



# LocalData

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@golocaldata

localdata.com

# What can **Planners** Learn from **Technologists** (and vice versa)?



**CIVIC DESIGN  
DATA LAB**



# COMMUNITY BASED PLANNING

bottom-up  
inclusivity  
people

# CIVIC TECHNOLOGY

open source  
show what's possible  
government



# Planners + Technology

## *enthusiastic illiteracy*

- **heightened enthusiasm** for software platforms to tackle public engagement, crowdsource ideas, scenario planning
- **nascent understanding** of programming, web design, or how the technology we use works
- responsibility to apply the same **rigor and criticality to tools** as much as methods



# Same methods, Different jargon *toward a common language*

# Code for America: *experiment in technology + urbanism*

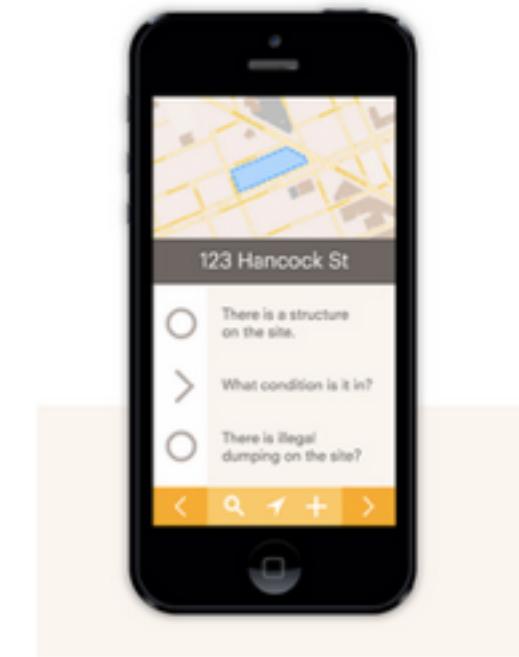
- **urbanist content, technologist approach**  
tackle big, social problems using technology
- **cross-disciplinary network of innovators**  
technical, design + public sector
- **connecting citizens to government**  
“it's not about the apps,” cultural change

**CODE** *for*  
**AMERICA**





# LocalData



LocalData is a  
**software development and**  
**digital consulting firm**

# HELPING PLANNING PROFESSIONALS MAKE DATA-DRIVEN DECISIONS



GOVERNMENT

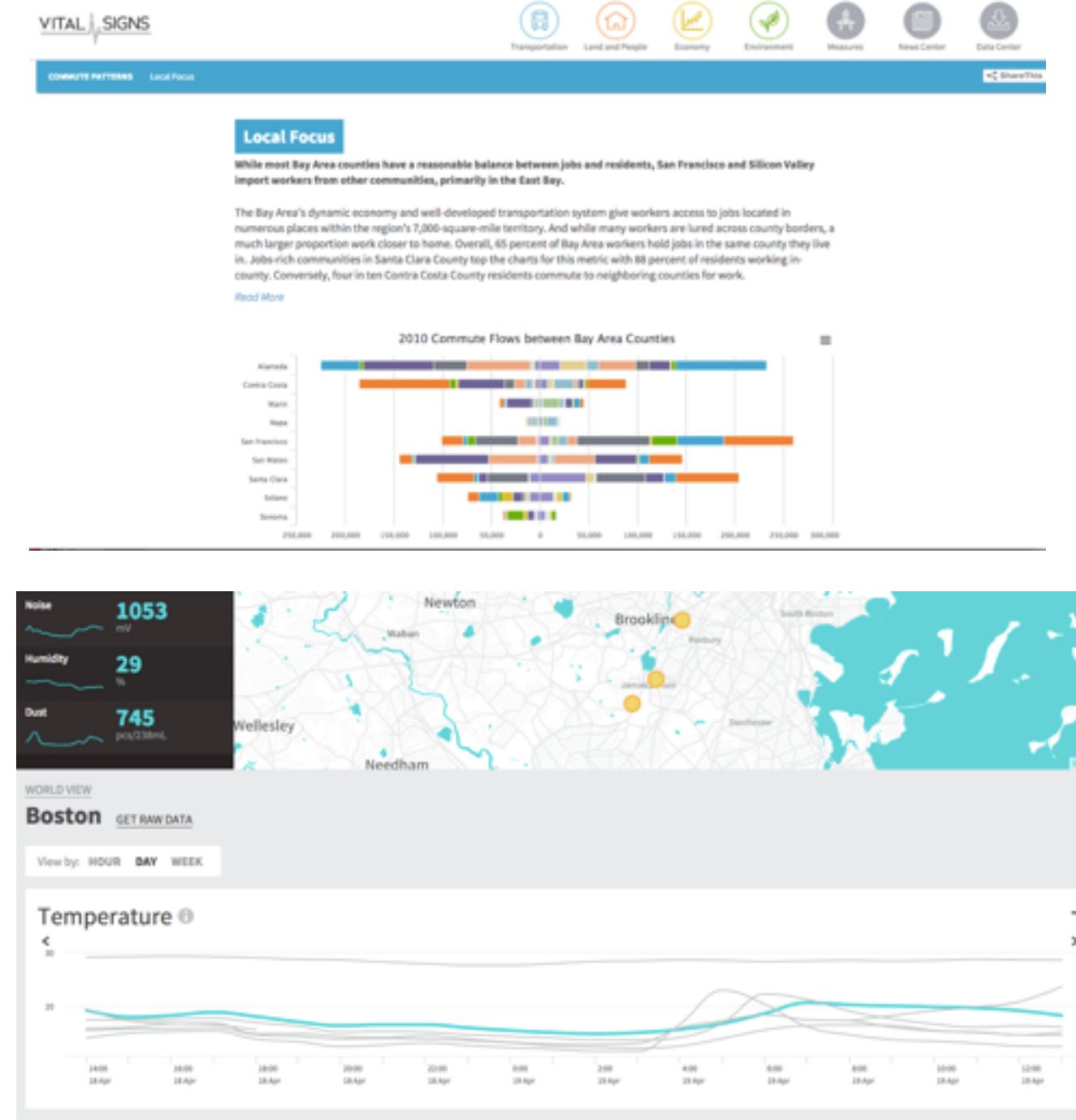
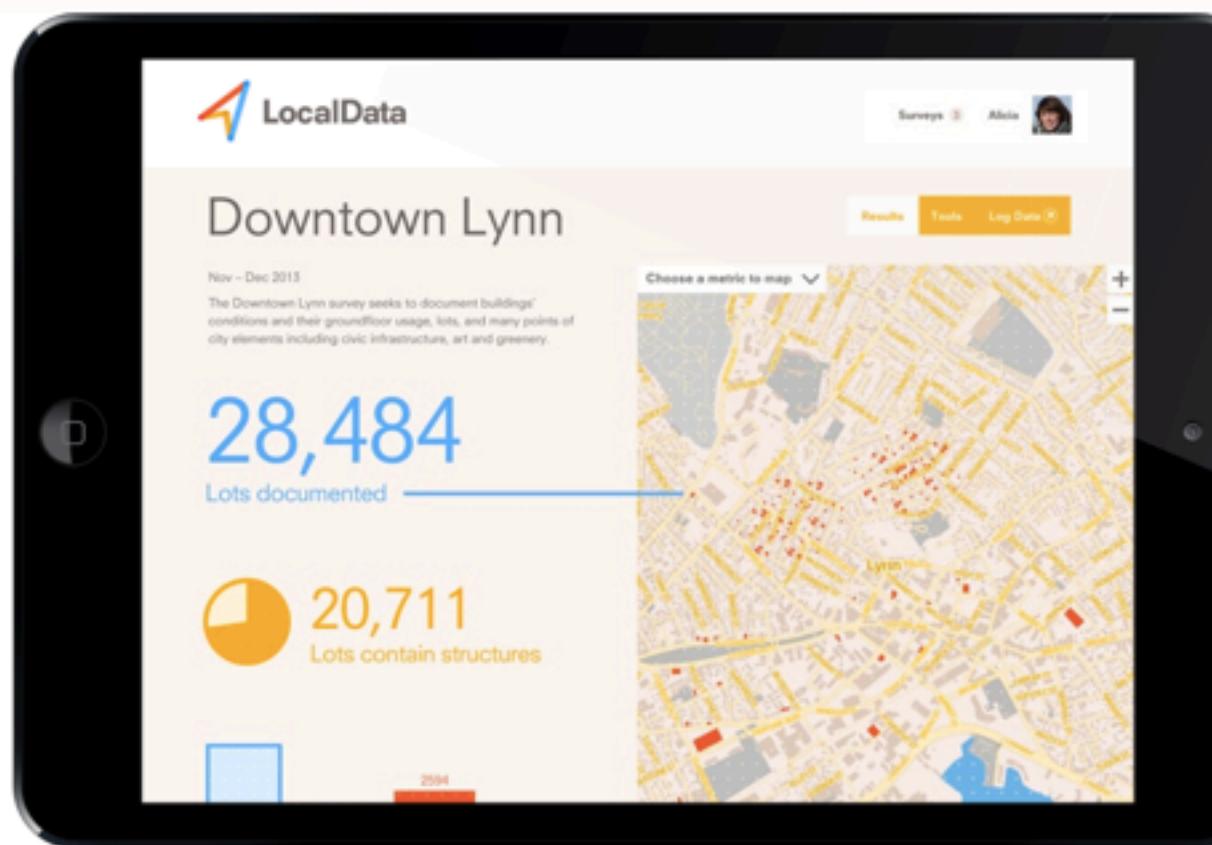


DESIGN FIRMS



NON-PROFITS





# LocalData Platform

# Project-based Work

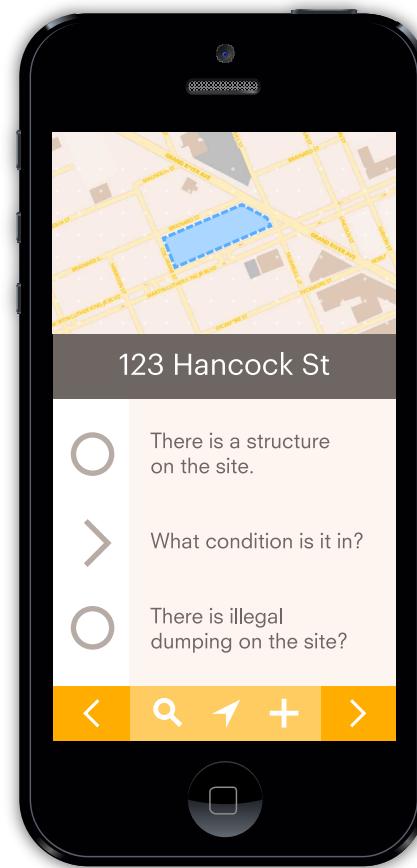
# LocalData Platform

Is the site improved or unimproved?

Is there a structure on site?

Do any of the following apply?

Is there illegal dumping on the site?



