

Free and Open Public Geospatial Data

Policy, Practice & Perspective



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Disclaimer

New York State Office of Information Technology Services Office of Chief Technology Officer

The contents of this presentation are meant for informational purposes only, and should be considered general direction and guidance to better understand the technology trends within New York State government. All information contained herein is meant for such informational purposes only, and should not be interpreted as presenting any guarantees or any kind of promise.

The strategic IT direction of New York State is subject to change without any prior announcements or notifications and for any reason.

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What is open data?

1) Machine readable

- Not in PDF documents;
- In consumable published formats: shapefiles, KML, GeoJSON, etc.;

2) Posted on-line, downloadable or accessible via web API

- Not simply displayed in a captive viewer;

3) Free

- No fee for usage

4) No restrictions on use or redistribution*

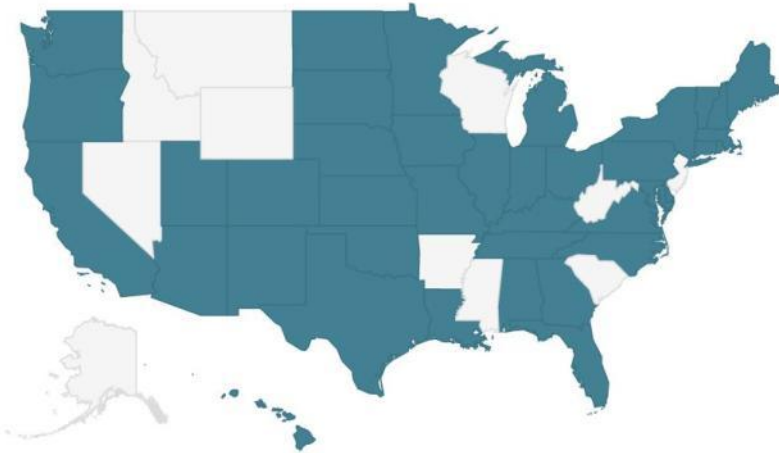
**A license, such as a Creative Commons license requiring attribution may sometimes be retained*

5) Data provider is held harmless (no liability)

6) Reliable metadata provided with the data

States with Open Data Sites

States with Open Data sites



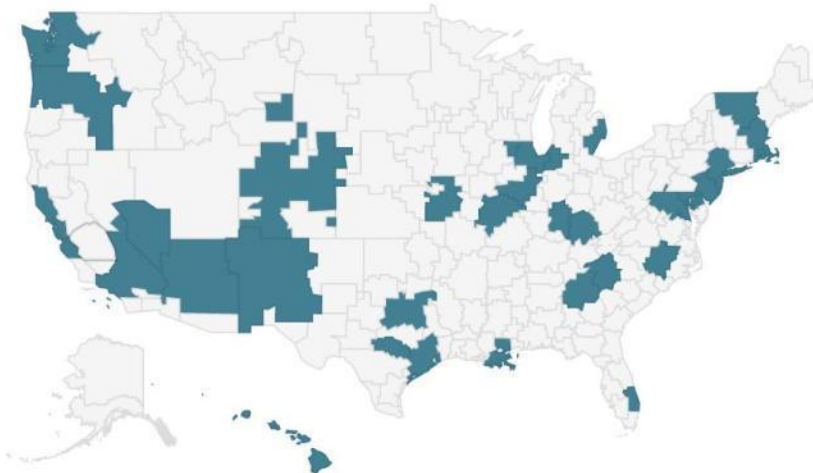
U.S. States

38

Other Countries

44

U.S. Cities and Counties with Open Data sites:



U.S. Cities and
Counties

46

International
Regions

163

Top Open Data Sites Ranked



Center for Data Innovation

Ranking of State Open Data Policies and Portals August 2014



Presence of Open Data **Policy** (2 points max)

Quality of Open Data **Policy** (3 points max)

Presence of Open Data **Portal** (2 points max)

Quality of Open Data **Portal** (1 point)

<http://www.datainnovation.org/2014/08/state-open-data-policies-and-portals/>

Top Open Data Sites Ranked



Search...

Go →

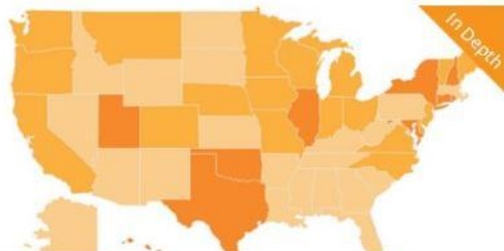
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State Open Data Policies and Portals

Summary

This report provides a snapshot of states' efforts to create open data policies and portals and ranks states on their progress. The six top-scoring states are Hawaii, Illinois, Maryland, New York, Oklahoma, and Utah. Each of these states has established an open data policy that requires basic government data, such as expenditure information, as well as other agency data, to be published on their open data portals in a machine-readable format. These portals contain extensive catalogs of open data, are relatively simple to navigate, and provide data in machine-readable formats as required. The next highest-ranked state, Connecticut, offers a similarly serviceable, machine-readable open data portal that provides wide varieties of information, but its policy does not require machine readability. Of the next three top-ranking states, Texas's and Rhode Island's policies require neither

Top States for Open Data:

State:

Points:

Hawaii	(8)
Illinois	(8)
Maryland	(8)
New York	(8)
Oklahoma	(8)
Utah	(8)
Connecticut	(7)
Texas	(6)
Rhode Island	(6)
New Hampshire	(6)

Federal Level Activity



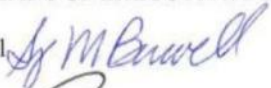
THE DIRECTOR


EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET
WASHINGTON, D.C. 20503

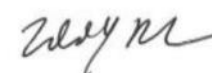
May 9, 2013

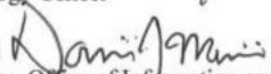
M-13-13

MEMORANDUM FOR THE HEADS OF EXECUTIVE DEPARTMENTS AND AGENCIES

FROM: Sylvia M. Burwell 
Director

Steven VanRoekel 
Federal Chief Information Officer

Todd Park 
U.S. Chief Technology Officer

Dominic J. Mancini 
Acting Administrator, Office of Information and Regulatory Affairs

