

Virtual Training: Open Data, GIS, and Civic Resiliency

National Alliance for Public Safety GIS Foundation &
June 9, 2015





Instructor Introductions

- ❖ Dave Cook, Public Safety/Homeland Security Geospatial Liaison, District of Columbia Office of the Chief Technology Officer
- ❖ Rebecca Harned, Senior Program Manager, NAPSG



NAPSG: Who We Are

- ❖ **Our Vision** - A Nation of emergency responders and leaders equipped with the knowledge and skills in applying technology and data to change the outcome for survivors.
- ❖ **Our Mission** - To equip emergency management & public safety with the knowledge, skills, and resources to apply decision support technology and data in enhancing preparedness and building a more resilient nation.

- ❖ Provide awareness level training on innovations in applying open data and GIS to enhance civic resiliency and public safety

- ❖ **Resiliency:** How we streamline decision making to maximize preparedness and readiness.
- ❖ **Open Data:** Idea that certain data should be freely available to everyone to use and republish



Today's Training Objectives

- ❖ **Gain ideas for using the civic technology volunteer communities and platforms such as Github to enhance preparedness.**
- ❖ **Learn how DC OCTO plans to lead the path in creating and contributing to open source platforms that will allow GIS professional to build and strengthen civic resiliency.**
- ❖ **Develop ideas for using Open Data, GIS, and the civic technology volunteer community, to engage the public and engage community-based preparedness.**

- ❖ Overview of Relationships Between Infrastructure and Data
- ❖ Understanding the Platform
- ❖ Framework and Solutions for Decision Making
- ❖ Questions and Answers



GIS, Community Data



and



Civic Resiliency

In Washington, DC

Dave Cook

Public Safety/Homeland Security GIS
Office of the Chief Technology Officer
District of Columbia

We All Have Our Stories...

Transportation

Corroded Memorial Bridge is a symbol of nation's infrastructure troubles



Happening Now...

Senate office building re-opened after suspicious package investigation



By **WTOP Staff**
June 9, 2015 12:47 pm

WASHINGTON – A portion of a
Tuesday afternoon while police
found there and at a second sta

Several floors of the Dirksen Senate Of
investigated a report of a suspicious pa
and reopened doors to the building abc

Next door, police continue to investiga



SenateSergeantAtArms ✓
@SenateSAA

Follow

Police activity in the Dirksen #Senate building all clear. Northwest Door is now open. Thank you staff and visitors for your cooperation.

1:23 PM - 9 Jun 2015

21 3



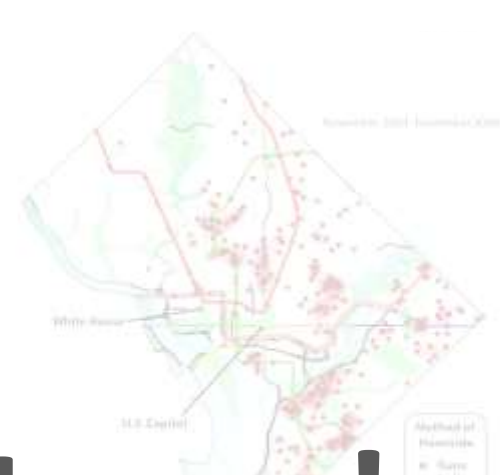
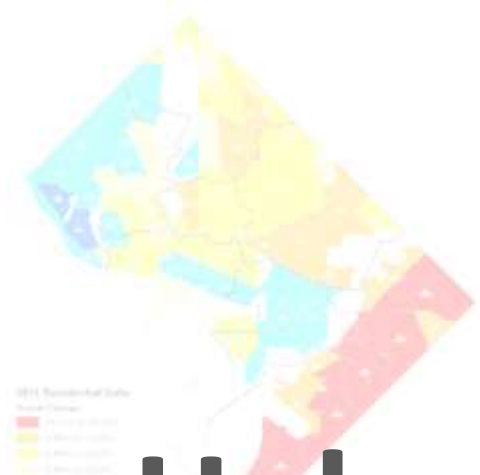
SenateSergeantAtArms ✓
@SenateSAA

Follow

Due to police activity, portions of Dirksen being evacuated. NW Door closed until further notice. Staff & visitors, avoid the area. #Senate

12:41 PM - 9 Jun 2015

20 1



Help Me Find My House!

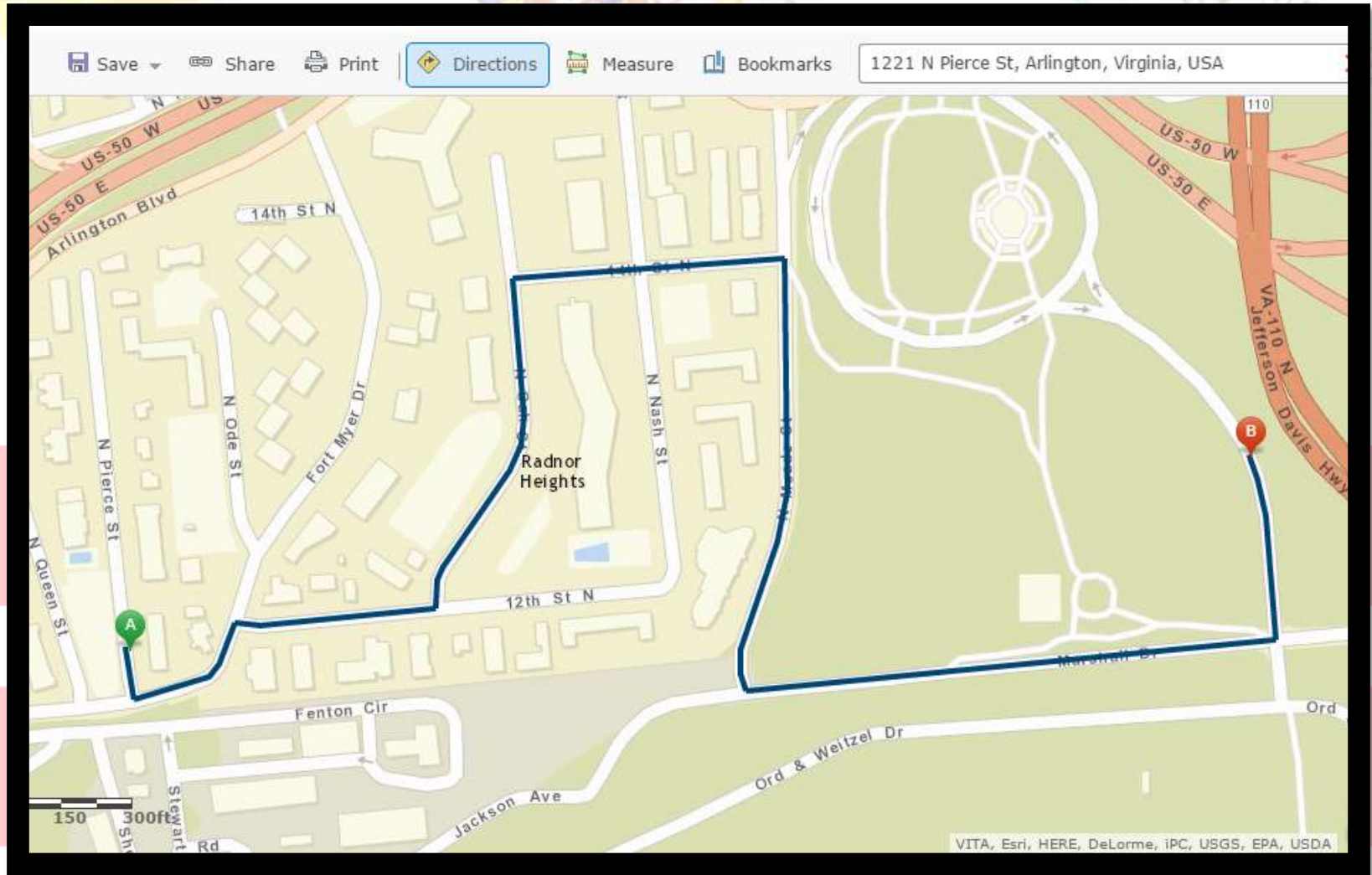


Governor Martin O'Malley

Esri User Conference 2008

Federal GIS Conference 2010

Resiliency Requires Direction...