DESIGN

MAP-BASED SURVEYS

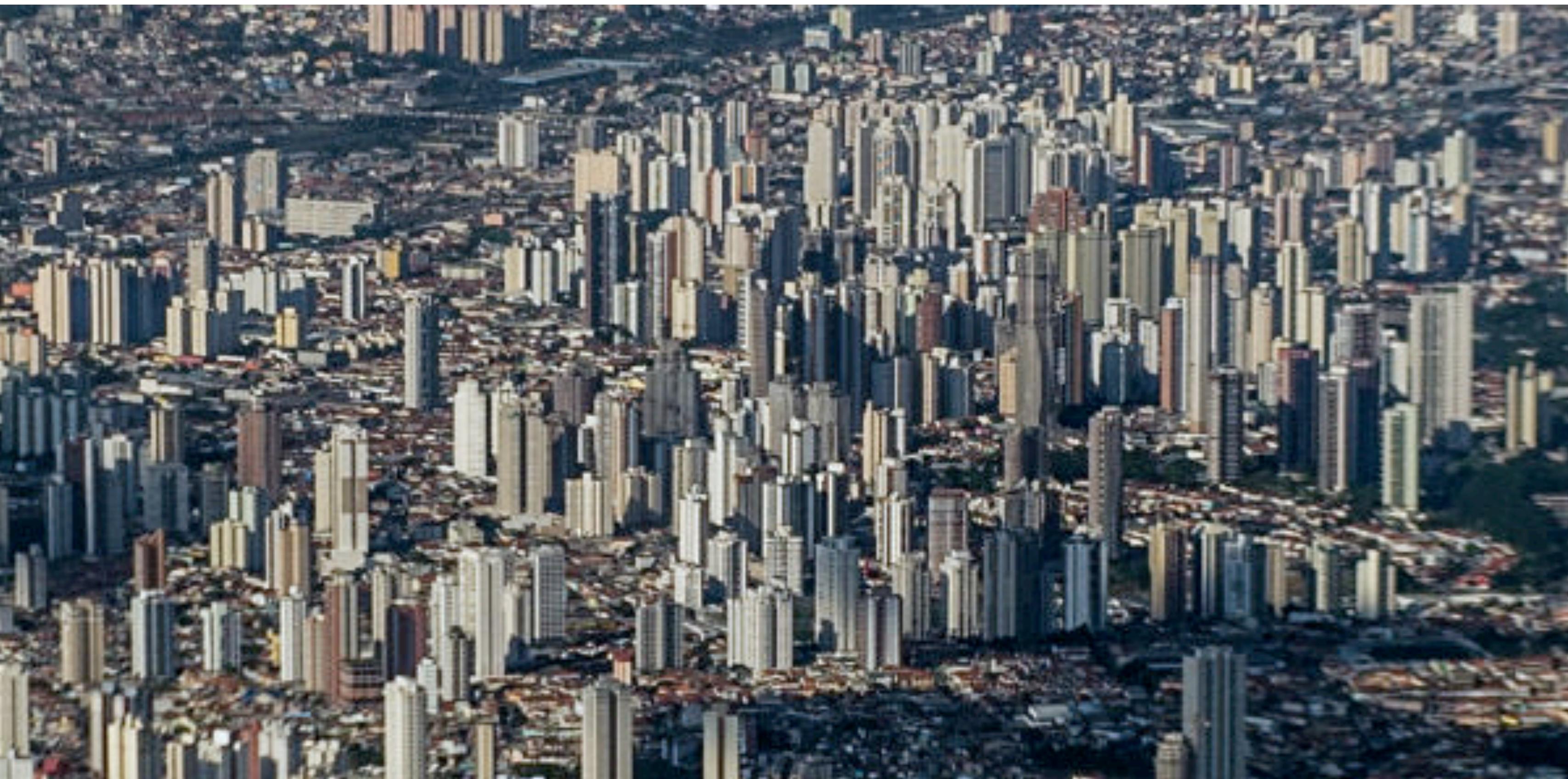
COLLECT



ANALYZE + SHARE

DATA DASHBOARD

**CITIES ARE RAPIDLY CHANGING**



**MORE DATA THAN EVER BEFORE**

**QUANTIFIED SELVES**



**QUANTIFIED HOMES**



# OPEN DATA IS HERE

## US CITY OPEN DATA CENSUS

[Home](#)[About](#)[FAQ](#)**NUMBER OF PLACES 21****NUMBER OF DATASETS 212****NUMBER OF OPEN DATASETS 48****PERCENTAGE OPEN 23%**Key:  Yes  No  Unsure  No data[+ Contribute data to the census](#)

**Sort**  
 alphabetically  
 by score

[San Francisco](#)[Sacramento](#)[Salt Lake City](#)[Atlanta](#)[Seattle](#)[Washington DC](#)

# QUANTIFIED CITIES





**RESILIENCY**



**SUSTAINABILITY**



**ECONOMIC DEVELOPMENT**



**MOBILITY**

how do we increase *meaningful* collaboration between urban planners, technologists and the public?

# MAYOR OF GARY, KAREN FREEMAN WILSON



GARY, INDIANA



# COST OF DEMOLITION

\$15,000

\$15,000

\$15,000

A professional portrait of a Black woman with short dark hair and glasses, wearing a light blue blazer over a dark top. She is smiling and looking towards the camera. The background is a blurred cityscape with buildings and greenery.

**OBTAIN FUNDS**

**ALLOCATE RESPONSIBLY**

**ENGAGE PUBLIC**

# BROKEN INTELLIGENCE



# PAPER PROBLEM

Outer											
<i>Roggie</i>											
19723	19718	19721	19714	19715	19716	19715	19722	19721	19720	19720	19851
19715	19718	19715	19714	19715	19716	19715	19714	19715	19714	19714	
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<i>Lantz</i>											
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<i>Emery</i>											
19230	19233	19230	19225	19230	19221	19220	19224	19223	19220	19220	
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19171	19171	19170	19165	19171	19170	19172	19171	19172	19171	19171	
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19140	19135	19134	19135	19136	19131	19130	19133	19134	19133	19133	
19130	19139	19131	19128	19131	19121	19130	19127	19128	19126	19126	
7101	7125	7205	7218	7245	7411	7427	7437	7445	7507	7519	7735

7-Mile

Survey Area:	SURVEY DATE:	For 100% with 80% housing structure					
REPORTING STRUCTURE	LOC IN Improved	LOC IN Unimproved	VACANT (%)	VOD			

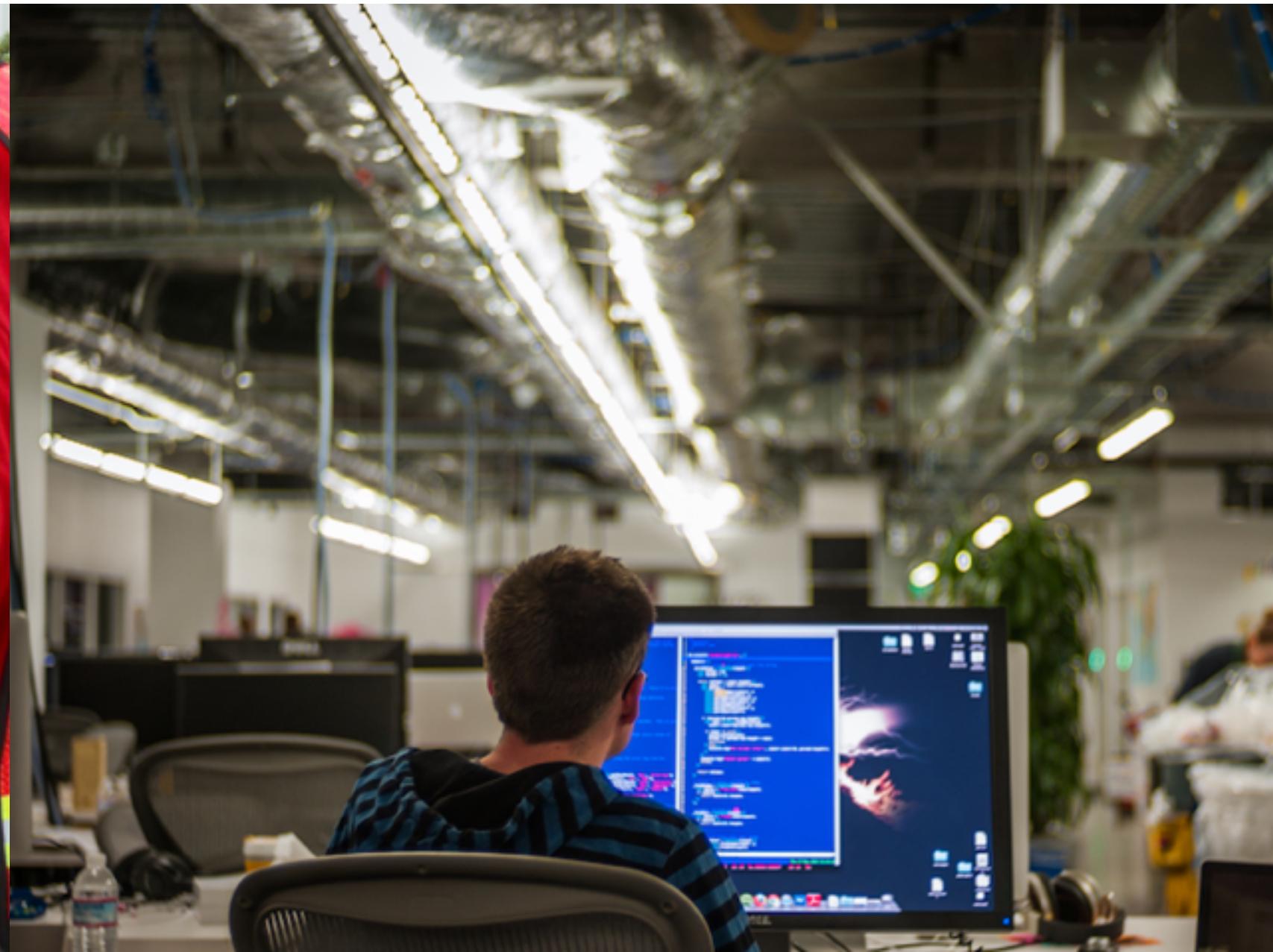
**NEED DATA?**

PEN + PAPER, LONG TIMELINES

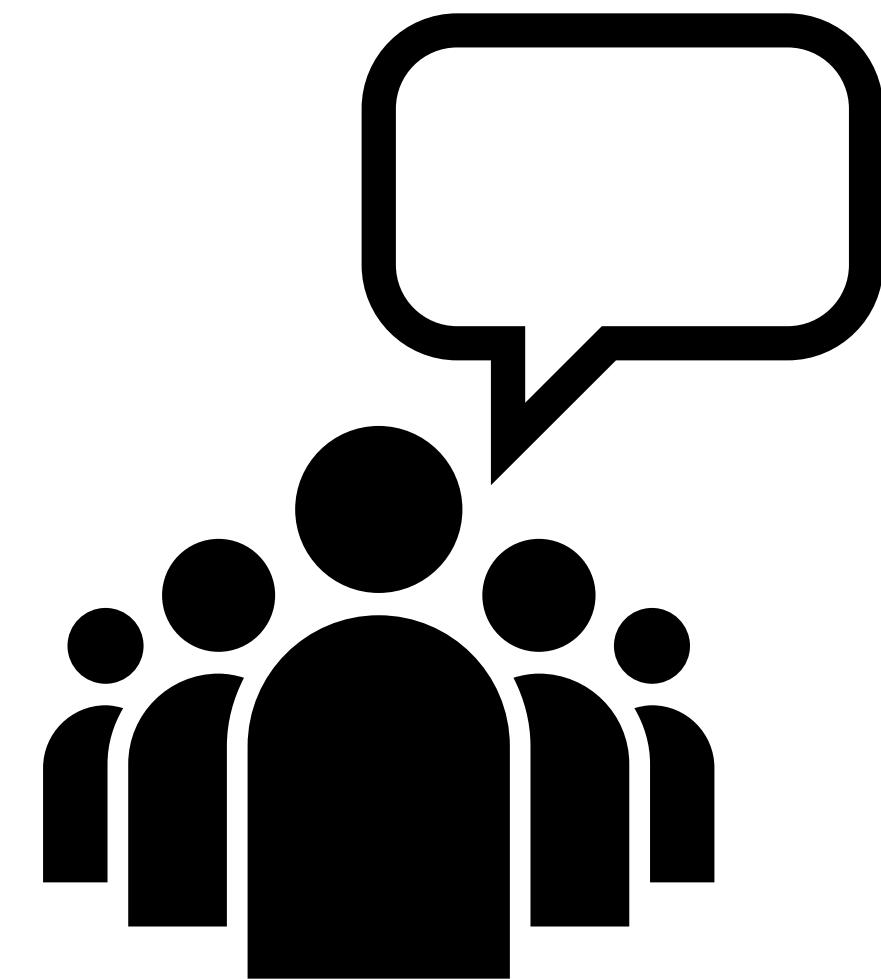


**ONLINE MAPS?**

EXPERT REQUIRED



# COMMUNITY-BASED PARALLELS



Community groups, non-profits and foundations also actively collect data on vacancy, community assets, environmental and health indicators.