SUBJECT: Open Data Policy—Managing Information as an Asset

Information is a valuable national resource and a strategic asset to the Federal Government, its

Requires agencies to:

Collect and create information in a way that supports downstream processing and dissemination activities:

- **Machine readable**
- **Open formats**
- **Data standards**
- **Metadata**

U.S. Open Data Action Plan (5/9/14)

Key points:



- 1) Publish open data in a **discoverable, machine-readable** and **useful** way
- 2) Work with public and civil society organization to **prioritize open data sets** for release
- 3) **Support innovators** and improve open data based on **feedback**
- 4) Continue to **release & enhance** high-priority datasets

Federal datasets are subject to the U.S. Federal Government **Data Policy**. Non-federal participants (e.g., universities, organizations, and tribal, state, and local governments) maintain their own data policies. Data policies influence the usefulness of the data. **Learn more** about how to search for data and use this catalog.

geospatial


Order by:

Datasets ordered by Relevance

You are searching in the list of datasets. [Show results in entire Data.gov site.](#)

Filter by location

Enter location...



Map data CC-BY-SA by [OpenStreetMap](#)
Tiles by [MapQuest](#)

75,894 datasets found for "geospatial"

EPA Geospatial Data Access

U.S. Environmental Protection Agency – To improve public health and the environment, EPA collects information about facilities or sites subject to environmental regulation through the EPA Geospatial Data...

[XML](#) [HTML](#)



HRSA Geospatial Data Warehouse (HGDW)

U.S. Department of Health & Human Services – HRSA Geospatial Data Warehouse (HGDW): The HRSA Geospatial Data Warehouse (HGDW) provides a single point of access to current HRSA information, health resources,...

[query tool](#)



Benefits of Open Data



Recent Deloitte study:



Open Growth:

“Stimulating Demand for Open Data in the UK”

- > **Data is the ‘raw material’ of the 21st Century;**
- > **Opening the data up unlocks its full potential;**
- > **Describes new businesses emerging;**



Which categories of open data are most widely applicable to the most sectors?

#1 Geospatial data

Source: Deloitte LLP/ODI analysis

Challenges

Challenges of publishing GIS data in Open Data sites:

Publishing Open Data from anywhere is *good*.

Publishing in *easily discovered large repositories* is *better*.



Challenges

Technology Integration

Mature, legacy GIS clearinghouses are typically a different technology than Open Data sites (Socrata, CKAN, etc.); **integration is a challenge!**

Data Formats

GIS generally managed in **proprietary formats**;
A strategy is needed for open formats and for keeping the open formats refreshed;

Feedback Loops

Feedback loops to data custodians are important and become harder with each new layer:
(format change, move copy to large repository, etc.)

How is New York addressing these challenges?

Initial launch of open.ny.gov

- > Was on an aggressive schedule
- > Originally didn't integrate with the GIS Clearinghouse (gis.ny.gov)

Inter-Agency Coordination

- > State Geospatial Advisory Council to meet with Director of Open Data
- > Integration between open.ny.gov & gis.ny.gov

gis.ny.gov: is a 'first generation' site



- > No major upgrades in a decade;
- > Plans underway to reengineer for services



Integration Plan

Encourage locals to use the State's new service site for hosting, management and publication

High Priority Issue in New York



NEW YORK GOVERNOR'S OFFICE

Open data is a priority of the Governor

Governor Andrew M. Cuomo
Performance • Integrity • Pride
About Newsroom Legislation Initiatives Translate Contact

State of New York
Executive Chamber

中文 Español Français Kreyòl Ayisyen Italiano 한국어 Русский

USING TECHNOLOGY TO PROMOTE TRANSPARENCY, IMPROVE GOVERNMENT PERFORMANCE AND ENHANCE CITIZEN ENGAGEMENT

Printer-friendly version

WHEREAS, the State possesses vast amounts of valuable information and reports on all aspects of life in New York State, including health, business, public safety, and labor data as well as information on transportation, parks, and recreation; and

WHEREAS, new information technology has dramatically changed the way people search for and expect to find information, and such technology can aggregate ever larger quantities of data and allow government to provide information to the public with increasing efficiency; and

WHEREAS, the State can use these powerful tools to enhance public access to government data and make government in New York State more transparent in order to promote public trust, and

WHEREAS, ensuring the quality and consistency of such data is essential to maintaining its value and utility;

NOW, THEREFORE, I, Andrew M. Cuomo, Governor of the State of New York, by virtue of the authority vested in me by the Constitution and laws of the State of New York, do hereby order as follows:

A. Online Website. An online Open Data Website for the collection and public dissemination of Publishable State data, and, to the extent feasible, reports is hereby established. The Open Data Website shall be maintained at data.ny.gov or such other successor website maintained by, or on behalf of, the State, as deemed appropriate by the New York State Office of Information Technology Services in consultation with the Governor's Office and

**Executive Order 95
Signed on May 11, 2013**

Open Data is receiving the full attention of the Executive Branch agencies in New York

The Governor has appointed:

- *A 'Director of Open NY'*
- *An Open Data Advisor*
- *An Open NY Policy Advisor*

New York: Executive Order 95

The Impact of Executive Order 95:

Requires ITS to administer an Open Data website: *data.ny.gov*

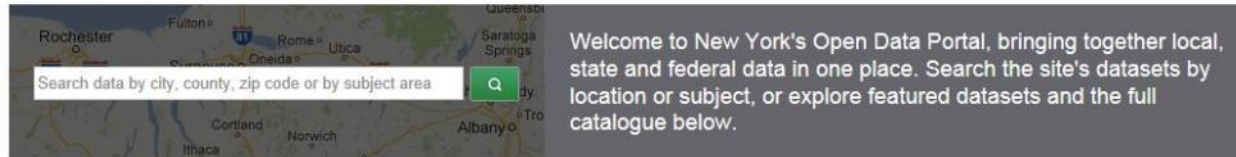
Requires all state agencies to *comply with the Executive Office*

Encourages participation by *localities and other state entities*

Agencies must *identify “publishable” data and produce a schedule for posting it on the state’s Open Data website;*

Definition of “data” specifically includes “geographic information system data”;

data.ny.gov (open.ny.gov)



NYS Transparency Sites



NYS Applications



Featured Content



9,473 Datasets Listed

Local Examples: New York City (2012)



NYC

NYC Resources

311

Office of the Mayor



Information Technology & Telecommunications

Search



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Citywide IT Services

Technology & Public Service Innovation

Open Data

Broadband Access

Broadband Deployment

Policy & Strategy

Cable TV & Other Franchises

For Residents

Doing Business

Job Opportunities

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Local Law 11 of 2012 – Publishing Open Data

New York City Council voted on and passed this legislation on February 29, 2012. It was signed into law on March 7, 2012.