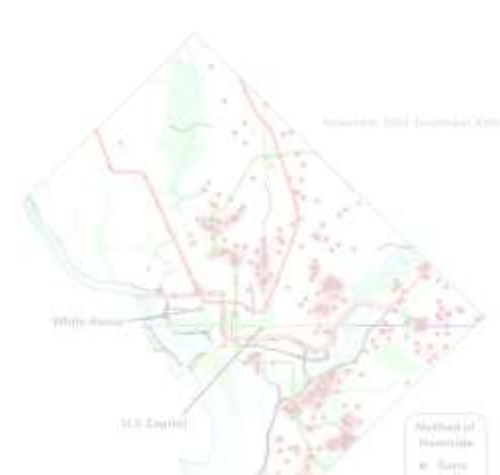
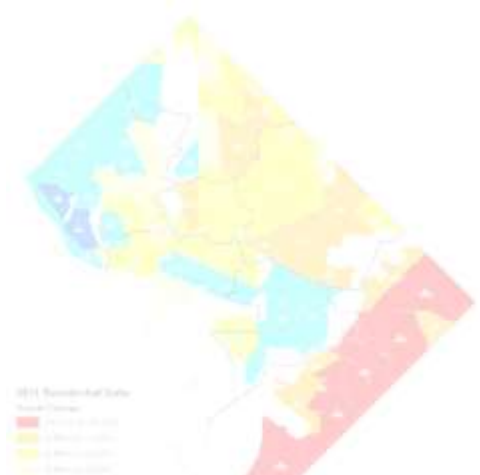
Resiliency Requires Rethinking....

Infrastructure



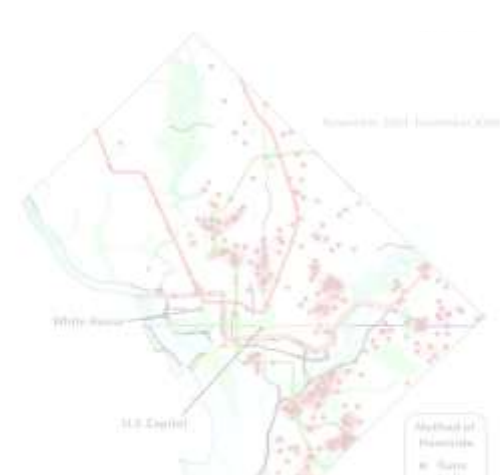
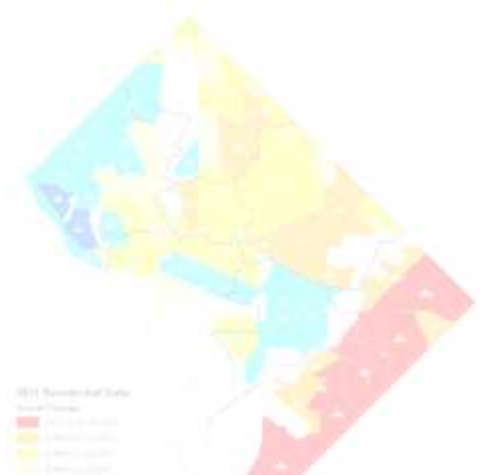
Management

Coordination



DATA

★
INSIGHT
★

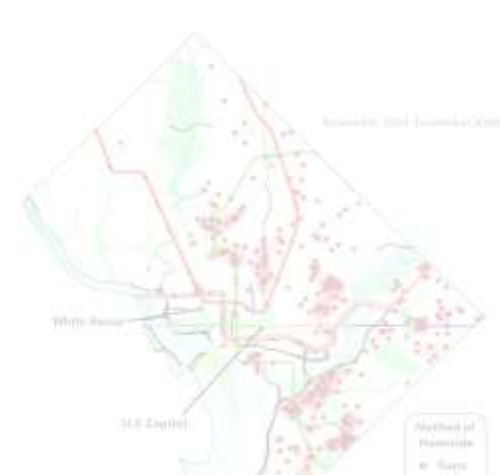
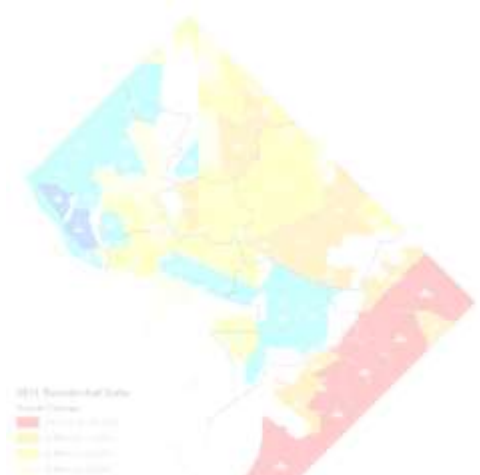


DISASTERS



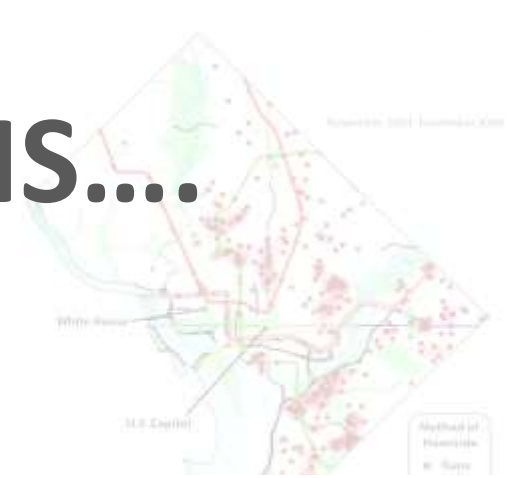
RISK





SINGULAR ★ ★ ★ CAMPAIGN

Resiliency Begins with GIS....



Own



Democratize

Community Efforts Underway...



A screenshot of the MD iMAP website. The header features the Maryland state seal and the text 'MARYLAND .gov' and 'MD iMAP MARYLAND'S MAPPING & GIS DATA PORTAL'. Below the header are navigation links for 'HOME' and 'GIS DATA CATALOG'. A search bar is visible below the navigation links.

A screenshot of the Kentucky Open GIS Data website. The header features the University of Kentucky seal and the text 'Kentucky Open GIS Data'. A search bar is visible below the header.

A screenshot of the District of Columbia website. The header features the DC seal and the text 'District of Columbia'. Below the header is a search bar. The main content area displays four data products, each with a DC.gov logo and three stars:

- Oblique Aerial Images For DC**: Represented by a blue circular icon with a white flag and a star.
- Comprehensive Environmental Scan of Arts**: Represented by a blue circular icon with a white silhouette of a person holding a bow.
- Pothole App for Greer**: Represented by a blue circular icon with a white traffic cone.
- Bike Commuting in Washington DC**: Represented by a blue circular icon with a white bicycle.

Federal Efforts Undertaken...



