

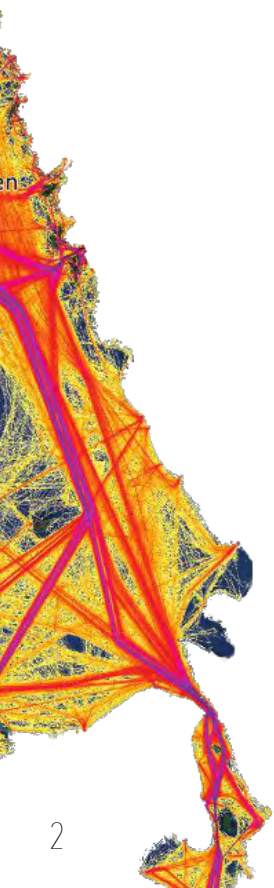


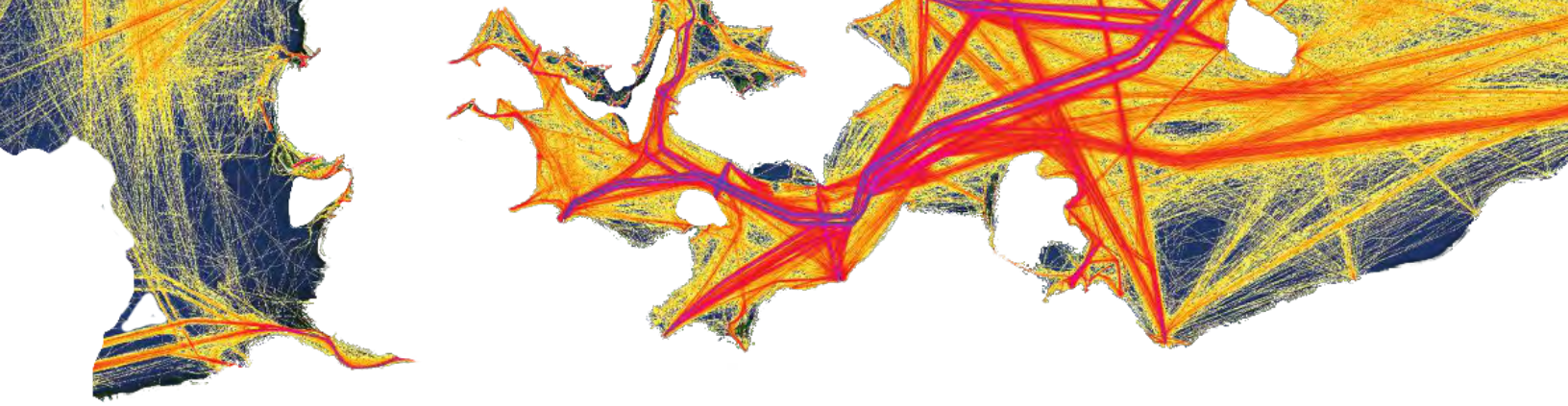
GIS & OPEN DATA:

▲ *Better Understanding Our World*

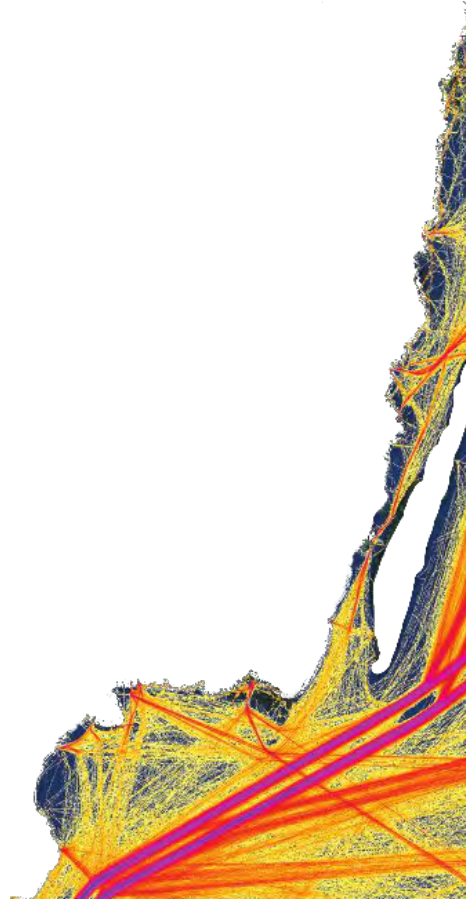
TABLE OF CONTENTS

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4	Executive Summary
6	A Brief History of Open Data in Government
10	Esri Powers Open Data Initiatives through ArcGIS Online <i>The U.S. Agriculture Department</i> <i>Europe's INSPIRE Directive</i>
12	The Open Data GIS Innovators' Toolkit
14	Open Data and GIS Best Practices
16	4 Steps to Configure Open Data with ArcGIS Online <i>Step 1: Enable Open Data Capabilities.</i> <i>Step 2: Specify Groups for Open Data.</i> <i>Step 3: Configure Open Data Site.</i> <i>Step 4: Make Site Public.</i>
20	GIS & Open Data Cheat Sheet
22	Acknowledgements



EXECUTIVE SUMMARY

In today's world, there is a unique opportunity to connect people through information technology. In doing so, government agencies can gain access to the knowledge of communities and drive innovations outside their walls.

But first agencies need to create shared data infrastructures that are open, secure and resilient to help push practices that improve how our government agencies and representatives engage with communities.

As a result, officials at many government agencies have chosen to make their authoritative and high-value data open to the public. Open data has facilitated a new way of thinking about data and how it can spur public-sector improvements. From the departments of Commerce to Transportation and from New York to San Francisco, open data programs have transformed the way government workers communicate with citizens, business, developers, journalists and nonprofit organizations.

In our latest GovLoop guide, we explore a crucial element of the open data movement: geographic information systems (GIS). GIS lets users visualize, question, analyze, interpret and understand data to reveal relationships, patterns and trends, says Esri, the global leader in GIS technology. In this report, GovLoop and Esri have partnered to show the power of open data and GIS.

Specifically, this report:

- Provides a history of open data within the U.S. government.
- Explains how Esri powers open data initiatives with ArcGIS.
- Gives you open data and GIS best practices.
- Offers four steps to configure your open data site with ArcGIS Online.
- Details case studies from open data and GIS pioneers.

Data is critical to understanding our world, and when you make use of powerful technology such as ArcGIS, you can bring your data to life, which will improve decision-making. With open data and GIS, agencies can transform their information and create a data platform for innovation in ways that traditional charts, graphs and data infrastructures simply cannot.

Take for example the state of Maryland, an early adopter of GIS and open data. During a GovLoop and Esri Meetup on open data, Barney Krucoff, geographic information officer for the state, detailed his efforts to help Maryland use GIS and make state data freely and publicly available.

One was helping Senate Bill 644 and House Bill 1260 become a law that makes data open by default. The law makes it standard practice for data to be machine-readable and released to the public in ways that are easy to find and accessible.

