacturer during the evaluation period. The two sites will be selected during the construction season on the basis of their importance in consultation with WFLHD Construction Engineer.

Submitter:

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