Local Law 11 of 2012 (previously [Introduction 0029A-2010](#))

By Council Members Brewer, Fidler, Gentile, Gonzalez, James, Lander, Palma, Nelson, Lappin, Dromm, Garodnick, Reyna, Mealy, Vann, Jackson, Levin, Cabrera, Gennaro, Williams, Van Bramer, Rodriguez, Halloran and the Public Advocate (Mr. de Blasio)

A Local Law to amend the administrative code of the city of New York, in relation to publishing open data.

Be it enacted by the Council as follows:

Section 1. Declaration of legislative findings and intent

The council hereby finds and declares that it is in the best interest of New York city that its agencies and departments make their data available online using open standards. Making city data available online using open standards will make the operation of city government more transparent, effective and accountable to the public. It will streamline intra-governmental and inter-governmental communication and interoperability, permit the public to assist in identifying efficient solutions for government, promote innovative strategies for social progress, and create economic opportunities.

http://www.nyc.gov/html/doitt/html/open/local_law_11_2012.shtml

Local Examples: New York City (2012)



Prior to Local Law 11 (2012)

- > **New York City GIS data** *only available under license;*
- > **Different city agencies had** *different licenses;*
- > **Many data licenses involved** *significant fees;*
- > **Restrictions on** *use of the data;*



Local Examples: New York City (2012)



The Impacts of Local Law 11 (2012)

- 1) **Data now accessible through** *a single web portal;*
- 2) **Data in formats that** *permit automated processing;*
- 3) **Data available** *without fees or charge;*
- 4) **Data available** *without any registration requirement, license requirement or restrictions on use;*
- 5) **Data updated** *as often as necessary;*
- 6) **Numerous great** *applications developed at no cost to the City;*

Local Examples: Minnesota's Metro



MetroGIS™

MetroGIS: Formed in 1996

Voluntary collaborative:

Government, Non-Profit, Academia and Private Sectors

#1) Engagement of Elected Officials

MetroGIS Policy Board:

- 6 County Commissioners;
- 1 County IT Director;
- 2 Metropolitan Mayors;
- Watershed District Board Member;
- School District Representative;

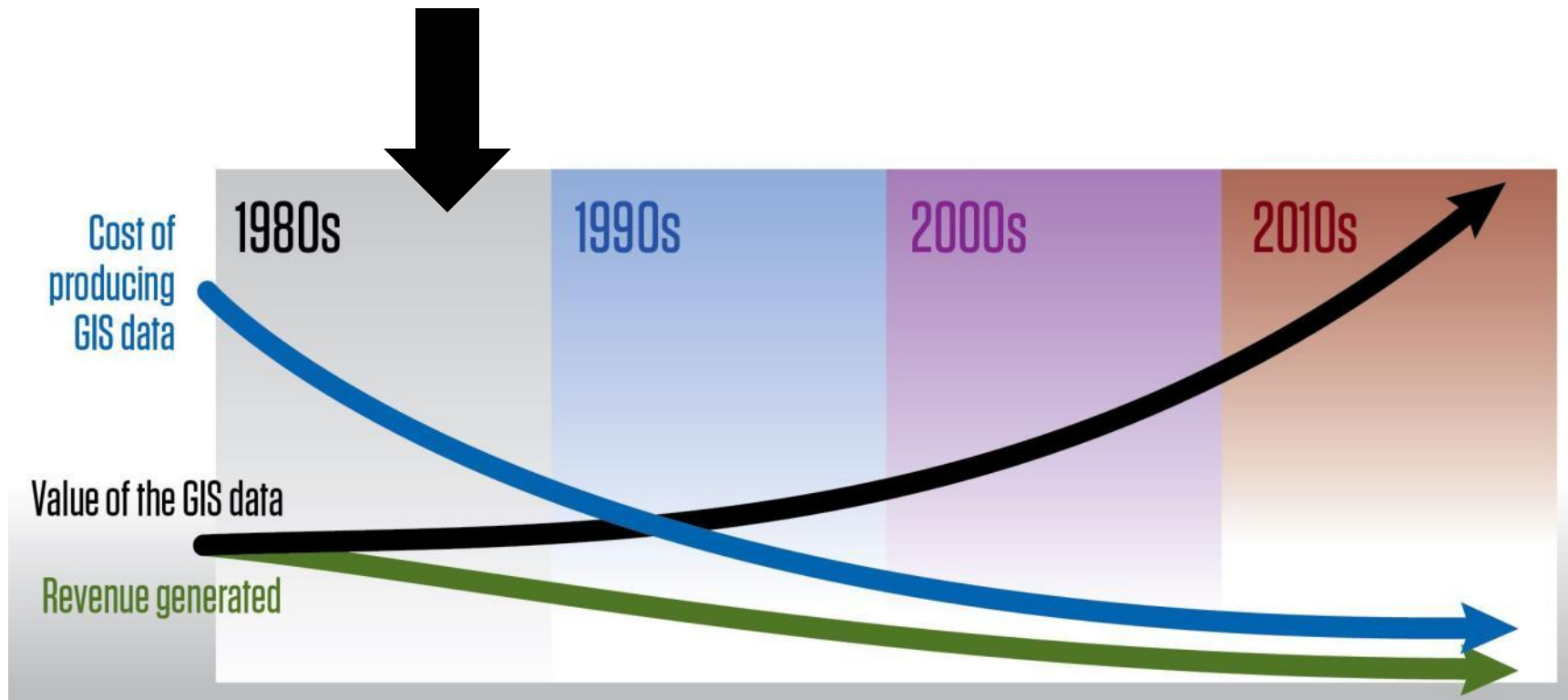


Minnesota: Tracking Policy Change

Late 1980s:

