

Free or Fee: The Governmental Data Ownership Debate

GITA White Paper

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Should federal and local governments sell their geospatial data sets or distribute them for free? And if the data sets are sold, how should they be priced—to cover reproduction, to recoup costs, or to turn a profit?

These questions were posed by GITA members earlier this year on the GITA GEOXchange list server. The resulting debate spanned many days and multiple threads, making it one of the most popular GEOXchange forums so far this year. This topic, of course, is not unique to the GITA list server. The geospatial community worldwide has pursued these questions for years, sometimes taking the argument for free data to the courtroom. This White Paper highlights the issue and clarifies some of the key points.

Overview

Not surprisingly, GEOXchange list server members were overwhelmingly in favor of having governments at all levels make data available for little or no cost. The most commonly cited reason is that taxpayers have already paid once for the data through their tax dollars, and they should not have to pay again to obtain and use the data themselves. Security and personal privacy matters might be arguments against free distribution of geospatial data, but even these concerns were muted by the prevailing concept that low- or no-cost data is good for everyone.

From this starting point, the discussion quickly evolved beyond the question of taxpayers' rights to addressing how data giveaways benefit the commercial market for geospatial products and services. But before pursuing this vital consideration, we should first review the current state of government data sales in Australia, Brazil, Canada, India, Japan, the United Kingdom, and the United States. The following are summaries of the situation from GITA affiliates around the world.

Australia—There are federal and state government agencies in Australia that sell cadastral data, basic mapping data, elevation models, and other geospatial products. Until just a few years ago, according to Bruce Douglas, president of GITA Australia/New Zealand, data sets were sold to make profits. Now, however, the fees have been dramatically reduced to cover production costs.

For example, the digital cadastre of Queensland once sold for just under (A)\$1 million, but now sells for \$20,000. As a result, Australia has seen the use of geospatial data increase as prices have come down. A similar situation has been experienced in New Zealand where the federal government creates and sells geospatial data.

Brazil—Federal and state agencies in Brazil generally charge only a nominal fee for maps. Satellite imagery is now available for free through INPE, a public national spatial research institute, on the Web.

Canada—Until recently, Canada followed the Crown Law principles and packaged much of its geospatial data for sale, although some data sets were provided at no cost. The most notable for-sale products related to land parcel and cadastral information, which were priced to turn a profit for the provincial governments. In the past four years, however, the trend is turning toward providing more data for free.

“A government study concluded the revenues from data sales didn’t cover the cost of maintaining the data,” said Jeff Labonte, Acting Director General, Information Management & Dissemination Branch, Earth Sciences Sector of Natural Resources Canada. “After the study was released, Manitoba immediately made its geospatial data available for free over the Web, with Nova Scotia quickly following. Half the Canadian provinces now give their data away.”

One Canadian GIS manager confirmed the problems often encountered when a government agency tries to turn a profit on data sales:

“We tried selling data and GIS services only to find that you need to put such a significant price on it to pay for your costs that you end up discouraging its use—not what we wanted,” stated Adam Chadwick, GIS manager, City of Kamloops, British Columbia.

The Canadian federal government has since gone one step further by compiling a series of nationwide thematic map layers, similar to the U.S. National Map, and offering them to the public at no charge at www.geobase.ca. In its first year of operation, the Canadian Geobase site recorded 10 times the number of data downloads as it did when the data was sold.

India—The Survey of India is the national mapping agency, and it sells topographical maps in digital and print formats. “Data is sold at a price but not with a profit motive so far,” said Sanjay Kumar of GIS Development. “However, there is a discussion going on to develop a pricing policy either with an objective to recover the cost or make profits as well.”

In addition, there are several agencies that provide maps on specific themes. For example, the Geological Survey of India, Forest Survey of India, All India Soil, Land Use Survey, and National Remote Sensing Agency use Survey of India maps as base layer and build thematic maps on top. Local government organizations do not sell map data.

Japan—The national government in Japan sells geospatial data to the public and to commercial companies through its subsidiary organizations. For example, Japan Map Center, a subsidiary of Geographical Survey Institute, sells digital maps. Pricing usually covers the cost of printing, distribution, and personnel expenses, according to Sakura Shinoaki, president of GITA Japan. Local government organizations sell and give away map data.

United Kingdom—In accordance with Crown Law, Great Britain works under the philosophy that data collected and/or created by the government belongs to the Crown, not to the people. As a result, the vast majority of government geospatial data is sold

through the Ordnance Survey—and the prices are quite high compared to U.S. Geographic Survey products.

Interestingly, those familiar with the UK pricing scheme felt the price tags were justified by the quality of Ordnance Survey products. Digital and hardcopy mapping products created and sold by Ordnance Survey far exceed the quality, in terms of accuracy and timeliness, of most products given away in the United States.

United States—The federal government makes a variety of map data products, such as TIGER files, digital lines graphs, and topographic quadrangles available through the Census Bureau, U.S. Geological Survey (USGS), and other departments at no cost over the Internet and for the cost of reproduction in various formats. U.S. federal law places all federal data in the public domain except for nine types of information that are exempt from disclosure by law for reasons of security or privacy.