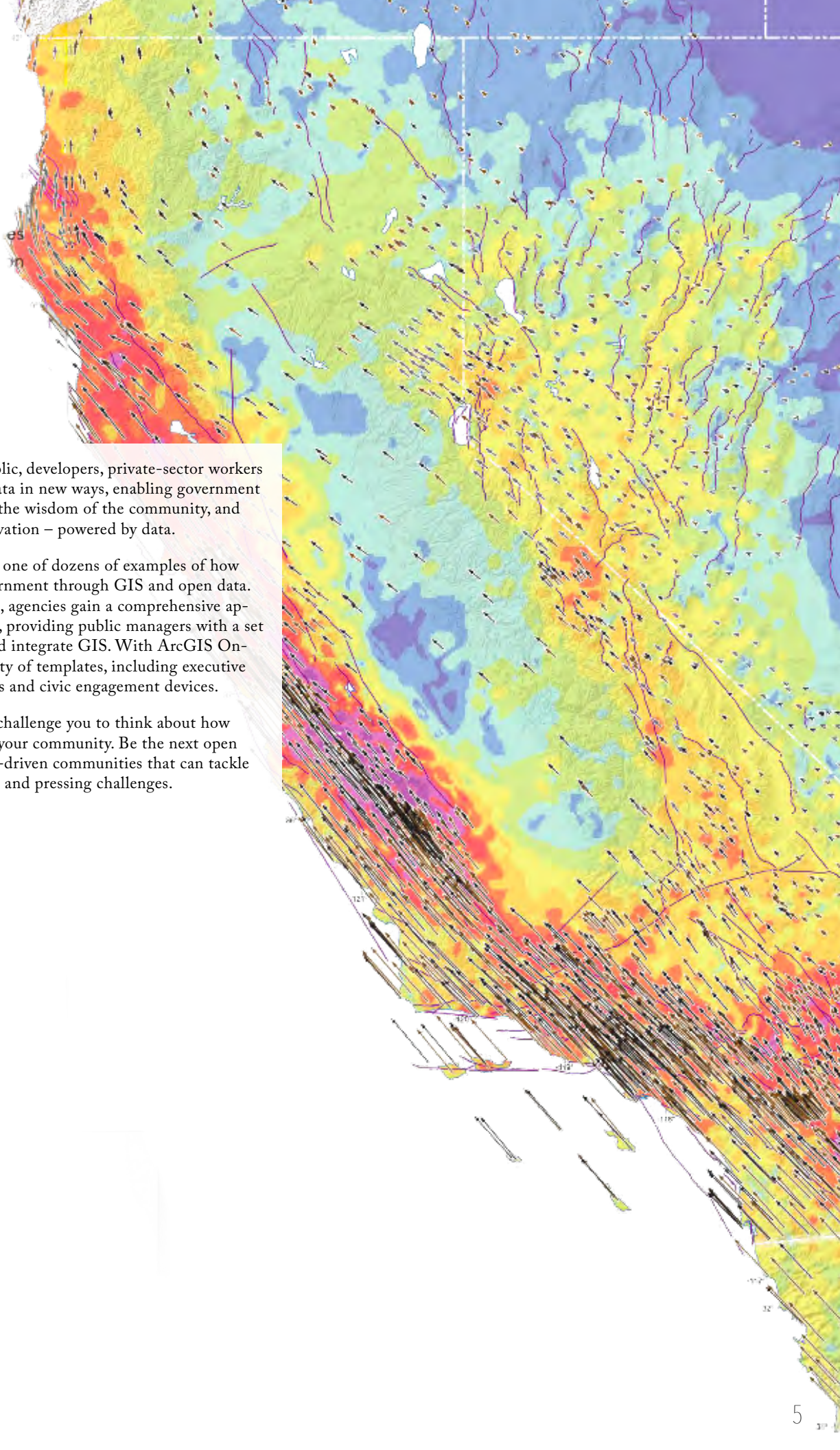
“One of the things this law does is that it recognizes that both the geospatial and alphanumeric are governed by the same law,” Krucoff said. The benefits he expects from it include:

- Increased citizen engagement.
- More government transparency.
- Improved decision-making.
- Reduced expenses related to the Freedom of Information Act requests, reporting and printing.
- More entrepreneurship and application development.

“We got data the citizens have paid for and is suitable for public consumption – and it’s our job to make that as easy as possible,” Krucoff said.

To comply with the new legislation, he and his team have embarked on a mission to revamp the state’s open data portal. Much of it is powered by Esri’s ArcGIS software, which helps dozens of states and local governments create a platform for data innovation.

The updated site will include a map gallery, GIS data categories and featured datasets. All of this information will make it easier to access data and to connect with anyone who’s looking to build applications, mash up data or become more engaged with the state. Additionally, it will help state and local government agencies access the GIS data.



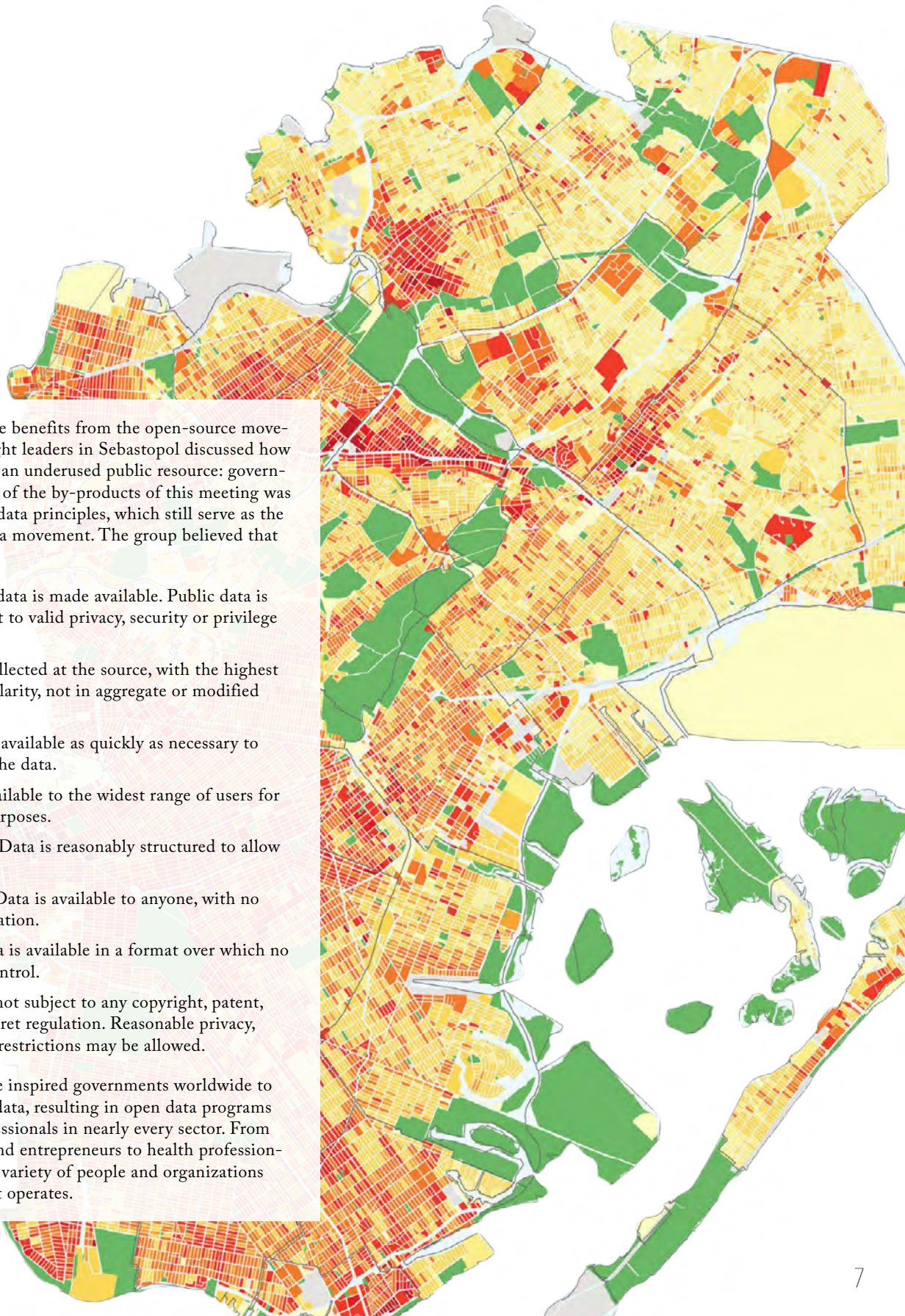
By releasing data to the public, developers, private-sector workers and activists can leverage data in new ways, enabling government to crowdsource, or tap into the wisdom of the community, and provide a platform for innovation – powered by data.

The Maryland case study is one of dozens of examples of how Esri is revolutionizing government through GIS and open data. With Esri's ArcGIS Online, agencies gain a comprehensive approach to open government, providing public managers with a set of tools to use their data and integrate GIS. With ArcGIS Online, users can access a variety of templates, including executive dashboards, permitting tools and civic engagement devices.

Throughout this guide, we challenge you to think about how you can bring open data to your community. Be the next open data pioneer and build data-driven communities that can tackle government's most complex and pressing challenges.