How can we **support cities** make data-driven decisions  
**regardless of technical ability?**

How can we **empower residents** to be a part of this process?

# PRODUCTIVE ENGAGEMENT



government  
leaders  
+  
community partners  
+  
accessible tools =  
  
**data the  
city can  
use**

# ABANDONED BUILDINGS PROJECT



**A**

EXCELLENT

**B**

GOOD

**C**

FAIR

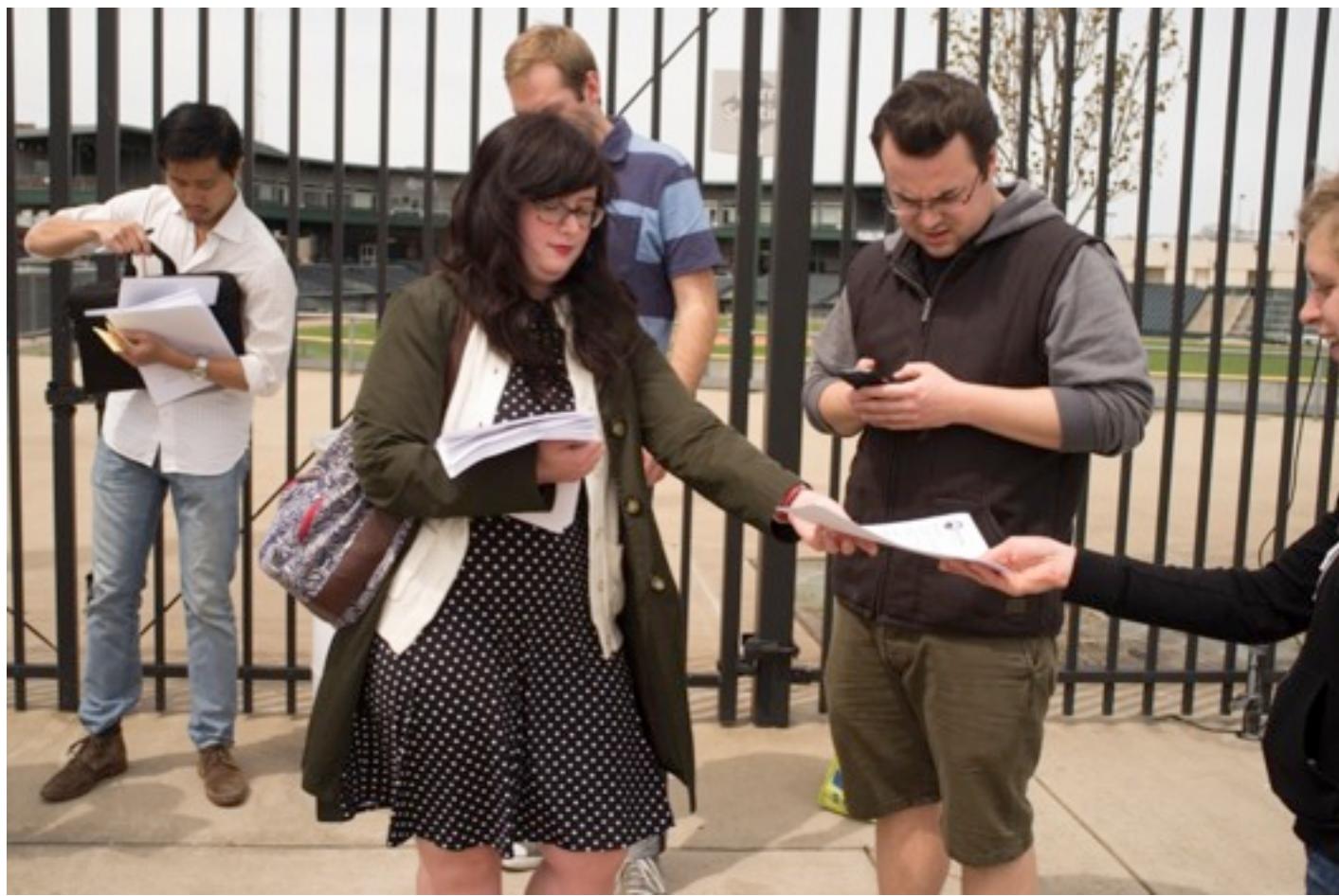
**D**

POOR

**F**

DANGER!

Partnership with University of Chicago's Harris School of Public Policy to understand condition of buildings in highly depressed area

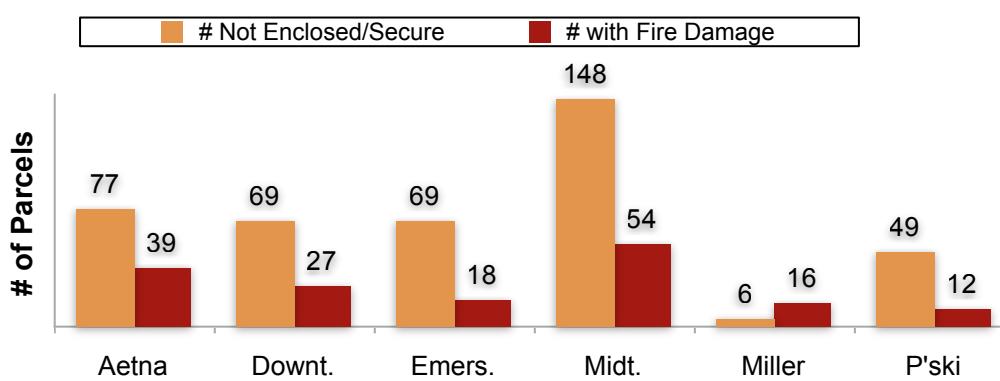
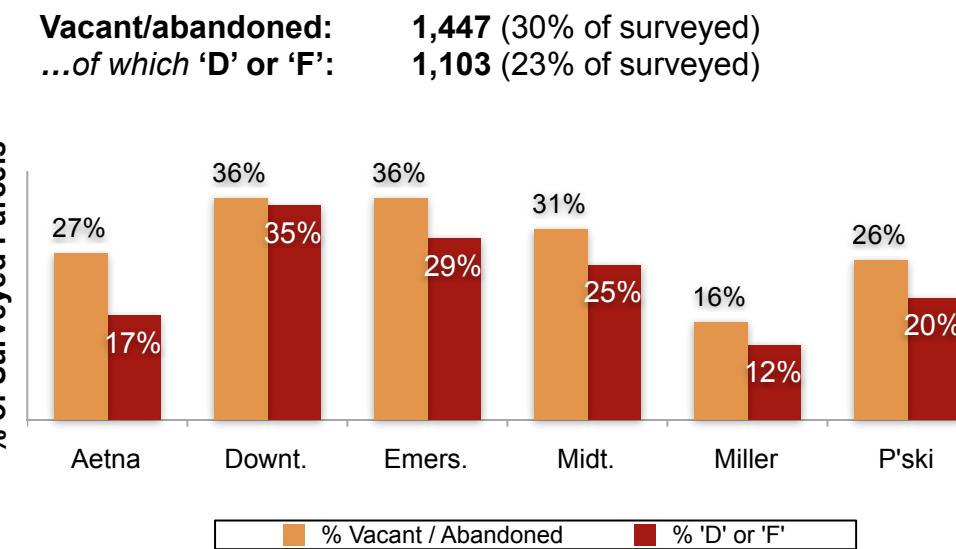
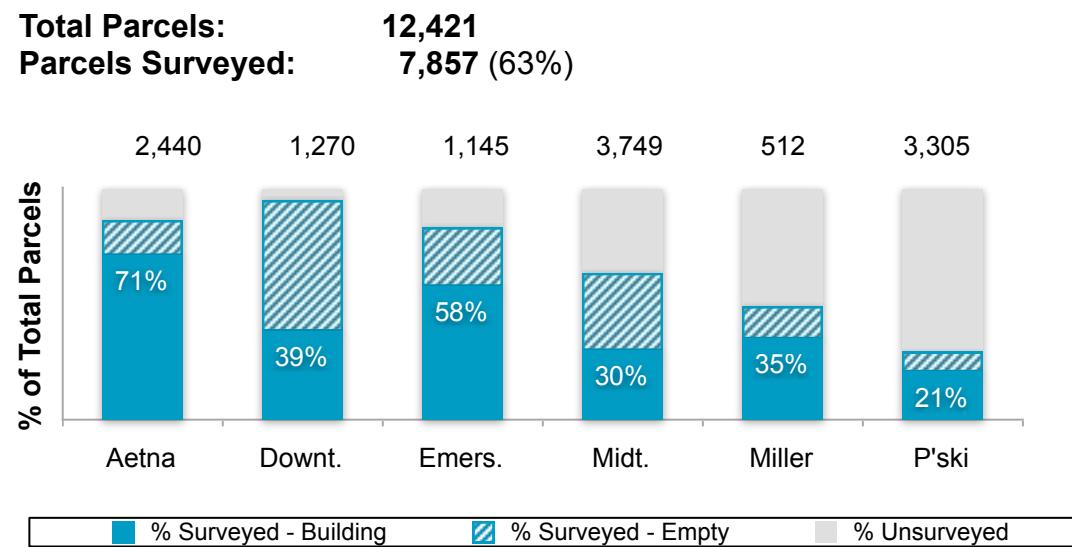