Open Progress Report

- Risk MAP
- Levee Funded
- Levee Complete
- Other Riverine Funded
- Other Riverine Complete
- Coastal Funded
- Coastal Complete
- Watershed Funded
- Watershed Complete
- FEMA Funded Elevation
- Map Mod
- Map Mod Ongoing
- Map Mod Preliminary
- Map Mod Effective
- Map Mod Not Planned
- Watersheds
- Counties
- 113th Congressional Districts



<http://riskmappingprogress.msc.fema.gov>

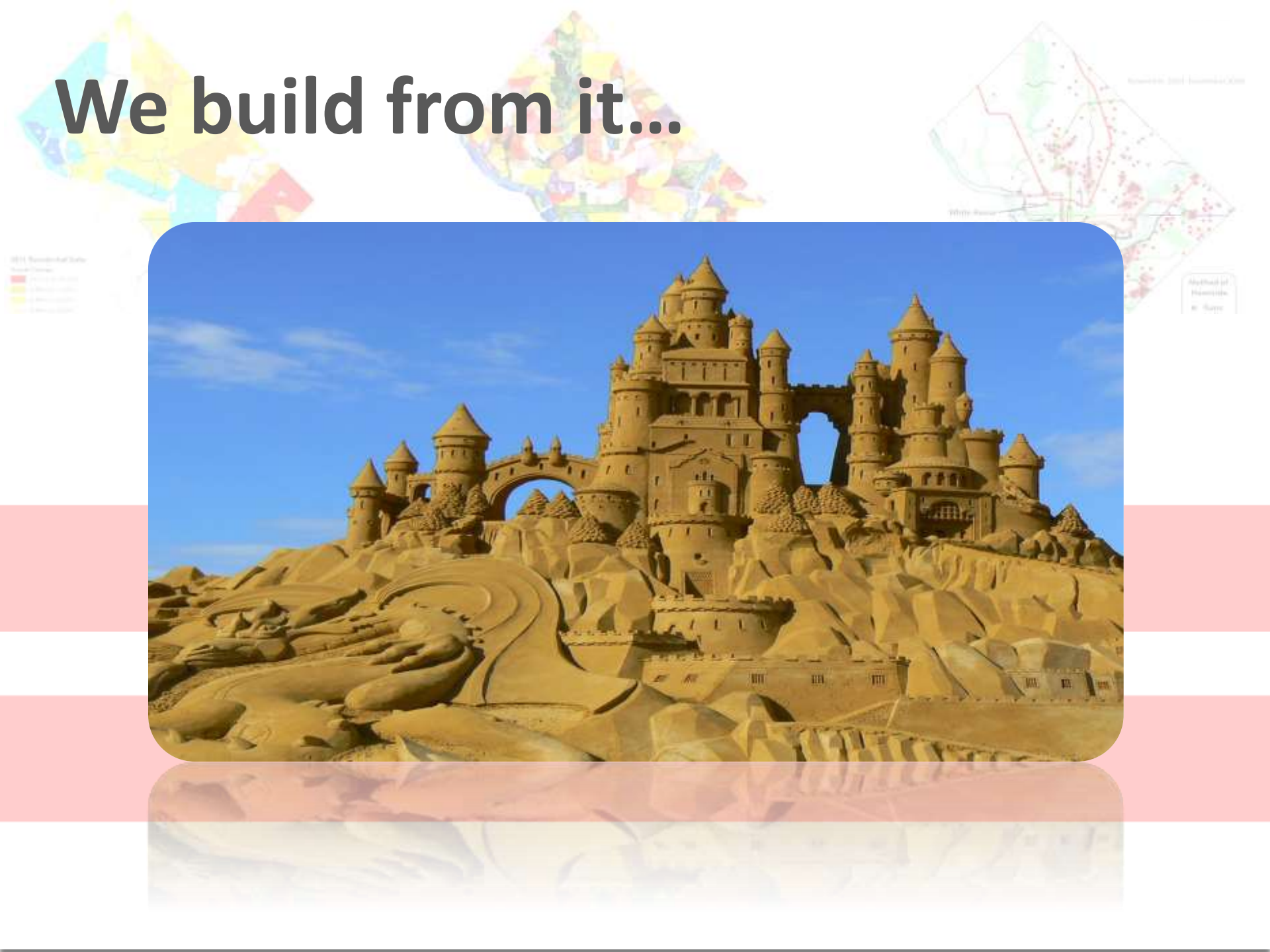
Data is like sand...



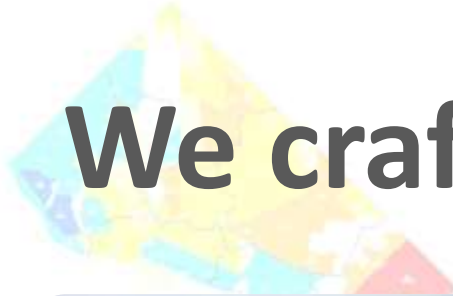
Our Growing Civic Landscape...



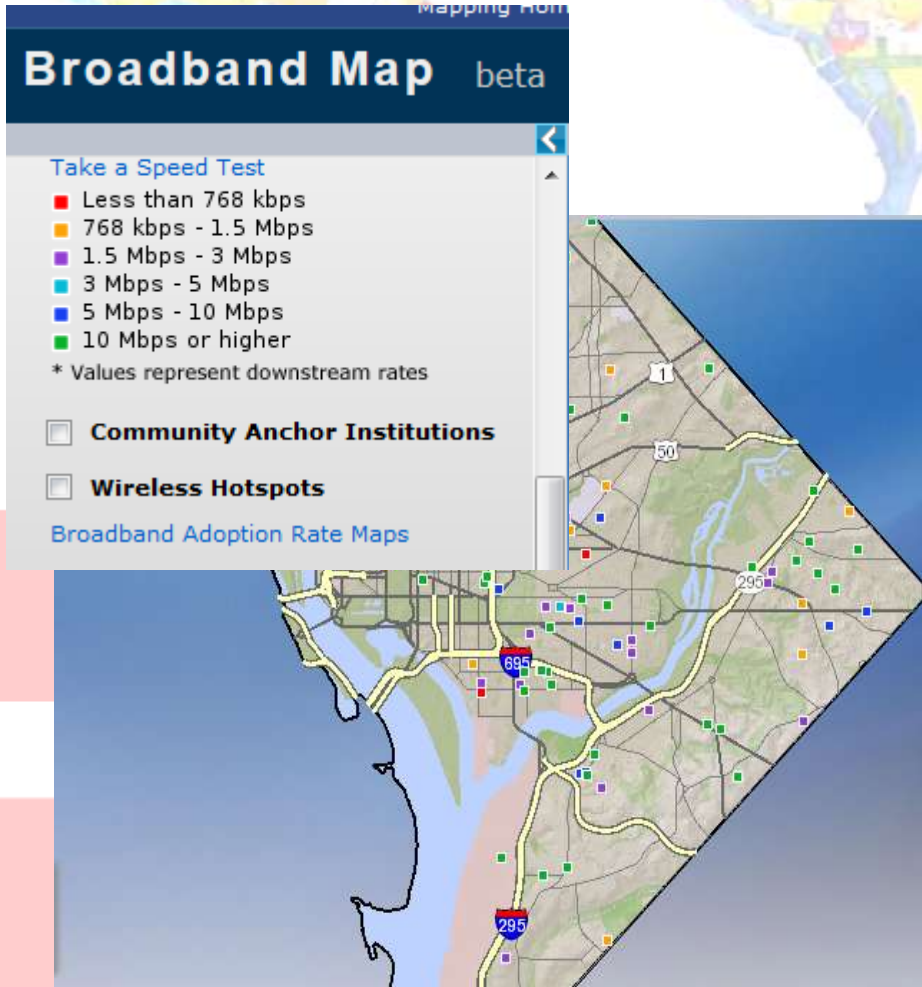
We build from it...