A BRIEF HISTORY OF OPEN DATA IN GOVERNMENT

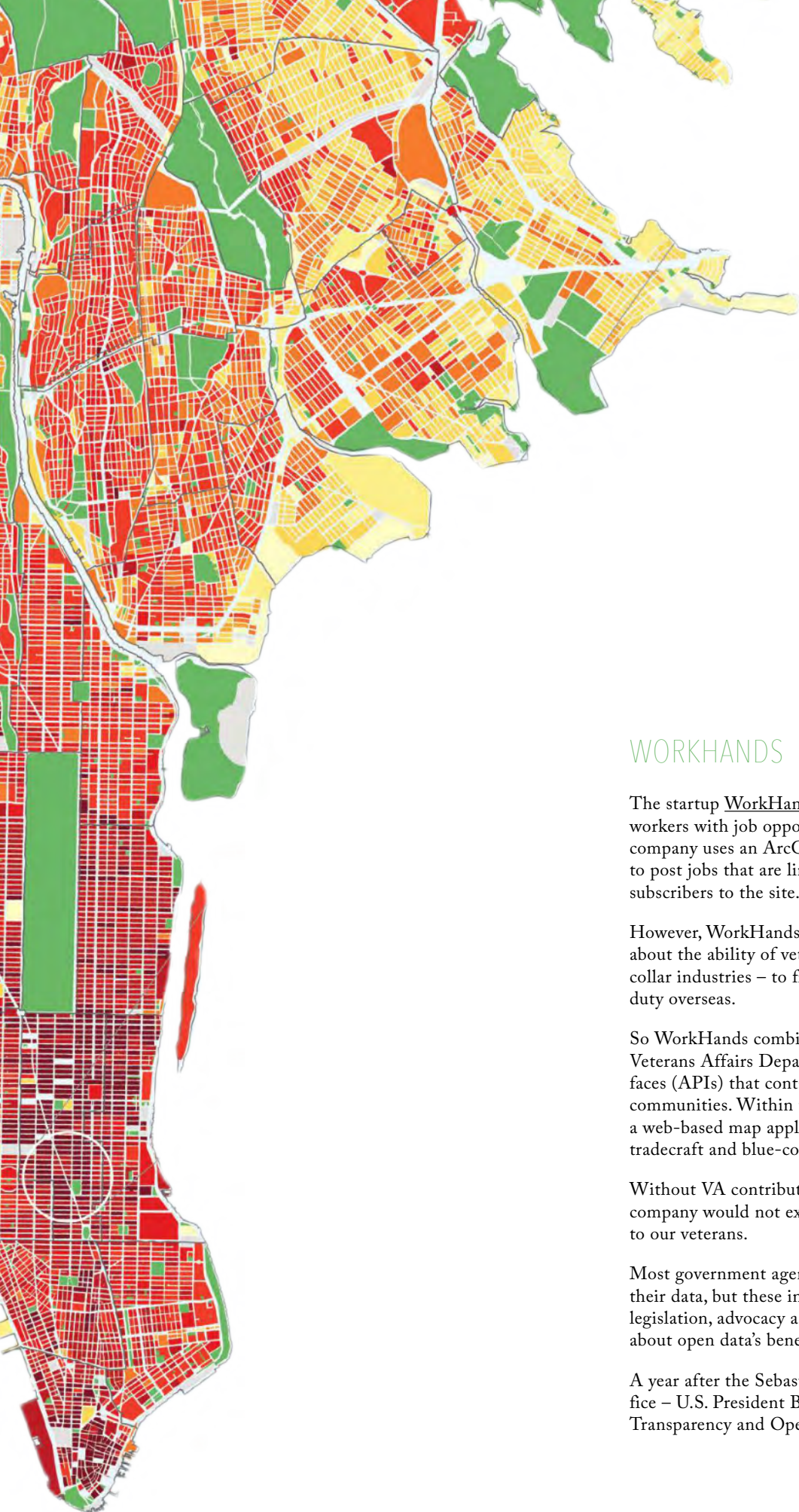
▲ *In December 2007, a group of open data activists met in Sebastopol, Calif., to discuss the promise of open data for government. This meeting set the foundation for the open data movement and helped set into motion a series of executive orders, mandates and legislation that have pushed all levels of government to make data public.*



Already seeing the benefits from the open-source movement, the thought leaders in Sebastopol discussed how to capitalize on an underused public resource: government data. One of the by-products of this meeting was the creation of eight open data principles, which still serve as the foundation of the open data movement. The group believed that open data should be:

1. Complete: All public data is made available. Public data is data that is not subject to valid privacy, security or privilege limitations.
2. Primary: Data is as collected at the source, with the highest possible level of granularity, not in aggregate or modified forms.
3. Timely: Data is made available as quickly as necessary to preserve the value of the data.
4. Accessible: Data is available to the widest range of users for the widest range of purposes.
5. Machine processable: Data is reasonably structured to allow automated processing.
6. Non-discriminatory: Data is available to anyone, with no requirement of registration.
7. Non-proprietary: Data is available in a format over which no entity has exclusive control.
8. License-free: Data is not subject to any copyright, patent, trademark or trade secret regulation. Reasonable privacy, security and privilege restrictions may be allowed.

These eight principles have inspired governments worldwide to release their authoritative data, resulting in open data programs that have empowered professionals in nearly every sector. From researchers to journalists and entrepreneurs to health professionals, open data has helped a variety of people and organizations transform how government operates.



WORKHANDS

The startup WorkHands, a group conceived to match tradecraft workers with job opportunities nationwide, is one example. The company uses an ArcGIS Online application that allows people to post jobs that are linked to a map, which is then pushed out to subscribers to the site.

However, WorkHands was becoming increasingly concerned about the ability of veterans – many of whom worked in blue-collar industries – to find employment after they returned from duty overseas.

So WorkHands combined ArcGIS Online with a number of Veterans Affairs Department application programming interfaces (APIs) that contained open data on jobs available in local communities. Within two days, the company was able to create a web-based map application that connected veterans to local tradecraft and blue-collar jobs.

Without VA contributing its open data as a public resource, this company would not exist and could not provide a needed service to our veterans.

Most government agencies understand the importance of opening their data, but these initiatives have required years of hard-fought legislation, advocacy and education of the public and government about open data's benefits.

A year after the Sebastapol meeting – and on his first day in office – U.S. President Barack Obama signed the “Memorandum on Transparency and Open Government.”

My Administration is committed to creating an unprecedented level of openness in Government. We will work together to ensure the public trust and establish a system of transparency, public participation, and collaboration,"

– U.S President Barack Obama

“My Administration is committed to creating an unprecedented level of openness in Government. We will work together to ensure the public trust and establish a system of transparency, public participation, and collaboration. Openness will strengthen our democracy and promote efficiency and effectiveness in Government,” Obama said in the memorandum.

Later that year, Obama took more action, releasing the Open Government Directive, which included a 45-day deadline to make data open by default.

But he was not done. In May 2009, one of Obama’s premier open data initiatives launched: Data.gov. It soon became the federal government’s open data hub for numerous datasets, application development tools, mobile technology resources and more.

“In May 2009, Data.gov was an experiment,” said Jeanne Holm, evangelist for the site and chief knowledge architect at NASA’s Jet Propulsion Laboratory, at the [Sunlight Foundation’s](#) recent [TransparencyCamp](#), a gathering of technology, policy and government leaders to discuss open government and open data initiatives. “There were questions: Would people use the data? Would agencies share the data? And would it make a difference?”

Now Data.gov boasts more than 100,000 datasets from 175 government agencies. In addition, it features more than 350 citizen apps and 450 APIs.

The Obama administration has continued to be an advocate for open data. In May 2013, an executive order, “Making Open and Machine-Readable the New Default for Government Informa-

tion,” and another memo, “Open Data Policy: Managing Information as an Asset,” supported his call to create a more participatory, collaborative and transparent government.

The White House’s Project Open Data grew out of these memos. It’s a collection of code, tools and case studies to help agencies adopt open data programs and share resources and information on open data.

What’s more, Congress passed [the Digital Accountability and Transparency Act](#) —also called the DATA Act — in 2013 to expand transparency requirements to include data for all federal funds spent or granted by any federal agency. The data would continue through contractors and subcontractors or grantees in as much detail as possible and would then be reported publicly on [USASpending.gov](#).

Despite these great strides, there is a lot of work still to be done in the open data arena. In particular, open data advocates must continue to tell the compelling stories of open data, and GIS is the perfect solution to do that, especially through the creation of easy-to-consume maps.

As the global leader in GIS software, Esri represents and manages volumes of data on behalf of thousands of government customers. And now, with a click of a button, Esri has empowered government agencies to make their data public.

ESRI POWERS OPEN DATA INITIATIVES THROUGH ARCGIS ONLINE

This spring, Esri made an unprecedented move by announcing it would enable government customers to instantly make their data open to the public through ArcGIS Online. This move will lead to thousands of government agencies being able to quickly and efficiently develop open data web portals for public consumption.

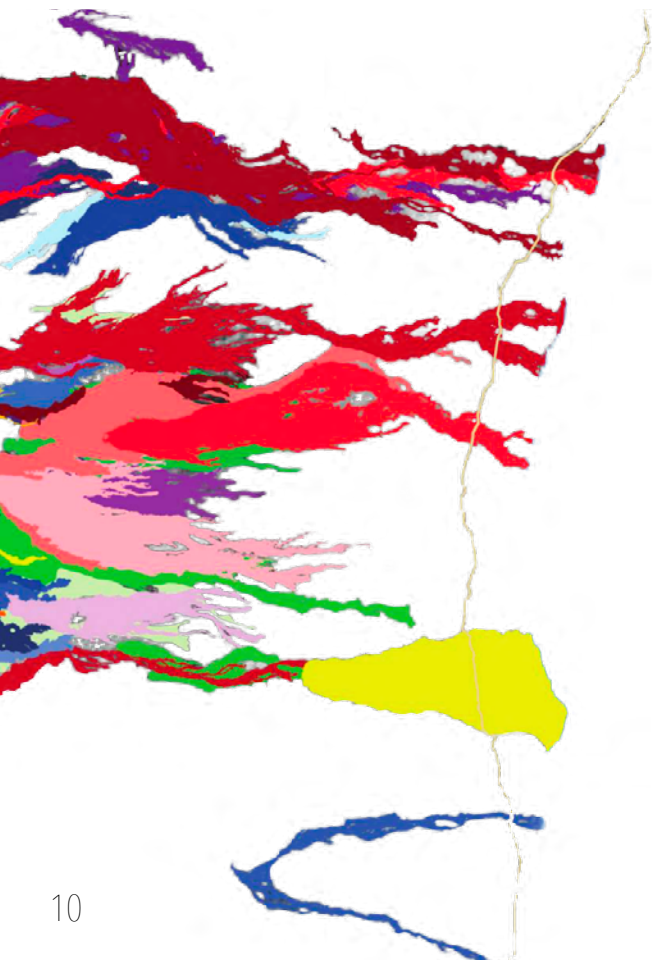
Open data, by definition, is both legally and technically open. This means that the data is free from license restriction for anyone to access, share and reuse. It also means that the data is available in common, standard and machine-readable formats. ArcGIS Open Data makes it simple for organizations to make their data available under these open guidelines while also supporting web best practices.

