

## Finding Underground Utilities with Technology

*Combining multiple technologies on one platform to locate underground utilities in a single pass*

The number and variety of underground utilities can hinder utility location. Underground utilities can be made from many different types of materials and can be located at random depths in soil conditions ranging from silty clay to sandy loam. Because of this constantly changing pattern of interference, it may take several different technologies to locate and identify unknown utilities.

### *Utility-Locating Technologies*

## The Solution

New research developed through the second Strategic Highway Research Program (SHRP2) has created **a prototype multi-sensor platform that combines several types of technologies to locate utilities in one pass**. Multi-channel ground-penetrating radar, electromagnetic imaging, and seismic systems are some of the new technologies employed on this platform.

## The Benefits

Using cost-effective technologies to streamline the location process can benefit both the private firms that conduct utility location work and the state and local government agencies that pay for this service.

Saving time, increasing accuracy, and improving overall success rates provide additional benefits when the designer uses this information to engineer site-specific project solutions. The contractor benefits from having accurate utility location information and fewer surprises, which translates into savings in time and money.

## Who can use these tools?

This prototype technology is mainly geared for private-sector utility locators. It also has application for utility companies and state and local government agencies that do their own locations for underground utilities.

**One-pass platform streamlines underground utility location**

**FOCUS AREA:  
Renewal (R01B)**

Combining sensor technologies on a single platform can enhance the ability to locate hard-to-find underground utilities.

### **Save Money**

- Using multiple sensors on a single platform can reduce the passes needed to locate underground utilities to a single pass of the technology. Fewer passes save money.

### **Save Time**

- Combining multiple sensors on a single platform saves time in locating underground utilities.

## How can you learn more?

The prototype sensor platform is ready for commercial use. The full report on the new technology will be available in 2013 at [www.trb.org/SHRP2/Publications](http://www.trb.org/SHRP2/Publications). For more information, contact Amanda Rutherford at FHWA, [amanda.rutherford@dot.gov](mailto:amanda.rutherford@dot.gov) or Greta Smith at AASHTO, [gsmith@ashto.org](mailto:gsmith@ashto.org).

### About SHRP2 Implementation



The second Strategic Highway Research Program is a national partnership of key transportation organizations: the Federal Highway Administration, the American Association of State Highway and Transportation Officials, and the Transportation Research Board. Together, these partners conduct research and deploy products that will help the transportation community enhance the productivity, boost the efficiency, increase the safety, and improve the reliability of the Nation's highway system.

### Strategic Highway Research Program

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