



INFORMATION INFRASTRUCTURE IN THE PUBLIC SERVICE

SEPTEMBER 2014



"Data will be for the 21st century what steam engines were for the 18th century and electricity in the 20th"

- Presley Gillespie,
President, Neighborhood
Allies. PNCIS User
Conference 2014

CITY COUNTY LEADERSHIP

This is an exciting time for our region. Our citizens are engaged in innovative work in technology, design, and manufacturing. We're receiving national attention for our resilient local economy, strong neighborhoods, and world class universities.

For the first time in many years we have engaged and cooperative political leadership.

Government needs a plan to support the growth in our region and provide services to the next generation.



RECENT - INVESTMENTS

- Creation of Department of Innovation and Performance
- Technology upgrades for the Bureau of Building Inspection including implementation of Accela software
- Major upgrades in telecommunications technology
- Passage of historic Open Data legislation
- Hiring of City's first dedicated Data and Analytics manager
- Restructuring Office of Management and Budget to build a performance-based budgeting program
- Partnerships with University of Pittsburgh and Carnegie Mellon on faculty and student research projects
- Selection as 2015 Code for America city through competitive process



CITY-COUNTY JOINT INITIATIVES

- Creation of City-County Task Force
- Upgrades to shared emergency management systems
- Shared City-County facilities management opportunities
- Partnership to bring bus rapid transit and eco-districts to the city
- Institute of Politics and CONNECT efforts to reform ALCOSAN
- Working together with foundation community to preserve the August Wilson center



To thrive in the 21st Century, we must empower our communities with the resources and tools they need to use share and use information.

Together, the City of Pittsburgh, Allegheny County, and the University of Pittsburgh and Carnegie Mellon have a plan to make our region a national leader.

To help our region assume a leadership role in the digital age we propose:



- Embedding expertise in the City of Pittsburgh and Allegheny County with a collaborative framework through the **Government Solutions Engineering Team**.
- Creating a **Regional Data Resource Center** to provide a data portal and technical expertise in creating, publishing, and using information to a wider community.
- A partnership with international leader in 21st Century government, **Code for America** to support reforms of foundational systems.

OUR PLAN

- Builds on proven methodologies that have worked in other cities.
- Supports work already in progress in many of our communities.
- Represents a sustainable partnership between our public institutions and leading universities.
- Is the first partnership of it's kind and will serve as a national model.

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GOVERNMENT SOLUTIONS

ENGINEERING TEAM

GOVERNMENT SOLUTIONS ENGINEERING TEAM: WHO, WHAT, WHERE

Who: Experienced analysts with expertise in data analytics and government.

Where: Employees of the City of Pittsburgh and Allegheny County, highly placed in enterprise leadership structure.

What :

- Develop data-driven management tools for leadership.
 - Support ongoing data-driven management processes.
 - Identify and execute inter-governmental information sharing projects.
 - Work with universities and others to guide innovative government reform efforts.
-

GOVERNMENT SOLUTIONS ENGINEERING TEAM GOALS



Internal: Work to support efficient and accountable government by supporting “-Stat” programs.

Intergovernmental: Solve complex inter-governmental business problems with information sharing and process reengineering.



GOVERNMENT SOLUTIONS ENGINEERING TEAM ● ● ● INTERNAL MANAGEMENT



GOVERNMENT SOLUTIONS ENGINEERING TEAM ● ● ● INTERGOVERNMENTAL

- Enable cross-municipal land-banking.
 - Enhance regional stormwater management.
 - Coordinate transit data to support regional transportation planning.
 - Hold property owners accountable.
-

GOVERNMENT SOLUTIONS ENGINEERING TEAM PROVEN METHODS



Montgomery County, MD

- Reduced overtime expenses by more than \$46 million since 2008. .

Baltimore, MD

- Utilized data to minimize risk of double paying city contractors, saving the City \$300,000.

New York, NY

- Increased the rate of detection for dangerous buildings that are highly likely to result in firefighter injury or death.
- Doubled the hit rate for discovering stores selling bootlegged cigarettes.