**Surveyed 2,000+ acres  
with hundreds of  
volunteers, city  
employees and  
graduate students**



**Documented 59,000+  
properties**

# Real-time Insight

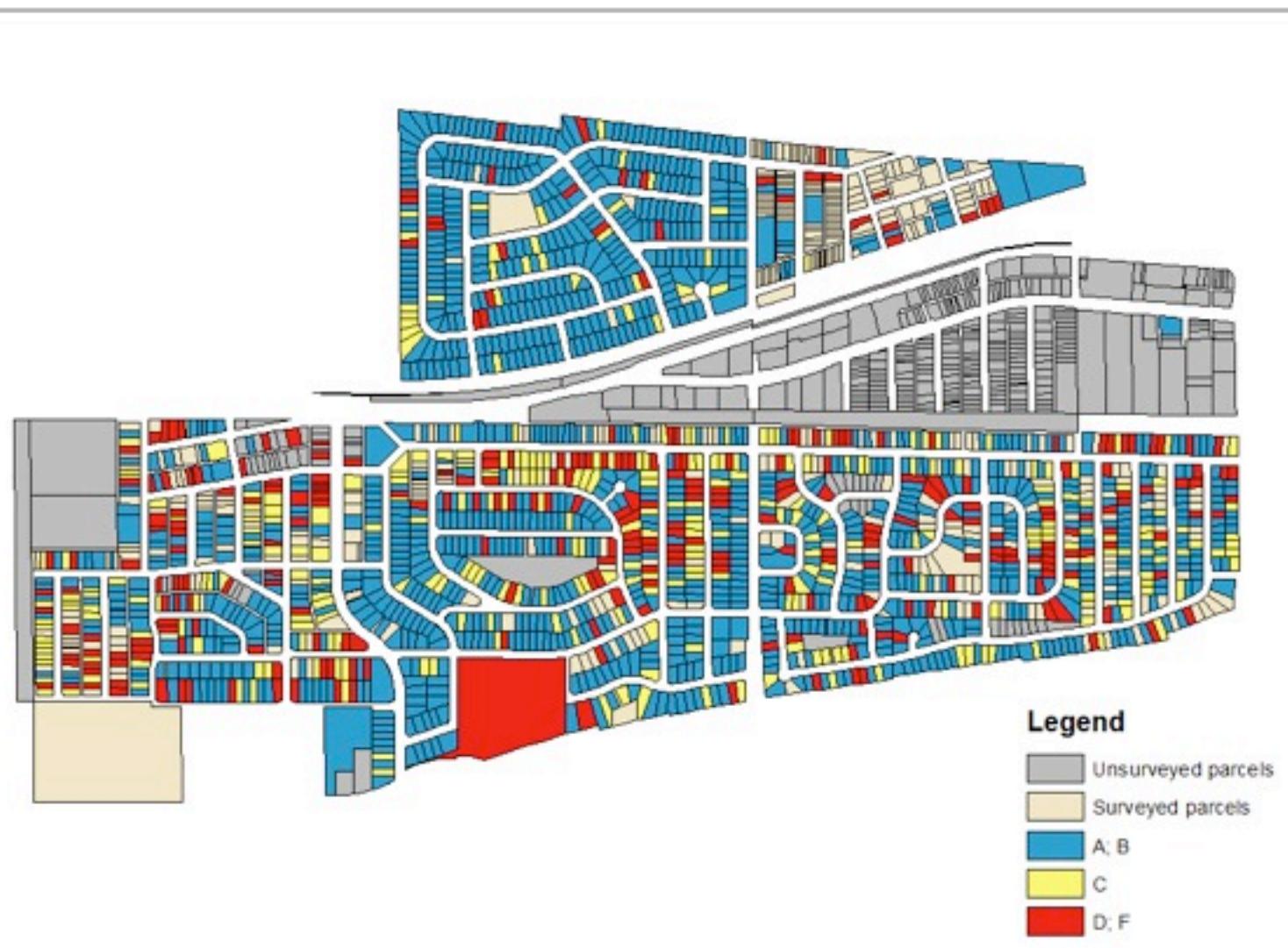


## Key Takeaways

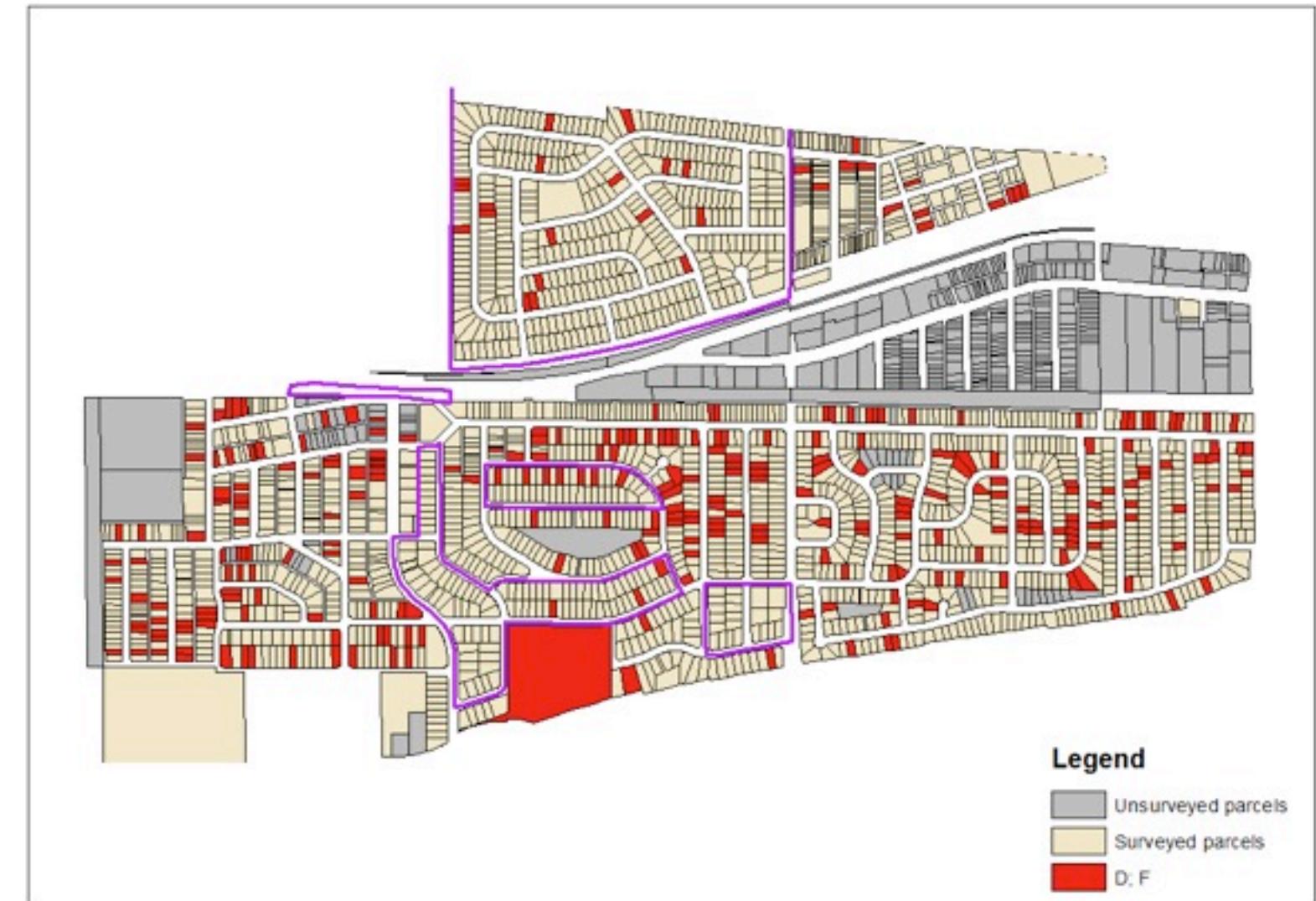
- Downtown / Emerson worst hit
- Aetna and Pulaski at tipping point: recently abandoned homes
- Many homes need boarding up; some areas more prone to fire

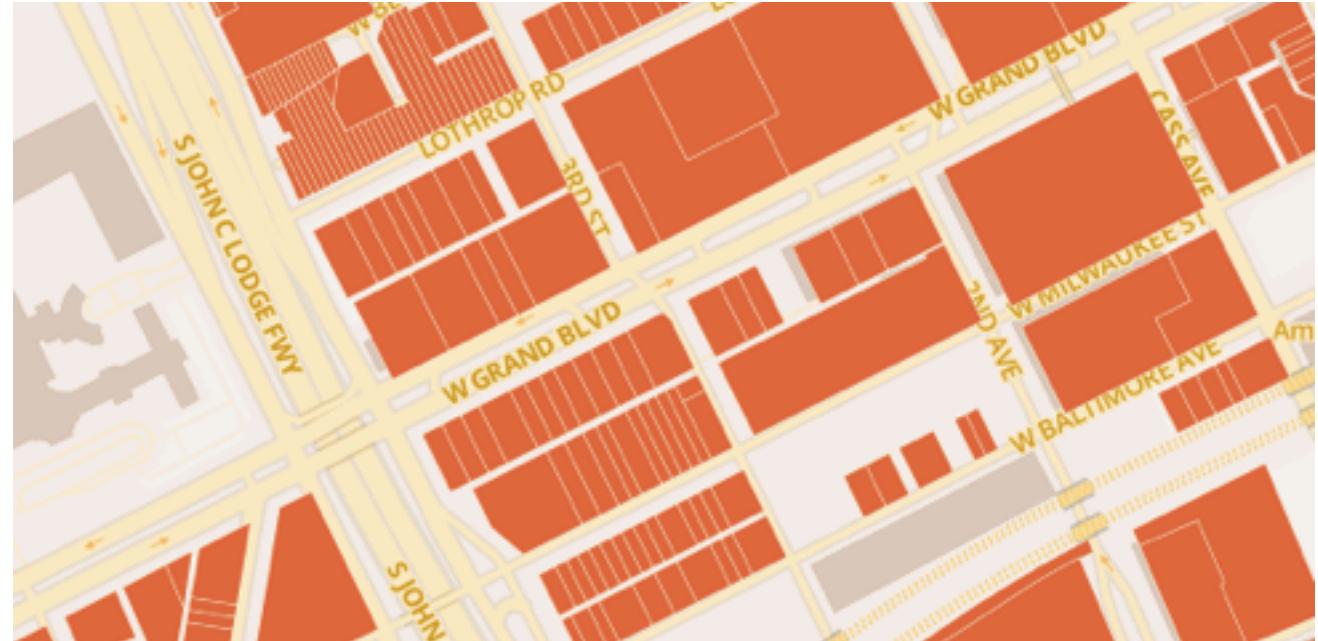
# Understand cost, inform policy and budget

