



The National Map - Utah Transportation Pilot Project

The Nation Needs *The National Map*

Governments depend on a common set of geographic base information as a tool for economic and community development, land and natural resource management, and health and safety services. Emergency management and defense operations rely on this information. Private industry, nongovernmental organizations, and individual citizens use the same geographic data. Geographic information underpins an increasingly large part of the Nation's economy.

Available geographic data often have the following problems:

They do not align with each other because layers are frequently created or revised separately,

They do not match across administrative boundaries because each producing organization uses different methods and standards, and

They are not up to date because of the complexity and cost of revision.

The U.S. Geological Survey (USGS) is developing *The National Map* to be a seamless, continuously maintained, and



Figure 1. Residential housing along the Wasatch Front of Utah

nationally consistent set of online, public domain, geographic base information to address these issues. *The National Map*

will serve as a foundation for integrating, sharing, and using other data easily and consistently.

In collaboration with other government agencies, the private sector, academia, and volunteer groups, the USGS will coordinate, integrate, and, where needed, produce and maintain base geographic data.

The National Map will include digital orthorectified imagery; elevation data; vector data for hydrography, transportation, boundary, and structure features; geographic names; and land cover information. The data will be the source of revised paper topographic maps.

Many technical and institutional issues must be resolved as *The National Map* is implemented. To begin the refinement of this new paradigm, pilot projects are being designed to identify and investigate these issues. The pilots are the foundation upon which future partnerships for data sharing and maintenance will be built.

The Utah Pilot Project

The initial focus of the Utah pilot project is transportation data.

Transportation data have numerous critical uses within the State of Utah. For emergencies, such data are used by counties and other Emergency 911 entities to dispatch emergency vehicles, by State and Federal officials in response to and routing for wild lands fire fighting, by the Department of Health for planning health care services for rural areas and planning ambulance coverage and access to clinics and doctors (calculation of response time and driving time), and by Blue Stakes, the State's "one call" provider, to help identify hazards to digging or other ground disturbances. Transportation data are critical to litigation and negotiation of

RS2477 Rights of Way claims and are used by the Utah Department of Transportation to make decisions regarding the distribution of money to cities and counties for class B and C roads eligible for Federal funds. The U.S. Census Bureau is keenly interested



Figure 2. Location of Utah Pilot area

in using current transportation data for TIGER database improvement and modernization.

The purpose of this pilot is to test the utility and ability of *The National Map* to provide critical transportation data needed in emergency response and for a variety of other uses. The specific objectives are to (1) develop and integrate datasets for transportation, (2) develop and test a process for updating and maintaining transportation data, and (3) develop and test software capable of interfacing and serving the spatial transportation information over the Web (including the development of derivative products and capabilities).

The Utah pilot will focus on the transportation data theme in one urban county and one rural county of Utah. If time and resources permit, some or all of the pilot may be extended to other parts

of the State. The collection of transportation datasets will be limited to those datasets that are either already existing or soon to be available. The



Figure 3. A rural road in Utah

collection of new data will be limited to those efforts currently underway by local entities through grants received and administered by the Utah Automated Geographic Reference Center (AGRC). Existing data in city, county, State, tribal, Federal agency, and phone company files will be used initially.

The National Map Utah pilot will directly benefit Utah by fostering improvements in the accuracy of census data, improving the quantity and quality of USGS data, encouraging the use of locally generated data, which often is the best available, and providing a model that relies on increased coordination between Federal and local agencies.

Approach

The Utah pilot will provide a common set of basic spatial transportation data and operational capabilities related to the key components of **The National Map**. The Utah pilot will include, but not be limited to, the following activities:

1. Develop partnerships: We will continue efforts to develop partnerships at the city, county, State, tribal, Federal, and private sector levels through contacts with existing groups and through leadership by the Utah Geographic Information System Advisory Council (GISAC).
2. Identify study area: The area will consist of one urban and one rural county.
3. Gather data: The best source for transportation information often comes

from sources close to where change is occurring. The initial version of the Utah pilot will be based on existing data as identified by the AGRC and other members of Utah's GISAC Framework Implementation Team. The State's efforts to document the location of roads with Global Positioning System technology will contribute to the development of a seamless and consistently classified transportation dataset. The Utah Transportation Data Model provides a consistent set of feature characteristics and contains attributes used to track change.

4. Develop process to maintain currentness: A process to identify change and effect updates will be developed and tested in cooperation with the Utah AGRC.

5. Serve and distribute data: Software for Web interface and derivative products will be developed jointly by the USGS and Utah AGRC. They will investigate processes that accommodate the benefits of centralization of data for seamlessness, integration, and distributed approaches for maintenance.

6. Assess and evaluate: Measurable outcomes and schedules will be established, and progress toward these outcomes will be reviewed quarterly by the USGS and AGRC.

More Information About the Utah Pilot Project

Dave Vincent
U.S. Geological Survey
2222 West 2300 South
Salt Lake City, UT 84119
Phone: 801-975-3435
E-mail: dmvincent@usgs.gov

More Information About The National Map

We welcome your comments on **The National Map** mission and strategies. You can view and download the full report at nationalmap.usgs.gov. Please share your thoughts about the vision with the USGS by e-mail at nationalmap@usgs.gov or by mail to USGS-National Map, MS 511 National Center, 12201 Sunrise Valley Drive, Reston, VA 20192.



Figure 4. Aerial photograph of an urban interchange under construction