Emergence of GIS in Government: Significant Development Costs

Offset the cost of GIS deployment with sale of data (plus license agreements)



Minnesota: Tracking Policy Change

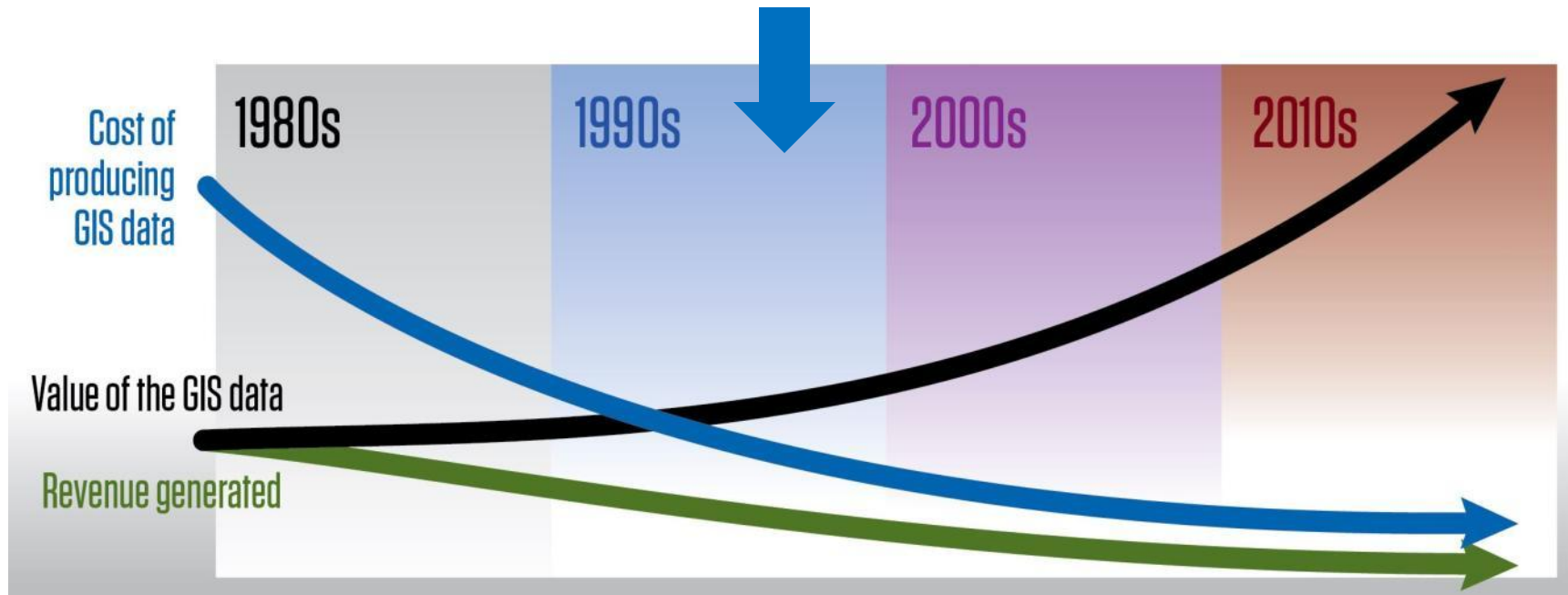
1990s:

Growth of GIS & Recognition of Value of Data to External Partners

1990: §13.03, Subd. 3(d) [enabled cities and counties to charge for data]

1994-95: Work sessions on common needs;

1996: Formal establishment of MetroGIS;

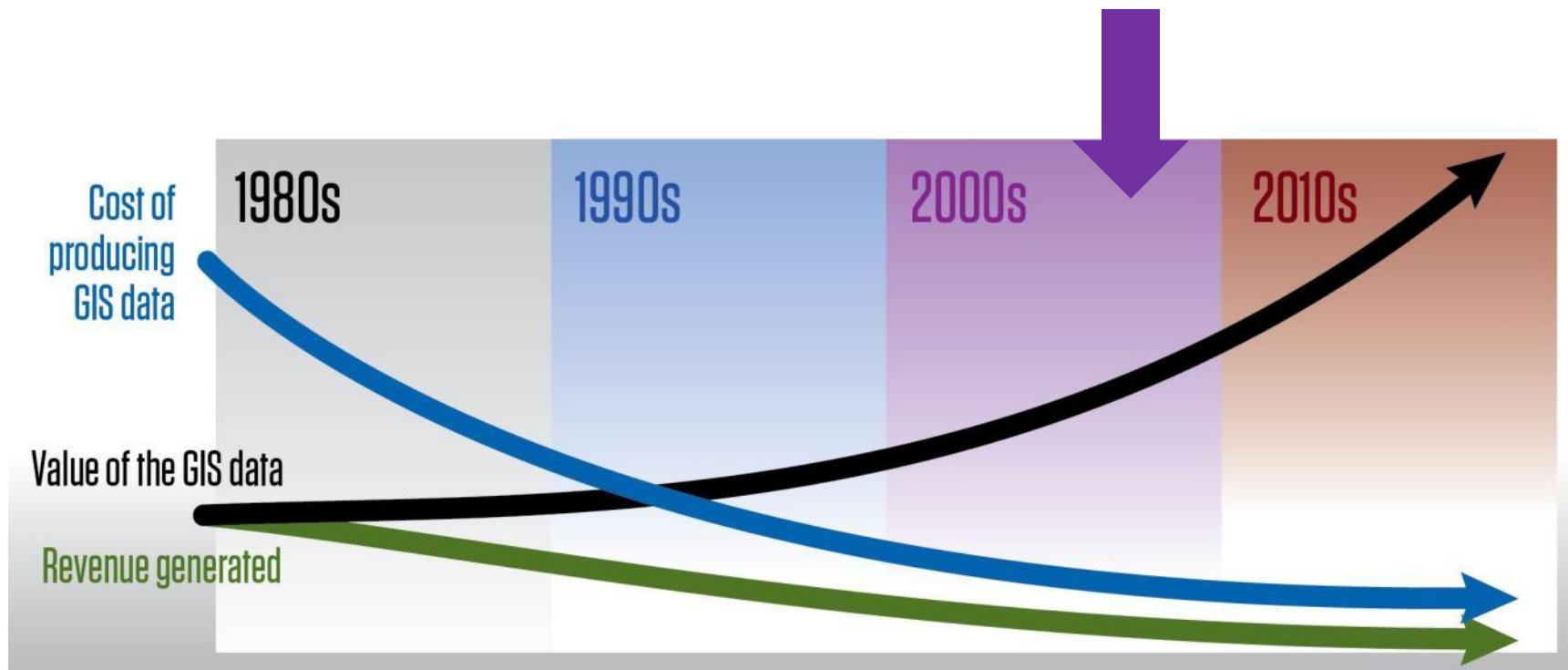


Minnesota: Tracking Policy Change

2000s: Maturity and Expansion of GIS

Realizing benefits of other entities using

2000: §466.03, Subd. 21(a) & (b) [eliminated tort liability for GIS data]