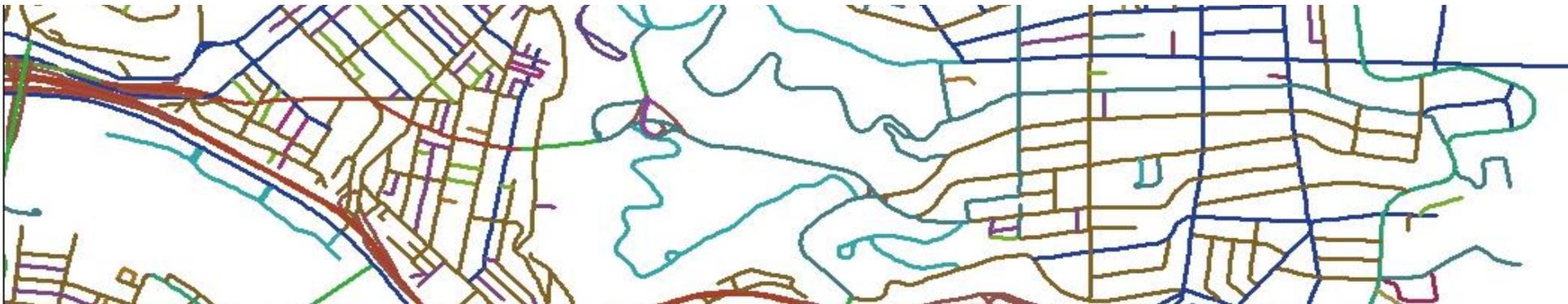
Louisville, KY

- Removed more than two hundred days from key administrative processes, like hiring.
- Reduced unscheduled overtime and workers' compensation expenditures by more than \$2 million.



REGIONAL DATA RESOURCE CENTER

A GROUNDBREAKING
GOVERNMENT/UNIVERSITY PARTNERSHIP



REGIONAL DATA RESOURCE CENTER: WHO, WHAT, WHERE

Who: Technical & facilitation staff dedicated to enabling information sharing through an Open Data portal while serving and growing the community of users.

Where: The University Center for Social and Urban Research (UCSUR) at the University of Pittsburgh.

What:

- Set-up a central Open Data portal that can host data from any local government, NGO, researcher, or other organization that wants to share information.
- Develop local capacity to help more organizations contribute to the data portal, use information effectively, facilitate research, and sponsor events to improve data literacy and enhance citizen engagement.

REGIONAL DATA RESOURCE CENTER: PROGRAM DESIGN

Community Advisory Board composed of University, Government, Foundations, other data portal users, and technology experts guide efforts.



University of Pittsburgh

RDRC staff, working out of the University Center for Social and Urban Research at the University of Pittsburgh provide **technical expertise, web hosting, making connections between users, governments, researchers, resources, and needs.**

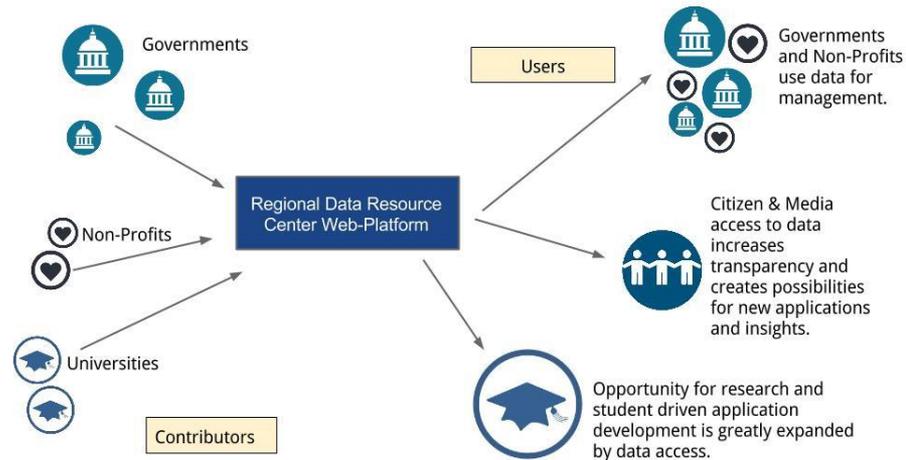
Carnegie Mellon University

Carnegie Mellon University staff and students provide input on **design, systems choices, security, and research opportunities.**

REGIONAL DATA RESOURCE CENTER: MAKING DATA AVAILABLE & EASY TO USE THROUGH COMMUNITY ENGAGEMENT

Functions:

- Manage and maintain data portal
- Promote benefits of data sharing
- Provide training & technical assistance in data publishing, licensing, and use
- Support the development of metadata & data standards
- Organize “civic hackers” and the development of civic technology



REGIONAL DATA RESOURCE CENTER: BUILDING A NATIONAL MODEL

- First data portal project in the United States with explicitly regional aspirations - modeled on shared-use portals in Philadelphia and Colorado
- World's first data portal project to include universities as a major partner.
- Provides services to support data providers and data users



- **Portland Oregon's** Tri-County Metropolitan District transit agency partnered with Google to develop the GTFS data standard for sharing transit schedules and real-time routing information. This standard is widely adopted (including PAT), and powers all of Google's transit apps.



- The **City of Philadelphia** released raw crime incident data, and many third-party developers began to use this information to build data visualizations for public use.



- **Chicago's** Clear Streets is a tool built using data on snowplow tracking data allowing residents to view a real-time data visualization of snowplow activity in the City.