Distribution of property grades, Aetna/Glen Ryan, May 2013 survey



Stable neighborhoods and troubled properties, Aetna/Glen Ryan, May 2013 survey





## AWARDED \$6.6 MILLION HARDEST HIT DOLLARS

- ✓ TRACK PROGRESS
- ✓ RE-EVALUATE CONDITIONS
- ✓ STRATEGIZE DEMOLITION
- ✓ TARGET INVESTMENT
- ✓ COALITION BUILDING



# CHANGE THE WAY WE CREATE + AUGMENT STREET LEVEL DATA



"FLOCK"-GENERATED DATA



**ACCURATE  
REAL-TIME  
QUALITATIVE**

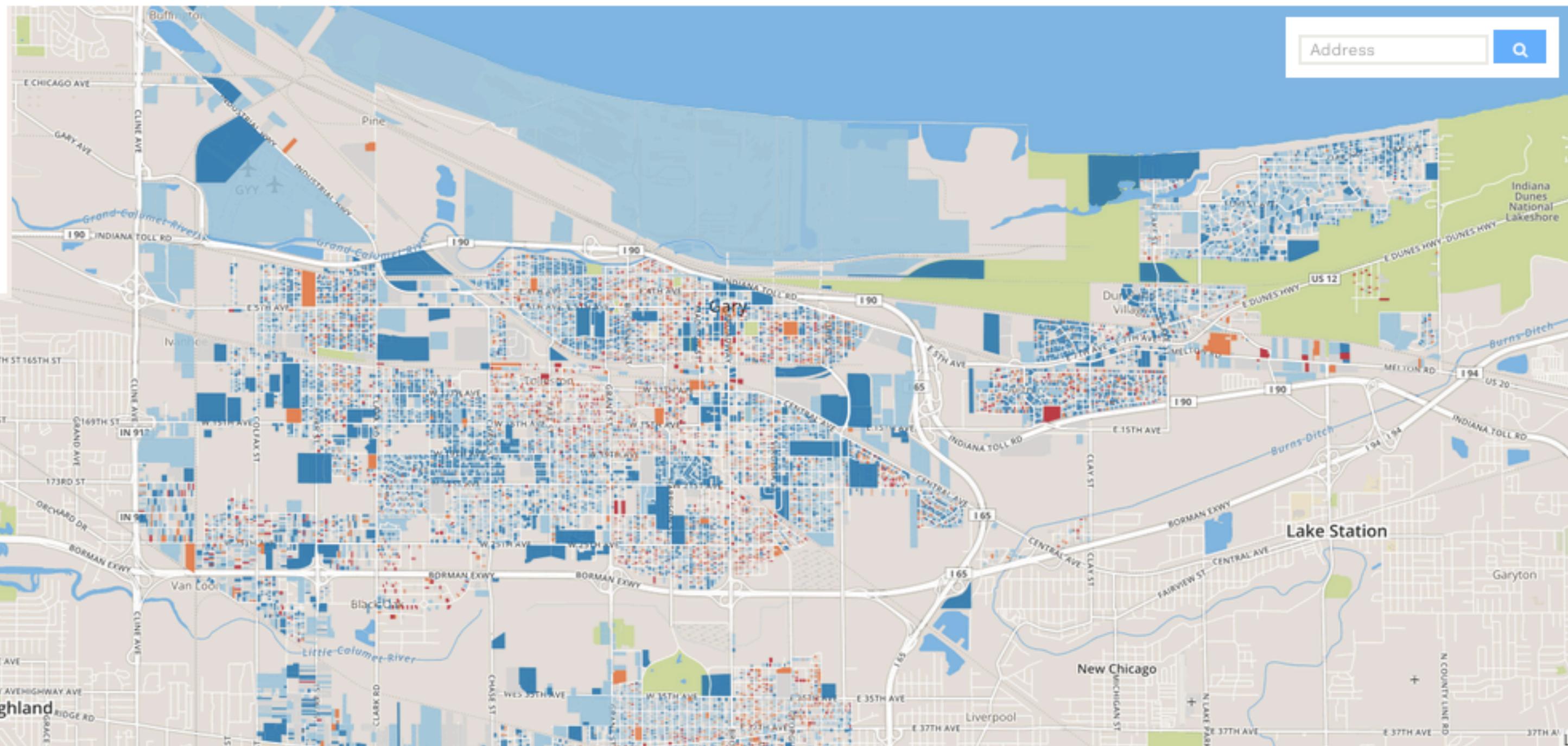
# GARY PARCEL SURVEY

[OVERVIEW](#)[EXPLORE THE MAP](#)[DATA & REPORTS](#)[HOW YOU CAN HELP](#)

Parcels surveyed (58,235) >

[Explore results >](#)**Property condition**

- Excellent
- Good
- Fair
- Poor
- Dangerous



# LOCALDATA IN 30 CITIES

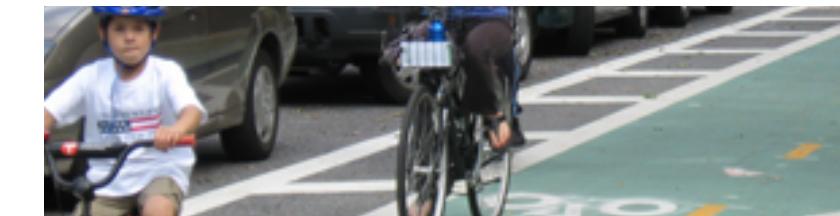
SUPPLY CHAINS



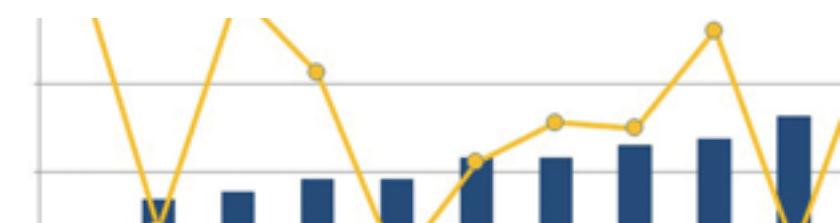
VACANT  
PROPERTY



TRANSPORTATION



ECON DEVELOPMENT



REAL ESTATE



*Mexico City*



*Detroit*

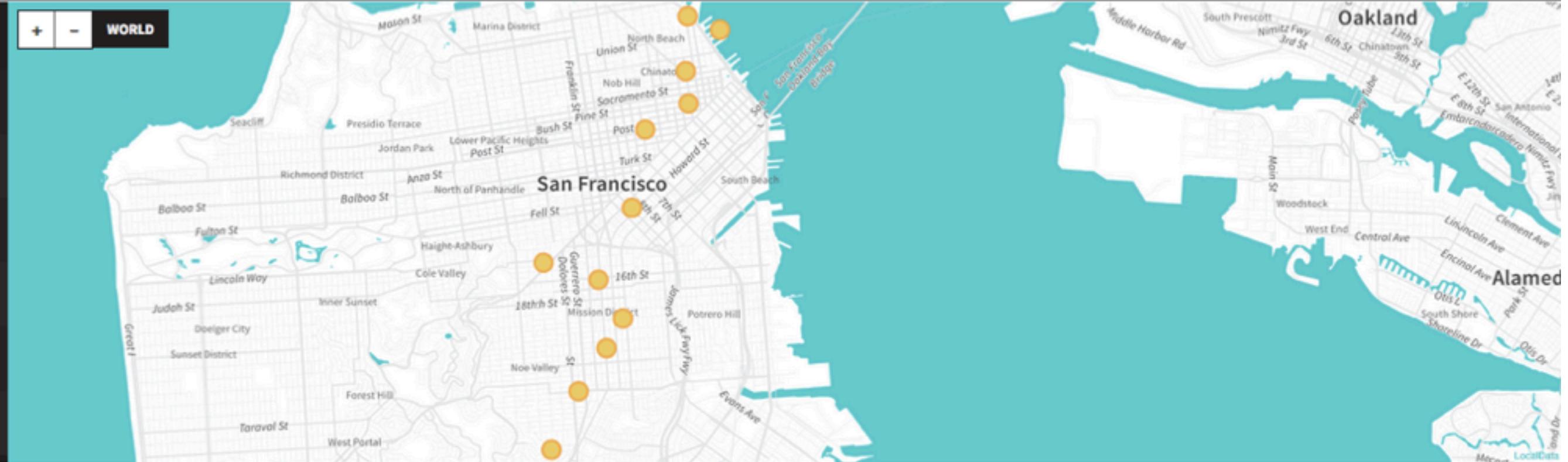
\$2 million  
Logistics  
Research



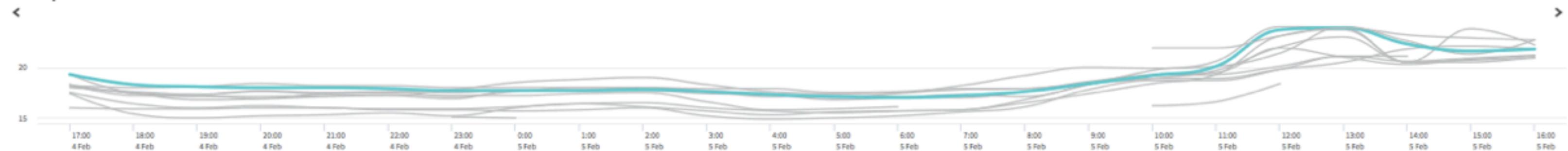
How can we help planners use **new datasets** with **new tools?**

**AlleyCat**

Averages over the last 24 hours.

Temperature **21.8** CLight **486** LuxPollution **20** mVNoise **1674** mVHumidity **36** %Dust **1399** pcs/238ml.WORLD VIEW**San Francisco**[GET RAW DATA](#)

View by: HOUR DAY WEEK

**Temperature** ⓘ**Light** ⓘ



Transportation



Land and People



Economy



Environment



Measures



News Center



Data Center



## Measures

Now it's your turn to explore our region's Vital Signs! Each of the measure boxes below is associated with one of the four matching-color categories shown above them — transportation, land use, the economy, and the environment.

### FILTER BY:



All



Transportation



Land and People



Economy



Environment



Equity

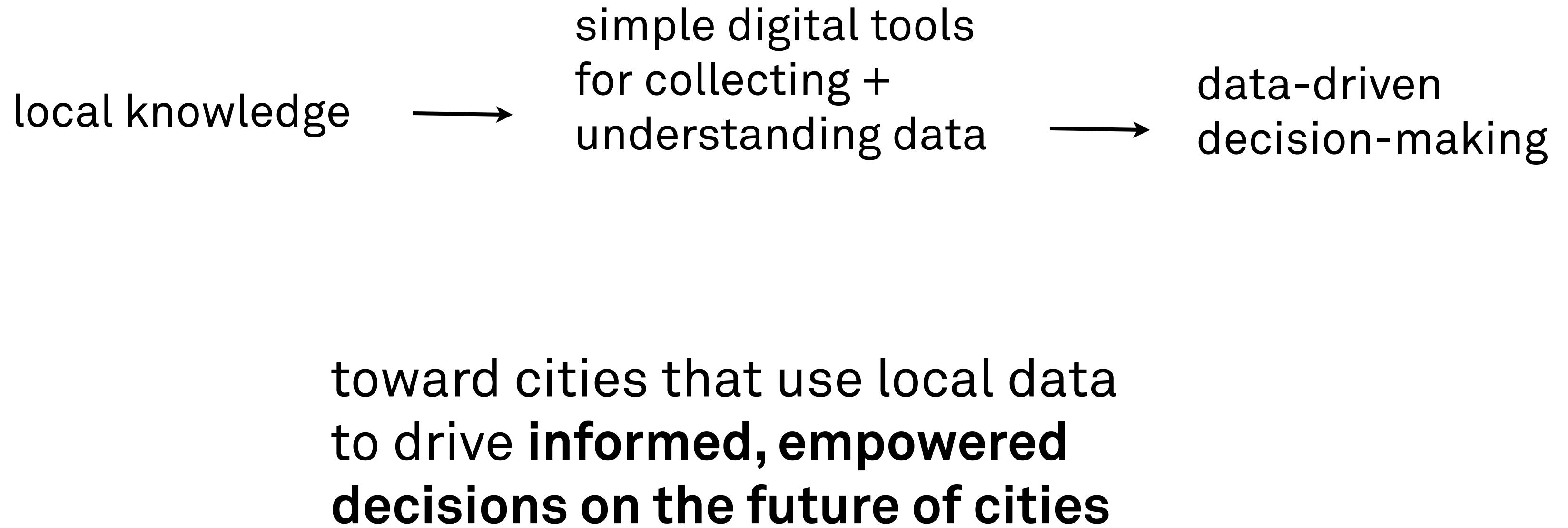


MAP-21



Plan Bay Area

**Bridge Condition****Commute Mode Choice****Commute Patterns****Commute Time****Daily Miles Traveled****Highway Pavement Condition****Miles Traveled in Congestion****Street Pavement Condition****Time Spent in Congestion****Traffic Volumes at Regional Gateways****Transit Asset Condition****Transit Ridership****Transit System Efficiency****Travel Time Reliability****Greenfield Development****Housing Growth****Our Jobs****Our Population**



What can **Planners** Learn from  
**Technologists** (and vice versa)?