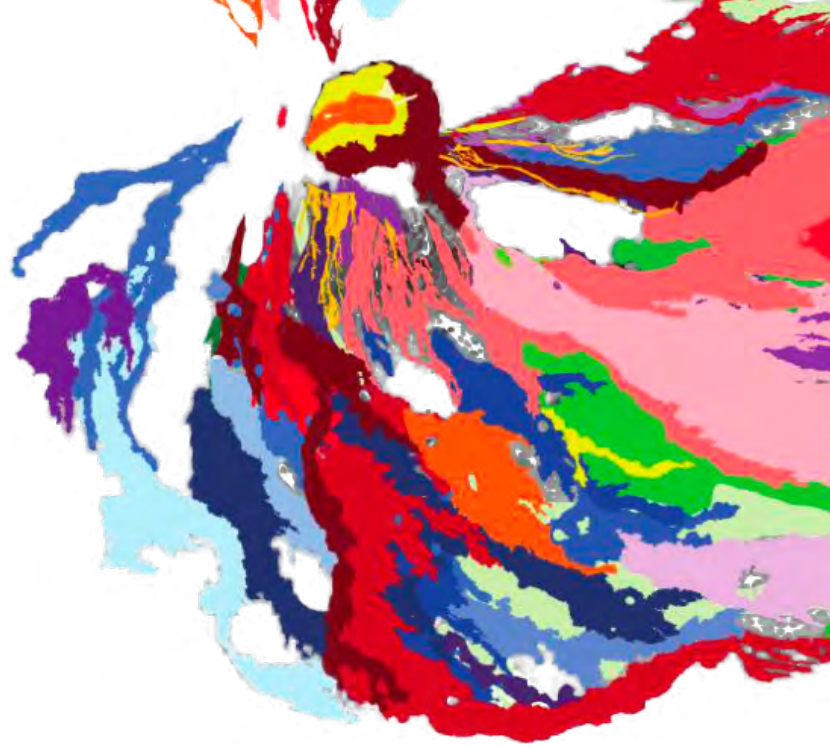
Using the Open Data feature in ArcGIS Online, agencies can publish their authoritative GIS data into easily discoverable and accessible open formats.

“Discoverable, explorable and accessible – those are the concepts we are embodying in our websites when we build them,” said Jason Wieringa, software engineer at Esri, at a recent GovLoop and Esri Meetup.

By taking this step, Esri is helping governments and public consume data in new ways, and help tell stronger stories from the volumes of data collected.

This service will make an incredible amount of geospatial data available to the public and developers. There’s no denying that today’s technology provides immense opportunity to transform the way government engages with citizens. Through mobile, cloud, GIS and social media, government can be where the citizens are and provide critical services to them.





THE U.S. DEPARTMENT OF AGRICULTURE (USDA)

The Agriculture Department's Economic Research Service, in support of First Lady Michelle Obama's "Let's Move!" campaign, developed the [Food Access Research Atlas](#). The atlas is designed to combat childhood obesity by using maps to define food deserts nationwide. The data is also open to the public so that researchers, agencies and citizens can leverage it. Additionally, the API is open and available to developers to uncover additional uses for the data.

By providing an open platform, not only is the department providing improved context to users, it is also providing an open data platform for others to leverage.

Taking public data and combining it with visualization, interactivity and manipulation to further health and community outcomes is a powerful way for organizations to tell their stories and improve their decision-making. The public can do a lot with the data provided for them – but only if they have a platform that is accessible and visual.

GIS is the missing piece in the puzzle. Not only does it offer a comprehensible storytelling tool, it inspires organizations to innovate with their data.

EUROPE'S INSPIRE DIRECTIVE

The United States is not alone in its efforts to publish data for public consumption and innovation. In Europe, the Infrastructure for Spatial Information in the European Community (INSPIRE) Directive seeks to create a European Union spatial data infrastructure. This will facilitate the sharing of spatial information among public-sector organizations and improve public access to spatial data. The INSPIRE website explains that the project is based on several common principles:

- Data should be collected only once and kept where it can be maintained most effectively.
- It should be possible to combine seamless spatial information from different sources across Europe and share it with many users and applications.
- It should be possible for information collected at one level/scale to be shared with all levels/scales, detailed for thorough investigations, general for strategic purposes.
- Geographic information needed for good governance at all levels should be readily and transparently available.

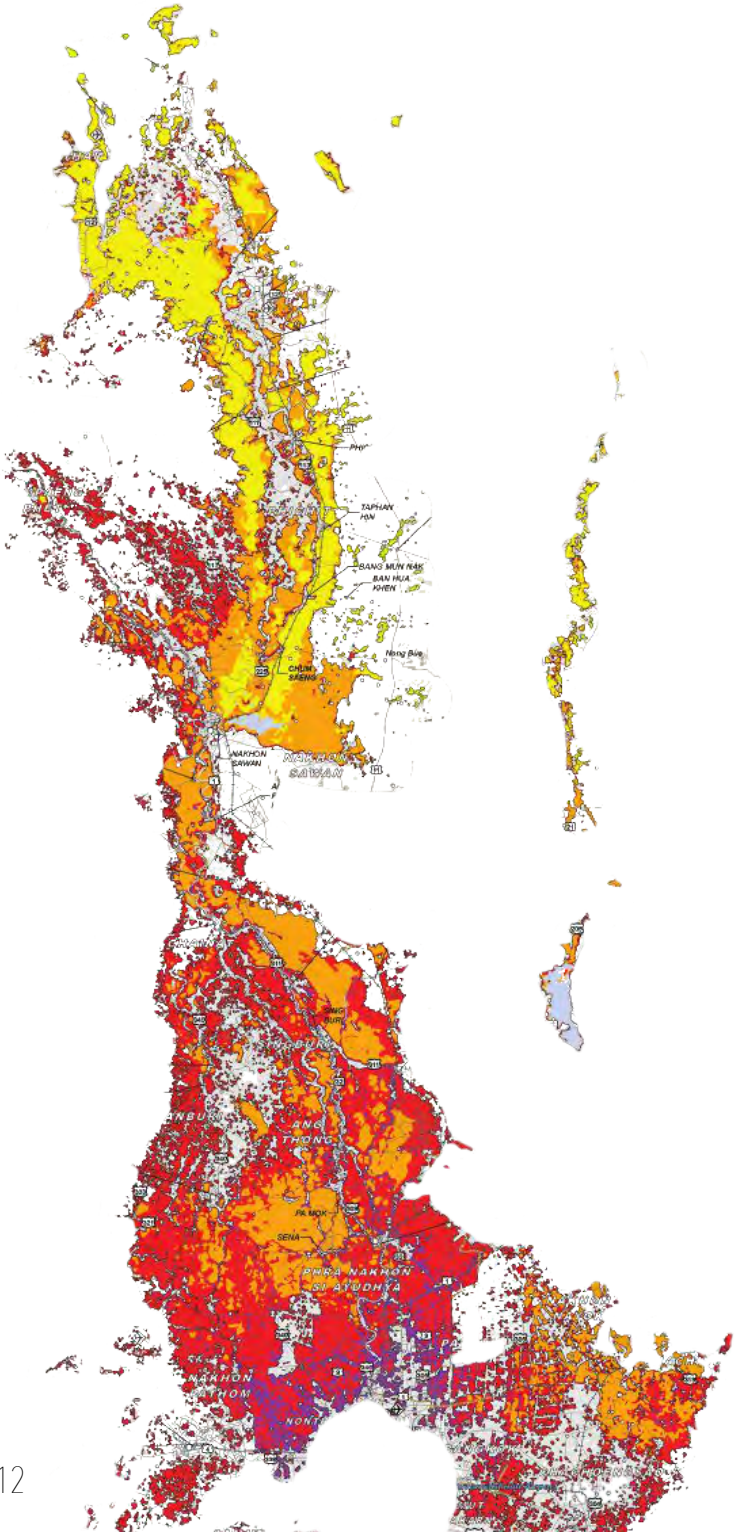
- It should be easy to find what geographic information is available, how it can be used to meet a particular need and under which conditions it can be acquired and used.

