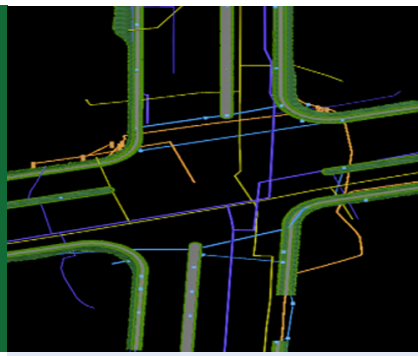
SHRP2 SOLUTIONS
TOOLS FOR THE ROAD AHEAD

3D Utility Location Data Repository (R01A)

3D modeling helps agencies design optimum transportation solutions



Challenge

Locating, protecting, and relocating underground utilities can create significant delays to construction and utility services. Reliable and accurate data on the location and depth of utilities, and a storage system from which to retrieve the data, is necessary for efficient and cost-effective project delivery. Utility data is frequently not stored in accessible formats so that it can be saved and reused for future projects, causing agencies to recreate the data. A system is needed to store and retrieve utility data using enterprise technology that works with existing agency databases and systems.

Solution

SHRP2's 3D storage and retrieval data model will accommodate large volumes of utility data, interface with existing design software, and provide a method for organizing the data so that it can reliably be used throughout the project design phase, during construction, and on future projects. The data stored will include the horizontal and vertical location of the utilities, as well as attribute data that is needed to effectively coordinate with utility owners. These details are valuable for identifying alternative design solutions to prevent the costly relocation of the utilities.

Benefits

Storage and easy retrieval of underground utility location data provides numerous time and cost savings.

- The attribute data about each utility enables more efficient and productive coordination with utility owners.
- Knowing the location and depth of utilities enables designers to change designs to avoid costly utility relocation and delays in project delivery.
- During construction, contractors can pull up mapping systems that accurately display the location and depth of the utilities, so the utilities can be avoided and delays prevented.
- The ability to store data in a single platform can minimize the cost of data collection on future projects as well.

The Implementation Assistance Program

Implementation assistance is available to help State departments of transportation (DOTs), metropolitan planning organizations (MPOs), and other interested organizations deploy SHRP2 Solutions. A range of opportunities is available to raise awareness of SHRP2 Solutions and to encourage early adoption of these products. Application periods are offered approximately twice per year. Each product selected for implementation assistance has the potential to deliver more efficient, cost-effective programs to meet the complex challenges facing transportation today.

Save Lives

Accurate underground utility location and depth data helps prevent unsafe contact with utility facilities during construction operations.

Save Money

Accurate utility data, with important attributes identified, is critical during the planning, design, and construction phases and can prevent costly relocation of the existing utilities. The storage of the utility data saves the cost of recollecting that same data for future projects.

Save Time

Accurate utility data early in the design and development cycle can minimize delays during construction where utilities are often identified in the field too late. This tool for data storage and retrieval saves time not only on future projects but also by facilitating data sharing to help utility owners communicate more efficiently.

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RENEWAL

One of four SHRP2 focus areas, Renewal products help transportation organizations rapidly build and restore highway infrastructure that lasts longer while minimizing user disruption and delay.

Visit: www.fhwa.dot.gov/GoSHRP2
Learn more about products, case studies, and implementation assistance.

How can you learn more?

Visit: www.fhwa.dot.gov/GoSHRP2

- Additional product information
- Information about how this product is being used in the field
- Contact information for peers who are familiar with this product
- Links to research reports

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About SHRP2 Implementation

The second Strategic Highway Research Program (SHRP2) is a partnership of the Federal Highway Administration (FHWA), the American Association of State Highway and Transportation Officials (AASHTO), and the Transportation Research Board (TRB). TRB completed the research, and now FHWA and AASHTO are jointly implementing the resulting SHRP2 Solutions that will help the transportation community enhance productivity, boost efficiency, increase safety, and improve the reliability of the Nation's highway system.