We make  
maps :)

We make  
maps, too!

The face of civic technology

**Who (and what) is a  
civic technologist?**

A close-up portrait of a young man with short brown hair, looking directly at the camera with a slight smile. He is wearing a dark zip-up hoodie over a green t-shirt. The background is an indoor hallway with wooden doors and a yellow wall.

**Nick Doiron**  
“Civic Hacker”  
aka Nick Mapmeld  
**@mapmeld**

# Van Gogh Map - powered by MapBox's WebGL API (MoMA)



# Boston Greenway Map - custom Boston basemap







# Geographic Information System

*City of Cambridge, MA*

Contact GIS

[Cambridge Home Page](#)

Text Size: A A A

Search



INTERACTIVE MAPS

MYCAMBRIDGE

MAP GALLERY

GIS DATA

MOBILE MAPS

ABOUT GIS

## GIS DATA

[GIS Data Dictionary](#)

[Data Downloads](#)

[Data Sales](#)

[Request a Data CD](#)

[GIS](#) > [GIS Data](#) > [Data Sales](#) > Request a Data CD

## GIS Data CD Request Form

Please fill in your information below to request a Cambridge GIS Data CD.

Details on Data Sales can be found on our main [Data Sales and Downloads Page](#). You can also get connected to many of our GIS Data layers and download them yourself through [our GitHub Page](#).

Name

Organization/ School

Address

City

State

Zip

Phone

E-mail

GIS Dataset Requested



Your Address  
Your Information



Your GIS Data  
Download For Free



Explore Your City

Geographic Information System

831 Massachusetts Ave

Cambridge MA 02139



Massachusetts State Plan  
Coordinate System  
NAD 83

geoJSON WGS84



## cocdata / cocdata.github.io

[Watch 1](#)[Star 1](#)[Fork 0](#)

9 commits

1 branch

0 releases

1 contributor



branch: master

[cocdata.github.io](#) / +

Update index.html

Sean Sweeney authored on Sep 16, 2013

latest commit b60efb0f75

javascripts

Replace master branch with page content via GitHub

2 years ago

stylesheets

Replace master branch with page content via GitHub

2 years ago

README.md

Update README.md

2 years ago

index.html

Update index.html

2 years ago

params.json

Replace master branch with page content via GitHub

2 years ago

README.md

Code

Issues

0

Pull requests

0

Pulse

Graphs

HTTPS clone URL

<https://github.com>You can clone with [HTTPS](#) or [Subversion](#).[Clone in Desktop](#)[Download ZIP](#)

# cocdata.github.io



CODE *for*  
AMERICA

# Code for Boston

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## Cambridge, MA

Founded Mar 29, 2013

[About us...](#)

Civic Innovators 1,891

Group reviews 19

Upcoming 14

Meetups

Past Meetups 125

## Cambridge Open Data Ordinance Review

October 1, 2013 - 7:00 PM

Microsoft NERD - Thomas Paul Room

Please join us at Microsoft NERD, along with Cambridge City Councilor Leland Cheung, for a review of a [draft Open Data Ordinance](#) for the City of Cambridge. Discussion will range from the types of data openly available by the City, how it will be provided for public use, and the means through which the City can ensure that developers have access to data in a timely manner.

This is the third public review session for the proposed ordinance; [minutes from the Jul 29 meeting can be found at the City of Cambridge website](#). Thus far, there's been a lot of great suggestions and conversation, and as a concrete step, the Cambridge GIS Department has already released their GIS data on Github.

You can review the draft - and comment on it - at this [Google Doc](#).

The regularly-scheduled weekly hack night will still take place at our

19 went

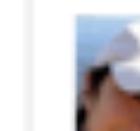


Harlan W.

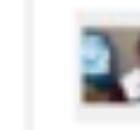
BRIGADE  
CAPTAIN,  
CO-ORGANIZER  
EVENT HOST



Sarah L.



Jessica



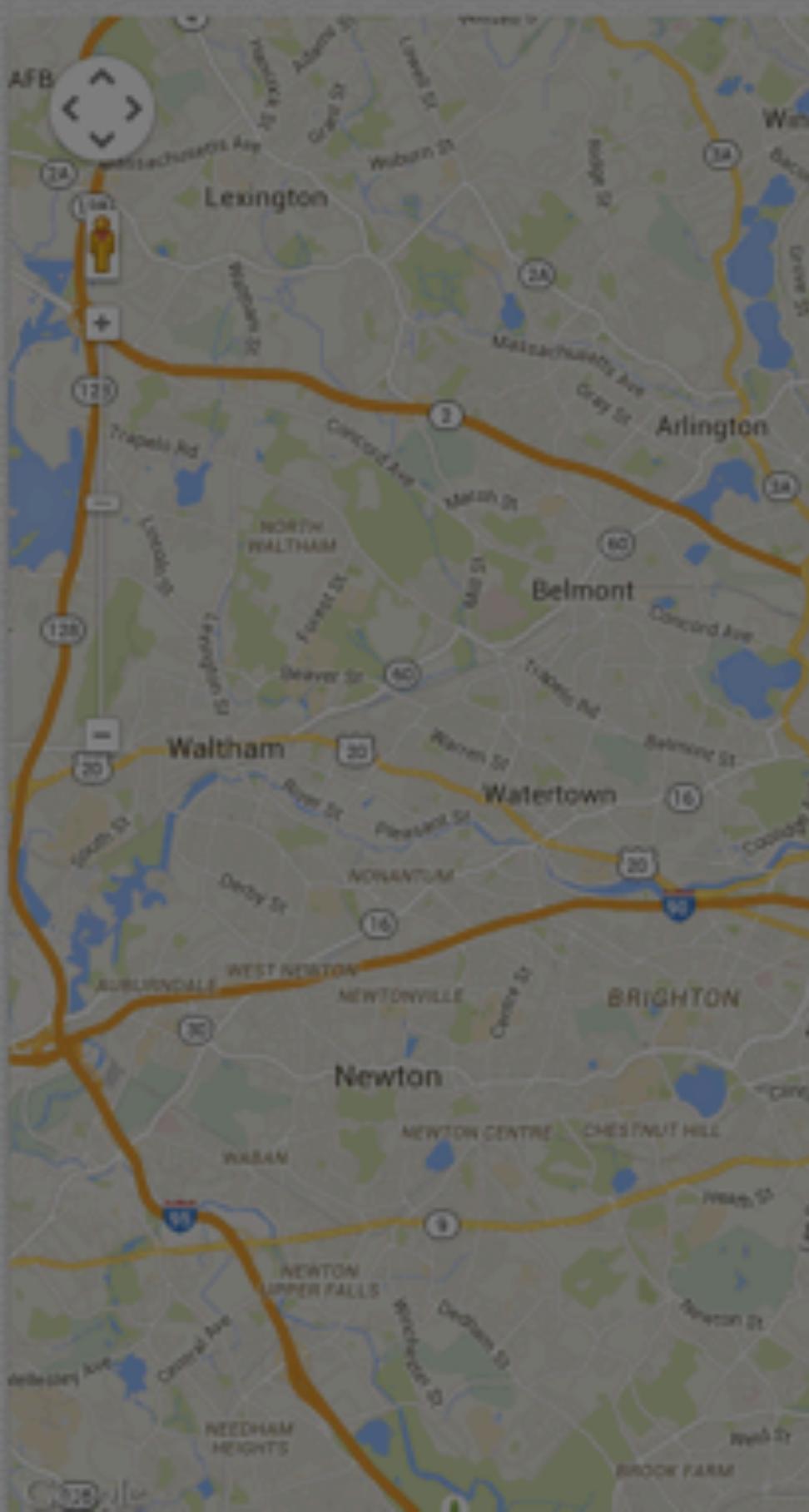
Nick D.



Michael W.

Back

# VOTE Cambridge



# VOTE Cambridge

## FIND YOUR POLLING PLACE

Enter home address

1234 Main St

Find

OR

Use current location

Use current location only if you are at your place of residence.

### Election information

Built as a public technology service by



@CodeForBoston • Source

View in Map app

[Back](#)

## VOTE Cambridge



M.I.T.

Kresge Auditorium, behind Stratton Center

[View in Map app](#)

Walking directions are in beta. Use caution - This route may have missing sidewalks or pedestrian paths.

A Massachusetts Institute of Technology, 72 Massachusetts Avenue, Cambridge, MA 02139, USA

92 ft - about 1 min

1. Head northwest on Massachusetts Ave 92 ft

B Massachusetts Institute of Technology, 70 Massachusetts Avenue, Cambridge, MA 02139, USA

Map data ©2015 Google



## Cambridge GIS

City of Cambridge, MA

[GitHub Home](#)

[View My GitHub Profile](#)

## Open Data on GitHub

The City of Cambridge is committed to building repositories for data to be used by developers and for public consumption. Cambridge GIS has posted the majority of the data sets on this official City of Cambridge site. Larger size files which do not lend themselves to this site (such as elevation data, raster, and LiDAR) will soon be available for download at [www.cambridgema.gov/GIS](http://www.cambridgema.gov/GIS) and also available on DVD or by stopping by our offices (by appointment) at 831 Massachusetts Avenue.

## GeoJSON and TopoJSON

GitHub recognizes our GeoJSON and TopoJSON files and creates interactive maps using Mapbox for most files. You can also view or download the raw GeoJSON or TopoJSON using the 'Raw' button.

## Report Issues and Update Data

If you notice a problem with the data, you can report an issue on this site using the [New Issue form](#).

You can also click 'Edit' on any GeoJSON file to make a fork/copy on your own account, make changes, and suggest that they get adopted here.

# Make data easy to find and use

Open data helps make government better. Governments hold a lot of information that is valuable — and sometimes critically important — to residents, organizations, companies, and government itself

**NICK DOIRON**  
SENIOR APPLICATIONS DEVELOPER  
ASIA FOUNDATION  
2012 Code for America Fellow  
@mapmeld



**The Asia Foundation**

**MoMA**

**CODE** *for*  
**AMERICA**

the MAYOR'S OFFICE of  
**NEW URBAN  
MECHANICS**  
**BOSTON** 

# GISday

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Wednesday, November 18, 2015