- **Oakland California** worked with civil engineers and community groups to survey properties for earthquake damage vulnerability, then empowered neighbors to work together with landlords to implement retrofits.

REGIONAL DATA RESOURCE CENTER: COMMUNITY USE CASES



Use data on road conditions and accidents to improve dangerous roads and encourage use of safest routes



Collect property data and organize residents around vacant property issues



Coordinate vacant property management with residents



Monitor neighborhood housing conditions and hold property owners accountable



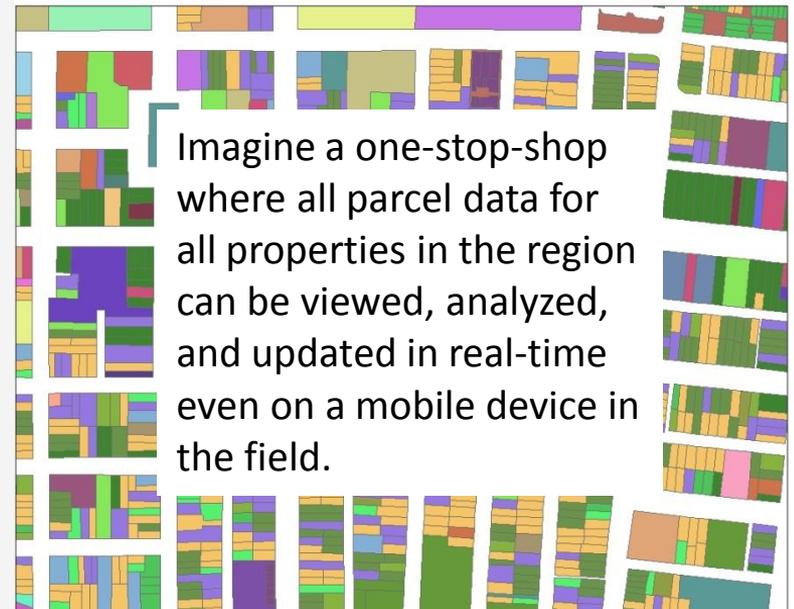
Identify suitable locations for green stormwater management projects



Land bank planning and management

INFORMATION SHARING PROJECT EXAMPLE: REGIONAL LAND BANKING

- The City of Pittsburgh and several COGs and individual municipalities in the region are aggressively pursuing land banking as a vacant land remediation strategy.
- A land bank is only as effective as the data that supports it.
- Regional land banking **needs** the Government Solution Engineering Team and Regional Data Resource Center to be truly transformative

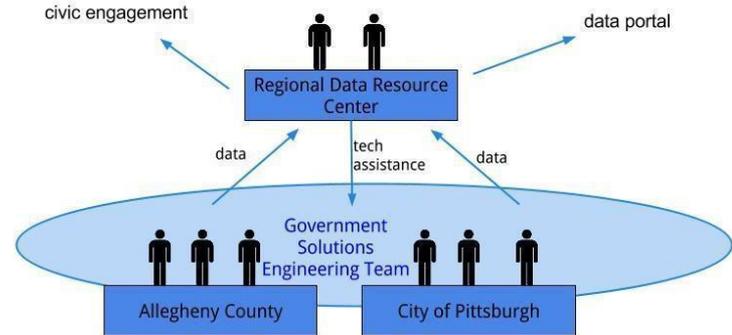


A MODERN PROGRAM DESIGN: FIRST YEAR PRIORITIES, REAL ESTATE

The Government Solutions Engineering Team and the Regional Data Resource Center can support accountable management and communication far into the future.

A current priority is real estate management and land banking. In 2015, newly created Information Infrastructure can provide key support to executing new policies.

Infrastructure Model



MANY PROPERTY DATA SOURCES...

| Data | Municipal | County | State | Nonprofit | Other |
|--------------------------------------|------------------------|-------------------|----------------|------------------|--------------|
| Property tax | Treasurer | Treasurer | | | Contractor |
| Code violations & permits | Code enforcement | Health | | | |
| Land use/zoning | Planning | Assessment | | Community org | |
| Ownership | | Assessment | Dept. of State | | |
| Mortgage | | Recorder of deeds | | | |
| Deeds / Sales / Leases | | Recorder of deeds | | | |
| Vacancy | Fire, code enforcement | Assessment | | Community org | USPS |
| Condition | | Assessment | | Community org | |
| Foreclosure | | Court records | | | |
| Liens | | Court records | | | |
| Sheriff sale | | Sheriff | | | |
| Base maps | | GIS | | | |

CODE FOR AMERICA



ImageThink

HEATHER WILLEMS

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CODE FOR AMERICA: WHO, WHAT, WHERE



Who: International leader in 21st Century government.

