**SOLICITATION LETTER**

**Study Number:** 1402

**Title:** Avalanche Research Pool

**Lead Agency:** Colorado DOT

**Lead Agency Technical Format Contact:** David Reeves PE I CDOT Research Branch

Kyle Lester, Director of the Division of Highway Maintenance

Tyler Weldon, P.E. Manager Division of Highway Maintenance

**FWHA Technical Liaison:** George Jones, FHWA Region 8

**Study Partners:** UDOT, WSDOT, ADOT, Alaska Railroad

**Background**

Reducing the avalanche hazard to transportation corridors is crucial to the winter operations of the DOTs in many western states, and, as such, are large budgetary items to these DOTs. Much of the research done by each DOT is relevant and useful to the efforts in other states, but there is not any official long term collaboration effort currently in place. Because of this, money can often be spent on the same research efforts in multiple different states. DOTs associated with the Avalanche Artillery Users of North America Committee (AAUNAC) currently have an annual meeting in Seattle, and have been meeting since 2012 to discuss avalanche mitigation efforts, but this covers only a small portion of total avalanche related control and research activity. Additionally, an accident at the Colorado DOT in March of 2013 made clear the diverging needs in avalanche control operations between DOTs and the ski industry (the other main player in avalanche work and research).

This effort 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.

**Objectives**

The study’s mission 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. The participation of many transportation related agencies in this study will also further cooperation in this industry, leading to improved future development of beneficial technologies and improved sharing of information and avalanche data, greatly furthering the safety, efficiency, and quality of the work done in this field for all relevant agencies.

**Structure and Funding**

In order to accomplish these objectives, collaboration between all parties is encouraged, regular Technical Advisory Committee meetings will be set, and an annual face-to-face meeting for all parties will be established to evaluate the current work done under the study and to plan and implement the group’s future activities.

To facilitate this, the group will be structured to provide members with two different levels of membership, based on contributions.

The Technical Advisory Committee (TAC) will vote on all group decisions, prioritize research projects, and allocate group funds. Additionally, the TAC will have an executive board of select TAC members (initially comprised of CDOT and UDOT representatives) to oversee administration and leadership. Each organization that participates on the TAC level will be represented on the TAC, will be able to send representatives to annual meetings, and will have one vote per organization, although multiple members of an organization may attend meetings. Organizations participating at the General level will be able to attend annual meetings and participate in group discussions, and have the ability to influence group decisions, but will not have voting rights.

Membership Levels:

* TAC Membership – Minimum annual commitment of $25,000 for a minimum of three years.
* General Membership – Minimum annual commitment of $5,000.

Funding will be provided by the members of the group, with minimum contributions listed above. As the lead state, Colorado will provide an upfront contribution of $90,000 to the fund. A total combined commitment over the next 3 years of $300,000 to the fund is the minimum required amount to initiate the study. As the program develops, it is hoped to attract membership from additional transportation-related organizations, both public and private sector, and federal grants to boost program funding.

**FUTURE Scope of Work/ Deliverables**

The group will fund research and development efforts to achieve the program goals, with initial proposed research focusing on:

* Infrasonic sensing and mapping/ LiDAR
* Avalanche Safety/ Risk Management
* Avalanche Information Exchange Platform for information sharing
* Mobile Blast Shield – further development
* Explosives techniques, including an extension to an existing Case Charging contract
* Avalanche Asset Management
* Other New Technology

**Additional Information**

Please contact Kyle Lester: 303-512-5218

Program website: to be developed

Organizational Charter: to be developed