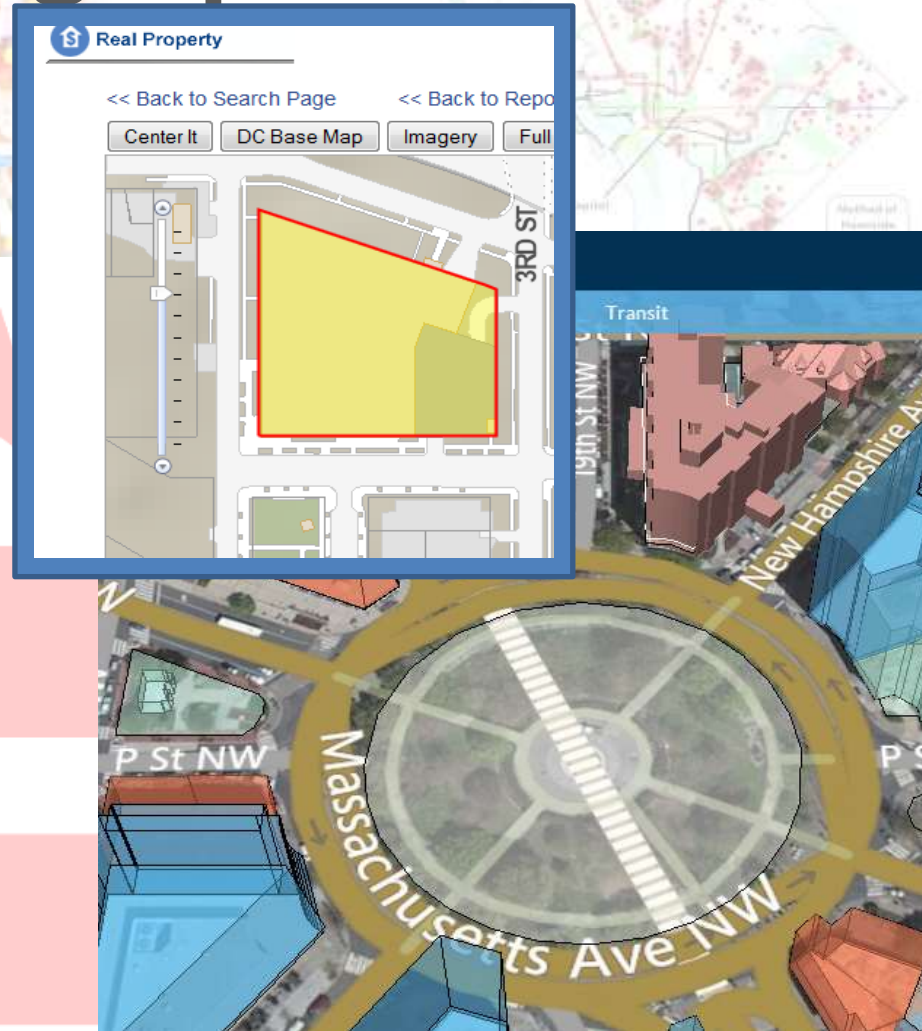
We craft from it...



Building new geographies...

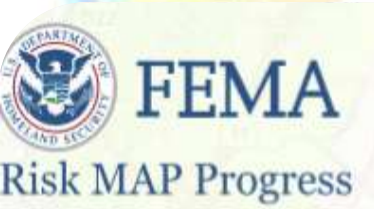


Civic Broadband

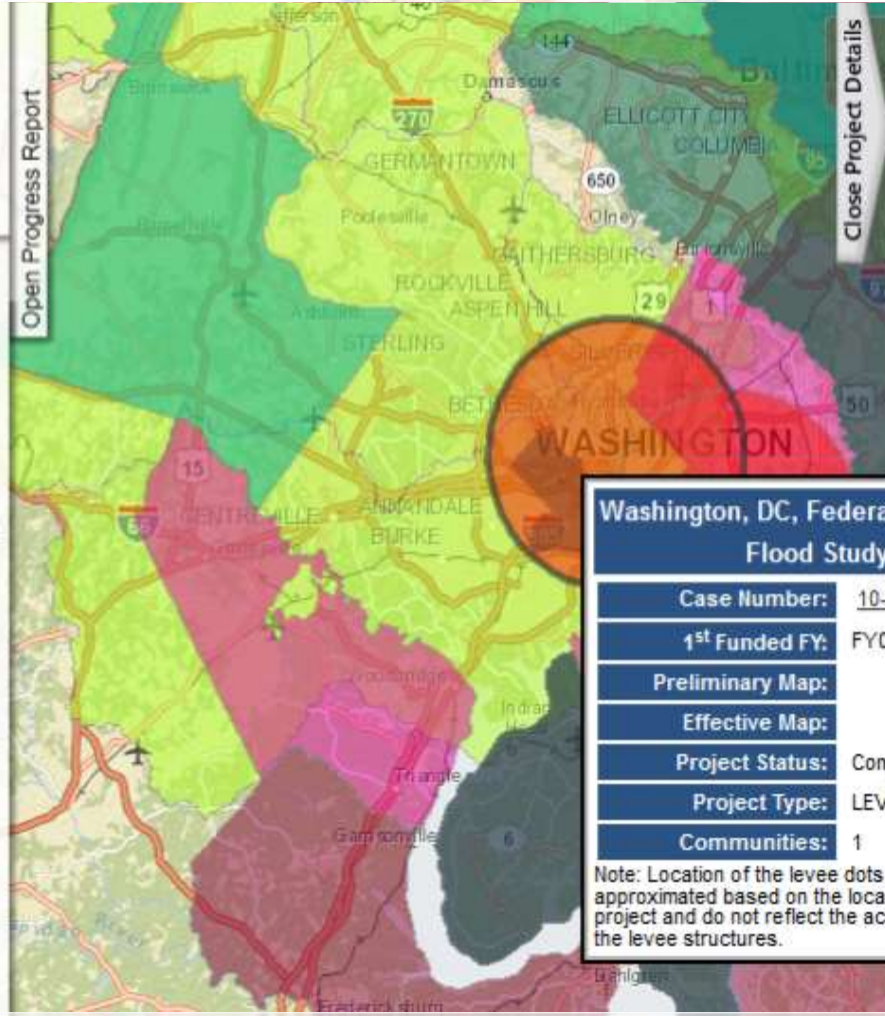


Create.io

Crafting new cross-understanding...



- Risk MAP
- Levee Funded
- Levee Complete
- Other Riverine Funded
- Other Riverine Complete
- Coastal Funded
- Coastal Complete
- Watershed Funded
- Watershed Complete
- FEMA Funded Elevation
- Map Mod
- Map Mod Ongoing
- Map Mod Preliminary



Washington, DC, Federal Triangle Flood Study

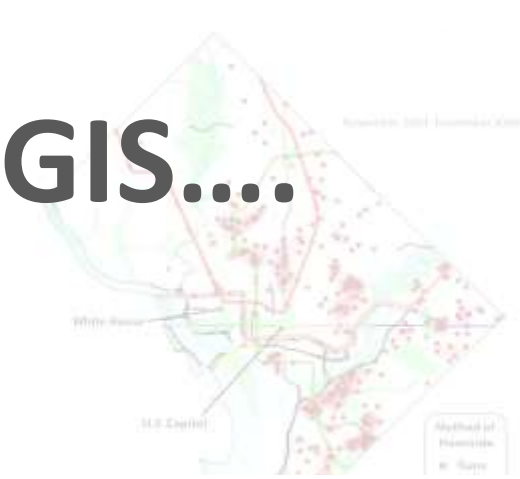
- Case Number:** 10-03-0356S
- 1st Funded FY:** FY09
- Preliminary Map:**
- Effective Map:**
- Project Status:** Completed
- Project Type:** LEVEE
- Communities:** 1

Note: Location of the levee dots are approximated based on the location of the levee project and do not reflect the actual location of the levee structures.

Region:All **State:**All **County:**All **Fiscal Year:**All
 For the most up to date map information please visit <https://msc.fema.gov>
Legend: Risk MAP [Close Table](#) [Full Screen](#)
 View By Projects By Communities All Columns
 Drag a column header here and drop it to group by the

PROJECT ID	PROJECT TYPE	PROJECT STATUS
01_000012	LEVEE	Completed
01_000014	LEVEE	Completed
	LEVEE	Completed
	COASTAL	Completed
	COASTAL	Active
	COASTAL	Active
	COASTAL	Active
	COASTAL	Active
	COASTAL	Active
	WATERSHED	Active
	COASTAL	
01_000068	WATERSHED	
01_000068	WATERSHED	
	COASTAL	
	WATERSHED	

Resiliency Engages with GIS....