From December 2013 to February 2014, the European Commission [conducted a study](#) on the status of INSPIRE. The report included insights from almost 700 individuals in the public, private and academic sectors. Three key findings emerged:

- Most progress has been done in documenting data and making such data discoverable and viewable through web services.
- There was an almost unanimous view in the public consultation that INSPIRE's objectives of making spatial data and services more easily shared and used are still as pertinent as ever.
- INSPIRE is delivering benefits to public administrations through improved data management processes and increased skills/competences in managing and publishing geographic information and related services.

THE OPEN DATA GIS INNOVATORS' TOOLKIT

How to Bring Open Data GIS to Your Agency



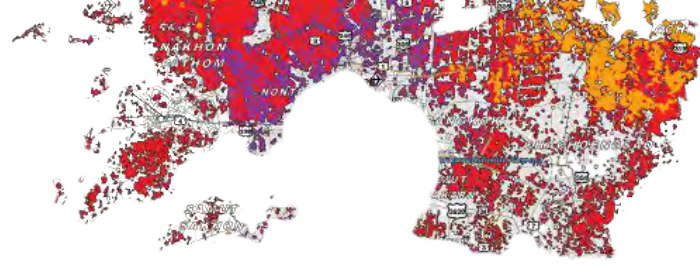
Government agencies with an ArcGIS Online subscription can quickly make their data open and public. With [ArcGIS Open Data](#), they can easily facilitate open data programs, share authoritative data publicly and empower agencies to create open data maps through simple web applications.

Open data creates opportunities for increased transparency, broader applications of data and the ability to provide communities with authoritative data that government collects. Additionally, once a community receives access to the data and it is downloaded, they can use that information on related open data sites or applications.

With open data, agencies are also increasing their reach to various stakeholders within the community. Stakeholders include citizens, businesses, developers or partner organizations looking to leverage government data. Through ArcGIS Open Data, information can be downloaded in a variety of formats, such as Keyhole Markup Language (KML), spreadsheets or comma-separated values (CSV), GeoJSON, and Esri shapefile and GeoServices.

“Users can also subscribe to the RSS feed of updates and comments about any dataset in order to keep up with new releases or relevant supporting information,” said Andrew Turner, chief technology officer at Esri’s R&D Center in Washington, D.C.

This is a huge opportunity for agencies and makes a great deal of public data easily accessible. For many, sharing the data will also help with overall collaboration with other departments and organizations. One great example of organizations sharing data comes from Data Driven Detroit.



▲ *Powered by Esri's ArcGIS Online, Data Driven Detroit (D3) is an open data initiative designed to make information easier for the public to consume. Although the site is still in beta form, the hope is that the city can continue to build and release more datasets.*

DATA DRIVEN DETROIT: CASE STUDY IN COLLABORATION

Detroit has a rich history of cultural and social innovations. Once the automobile capital of the world and home to Motown music legends such as Marvin Gaye and Diana Ross, Detroit played a key role in defining America in the 20th century. And now, after suffering through decades of economic decline, the city is in the midst of reinventing itself through data.

Powered by Esri's ArcGIS Online, Data Driven Detroit (D3) is an open data initiative designed to make information easier for the public to consume. Although the site is still in beta form, the hope is that the city can continue to build and release more datasets.

The organization was able to quickly publish open data related to census, education and housing to provide clarity on how to improve the city. This data is extremely valuable for nonprofits, journalists, academics, innovators and technology developers. The information could be used to help understand complex questions such as where the most at-risk communities are, measure government programs and build new mobile applications.

D3 creates a data ecosystem that is powering improved decision- and policy-making and driving innovation by creating an easy-to-leverage data platform.

Whether it's a business, government or a nonprofit, organizations create volumes of data. In D3's case, now all that data is consolidated into one place and made publicly available. With this move, the program furthers its mission of making high-quality information and analysis accessible.

The initiative started in 2013, when city officials created Motor City Mapping, a program of the Detroit Blight Removal Task Force, which surveys buildings and vacant lots citywide. The task force assigned D3, the Michigan Nonprofit Association and LOVELAND Technologies to conduct a citywide land parcel survey. The city also used relationships with Quicken Loans and Detroit Employment Solutions Corp., and assembled more than 200 citizens to help with data collection.

The initial survey updated information on nearly 380,000 parcels of land in Detroit. Each parcel was analyzed for condition, occupancy and usage. The data was then visualized through compelling maps, rather than ordinary spreadsheets. The city provides data in a variety of downloadable formats, including for GIS applications and for spreadsheets. There is also the ability to use an API to link and embed data into related applications.

D3 lists nearly 60 projects that have leveraged its open data to help improve the community. The Project for Public Spaces (PPS), which seeks to create sustainable public spaces, is one example of a nonprofit using the now open data. In Detroit, PPS is working to create farmers markets across the city. To do so, the nonprofit needed to conduct an analysis of the demographics and economics in areas slated for prospective farmers markets. By using the D3 open data, PPS created 16 maps to help show the state of farmers markets citywide and identify where there is a need for another.

Through the use of data, and by making information more accessible for Detroit residents, city leaders have created a platform for understanding and innovation. Leveraging data, leaders can now make better decisions to improve the economic viability of their community.

- ▲ For more information on the Blight Removal Task Force and to download the report, visit <http://www.timetoendblight.com/>
- ▲ For more information about the Motor City Mapping project, including its next phase, visit <http://www.motorcitymapping.org/>

OPEN DATA AND GIS BEST PRACTICES

Here are some best practices to help you start bringing open data to your agency.

IDENTIFY A CLEAR PROBLEM

For open data initiatives, you must first have a clear mission problem that you are trying to solve with the data. By releasing datasets that will help achieve mission need, you're providing high-value and authoritative information to the public to build applications or services or improve an existing application.

CONDUCT A DATA AUDIT

Knowing your data is imperative. Your agency should start by conducting a data audit to understand its current data landscape. Some questions you should consider asking are:

1. Where does my data rest?
2. Who has access to information and who needs access?
3. What kind of data does our community need access to?
4. Who are the key stakeholders we should bring to the table?
5. How are we already sharing data?
6. What formats does our community need?
7. What challenges do we face in leveraging data?

BUILD A COALITION

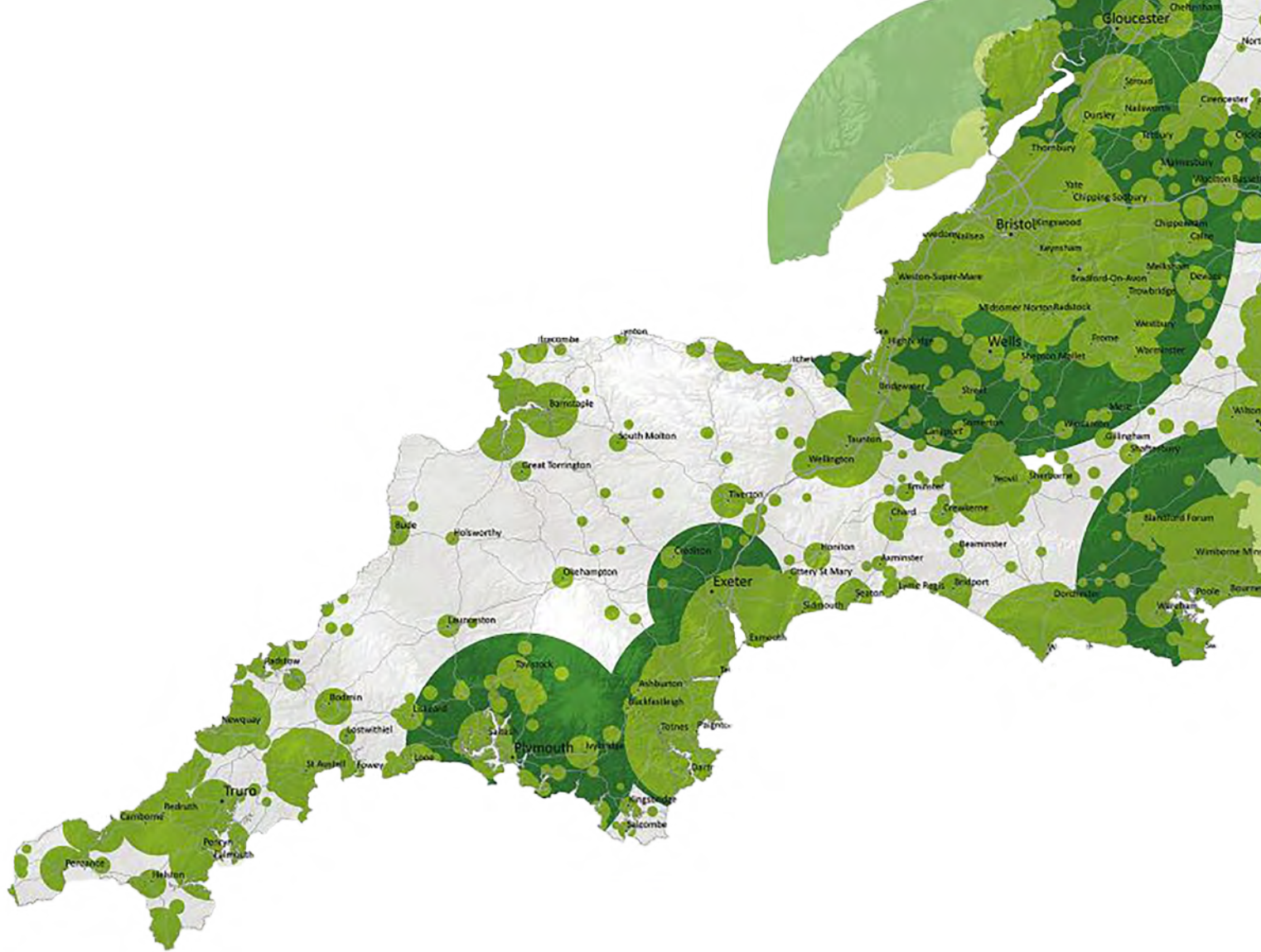
Your agency should also build a coalition to help create, manage and understand how everyone can benefit from an open data approach. Sharing data with the public is just half of the open data equation. The other is thinking about how information can easily be shared among agencies and using it to improve government decision-making and collaboration.