Minnesota: Tracking Policy Change

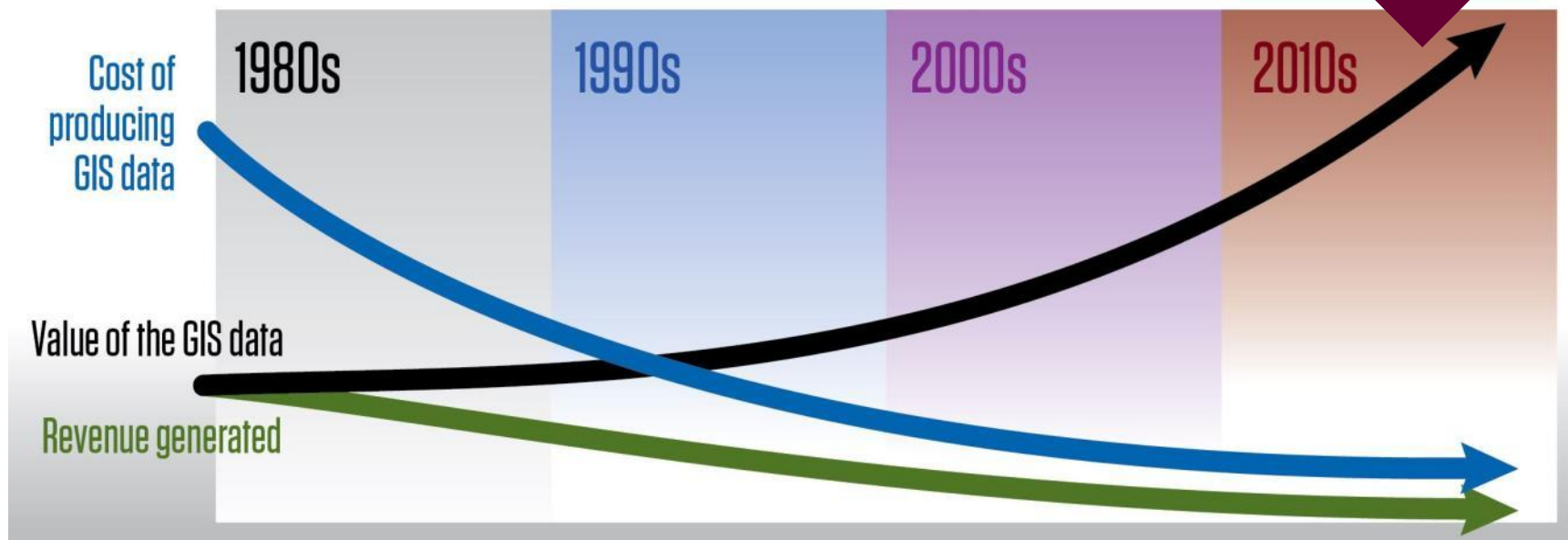
2010s: Continued GIS Expansion & Meeting Public Expectations for Data

2013: §16E.30, Subd. 10 [formal legal definition of 'electronic geospatial data']

2013: §16E.30, Subd. 11 [facilitates sharing between governments]

2013: MetroGIS Policy Board adopts 'Resolution of Support' (10/23/2013)

2014: Adoption of formal policies by five (so far) MN county governments;



Keys to Success



1) Engage Your Elected Officials

2) Clearly Document, Demonstrate and Communicate the Benefits of Open Data

3) Capitalize on Staff Support -Staff-level support is *essential*;

Open data:

- > Enables improved public service;
- > Frees up staff time and resources.

Geospatial Data Sharing Guidelines for Best Practices

The NSGIC and other organizations that work with information technology privacy and confidentiality are critical issues, especially with regard to geospatial information. Current management issues impact geospatial information and the ability to share it. This document provides guidelines for best practices in geospatial data sharing. It covers the importance of privacy and the role of geospatial information in public service. It also discusses the challenges of geospatial data sharing and provides recommendations for best practices.

This Isn't Private Information

The NSGIC and other organizations that work with information technology privacy and confidentiality are critical issues, especially with regard to geospatial information. Current management issues impact geospatial information and the ability to share it. This document provides guidelines for best practices in geospatial data sharing. It covers the importance of privacy and the role of geospatial information in public service. It also discusses the challenges of geospatial data sharing and provides recommendations for best practices.

Economic Studies for GIS Operations

This document provides an overview of the economic impact of GIS operations. It discusses the benefits of GIS operations and the challenges of implementing GIS operations. It also provides recommendations for best practices in GIS operations.

Making Public Data Open and Freely Available

This document is provided by the MetroGIS Data Producers Interest Group to assist policy makers and elected officials understand the benefits of making non-sensitive, publicly produced data freely available to the public.

What are the benefits to a County Government in making its data open and freely available?

- Transparency of government and improved public service:** Making non-sensitive geospatial data publicly available helps demonstrate the transparency of government operations and allows citizens to provide great public services. Geospatial data that is a byproduct of government business processes should be part of the public record.
- Better use of county staff time and resources:** Allowing multiple geographic data in standardized forms for internet download reduces County staff time required to process and manage numerous individual requests for data.
- Fostering entrepreneurship and open development:** Freely accessible geospatial data is becoming integral to the development and advancement and growth of the "digital economy". Better data availability enables businesses to make quicker decisions on investments and enhancements in the community.
- The authoritative data becomes the default "source":** Freely accessible geospatial data ensures that all sensitive products, maps, services, analyses and publications accurately reflect current conditions.
- Pro-actively increasing demand for data:** The demand from the general public, private sector and other sectors of society for accurate and readily consumable data continues to increase along with availability of data tools and other geospatial tools.
- Indirect Benefits and "Thinking Beyond The Horizon"** Making public data openly available is readily consumable format to a wide variety of audiences enables them to easily and utilize the data in ways not in common practice, enabling new tools, applications, analyses and understanding.

