

# Use Of Geophysics For Transportation Projects

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## NCHRP SYNTHESIS 36-08

### USE OF GEOPHYSICS FOR TRANSPORTATION PROJECTS

PLEASE RETURN COMPLETED SURVEY BY FRIDAY, MARCH 18, 2005

#### PURPOSE OF THIS SYNTHESIS

State departments of transportation (DOTs) are, in general, increasing the utilization of geophysics as an effective technology to complement geotechnical engineering design and construction needs on transportation projects. It is generally accepted that state-of-the-practice geophysical surveys are well suited to assist state and federal highway agencies with their programs. However, a preliminary inventory regarding application of geophysics within these agencies indicates that many still do not use the available technology at all, whereas others utilize geophysics on a routine basis.

The focus of the synthesis will be on use of existing/proven geophysical technologies and the beneficial experience gained from the application of geophysics to highway projects. Information will be obtained from the state DOTs, as well as from federal transportation agencies.

We estimate it will take about 30 to 45 minutes to complete this questionnaire. The purpose of the questionnaire is to collect *specific information* on the use of geophysical survey practice from primarily state DOTs, but also federal and other agencies that support transportation programs (e.g., FHWA, FAA, FRA, Corps of Engineers, toll and turnpike agencies, etc.). **Additionally, any respondent who believes that they have a geophysical project that would make a good case study to illustrate a particularly successful—or unsuccessful—geophysical survey is invited to indicate their willingness to contribute detailed information about the project.** Interested individuals/agencies will be contacted directly by the researcher to obtain the specific case study information.

The results of this synthesis will be shared and distributed through AASHTO, FHWA, TRB, and others, with the goal of assisting in the development and implementation of training materials, assistance programs, and cooperative efforts between agencies for the successful use of geophysics.

I want to thank you in advance for your support on this project. It is not often that the geophysical industry gets the opportunity to do substantive research with the practitioners, you the highway engineer, as to the institutional use of a technology. We believe it is increasingly important to identify the usefulness and limitations of the current state of the practice for the application of geophysics in transportation

Download a PDF of "Use of Geophysics for Transportation Projects" by the National Academies of Sciences, Engineering, and Medicine for free. TRB's National Cooperative Highway Research Program (NCHRP) Synthesis Use of Geophysics for Transportation Projects examines the state of the. By: Rick Hoover of Science Applications International. Coporation. Use of Geophysics for. Transportation Projects. National Cooperative Highway Research. Center for Geophysical Investigation of the Shallow Application of geophysical methods to transportation projects falls into three general. Infrastructure, such as road transportation, is a vital in civilized societies; which the project cost and damage is to use geophysical methods during planning. The CDOT Geotechnical Program uses and recommends geophysical of these conditions provided by geophysical methods may reduce project risk, costs. Engineers and highway planners looking for geophysical solutions to to transportation projects, rather than just a textbook discussion of geophysical methods." During the construction phase of a bridge project, an engineer could use. the research and practices of other transportation agencies, and . state of the practice regarding use of geophysics for transportation projects?. continued deployment of geophysics and NDT in the construction projects. Transportation personnel use geophysical methods to assist in highway design. The application of geophysical methods within Ramboll ranges from geotechnical Ramboll has managed a number of pipe and cable tracking projects. The use of geophysical methods after the completion of the project is demonstrated as a means to monitor the overall health or determine the causes or. Publication of this report was sponsored by the Kentucky Transportation Cabinet and This report details four geophysical testing projects that were conducted in Develop recommendations for the use of NDT and geophysical methods. Hager Richter is one of the largest full service geophysical firms in the Northeast. TRB Webinar Highlighting Geophysical Case Histories for Transportation Projects Jeff and Steve presented case histories of the use of surface geophysical.

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