

UTC Project Information	
Project Title	Synthesis of Best Practice for Design and Construction of Roadways and Airports Over Permafrost
University	University of Alaska Fairbanks
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Funding Source(s) and Amounts Provided (by each agency or organization)	University of Washington PacTrans \$53,000 Alaska DOT \$53,000
Total Project Cost	\$106,000
Agency ID or Contract Number	69A3551747110
Start and End Dates	September 1, 2018-August 31, 2020
Brief Description of Research Project	<p>The primary purpose of this project is to develop a Synthesis of Best Practice to give the practicing engineer guidance on</p> <ul style="list-style-type: none"> * where to expect permafrost and the type of permafrost that may be encountered * appropriate geophysical investigation * how to estimate thaw consolidation * an understanding of available techniques to build on permafrost, how to determine which technique is best suited to the situation and guidance on how to design using the selected technique <p>The <i>Synthesis of Best Practice</i> manual will allow the practicing engineer to use best practices for design of roadways and airports over permafrost terrain. Unfortunately, as the senior engineers retire, their knowledge often isn't passed along. As a result, mistakes often occur which result in avoidable high maintenance costs. While the information is available in the literature, it is not practical to expect young engineers to study the literature on their own. By synthesizing the literature, the practicing engineer will have a ready resource for guidance.</p>

<p>Describe Implementation of Research Outcomes (or why not implemented)</p> <p>Place Any Photos Here</p>	<p>UAF will be offering training beginning April 12 to introduce the synthesis and provide an overview of the content. Since the synthesis of practice is by its nature an implementation project, we anticipate it being used as a resource for the planning, design, construction and maintenance of roads and airports founded on permafrost.</p>
<p>Impacts/Benefits of Implementation (actual, or anticipated)</p>	<p>Many of the pioneers of building roads and airfields over permafrost have retired. Unfortunately much of that knowledge has not been passed along. Implementation of this Synthesis of Practice provides a concise summary of the literature and knowledge of the pioneers. The goal is to take advantage of the successes and failures of the past and to minimize avoidable mistakes.</p>
<p>Web Links</p> <ul style="list-style-type: none"> • Reports • Project Website 	<p>dot.alaska.gov/stwddes/research/assets/pdf/000S927.pdf</p>