Q: Do county governments lose revenue?

Revenue from geospatial data is a major revenue source for many counties and continues to increase. Costs incurred by businesses to develop and improve geospatial data to meet the needs of the target organization and the public must be covered, investment by the public organization to develop a large base of use of the data.

Organizations need to evaluate their associated costs from a broad perspective with the added benefit of the public benefits received. One key factor is the cost of data to the user, not just on their own behalf.

Q: Does making the data available open the county up to liability?

Government must evaluate data with appropriate liability disclosure. However, increased use of the data, can only increase the number of users and increases as they are opened, increasing the data's accuracy, utility and availability.

Q: Is this becoming a common practice in information technology?

Government agencies are increasingly turning to their data for public use. Public data availability and format to support internal business processes, support in other public record files, the increasingly diverse needs of the public sector, other sectors of government, technology change that development of the public sector, government, administration work, planning and physical infrastructure management.

Key Themes

- Transparency of Government Operations
- Improved Public Service
- Efficient Government
- Free of Data Access
- Fostering Entrepreneurship
- Staff Time Savings
- The Authoritative Data Being Fully Available
- Transparency "The Source"
- Pro-Activity Making Public, Open and Freely Available
- Improved Inter-Agency Work Relationships
- Costs in Information Technology Created to Structure Better Public Good
- Fostering Public Making
- Marketing Public Investment

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Keys to Success



4) Address the Fiscal Concerns

- Revenue from data sales;
- Backfilling any shortfalls;
- Staff time/resources vs. revenue raised;

5) Address the Legal Concerns

- Review the relevant statutes;
- Formal legal opinions;
- Fully address the liability issues;

The screenshot displays the MetroGIS website interface. At the top right, there are links for "Publications", "Contact", and "Calendar". The main header features the MetroGIS logo with the tagline "Sharing Information Across Boundaries" and a search bar. A vertical navigation menu on the left lists various categories, with "Free + Open Data" highlighted in purple. The main content area is divided into several sections:

- Free and Open Data Research:** A green header section containing text about the MetroGIS Data Producers Work Group and Policy Board's research efforts, and a circular logo for "FREE OPEN PUBLIC GEOSPATIAL DATA".
- MetroGIS Documents and Research:** A green header section listing resources such as "Single-Page Fact Sheet on Free and Open Geospatial Data" and "MetroGIS: Free & Open Access to Data: Research & Reference Documents".
- Articles and Publications:** A green header section listing articles like "NSGIC: Geospatial Data Sharing Guidelines for Best Practices" and "NSGIC: This Isn't Private Information".
- Metro County Policy Resolutions:** A green header section listing resolutions from Ramsey County, Hennepin County, Dakota County, Carver County, and Anoka County.
- Presentations:** A green header section listing presentations like "Free and Open Data: History and Recap of the Issue" and "Free and Open Data: Context".

www.metrogis.org/projects/free-open-data.aspx

Reaching Elected Officials

Hennepin County Commissioner Randy Johnson

Promoting GIS technology use in local government

Interview with Randy Johnson, Commissioner, Hennepin County, Minnesota

Level of Government: County
State/province: Minnesota
Country: USA
Population: 1,152,424

Commissioner Randy Johnson, who represents District 5 in Hennepin County, Minnesota, has been an advocate of GIS technology nearly since its inception. In the early 1970s, Hennepin County developed one of the first GIS software programs. The application, developed by the county's Public Works team, plotted where the county's roads and highways then existed and where future roads could be built. It also showed boundaries for parcels in the county's tax base.

Since that time, according to Johnson, GIS technology has become a critical decision support tool for policy makers. When the



Figure 1.3 Randy Johnson, commissioner.

Hennepin County Commissioner:
1978-present

National Association of Counties (NACo)
GIS Sub-Committee

Advocated selling and licensing
Hennepin County's data;

Taken from: *"The GIS Guide for Elected Officials"*
Cory Fleming, ed. (ESRI Press, 2014)

"In the early days of these discussions, I championed the idea of selling our data for recovering the costs of developing it, and I have changed my mind on that."

