UTC Project Information	
Project Title	Guidelines for Using Photogrammetric Tools on Unmanned Aircraft Systems to Support the Rapid Monitoring of Avalanche-Prone Roadside Environments
University	University of Washington
Principal Investigator	Ed McCormack
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Funding Source(s) and Amounts Provided (by each agency or organization)	University of Washington PacTrans $180,000 University of Washington $30,000 Washington State Department of Transportation $ 20,000 Alaska Department of Transportation $130,000
Total Project Cost	$360,000
Agency ID or Contract Number	69A3551747110
Start and End Dates	September 16, 2019-September 15, 2021
Brief Description of Research Project	This research effort addresses the PacTrans' topic area of *Improved Reliability across Modes*. Unmanned aircraft systems (UAS) technology (i.e. drones) paired with photogrammetric capabilities has the potential to provide rapid feedback on snowpack data that can be used to monitor and forecast avalanche risks. This data will assist Department of Transportation (DOT) winter maintenance staff who operate snow avalanche programs in the PacTrans region (Washington, Idaho, and Alaska) as well as most other western states with mountains, as they make difficult decisions about when to close and re-open highways in times of high avalanche risk or deploy other means of avalanche mitigation. This research effort creates a decision support tool to assist DOTs in more quickly responding to and mitigating avalanche hazards, opening roads, or avoid closing them at all and thus improving roadway reliability for both freight and passengers.

Describe Implementation of Research Outcomes (or why not implemented) Place Any Photos Here	
Impacts/Benefits of Implementation (actual, or anticipated)	
Web Links • Reports • Project Website	