EDUCATE AND EMPOWER STAFF

Without the proper education, employees will not understand the value of GIS for government. The old model was that GIS was just for specialized information technology staff, but developments with cloud have enabled anyone at the agency with access to the Internet to use GIS. With simple web-based services, traditionally non-GIS staff now can create maps and use the technology to fulfill mission need. But first they need to know how to get access to the right services.

UPDATE AUTHORITATIVE DATA

The services created by open data are at their best when data is up-to-date and authoritative. Think through strategies at your agency to keep agency data updated. Esri [has published manuals and resources](#) that explain how to prepare your infrastructure for open data.



CREATE A DATA FEEDBACK LOOP

By creating a positive feedback loop, your agency can constantly tailor and modify solutions to help create better use of your data and drive more innovation for the public sector. By periodically getting feedback, you can be sure that you are releasing the data needed by developers, journalists, researchers or nonprofits.

HIGHLIGHT USE CASES

Highlighting use cases is essential. This helps show the value of GIS and the power of open data in fixing government's most complex problems. These case studies should be sent to all staff levels to encourage buy-in.

These best practices are just the start of your open data program. With ArcGIS Open Data, it's easier than ever before to stand up an open data platform. Our next section explains how.

4 STEPS TO CONFIGURE OPEN DATA WITH ARCGIS ONLINE

On the [ArcGIS Open Data website](#), Esri gives instructions on how to quickly turn your data into an open data repository. In doing so, you are providing developers, the public and partner agencies with open access to authoritative and high-value data.

There are four phases that you must follow to successfully create your open data site. To start you off, we've laid out instructions on how to make your data public using Esri ArcGIS Online.

ArcGIS Open Data allows organizations to use the ArcGIS platform to provide the public with open access to their authoritative data. Organizations configure a website with their own look and feel and specify open data groups to share specific items. The general public can use open data sites to search by topic or location, download data in multiple formats, and view data on an interactive map and in a table.

STEP 1: ENABLE OPEN DATA CAPABILITIES

Open data can be enabled within your My Organization page. Open data must be enabled before the site can be configured and items can be shared on your open data site.

1. Verify that you are signed in as an administrator of your organization.
2. Click My Organization at the top of the site and click Edit Settings.
3. Click Open Data on the left side of the page.
4. Click Enable Open Data. Your organization's Open Data site is now enabled and you are provided a URL for that site.
5. To disable Open Data capabilities, click Disable Open Data.

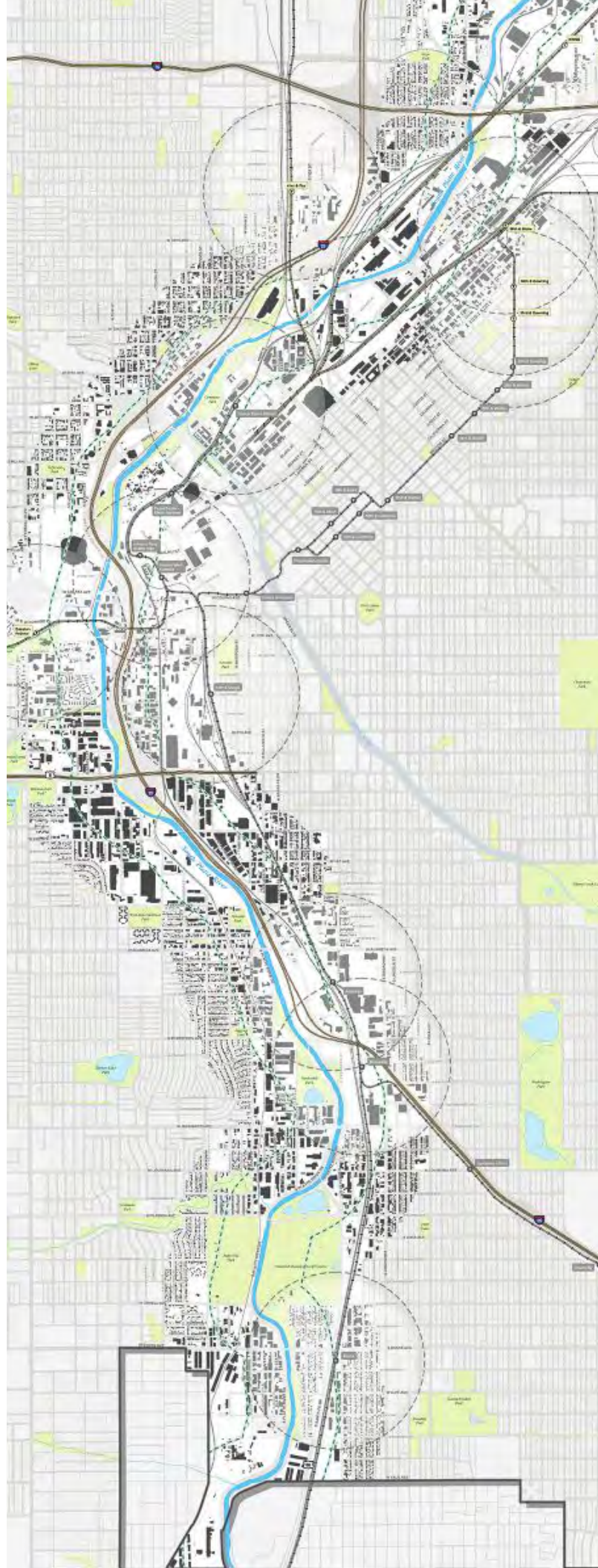
Once your open data capabilities are enabled, you will want to specify groups and items to be shared in the open data site. You will also want to configure custom roles so that members can be designated to make groups available to open data and administer an open data site.

STEP 2: SPECIFY GROUPS FOR OPEN DATA

The data in your open data site comes from groups in ArcGIS Online that you or others have made available for open data and that you have selected for your site. To make a group and its data available for open data, you can edit an existing group you own or create a new one and share your data with everyone (the public) and with that group.

You can share your public ArcGIS Server feature services, ArcGIS Server map services with query capabilities enabled and hosted feature layers to your open data groups. Within open data sites, consumers access these as CSV, KML, shapefile and JSON.

1. Verify that you are signed in and have privileges to designate groups for open data sites.
2. Open My Groups and create a new group. You can also edit an existing group you own.
3. Within the status section, choose public, check the option to designate as available for use in open data sites, and click save.



STEP 3: CONFIGURE OPEN DATA SITE

Once Open Data is enabled for your organization and you've designated open data groups, you are ready to configure your open data site. Site configuration includes setting the name and access, selecting your groups, and designing the homepage.

Access the Manage Sites Page

You configure new open data sites from the Manage Sites page. You also use the page to access, edit and delete any of your organization's existing open data sites. The page can be accessed by any member of the organization with privileges to manage Open Data sites. Administrators can access their Manage Sites page through the open data configuration page.

Note: The Manage Sites page is supported in Internet Explorer 9 and higher and in the latest versions of Chrome and Firefox. Non-Administrators will need to contact their Administrator to get the URL to their organization's Manage Sites page and open the page from the URL.

1. Verify that you are signed in as an Administrator of your organization.
2. Click My Organization at the top of the site and click Edit Settings.
3. Click Open Data on the left side of the page and verify that open data is enabled.
4. Click Configure Site to open the Manage Sites page.

Set Name

Set the name and URL for your site. The site remains private until you enable public access.