Transcript from the April 24, 2013
MetroGIS Policy Board Meeting

Free and Open Policy: Timeline: 2013-2014



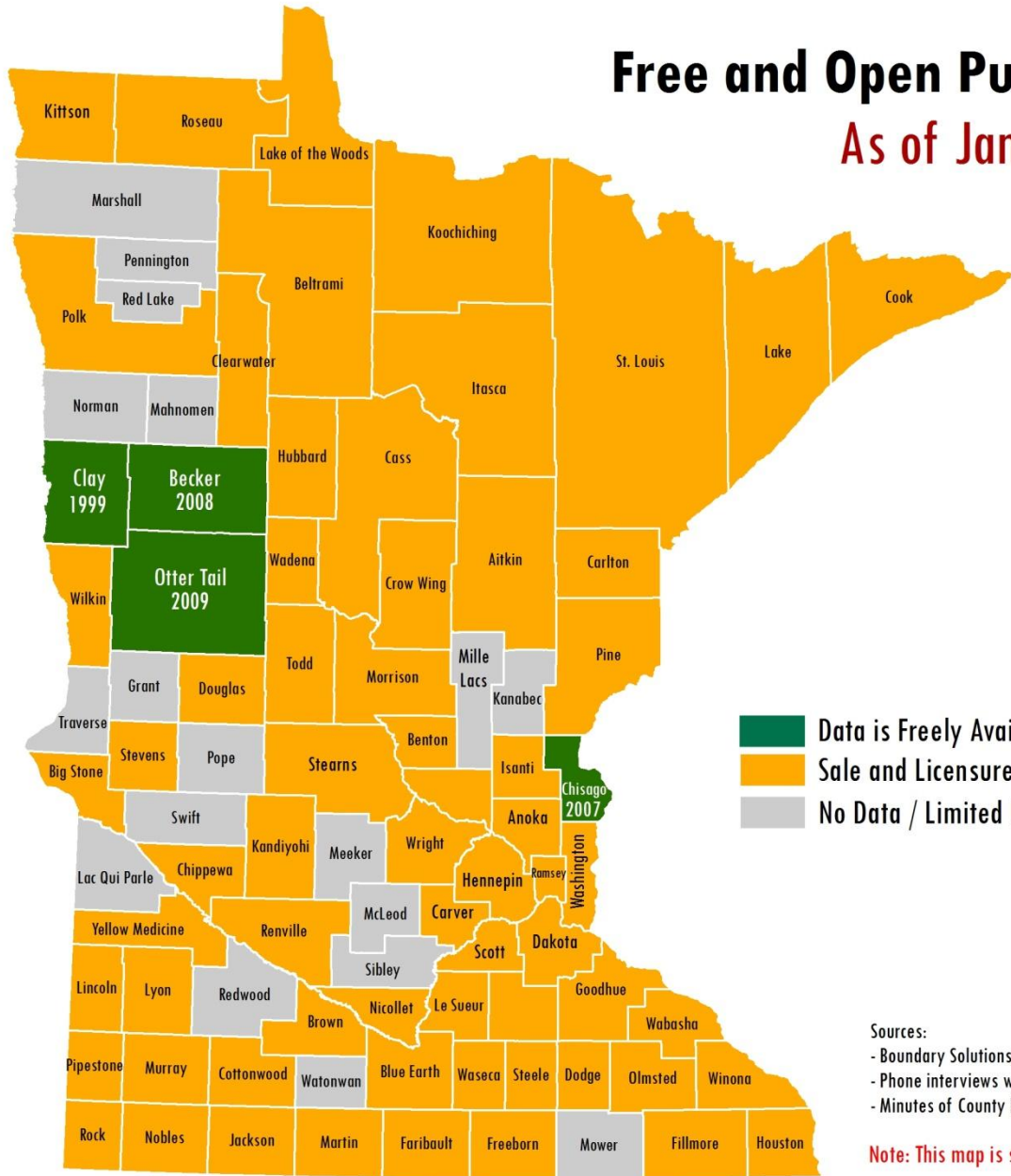
“Free and Open Data” Timeline 2013-2014



- Apr 24, 2013:** Presented an initial ‘White Paper’
- Summer 2013:** Intensive legal research, interviews, data gathering;
- Oct 23, 2013:** Presented additional research to Policy Board; **approved!**
- Nov 20, 2013:** Directed Letters of Support to each Metro County Board
- Feb 11, 2014:** Ramsey and Hennepin County adopted open data policies
- Mar 25, 2014:** Dakota County
- April 2014:** Carver County and Anoka County
- October 2014:** Clay County (non-metro county)
- November 2014:** Washington County

Free and Open Public Geospatial Data

As of January 1, 2014



- Data is Freely Available: No Formal Policy Adopted
- Sale and Licensure of Data
- No Data / Limited Data Available

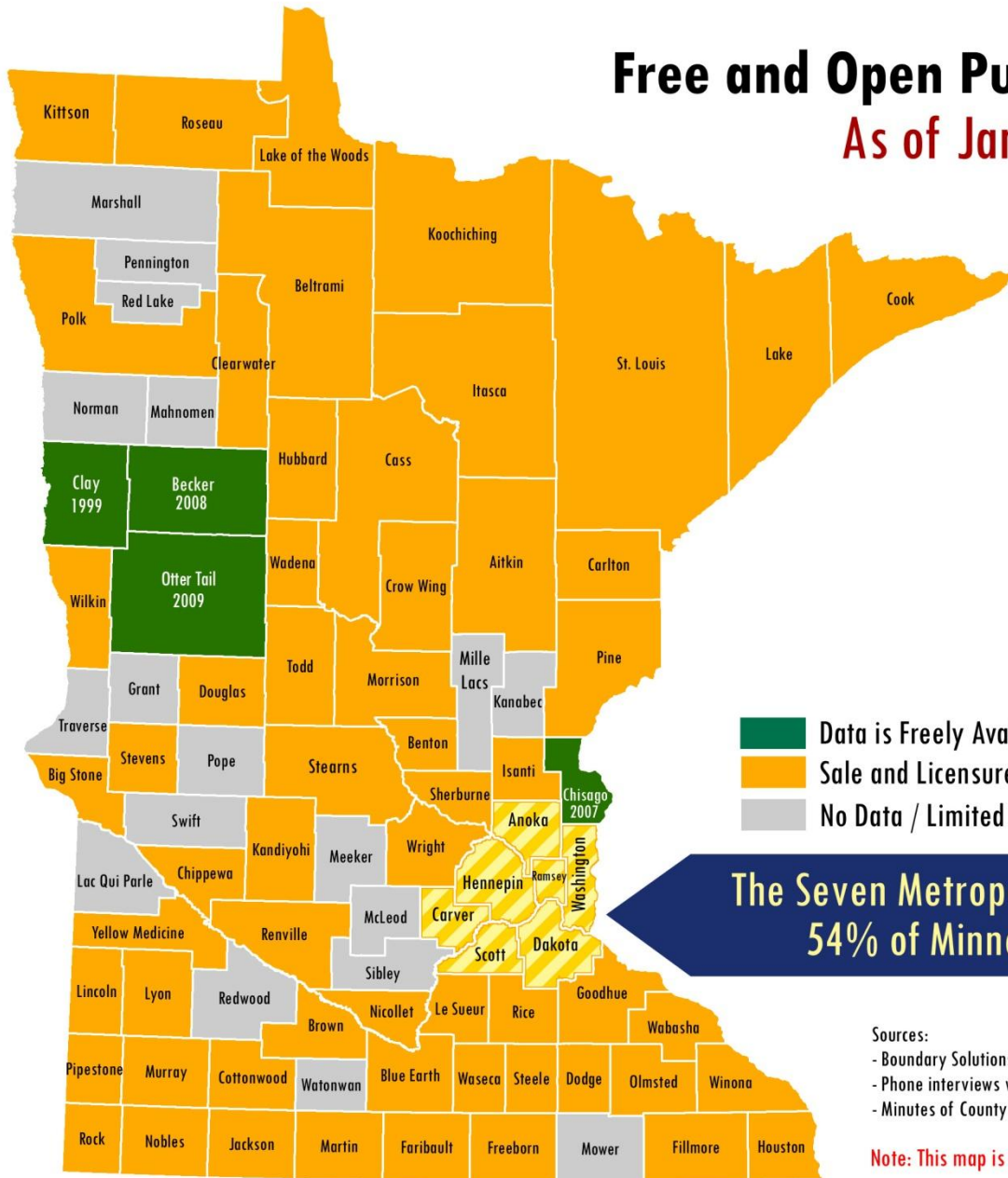
Sources:
 - Boundary Solutions, Inc. (2014 data)
 - Phone interviews with staff in counties in Minnesota (2014)
 - Minutes of County Board Proceedings (2014)