States enact their own laws governing their records. About a dozen states allow agencies and municipalities to figure into the cost of GIS data the expense of data and system creation and maintenance in addition to the cost of reproduction, according to Ed Wells, GIS transportation/operations liaison for the District of Columbia.

“Most states require that geospatial data be sold for the price of copying. Nine states allow their agencies and municipalities to include capital and/or maintenance costs as well in setting the price,” said Wells.

Alaska, Hawaii, Iowa, Mississippi, Michigan, Nevada, and Tennessee provide for recouping capital and maintenance costs, or a reasonable portion. Indiana and Maryland allow for recapturing maintenance and operations only. Illinois and North Carolina prohibit commercial use of geospatial data.

The Argument for Free Data

Most GIS professionals are generally in consensus on one point: giving away map data has helped society at large and the commercial industry in particular. Specifically, access to basic map data has cultivated an entire industry of private-sector value-added firms. They use the data as the basis to create products and services that not only allow them to make money, but their products often enable end users to do their jobs faster, better, and cheaper. This creates a win-win situation for everyone.

This point was made succinctly by Robert White, president of WhiteStar Corp., Lakewood, Colo., when he stated, “I have built a company that has employed individuals for more than 15 years around the concept of adding value to USGS data. ... I feel that I have added wealth and value not only to the employment side and general economy of our area, but also have improved upon data resources that otherwise would not be available.”

Several Canadians observed a subtler, but equally critical, benefit. They felt that the process of making data freely available has forced government agencies and industry organizations to develop data standards, which ultimately fosters more widespread sharing and use of geospatial data.

“The primary economic benefit, to Canadian citizens, of accessible government maps lies in the legislated standardization of content...not in the ‘free’ access to incongruent data sets,” wrote a Canadian GEOXchange contributor. He added that Canada currently has no standard format for land base data. If the government had to give it away, standards would have been developed by now.

Darrell O’Donnell, CTO of Black Coral Inc. in Ottawa, added, “The U.S. model is the way to go. By providing base data free (e.g. USGS DRG/DOQ TIGER, etc.), they give everyone the capability of working from the same base data [while still leaving] room for companies to provide real value-added services.”

Dan Shannon, Manager of Operations at TELUS Communications in Edmonton, and a member of the GITA Board of Directors agrees: “It could be argued that by providing mapping for free it encourages the adoption of a common source, rather than tempting local and regional governments or smaller commercial enterprises to source their data from disparate sources simply because of a price point. Moving the GIS user community toward a common cadastral framework has massive economic benefits to Canadian business and governments.”

Other Issues

In addition to issues of national security and personal privacy, several GIS professionals expressed reservations about making data available at no or low-cost to everyone. They wondered whether federal, state, and local governments in the United States should provide low-cost data to non-taxpayers. For example, should a municipality make its data available to an out-of-state developer as inexpensively as it does to a citizen? Or should a U.S. state give data to Canadians?

Taking this theme another step, a few contributors suggested tiered pricing schemes based on the categories of purchasers. Those favoring this concept felt that members of the general public should be given data freely, while any organization that plans to use the data for some commercial purpose should pay for it. This would include value-added firms that resell the data or developers that use it for a revenue-generating project.

No consensus was reached on these two points, but the issue of tiered pricing transcends idle speculation. At least two states have addressed these questions. In Pennsylvania, geospatial data is not required to be given away to non-residents. Likewise, in Arizona, the state differentiates its data customers by their use of the data. Commercial users are required to pay a higher price than citizens and non-profit organizations. Kentucky, Minnesota, Mississippi, and Oklahoma permit higher prices for commercial users. Twelve states prohibit any inquiry as to why the requestor wants to obtain geospatial data. The Canadian government has long charged higher rates for data products that it creates for specific commercial end users that otherwise have no value to the general public at large.

One person on GEOXchange summarized the point as follows:

“I believe that any data that is provided freely by the government should have a stipulation that the product of this data usage also become public domain. If someone is opposed to this stipulation, they should be made to pay for it. The questions become one of what the data is being used for: public good or private gain?”

Conclusion

Most people are in overall agreement that geospatial data should be offered by government organizations for free or at the cost of reproduction. And efforts should be made to make it more readily accessible. No agreement was reached, however, on the issue of whether commercial and private users should pay different prices for the data.

Two comments summarize the general feelings on this topic:

“Offering data at little or no cost keeps the small guys in business and this is what keeps U.S. technology ahead of the rest of the world,” said Ed Wells from the District of Columbia. “Small companies can innovate faster and better than larger ones, and if the data were sold, the only companies that would have access to it would be the very large commercial organizations. Faster innovation and competition benefits the consumers”

And finally, this short statement from Gary Ostroff, senior project manager at HydroQual, Inc., Mahwah, N.J.: “If you want to increase the wealth of the nation, then give the data away.”

No doubt the debate will continue; government and commercial needs for spatial data will increase exponentially. This will sharpen the focus on the classic tradeoffs, such as public availability versus security and privacy, and cost versus quality of data. This dialogue will be beneficial for the geospatial industry in general, as geospatial technology—and the data that drives an ever-expanding array of applications—becomes more ingrained in our social, economic and political institutions.

Still, as some have expressed, certain things don't change; for example: “You get what you pay for.”