1. Click Create A New Site from Manage Sites and click Set Name and Access.
2. Enter a name for the site. The name appears in the browser tab and the welcome message. It should be less than 70 characters.
3. Enter a name for the site URL. The name you enter appears at the beginning of your organization's standard Open Data URL, for example mysitename.opendata.arcgis.com. The name should be less than 64 characters.
4. Click Save to save your change or Next to select your groups. You also have an option to preview your site.

Select Groups

Select the groups that contain the public data you want to be accessible through your site.

1. Click Select Your Groups and search for groups to add to your site. You can search by scrolling through Available Open Data Groups or typing a group name or keyword into the search box. You can also check options to search groups in your organization or groups you belong to.
2. Once you add a group, any supported public item from that group will be available on your site. If you do not want an item to be part of Open Data, make it private or only shared to your organization or groups not designated for Open Data.
3. Once you find a group, click Add to add the group to your Selected Open Data Groups.
4. To remove a group from Selected Open Data Groups, click Remove next to the group name.
5. Click Save to save your change or Next to design the home page. You also have an option to preview your site.

Design the Homepage

After you've set the site name and selected your groups, you can choose a banner title and image, define the page layout, and change the footer links. Click Design the Homepage to get started.

Banner Title and Image

For the header of your site, you can enter a title and a URL to a thumbnail image. For best results, the image should be 100 pixels wide and 50 pixels high. Other sizes will be adjusted to fit. Acceptable image formats are PNG, GIF and JPEG. The preview box changes automatically to show your latest title and image.

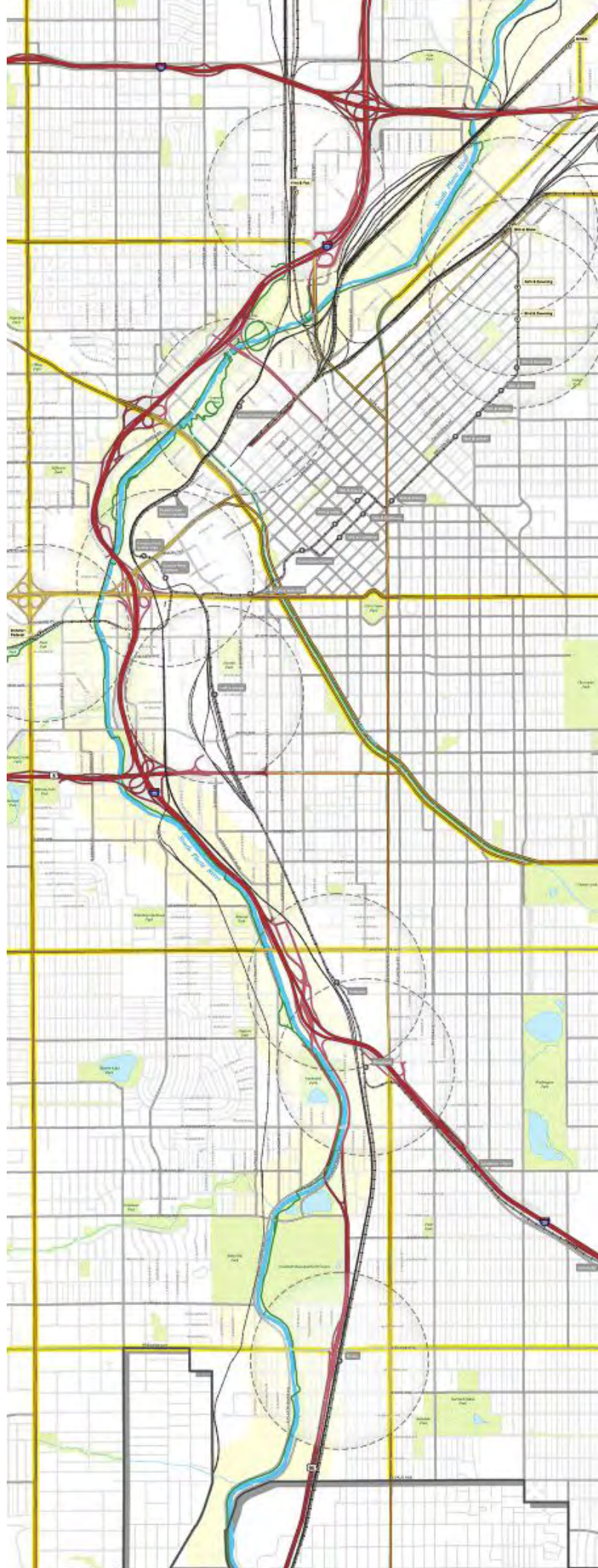
Page Layout and Footer

You can design both the layout and footer of your page by using an intuitive interface that allows you to add and edit widgets that can be populated with text, images, RSS feeds, data listings and data maps.

- To add a widget, click Add Widget. You can add as many widgets as you want.
- To resize a widget, hover over the lower right corner. When you see a double arrow, click and drag right to increase the size, or click and drag left to decrease the size.
- To move a widget, click and drag anywhere inside the area. Any other widgets will automatically adjust their positions on the page.
- To remove a widget, click the Trash icon in the upper right of the widget area. Any other widgets will automatically adjust their positions on the page.
- To edit a widget, click in the widget box to open the Widget Editor and choose the content type from the drop-down list that appears. You have options to work with text, images, RSS feeds, data listings and preview maps. When you choose the content type, the Widget Editor provides the necessary fields for you to fill in and suggestions for what to enter in the fields. Click Done to finish editing one widget and start editing the next widget.
- Click Save to save your work.

STEP 4: MAKE SITE PUBLIC

From the Set Name and Access page, click Public Access to enable or disable public access to your site. It is recommended that while you are creating your site, you turn off public access. When you are ready to open your site to the general public, make sure to turn on public access.



GIS & OPEN DATA CHEAT SHEET

Are you looking to get smart on GIS and open data in government? Look no further. Here's GovLoop's cheat sheet to help you get started.

THE OPEN DATA AND GIS ELEVATOR PITCH

With the variety of data that we are creating, there is a dire need to be able to quickly and efficiently communicate what information is telling us. That's where geographic information systems (GIS) come into play. With GIS, we can tell better stories about the authoritative data that we collect. GIS allows us to create visually compelling maps, telling stories about our communi-

ties. But stories can't be told without a platform, and with our ArcGIS Online subscription, we can easily create an open data platform to share our data with our community. When doing so, we are creating a platform for innovation and supporting a more transparent government.

12 EMERGING THEMES FOR GIS PROFESSIONALS

Need a quick primer on what GIS can do for government? Here are 12 areas where it makes a serious impact.

1. Monitoring environmental change
2. Managing natural resources (forests, agriculture, aquaculture, food production)
3. Managing land records and information
4. Planning
5. Transportation planning and management
6. Utilities, telecommunications and public works
7. Buildings and facilities management
8. Business management and economic development
9. Human health
10. Law enforcement and public safety
11. Planning for and responding to natural disasters
12. Citizen engagement and crowdsourcing

10 BENEFITS OF GIS AND OPEN DATA

GIS and open data initiatives will:

1. Improve basic functions of democracy and access to information.
2. Provide a platform of innovation.
3. Promote civic engagement.
4. Encourage cross-jurisdictional and -agency data collaboration.
5. Drive economic growth and value.
6. Layer complex data to improve decision-making and reduce costs.
7. Improve transparency for citizen engagement.
8. Improve communications during a crisis.
9. Improve data quality and create standards.
10. Improve data quality because the information being shared comes from the government.





BEST PRACTICES FOR OPEN DATA AND GIS ADOPTION

- Identify a clear problem.
- Conduct a data audit.
- Build a coalition.
- Educate and empower staff.
- Prepare your infrastructure.
- Update authoritative data.
- Publish your data as open data.
- Create a data feedback loop.
- Highlight use cases.

YOUR OPEN DATA MUST READS:

U.S. Open Data Institute

<http://usodi.org/2014/04/22/vendors>

"Transparency and Open Government" memo from the White House

<http://www.whitehouse.gov/the-press-office/transparency-and-open-government>

Data Driven Detroit Open Data Site

<http://d3.d3.opendata.arcgis.com/>

"Esri Enables Federal Agencies To Open GIS Mapping Data To The Public"

<http://readwrite.com/2014/02/10/esri-enable-thousands-government-agencies-open-gis-data-public>

"An Open Health Data Approach that Just Works (Recap)"

<http://www.govloop.com/profiles/blogs/an-open-health-data-approach-that-just-works-recap>

"A Brief History of Open Data"

<http://www.paristechreview.com/2013/03/29/brief-history-open-data/>

"Feds To Post Open Data From 700 R&D Facilities"

<http://www.informationweek.com/government/open-government/feds-to-post-open-data-from-700-randd-facilities/d/d-id/1278730>

ArcGIS Open Data

<https://opendata.arcgis.com/about>

Esri Open Data Beta

<http://beta.esri.opendata.arcgis.com/>

"Open Data: A History"

<https://www.data.gov/blog/open-data-history>

"Open Government Directive" from the White House

http://www.whitehouse.gov/sites/default/files/omb/assets/memoranda_2010/m10-06.pdf

"A brief history of open data"

<http://fcw.com/Articles/2014/06/09/Exec-Tech-brief-history-of-open-data.aspx?Page=2>

"8 Principles"

https://public.resource.org/8_principles.html

"Can Data Save Education?"