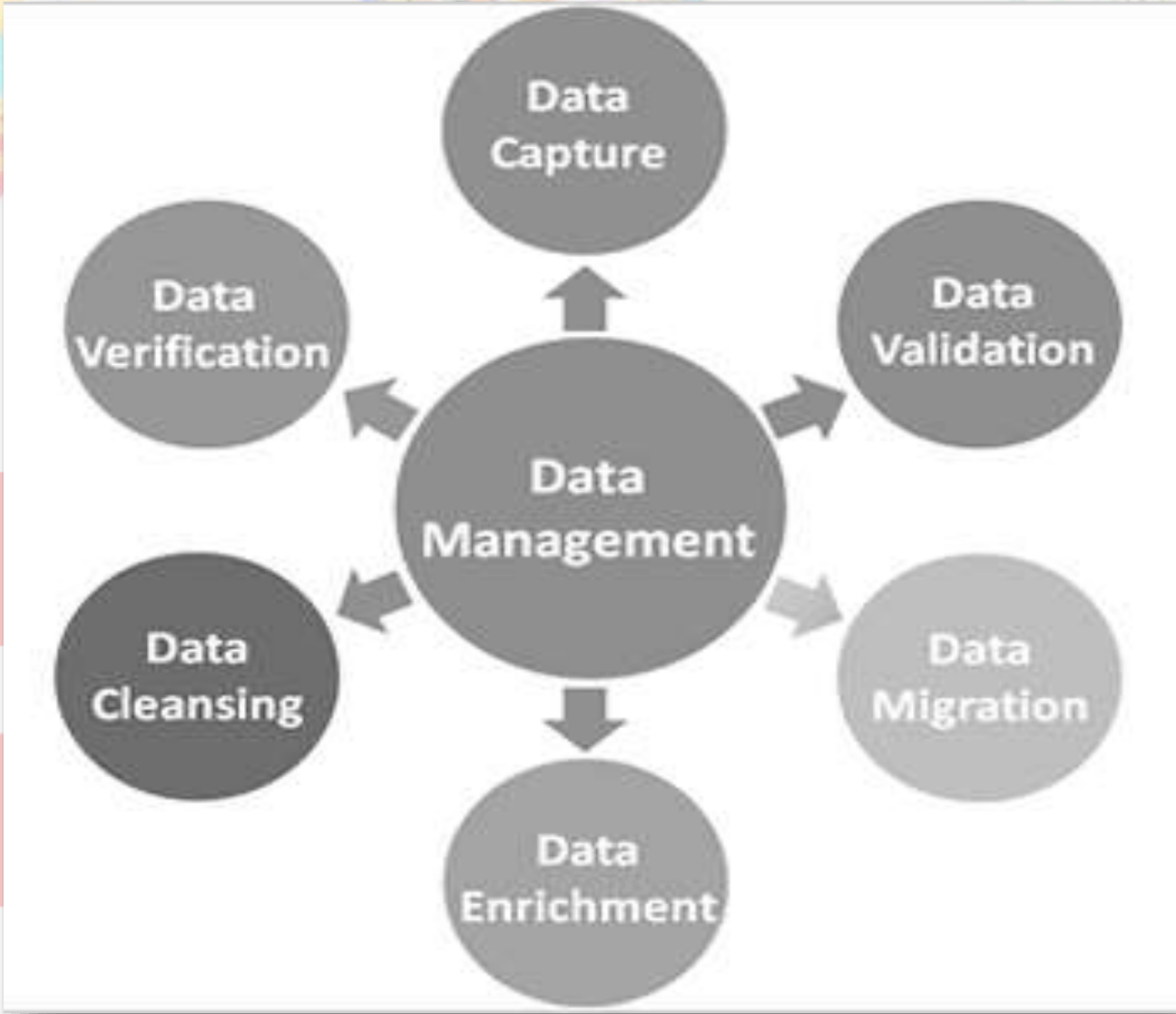
DISASTERS



RISK



Presidential Directive OMB 13-13





The spatial multiplier in risk....

Over 95% of the data collected has a geographic component...

Businesses lose their lifeline when critical infrastructure is hit...

Surveyed businesses noted disruptions in power and water supply and telecommunications as top concerns...

Over 90% of damage occurs with local disasters...

GAR at a Glance....

THE WAKE UP CALL!



Disasters are even costlier than we thought!

Lack of a firm, engaged geospatial community foundation is expensive!

The Foundation of DC GIS

- 1995 First ortho-flight (NCPC)
- 2001 OCTO DC GIS Program
- 2002 Steering Committee [Mayoral Order](#)
- 2005 Strategic Plan (Federated Data Model)
- 2009 [Executive Order](#) expansion
- 2009 Updated GIS [Strategic Plan](#)
- 2010 Esri Enterprise License Agreement
- 2012 GIS [Business Plan](#)
- 2014 [Open Data Directive](#) - Order 2014-170



Our Data Participants...

- DCAR – DC Association of Realtors®
- DC Water – District of Columbia Water And Sewage Authority
- DCHA – DC Housing Authority
- DCOP – District of Columbia Office of Planning
- DCRA – Department Of Consumer and Regulatory Affairs
- DDOE – District Department of the Environment
- DDOT – District Department of Transportation
- DISB – Department of Insurance, Securities and Banking
- DPW – Department of Public Works
- HSEMA – Homeland Security/Emergency Management Agency
- OCTO – Office of the Chief Technology Officer
- FEMA – Federal Emergency Management Agency
- USGS – United States Geological Survey
- MPD- Metropolitan Police Dept.
- NPS – National Park Service



Search. Discover. Use.

We want your use of the District's data to be as open, discoverable and usable as possible in hopes of fostering greater participation and innovation. You can search for datasets by topic, or explore featured datasets or review the full list of DC Data sets.

A Growing Site

This new site is a work in progress. We are working diligently to add new data sets, improve usability and bring forward some of the legacy datasets that did not make the initial move. If you don't see a set you have used before, you can view and download all previous data sets at our legacy site. We plan to retire the legacy site only after everything has been moved and optimized.

Feedback

If you have questions, suggestions, requests or any other feedback, please contact the Chief Data Officer or shoot us a tweet at @opendata_dc.

About the Data

Unless otherwise noted, the content, data, and related materials on the site are subject to the District's Terms and Conditions. All data sets can be downloaded in a variety of formats including CSV for tables and spreadsheets or Shapefiles and KML, OSM, useful for GIS.

API's provide access as REST, HTML, JSON, GeoJSON, WMS, WFS, and DCAT (a Resource Description Framework (RDF) used by data.gov), more in the works...

For years, the District of Columbia has provided public access to the District's data through the Internet. The District is utilizing open source technology to increase public access to the vast amount of information it creates and receives from our agency partners. In doing so, we hope residents can make more informed decisions about their government and our community.

opendata.dc.gov

Our Data Access Points...



