



## Locating Underground Utilities – the Difference between On-Time Delivery and Costly Construction Delays

*New tools improve utility location practices contributing to time and money savings*

Locating and identifying underground utilities are major sources of concern for the transportation industry. It is important not only to locate, but also to identify what type of utility is potentially in an area of construction activity. This information is crucial to the safe, timely, and cost-effective delivery of major construction projects.

*Encouraging Innovation in Locating and Characterizing Underground Utilities*

### The Solution

Developed through the second Strategic Highway Research Program (SHRP2), **the software tool SAULT (Selection Assistant for Utility Locating Technologies) provides users with a web-based selection support tool to identify the most appropriate technologies for locating underground utilities at specific site locations.** The companion SHRP2 report provides **a comprehensive list of documented technologies for locating underground utilities.** The report characterizes the methods for identifying existing utilities and for marking new utilities that are currently being constructed for future location. The case studies highlight utility location and marking technology. The report also documents widespread examples of successful use in the field.

### The Benefits

By identifying underground utilities prior to construction, potential conflicts can be avoided during the project construction phase. Avoiding these conflicts can prevent costly delays and rework stemming from encountering unknown utilities in the field. Maintaining a delivery schedule is important to contractors, utility companies, and transportation agencies. Avoiding impacts on these schedules allow construction contractors to offer more appropriate bids that reflect lower risks, and ensure that costly user delays are avoided. Identifying technology that can be used to locate underground utilities, or that can mark new utility locations for future use, minimizes gas and electric facility impacts and prevents serious accidents to either workers or public users. Safety for all concerned on construction projects is always a priority.

**Defining the unknown in underground utility location and marking**

**FOCUS AREA:  
Renewal (R01)  
(Full suite includes R01A-C)**

Web-based software tool helps select site-specific location technologies. The reference report documents state-of-the-art location methods and underground utility marking technology.

#### Save Lives

- The risk of worker accidents is reduced during construction.

#### Save Money

- Geophysical investigations using the recommended technologies reduce the risk of project redesigns and delays, and, therefore, cost overruns.

#### Save Time

- Efficient utility planning shortens construction zone delays for the traveling public.

## Who should use these tools?

The intended users of this product include state and local transportation agency designers, utility coordinators, construction staff, consultants, and contractors, as well as utility owners and their respective technical staff.

## How can you learn more?

*Encouraging Innovation in Locating and Characterizing Underground Utilities and Development of the Selection Assistant for Utility Locating Technologies* are available on the web at [www.TRB.org/SHRP2/publications](http://www.TRB.org/SHRP2/publications). The SAULT web-based selection tool is available at <http://138.47.78.37/sault/home.asp>. For more information, contact Amanda Rutherford at FHWA, [amanda.rutherford@dot.gov](mailto:amanda.rutherford@dot.gov) or Greta Smith at AASHTO, [gsmith@aaashto.org](mailto:gsmith@aaashto.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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