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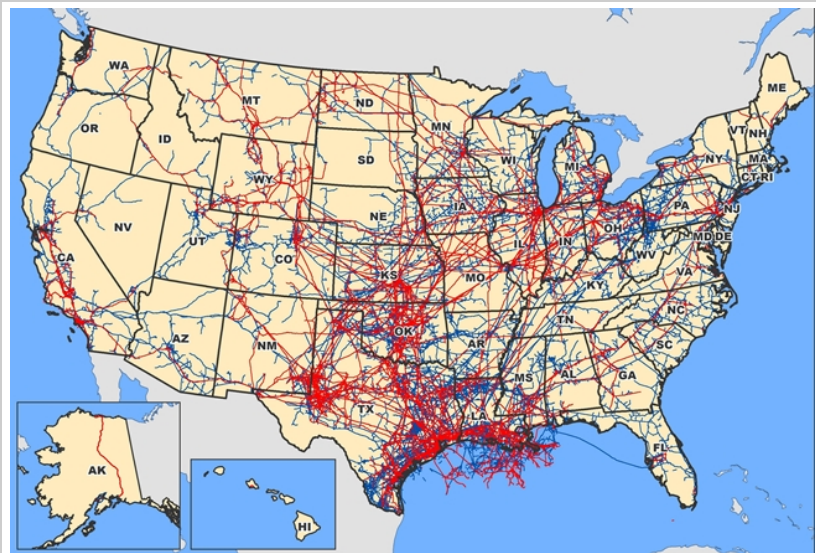
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U.S. GIS Roadmap Faces Data Collection, Standardization Speed Bumps

by [Robert Sperber](http://data-informed.com/author/robert-sperber/) | March 8, 2013 8:13 pm | 0 Comments



The National Pipeline Mapping System uses GIS data to show locations and owners of gas and pipelines, a project of the Pipeline and Hazardous Materials Safety Administration, part of the Department of Transportation. The agency is working on a mapping project for roads.

There may be speed bumps along the way, but the federal government is driving toward a public GIS mapping of all the nation's public roads—federal and state—by June 2014. The public road mapping project is another step in the federal government's effort to bring GIS to its infrastructure mapping, which already includes a national system for mapping gas and other pipelines.

The roads program, discussed at a session on GIS mapping and infrastructure at the recent Esri Federal GIS Conference in Washington, D.C., will add more than 2 million miles of local rural roads and approximately 787,000 miles of urban local roads to public roads already mapped by the U.S. Department of Transportation (DOT).

The mapping will include not just the roads themselves, but ramps, interchanges and other highway system components, said Justin Clarke, a transportation specialist with the Federal Highway Administration's Office of Highway Policy Information.

The project involves both data standardization and data collection. A national road system map will fill in gaps in existing data about the nation's roads while creating a common dataset that will open up new opportunities for analysis. Currently, GIS mapping in different parts of the country is handled by different federal, state and local entities, said Doug Hecox, spokesman for the Federal Highway Administration. The result is that there is no common format among the entities and the data among these programs do not communicate.

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This inhibits research on topics like accidents and road repairs, and also inhibits future road network planning. A uniform GIS map of the nation's roads will help resolve these problems.

State governments have been asked to provide a plan of action for providing this data for the roads it has jurisdiction of to the federal DOT by June 15, 2013, said Clarke.

A pending research study is expected to provide guidance and a reference document for states to use in meeting their answering questions or challenges they may encounter, Hecox said. If states anticipate they cannot meet the 2014 deadline, they are expected to document the reasons why and any known hurdles in the 2013 action plan.

Mapping the Pipelines

For the nation's pipelines, a set of GIS maps already exists but is in a constant state of revision. The [National Pipeline Mapping System \(http://www.npms.phmsa.dot.gov\)](http://www.npms.phmsa.dot.gov), which tracks pipelines, liquefied natural gas facilities, and breakout tanks, receives changes throughout the year from approximately 1,000 pipeline operators.

The reported changes affect a network of 1,400 inspection units and 500,000 pipeline routes, resulting in inspection units being created or modified each week. DOT keeps on top of this all through what it calls a Customized Inspection Unit Assignment Tool.

The customized tool was discussed at the Esri conference infrastructure session by Amy Nelson, GIS manager at DOT's Office of Pipeline Safety. Using data in Esri's format, DOT staff use the customized tool's five-step process to revise and maintain the geographic boundaries of inspection units after new information comes in from the pipeline operators. The steps are: 1) archiving old inspection unit events before modifying the pipelines, 2) comparing new pipeline routes to those in the archives, 3) categorizing each pipeline record based on criteria like intersections, 4) reviewing to make sure the new record is complete, and 5) committing the results to create a new inspection unit in the system.

By the end of 2013, DOT staff plan to launch a new internal GIS web application to display additional pipeline data.

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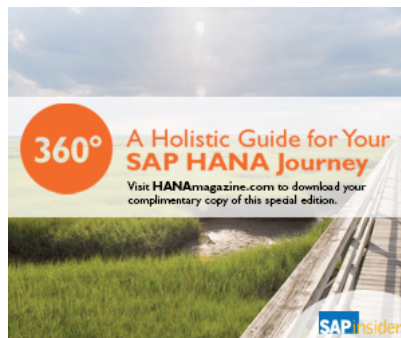
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