What: Pittsburgh will host a team of talented developers, designers, and product managers create small startup teams and partner with a the City of Pittsburgh for a year-long collaboration.

Where: Pittsburgh, PA and San Francisco, CA

CODE FOR AMERICA: GOALS

Application Development: Conduct user experience research and develop an application to support improving the City's procurement process.

Training: Work with City employees to learn about service design, agile development, and modern technology practices.

Civic Technology: Help connect technologists in our region with community needs.



CODE FOR AMERICA

GOVERNMENT REFORM THROUGH PROCUREMENT



- This will be a comprehensive, citywide effort to change the way we spend money, who gets it, and how their services or products are delivered.
 - The way that we buy things matters and right now we are still buying things like it is 1975 - from the same big vendors, on the same big contracts. Start-ups and small business cannot get their foot in the door.
 - We can begin to use the city's purchasing power to support redevelopment of struggling neighborhoods, keep start-ups in town, and get better deals for our citizens.
- 

CODE FOR AMERICA CIVIC TECHNOLOGY



Civic technology is the development of software in the public service. Freely available data is the fuel for the development of applications.

Code for America supports “**Brigades**”, volunteer community groups of developers, designers, researchers, journalists and anyone interested in Open Data.



CODE *for*
AMERICA
B R I G A D E

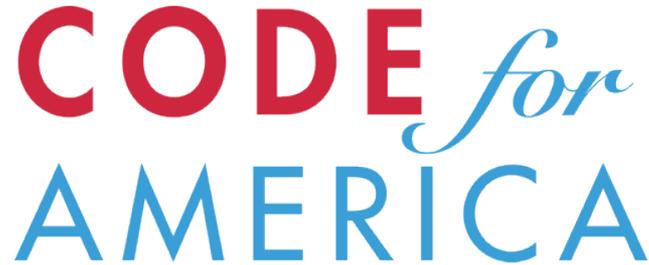


CODE FOR AMERICA: PLANNING FOR A SUCCESSFUL ENGAGEMENT

- Establishing a baseline of procurement processes, systems, and pain-points to determine best space for fellows to work.
- Working with Council to develop a list of priorities for legislative action to make the process more streamlined.
- Proposed hiring a purchasing coordinator to supplement the fellow's work and sustain use of the application they build in 2016 and beyond.

Information Infrastructure Project Staff:

The Right Experience in Pittsburgh & and Beyond



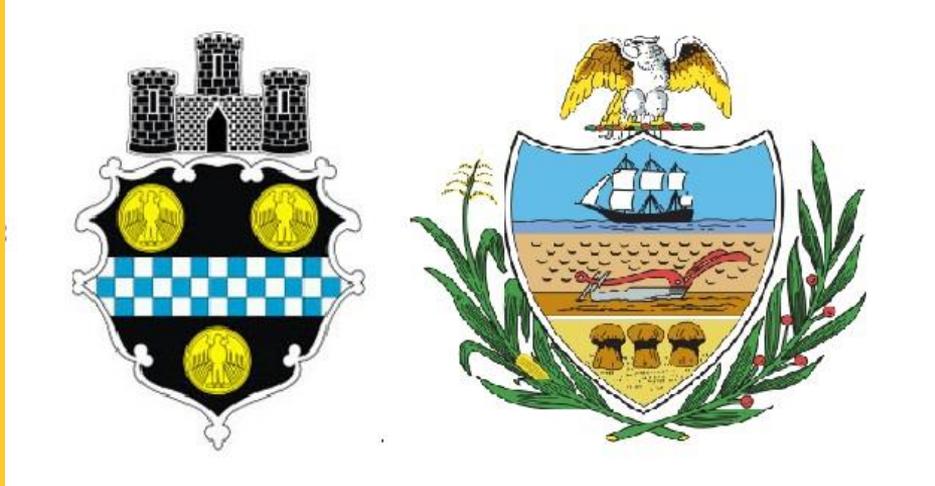
A MODERN PROGRAM DESIGN: AGILE & USER FOCUSED

- Regional Data Resource center will follow the “Lean Startup” version of agile development, starting small and constantly soliciting feedback from government, nonprofit, and foundation community stakeholders to make their services as useful as possible in a constantly changing environment.

Start with hosting a small number of datasets and use engagement staff and university resources to expand the Regional Data Resource Center in a way that works for communities, eventually growing to be truly inclusive.

THE PITTSBURGH REGION CAN BE A WORLD LEADER IN USING DATA FOR PUBLIC SERVICE.

- It is imperative that our public service organizations- government and nonprofits alike-move toward a more data management approach.
- Creating a shared data sharing infrastructure will benefit all the great work already being done in neighborhoods across Southwestern Pennsylvania.
- Our region has the potential to be a world leader in information sharing and with your support, we can make that possible.



Thank You