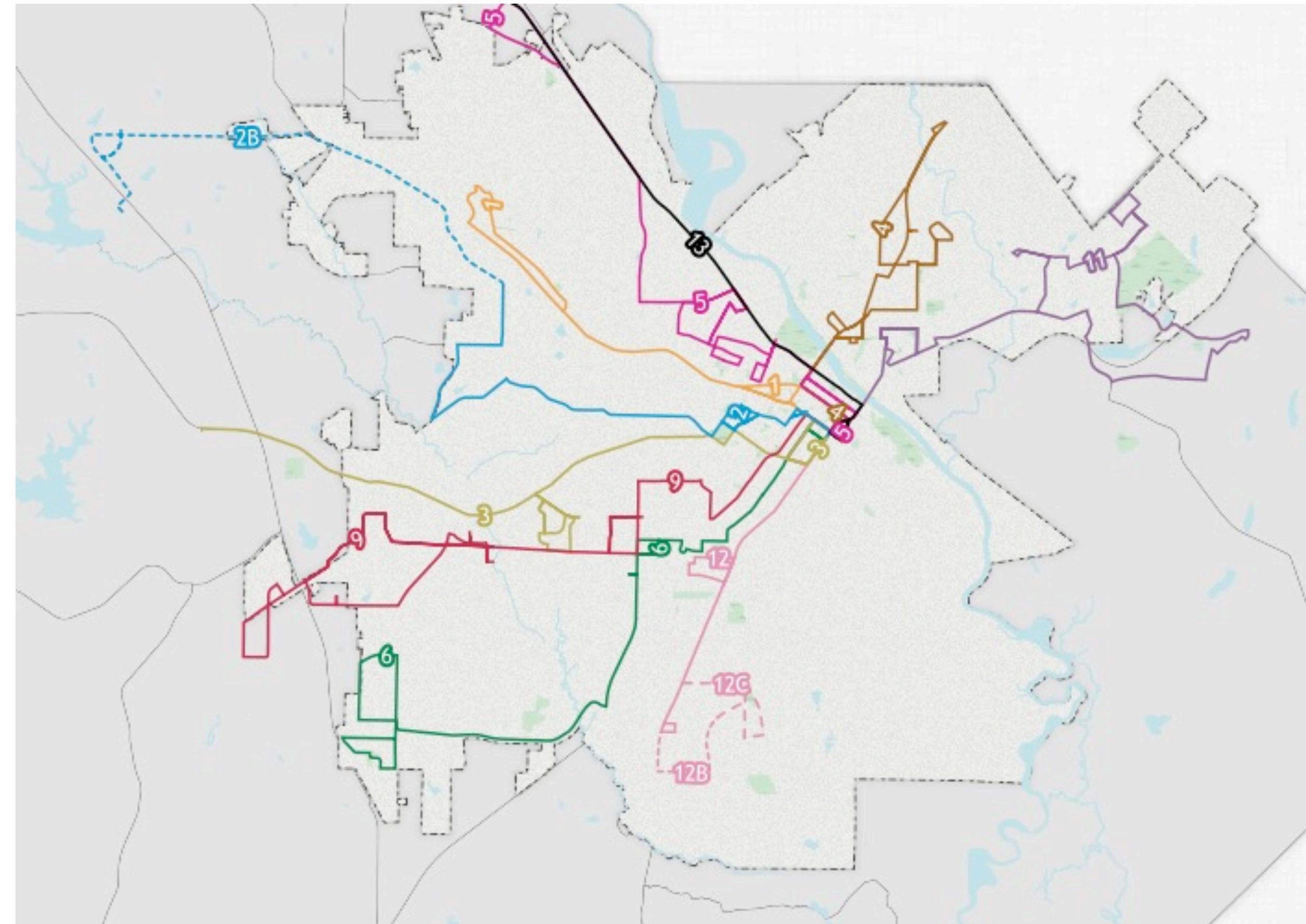


# The Geo Web and Urban Planning

# What do cities want?

How can a programmer solve the problem?

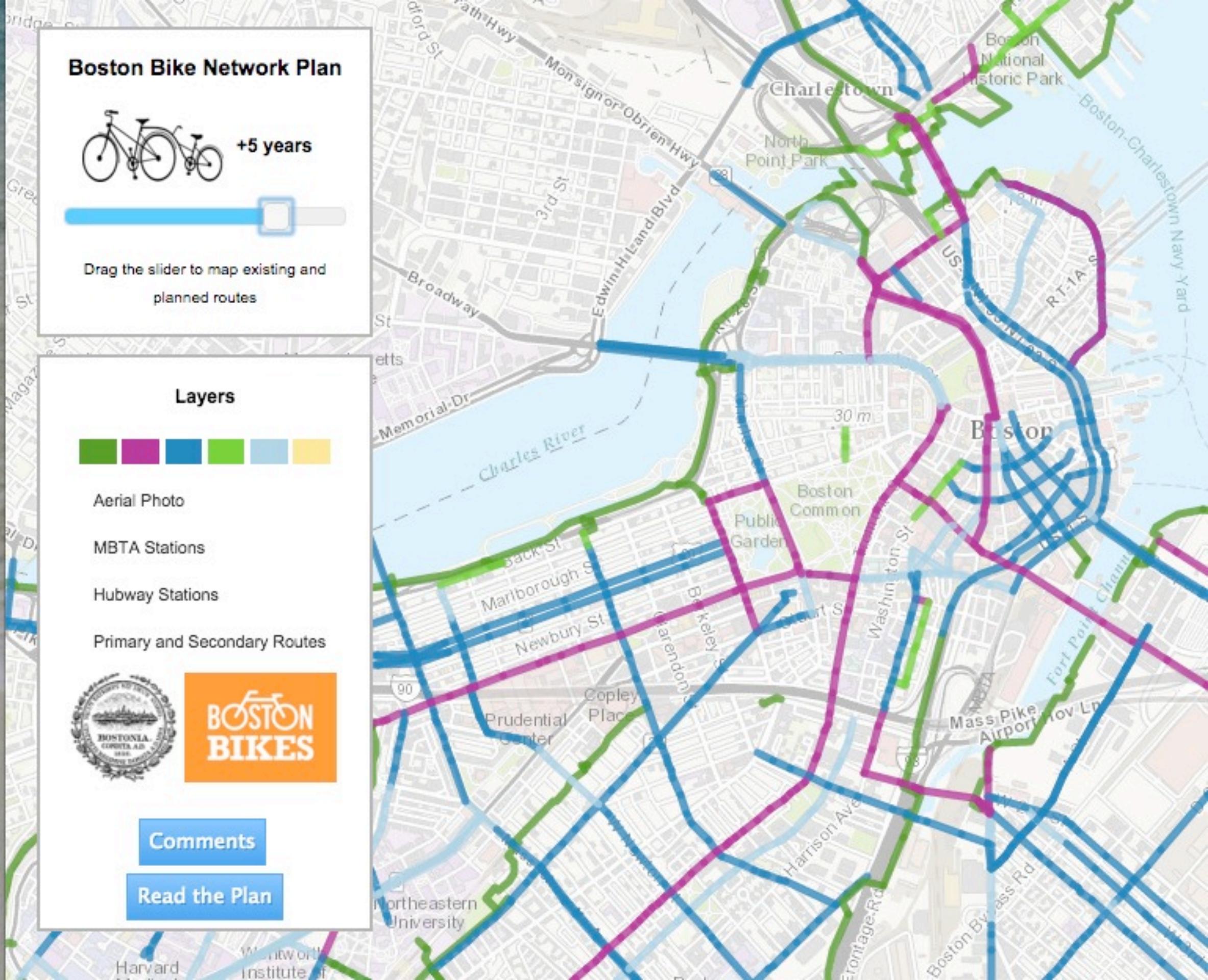
# Macon Transit Map



# Macon Transit Map: Reflections

- Data came from multiple sources
- We didn't \*create\* much data. Challenge was combining it
- Then we can make cool maps
- Modern Example: Pope Map by Lauren Ancona

# Boston Bikes Map

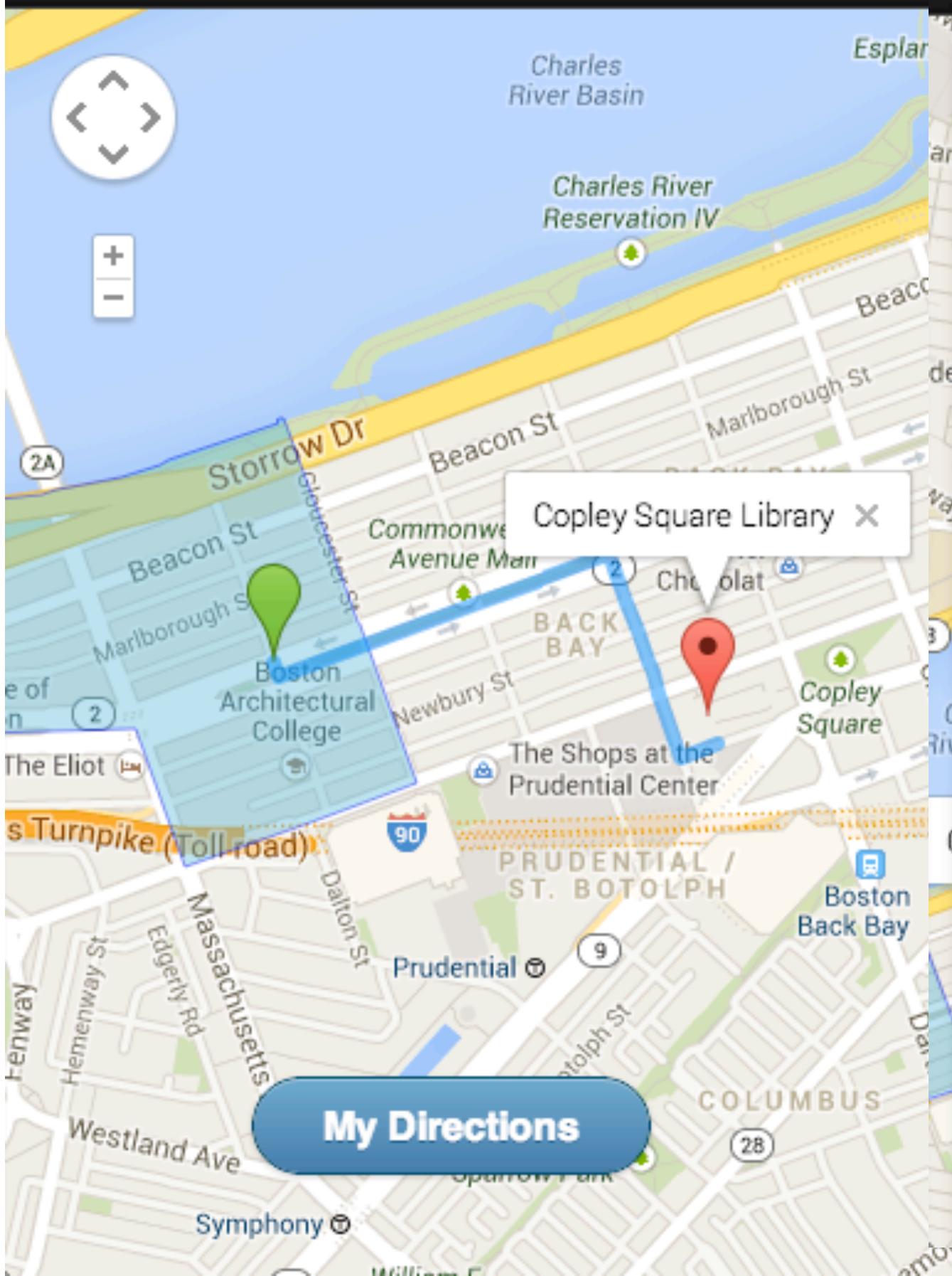


# Boston Bike Map: Reflections

- User interface should be simple, discoverable
- Less text
- Cities create many maps for PR
- They can still be cool / purposeful

## Voting Locations

[Election Map](#)



## Voting Locations

### Directions

[Use My Location](#)

Walk

Transit

Drive

Walking directions are in beta. Use caution –  
This route may be missing sidewalks or  
pedestrian paths.