DCGIS_DATA/DC_Basemap_WebMercator (MapServer)

View In: [ArcGIS JavaScript](#) [ArcGIS.com Map](#) [Google Earth](#) [ArcMap](#) [ArcGIS Explorer](#)

View Footprint In: [ArcGIS.com Map](#)

Service Description: Provided by the Office of the Chief Technology Officer

Map Name: DC Basemap - Web Mercator

[Legend](#)

[All Layers and Tables](#)

Layers:

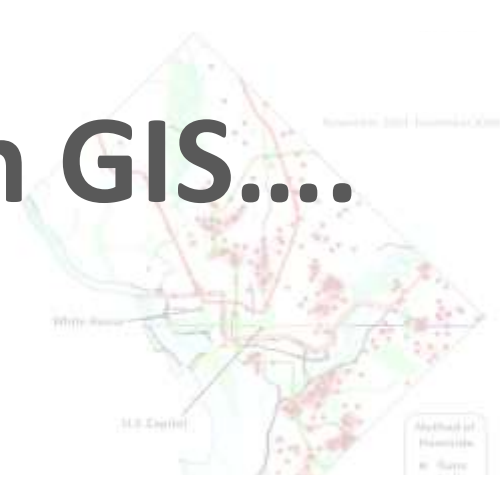
- [Basemap](#) (0)
 - [Level 1125](#) (1)
 - [Annotation 1125](#) (2)
 - [Water](#) (3)
 - [Default](#) (4)
 - [Potomac](#) (5)
 - [Anacostia](#) (6)
 - [TidalBasin](#) (7)
 - [TidalBasin](#) (1)
 - [TidalBasin](#) (6)
 - [TidalBasin](#) (2)

A banner for the District of Columbia featuring a collage of images: a street scene with cherry blossoms, Nationals Park, and a row of townhouses. Below the images are three logos for DC.gov services: 1. A person with a bow and arrow, labeled "Comprehensive Environmental Scan of Arts". 2. A traffic cone, labeled "Pothole App for Greer". 3. A bicycle, labeled "Bike Commuting in Washington DC". Each logo includes the DC.gov logo and three stars.

http://maps2.dcgis.dc.gov/DCGIS/rest/services/DCGIS_DATA/DC_Basemap_WebMercator/MapServer

dcgis.maps.arcgis.com/home/index.html

Resiliency Advances with GIS....



SINGULAR

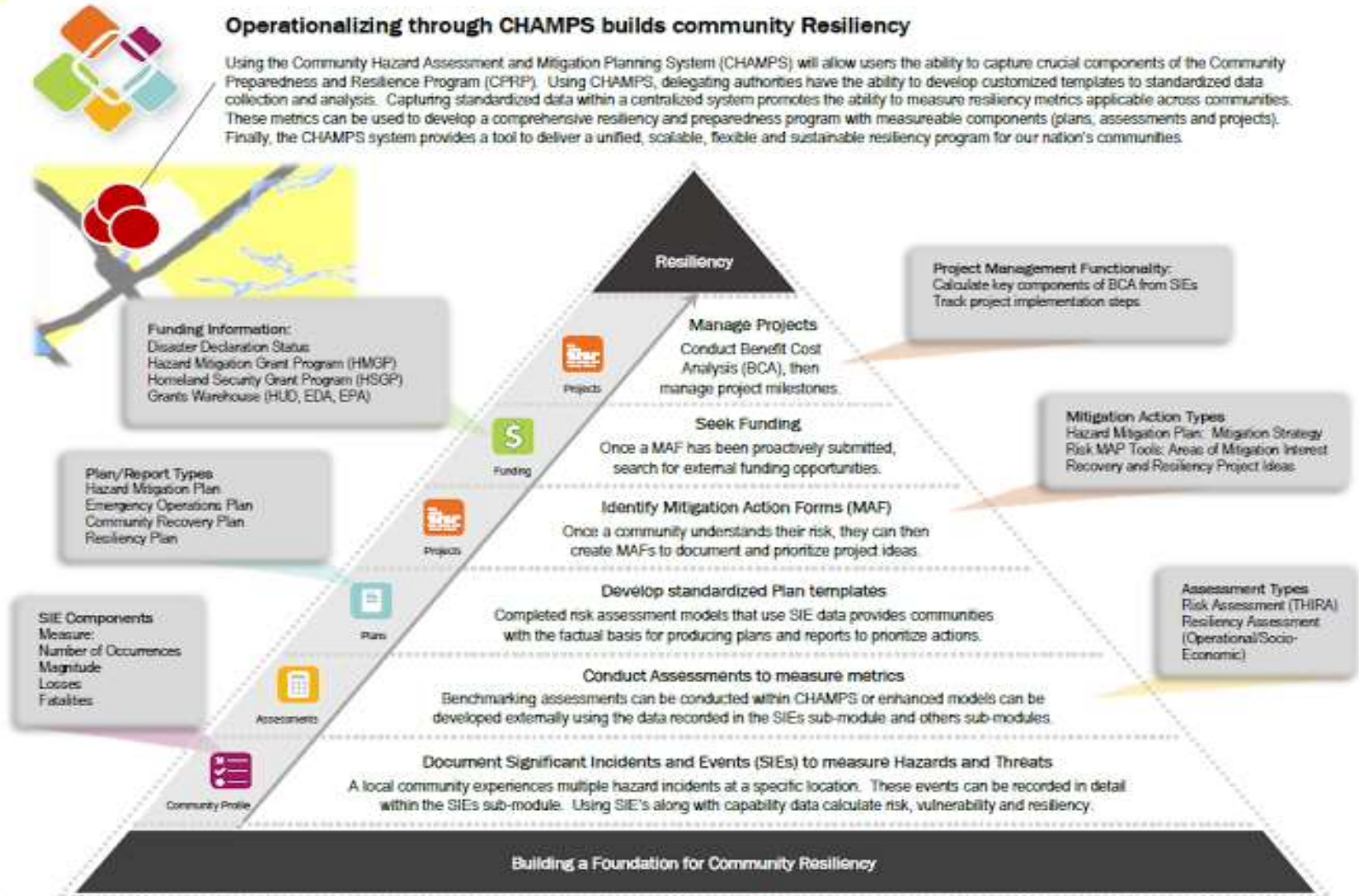
★ ★ ★

CAMPAIGN

Community Resiliency with GIS....

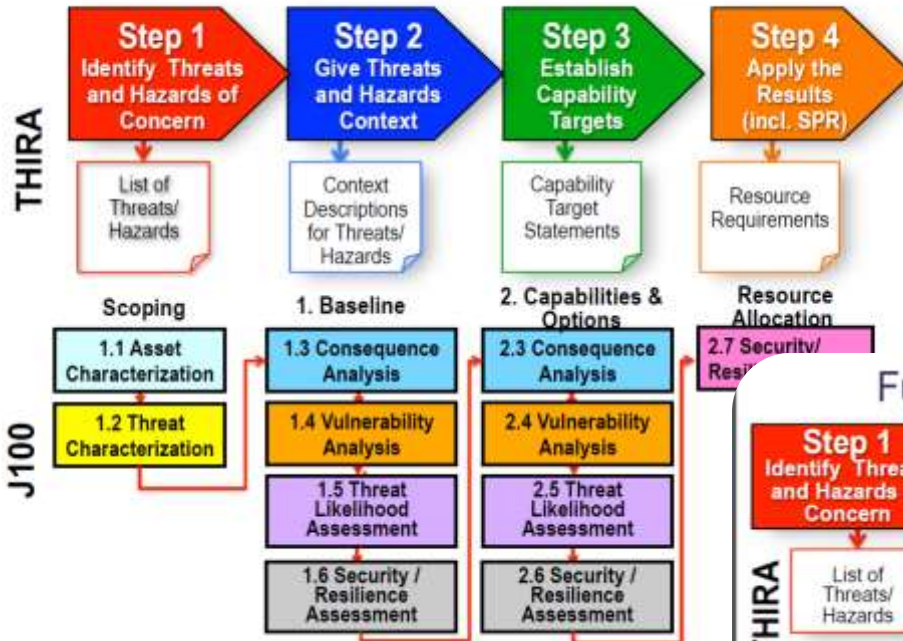
Operationalizing through CHAMPS builds community Resiliency

Using the Community Hazard Assessment and Mitigation Planning System (CHAMPS) will allow users the ability to capture crucial components of the Community Preparedness and Resilience Program (CPRP). Using CHAMPS, delegating authorities have the ability to develop customized templates to standardized data collection and analysis. Capturing standardized data within a centralized system promotes the ability to measure resiliency metrics applicable across communities. These metrics can be used to develop a comprehensive resiliency and preparedness program with measurable components (plans, assessments and projects). Finally, the CHAMPS system provides a tool to deliver a unified, scalable, flexible and sustainable resiliency program for our nation's communities.

