



## Promoting Adoption of Work Zone Intrusion Technologies in Highway Construction

### **Reducing Highway Construction Fatalities through Improved Adoption of Safety Technologies**

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#### **Overview**

Highway construction is commonly associated with high rates of worker accidents. Nevertheless, the diffusion of safety technologies such as work zone intrusion alert technology (WZIAT) within the highway construction industry is limited due to concerns about technology effectiveness, cost implications of adopting a technology, and failure to perceive potential safety and cost benefits. This study attempts to develop tools and identify effective processes that could be used to improve the adoption of work zone safety technologies using work zone intrusion technology as a case study.

#### **Key Findings**

- The adoption of construction safety technologies is primarily driven by factors distributed across four categories: technology factors; individual factors; organizational factors; and external factors.
- Based on financial analyses, WZIAT has a positive benefit-cost if the technologies can prevent between 12.6% and 34% of intrusion accidents that lead to injuries and fatalities on highway construction projects.
- Labor cost associated with WZIAT contributes a significant fraction of total implementation cost.
- Worker comprehension of warning signals, adequate coverage distance, and few or no false negative and false positive alarms were the most important technology-based factors.
- Perceived ease of use and positive opinions of respected colleagues (“subjective norms”) are strong predictors of a worker’s intention to accept and implement a work zone intrusion alert technology.

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#### **Read the report:**

<http://bit.ly/2EJK9og>

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