Transportation planners and engineers commonly use cost/benefit tools to prioritize and validate deployments. However, there are few tools that provide a cost/benefit analysis for rural ITS deployments. In deploying ITS devices and systems, many State DOTs face the challenge that there are more requests for the deployment of ITS devices than funding to deploy devices. Therefore, states must select locations where ITS deployments will have the greatest impact. The North/West Passage (NWP) Pooled Fund Study recognized this challenge and cooperatively started a project to address this need. This project is focused on providing state DOTs as well as cities and counties with a cost/benefit tool to assist in deploying and prioritizing ITS deployments in rural areas. The NWP group’s efforts to date have focused on a cost/benefit tool for four ITS components: The primary concept of the NWP cost/benefit tool is that all assumptions, calculations, and threshold values used by the algorithms are transparent and visible to users. In fact, the NWP members are planning to engage the ITS community throughout North America to assist in refining all assumptions, calculations, and threshold values contained in the model. Over time, as the experiences of numerous agencies contribute to these values, the quality and accuracy of the cost/benefit tool will continue to improve. The final deliverable will be an on-line tool, or downloadable spreadsheet/database that any agency can access and use. The NWP program will encourage anyone with knowledge and insight to submit their input and feedback regarding the assumptions, calculations and thresholds. This will, therefore, encourage a cooperative refinement of the initial cost/benefit tool under development today based on the insights of the seven NWP states. Development In order to develop a detailed cost/benefit analysis the first step was to determine the uses for each device. For example one use for deploying a DMS is to post variable speed limits (VSL). Once all of the uses were identified the next step was to identify how many crashes could be reduced by using DMS for a specific use. For example, Wyoming DOT has deployed DMS to post VSL in locations prone to heavy winds. The statistics of crash reductions from these deployments (as well as VSL deployments in Washington State) were used as the initial assumptions for the impact of DMS used to display VSL. The NWP states also contributed local insight and accepted values for the costs that are saved by preventing crashes (societal, operational, and traveler costs). Similar processes to the above example were used for the various purposes defined for each of the ITS devices. In 2011, the NWP will conclude their initial evaluation of the first version of the cost/benefit tool. Results The presentation will describe the available tool (including a link to the live website), share the results of testing, and describe how ITS industry members can participate in improving and expanding the tool.