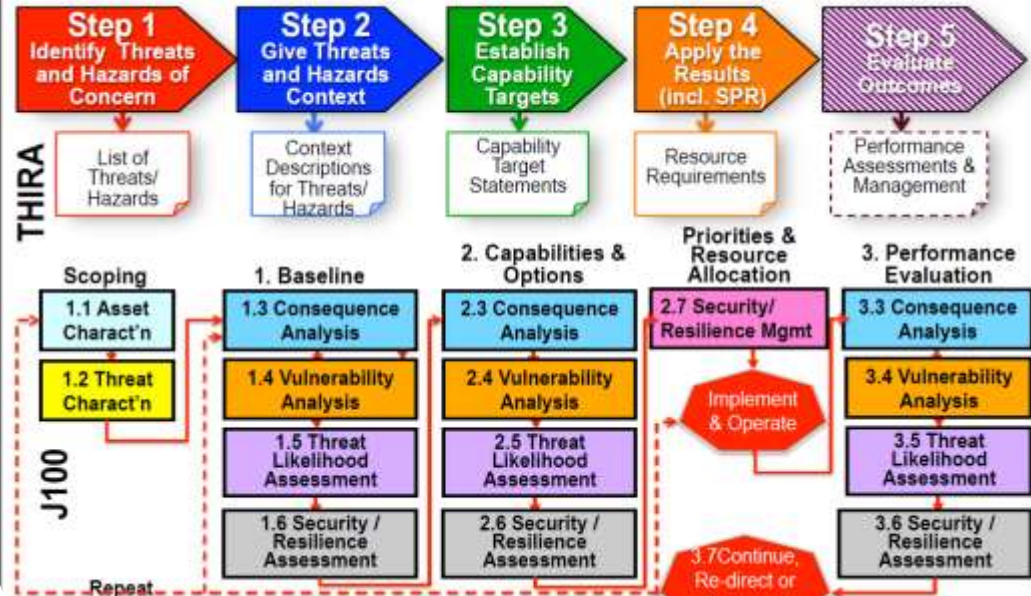


DC Planning Efforts under PDM....

Current THIRA & ANSI/AWWA J100 Process

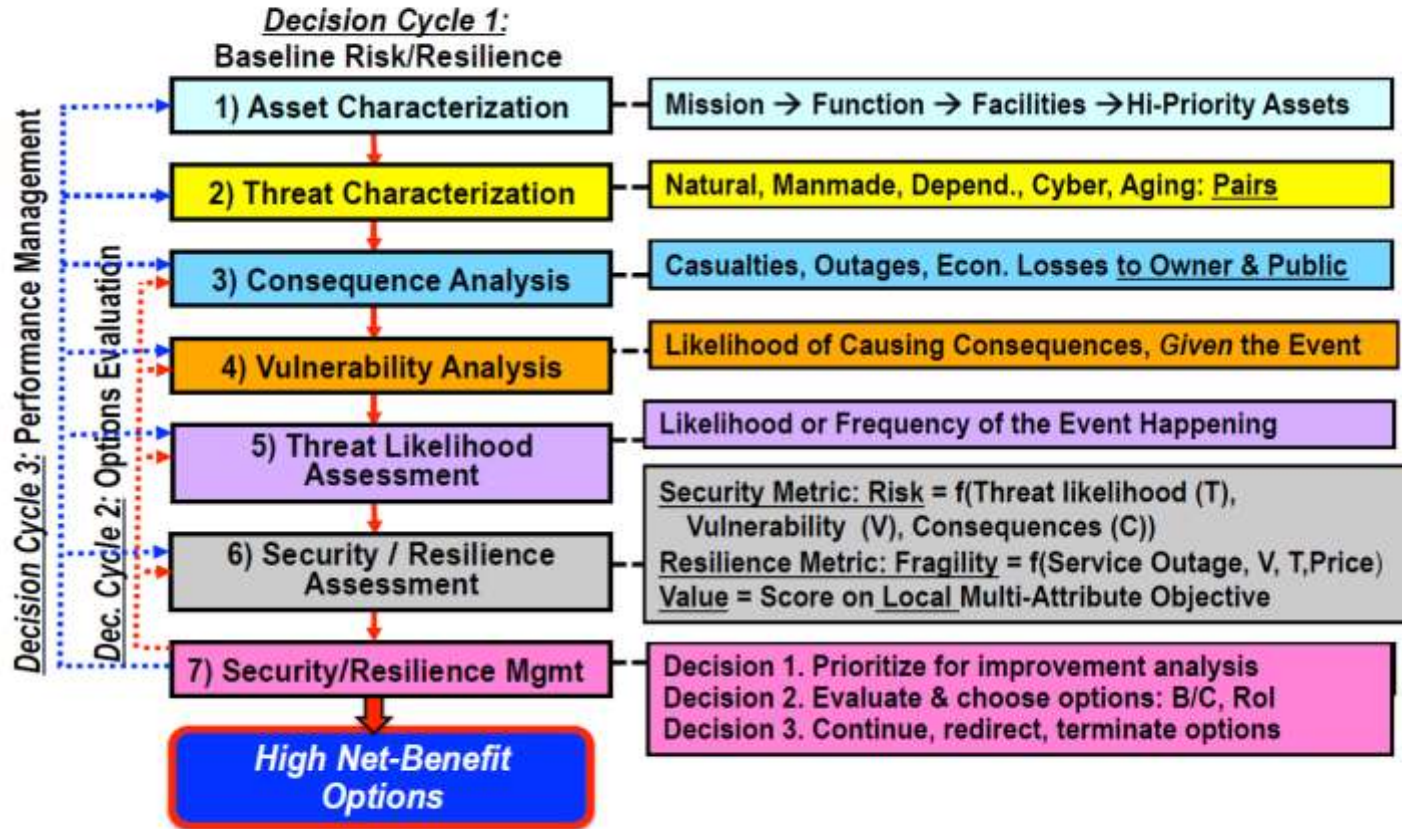


Future THIRA & ANSI/AWWA J100 Process



Single System for Resilience...