Note: This map is subject to frequent updates



Free and Open Public Geospatial Data

As of January 1, 2014



- Data is Freely Available: No Formal Policy Adopted
- Sale and Licensure of Data
- No Data / Limited Data Available

The Seven Metropolitan Counties contain 54% of Minnesota's Population

Sources:

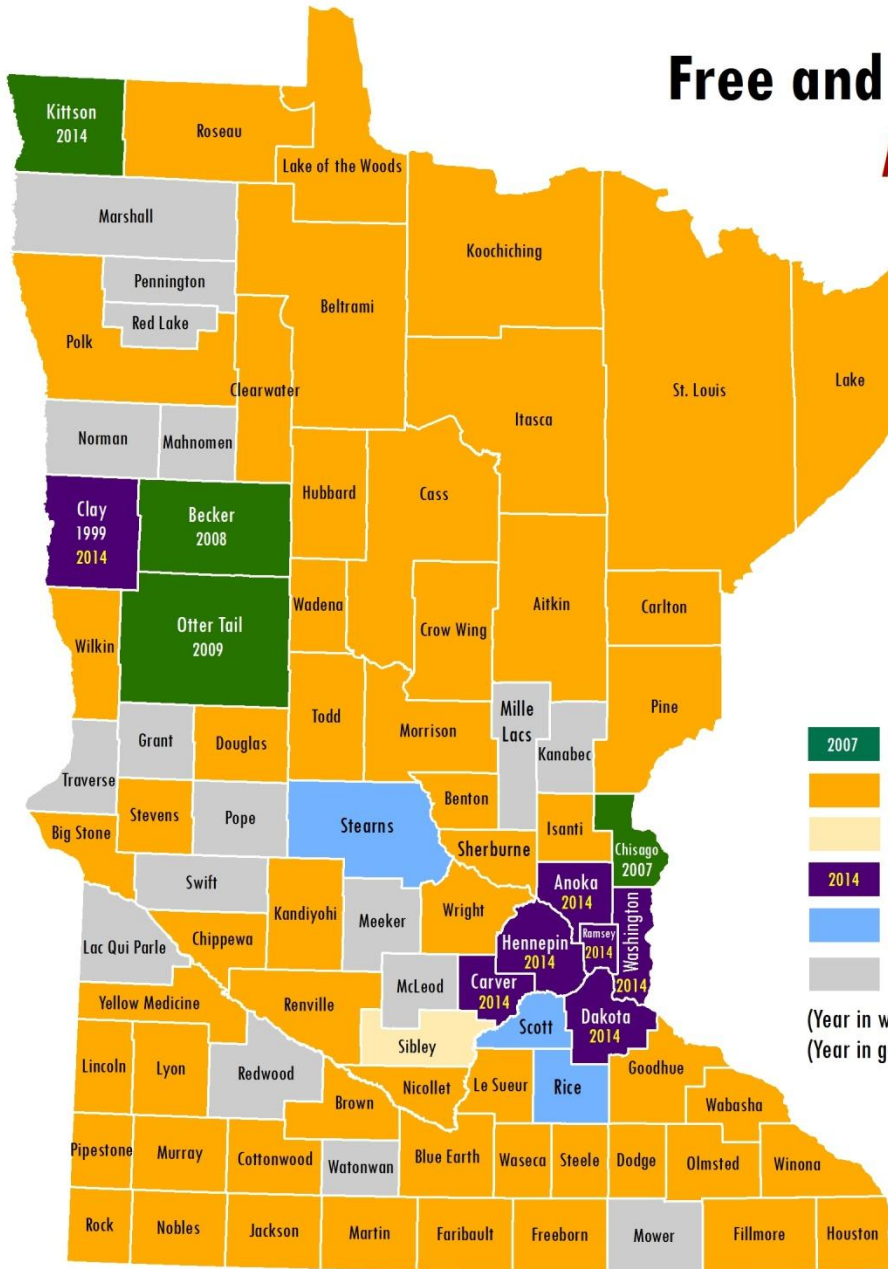
- Boundary Solutions, Inc. (2014 data)
- Phone interviews with staff in counties in Minnesota (2014)
- Minutes of County Board Proceedings (2014)

Note: This map is subject to frequent updates



Free and Open Public Geospatial Data

As of November 19, 2014



- 2007 Data is Freely Available: No Formal Policy Adopted
 - Sale and Licensure of Data
 - Data In Development
 - 2014 Free and Open Data Policy Adopted: Data Freely Available
 - Free and Open Data Policy Under Consideration
 - No GIS Data Available or Current Status Unknown
- (Year in white indicates year the data became freely available)
 (Year in gold indicates year a free and open data policy was adopted)

Sources:

- Phone interviews with county staff (Jan-Nov 2014)
- Minutes of County Board Proceedings (Jan-Nov 2014)
- Web searches for parcel data and parcel data viewers (Jan-Nov 2014)

Note: This map is subject to frequent updates



Our society has changed...

Smoking 

Seat Belts



Access to Information



The generation now entering the workforce grew up with Internet, and expect **immediate and unfettered access to data;**

Businesses may do some **online “prospecting”** and decide that you are **not “open for business”**, *and you may never even know about it!*

The “tide” is turning...

**Open Data is the ‘Next Wave’
Governments are best served by
embracing it fully!**

Thank You!



Bill

~~William F. Johnson~~

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