Avalanche Research Pooled Fund TPF-5(337)

A collaborative research effort in the field of avalanche hazard assessment and mitigation, with the goal of improving the safety.

WHAT IS THE NEED?

Reducing the avalanche hazard to transportation corridors is crucial to the winter operations programs of any western state Department of Transportation (DOT). Previous research completed by each DOT could have been shared among themselves. However, due to a lack of long-term collaboration, resources utilized for the same or similar research efforts were duplicated, which could have been used more efficiently and effectively.

This research aims to address these challenges by forming a coalition of transportation related groups with interest in avalanche control research; and create a pooled fund to provide a single source of funding for unified research efforts that will benefit all contributing parties.

This will allow for larger and more significant research projects to be undertaken and will lead to an overall cost savings by consolidating many different DOTs’ research efforts in the same field.

WHAT ARE WE DOING?

The research team will focus on the following areas:

- Infrasonic sensing and mapping/ Light Detection and Ranging (LIDAR)
- Avalanche Safety/ Risk Management
- Avalanche Information Exchange Platform for information sharing
- Further development of the Mobile Blast Shield
- Explosives techniques, including an extension to an existing Case Charging contract
- Avalanche Asset Management
- Other New Technology

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WHAT IS OUR GOAL?

The goal of this research is to support collaborative research efforts in the field of avalanche hazard assessment and mitigation, with the goal of improving the safety, efficiency, and quality of control efforts, along with providing better information gathering and analysis techniques and seamless integration of new technologies to further these goals.

WHAT IS THE BENEFIT?

The benefit of this research is providing the most up-to-date avalanche mitigation strategies. As a result, it would improve the motorist and workers’ safety, reduce avalanche control costs, and minimize delays to the travelling public.

Furthermore, the participation of the transportation-related agencies in this study will enhance cooperation in this industry, leading to improved future development of beneficial technologies, information and avalanche data sharing, and improvement of the safety, efficiency, and quality of the work conducted for all relevant agencies.

WHAT IS THE PROGRESS TO DATE?

The research team completed the tasks listed below as of January 2019:

- LIDAR final report
- Testing on the Obellx Avalanche Control System, which is a remote system that is based on exploding a hydrogen/oxygen gas mixture inside an open cone
- Infrasound project, which is an onboard processing and communications to send avalanche detection results.