Single System Risk/Resilience Analysis Process*

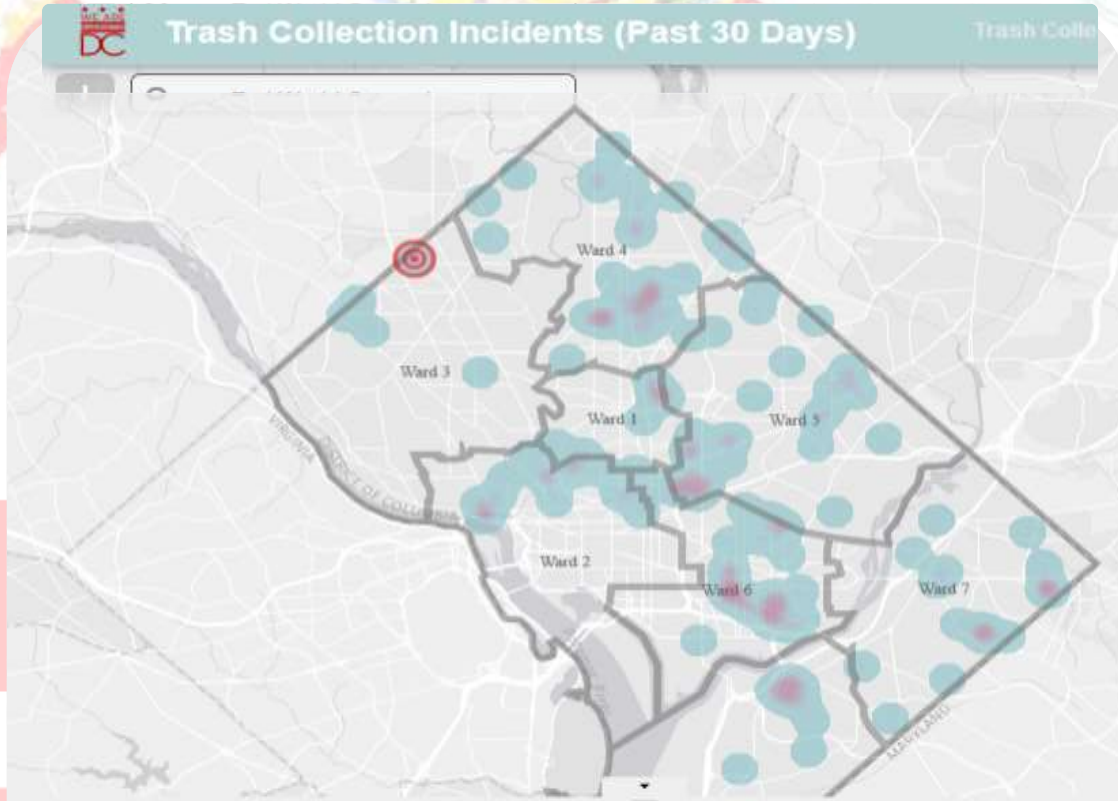


*ANSI/AWWA J100-10 Standard

Options
High Net-Benefit

Decision 3: Continue, redirect, terminate options

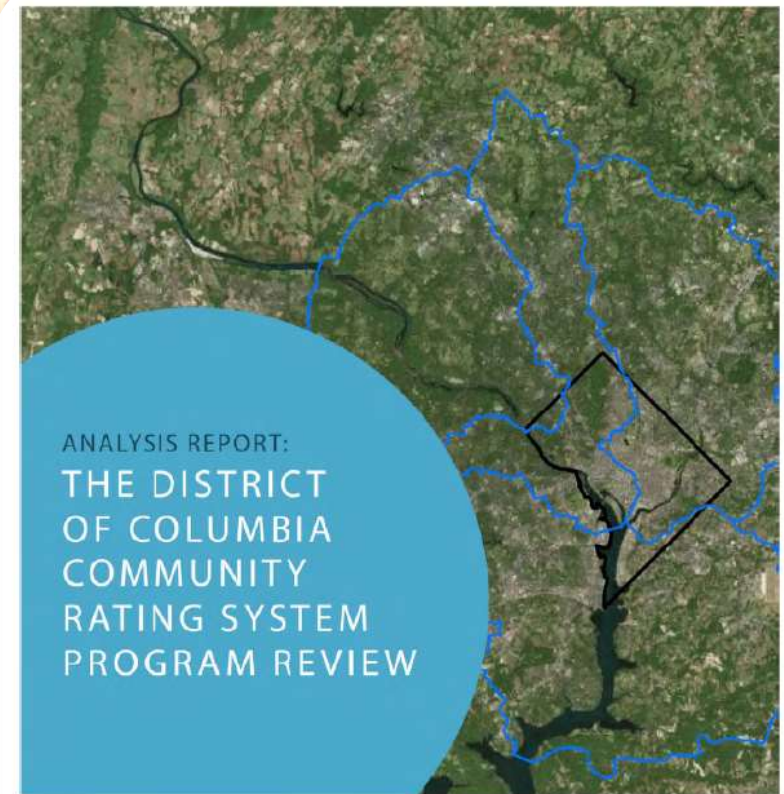
311 Engagement Strategy....



status	address	zip code
OPEN	4637 HILLSIDE ROAD SE	20.019
OPEN	1330 K STREET SE	20.003
OPEN	1043 CECIL PLACE NW	20.007
OPEN	1163 6TH STREET NE	20.002
OPEN	1163 6TH STREET NE	20.002

District FEMA CRS Program....

The Federal Emergency Management Agency (FEMA) established the Community Rating System (CRS) in 1990 as a voluntary program under the National Flood Insurance Program (NFIP).



WRITTEN BY:
Shana Udvardy and French Wetmore

SEPTEMBER 30, 2014



Dialogue. Insight. Solutions.

Progress and Savings in District....

*5% premium reduction
for each class*

*Class 7 (District Goal) is
\$394 average annual
saving per resident*

*District Government
saves \$105,000 annually*



Civic Hacking....

Our DC Schools - helps the public personalize and visualize changes in school district boundaries within the District

Open Schools - Choosing a school in DC can be confusing... support family decisions with data.

ourDCschools
student assignment unpacked.


an initiative of
CODE FOR DC

In Spring 2014, a local [Advisory Committee](#) undertook a review of policies for how students are assigned to DC Public Schools.

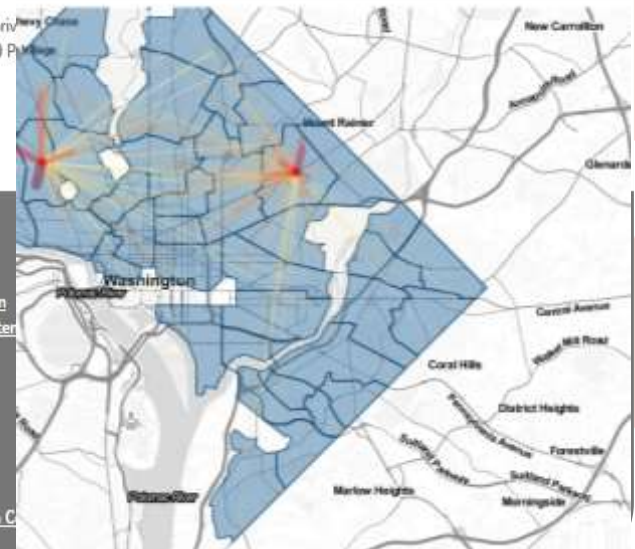
We are an independent civic group called [Code for DC](#). We took the proposals created by the Advisory Committee and made this website to explain what these policies would mean for DC families and collect their feedback. Although we will



an initiative of
CODE FOR DC

Get Started

To protect your privacy, we have blurred some responses. "1600 P



Data Sources

Deputy Mayor for Education
Office of the State Superintendent
DC Public Schools
Washington Post
21st Century School Fund

Credits

Smiley face icons by [Austin C](#)

Create.io....

www.create.io

CREATE™

Property | **Market** | Financing

Overview | **Building** | Zoning | Planning | Transit

1500 NEW HAMPSHIRE AV NW

Commercial | 192,274 SF
Lodging

OVERVIEW

Property Use:	Commercial Lodging
Gross Building Area:	192,274 SF
Year Built:	-
Year Remodeled:	2009
Last Sale Price:	-
Last Sale Date:	04/06/2010

ASSESSMENTS

Current Improvement:	\$56,518,250
Current Land:	\$9,465,300
Current Total:	\$65,983,550
Previous Improvement:	\$49,043,220
Previous Land:	\$9,465,300
Previous Total:	\$9,465,300

RECENT PERMITS

Issue Date	
08/06/2014	Supplemental
07/16/2014	Supplemental
07/16/2014	Supplemental

PROPERTY TYPES

- APARTMENT
- CONDO/CO-OP
- FLATS
- SINGLE FAMILY
- RETAIL
- MIXED USE
- LODGING
- VACANT

Source: DC OTR

Twitter | Facebook | LinkedIn | Blog

Community Resiliency With GIS....



DEMOCRATIZE

❖ <http://Data.dc.gov>

❖ Dave Cook, Public Safety/Homeland Security Geospatial Liaison, District of Columbia Office of the Chief Technology Officer

Dave.Cook@dc.gov

Please send any remaining questions to
rharned@publicsafetygis.org

www.napsgfoundation.org