<http://www.govloop.com/profiles/blogs/can-data-save-education>

"DATA Act is a Big Win For Data Transparency"

<http://www.govloop.com/profiles/blogs/data-act-is-a-big-win-for-data-transparency>

"Opening Up the Fiscal Blinds – Data Act Mandates Transparency"

<http://www.govloop.com/profiles/blogs/opening-up-the-fiscal-blinds-data-act-mandates-transparency>

Project Open Data

<http://project-open-data.github.io/>

ArcGIS Resources

<http://blogs.esri.com/esri/arcgis/2014/04/24/arcgis-open-data-beta/>

ABOUT GOVLOOP

GovLoop's mission is to "connect government to improve government." We aim to inspire public sector professionals by serving as the knowledge network for government. GovLoop connects more than 100,000 members, fostering cross-government collaboration, solving common problems and advancing government careers. GovLoop is headquartered in Washington D.C. with a team of dedicated professionals who share a commitment to connect and improve government.

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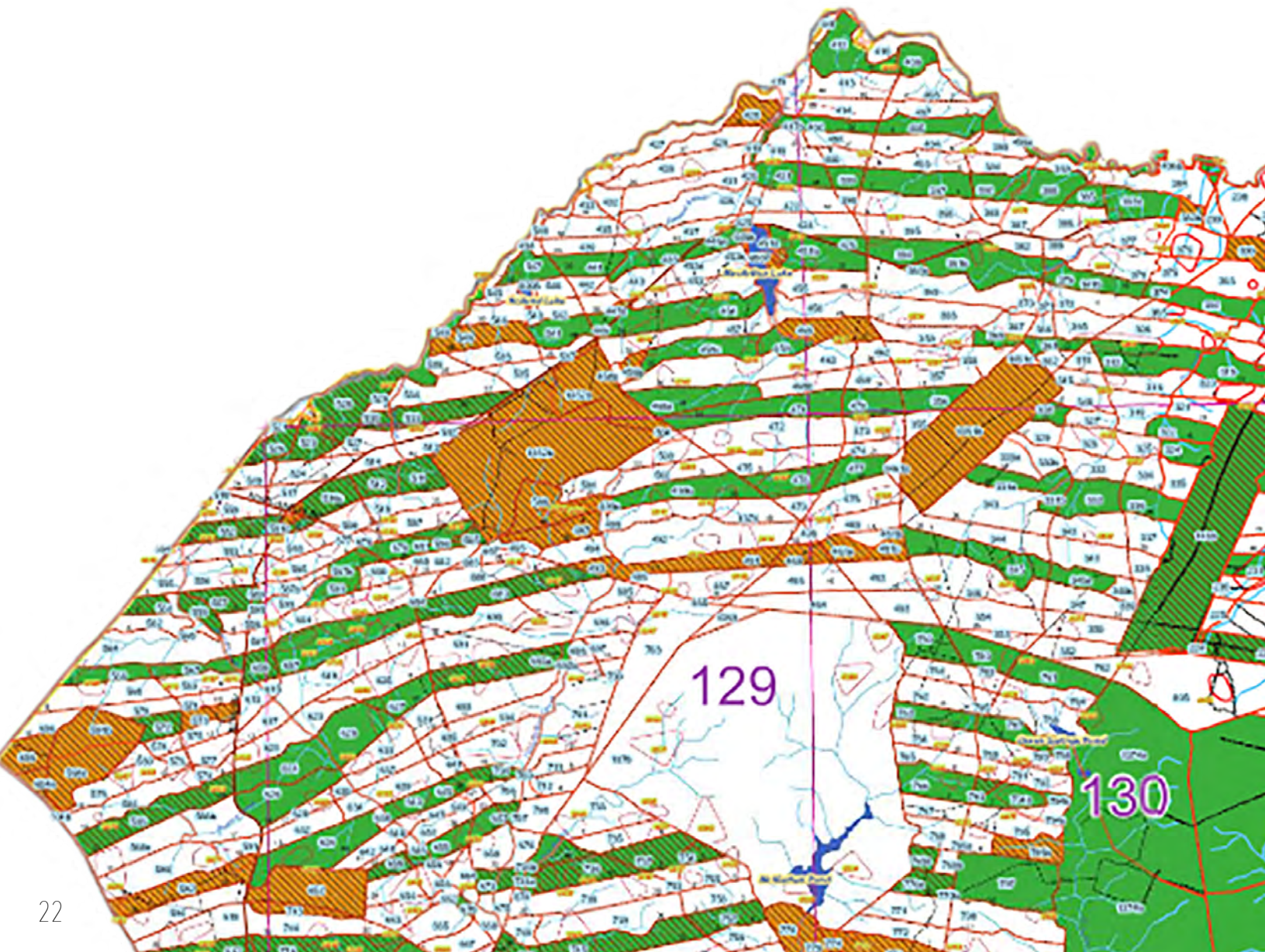
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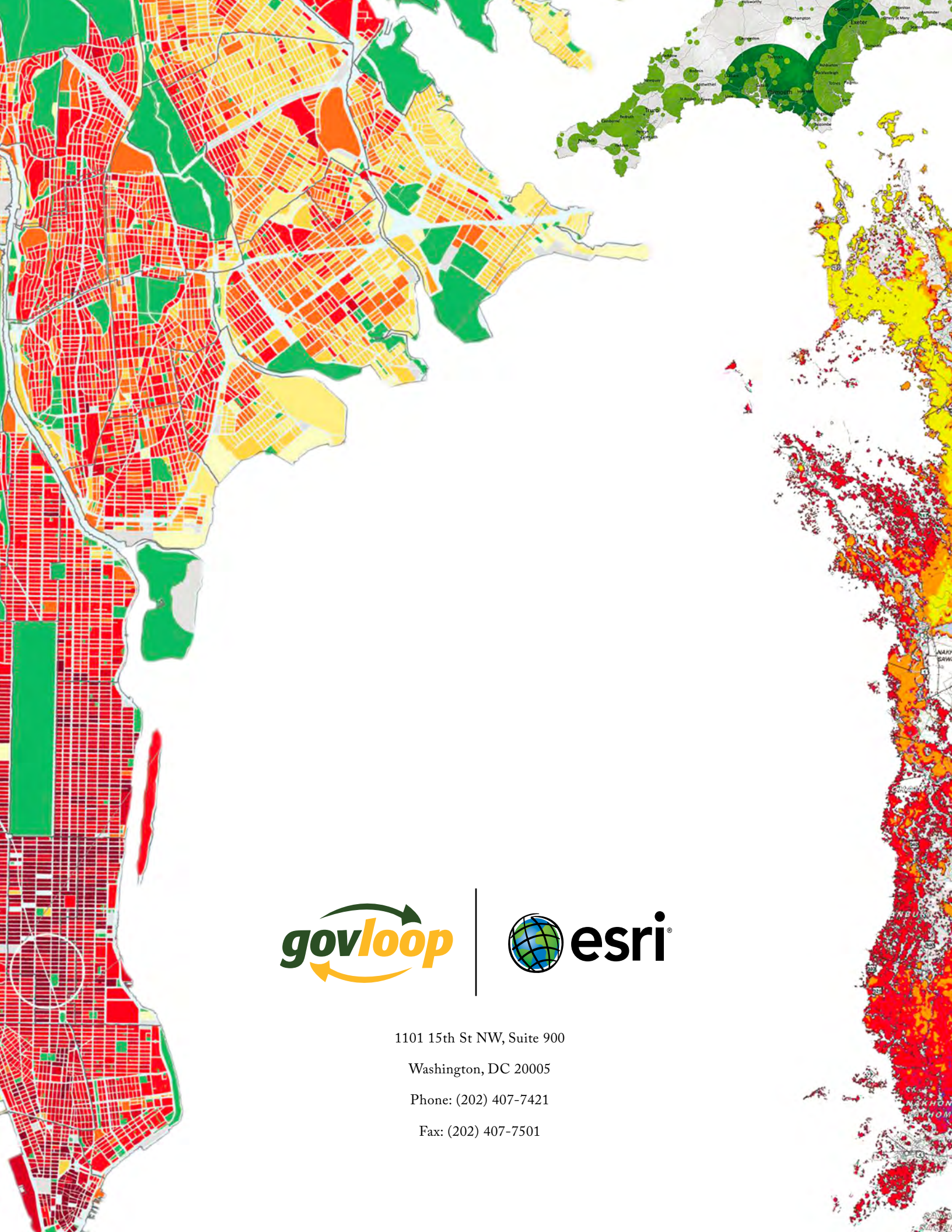
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