A 1 Washington Street, Boston, MA 02108,  
USA

1.5 mi – about 10 mins

Walk to Government Center Station  
About 1 min

Government Center Station

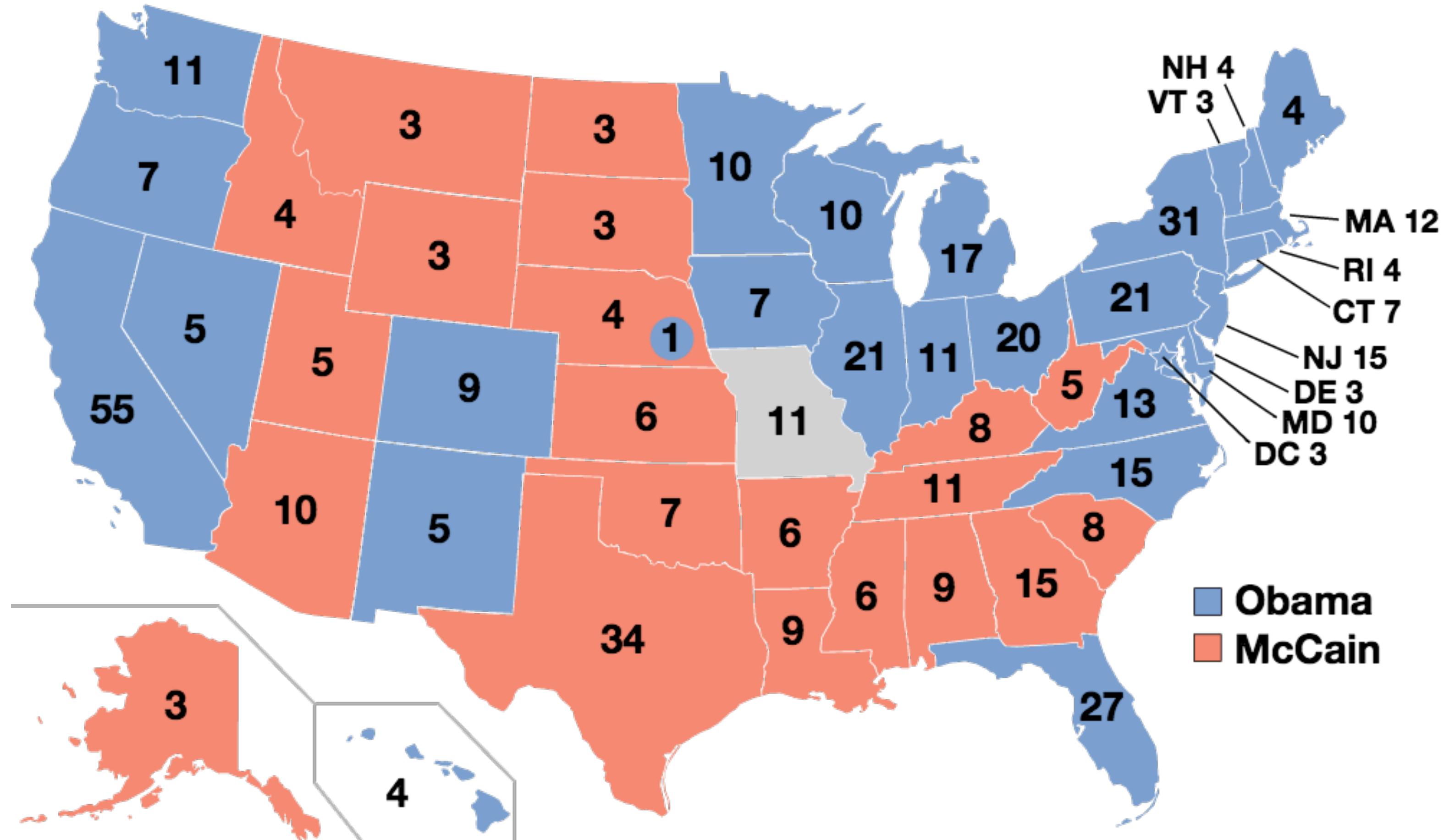
**Green Line** Light rail towards E - Heath  
Street

2:11pm–2:17pm (6 mins, 4 stops)

# Election Map: Reflections

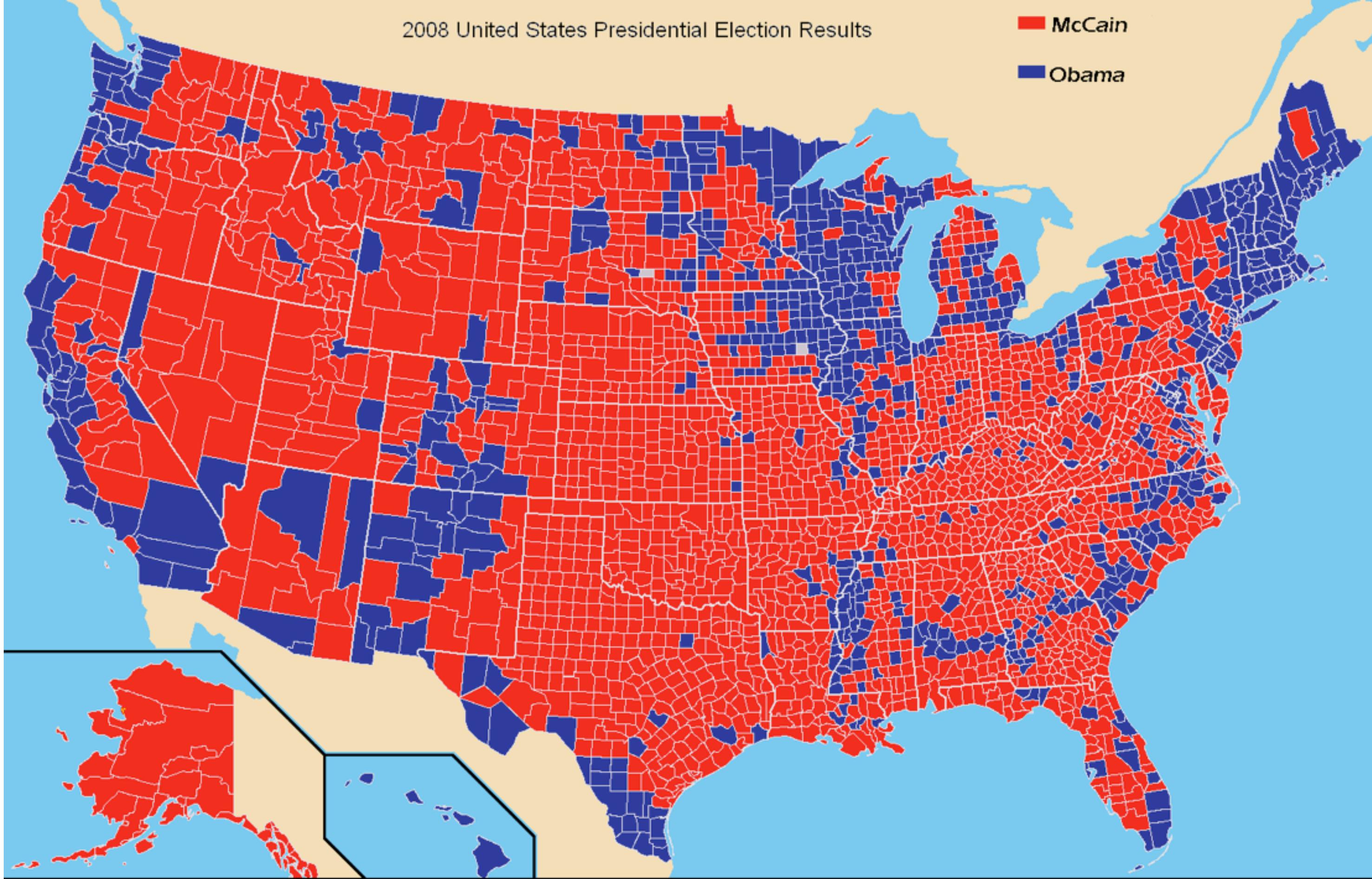
- Good: mobile-first
- Bad: not authoritative - reverse geocoding / geocoding

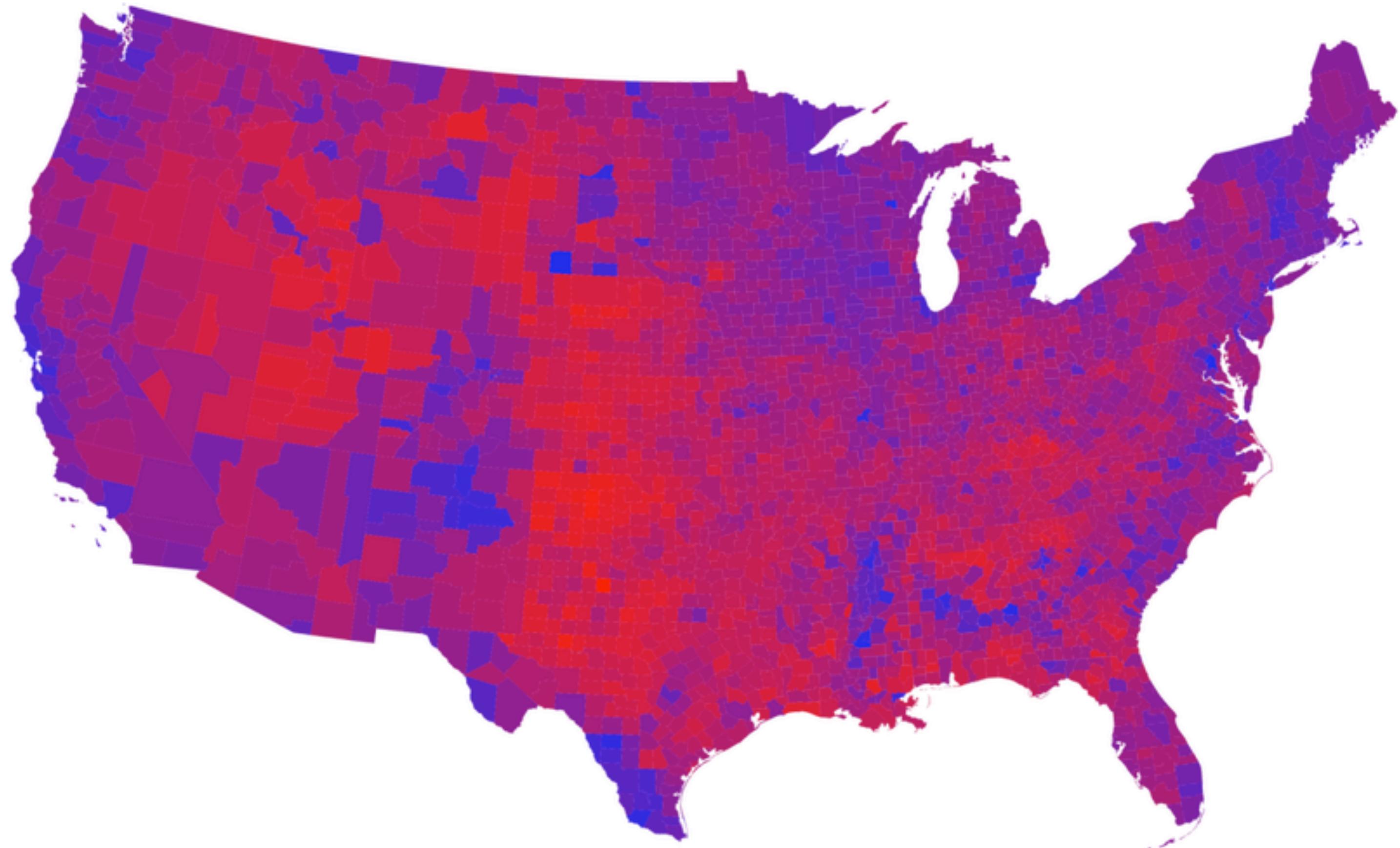
# Maps Have Consequences



2008 United States Presidential Election Results

McCain  
Obama





# Crime Step

Start

41.94901,-87.65651

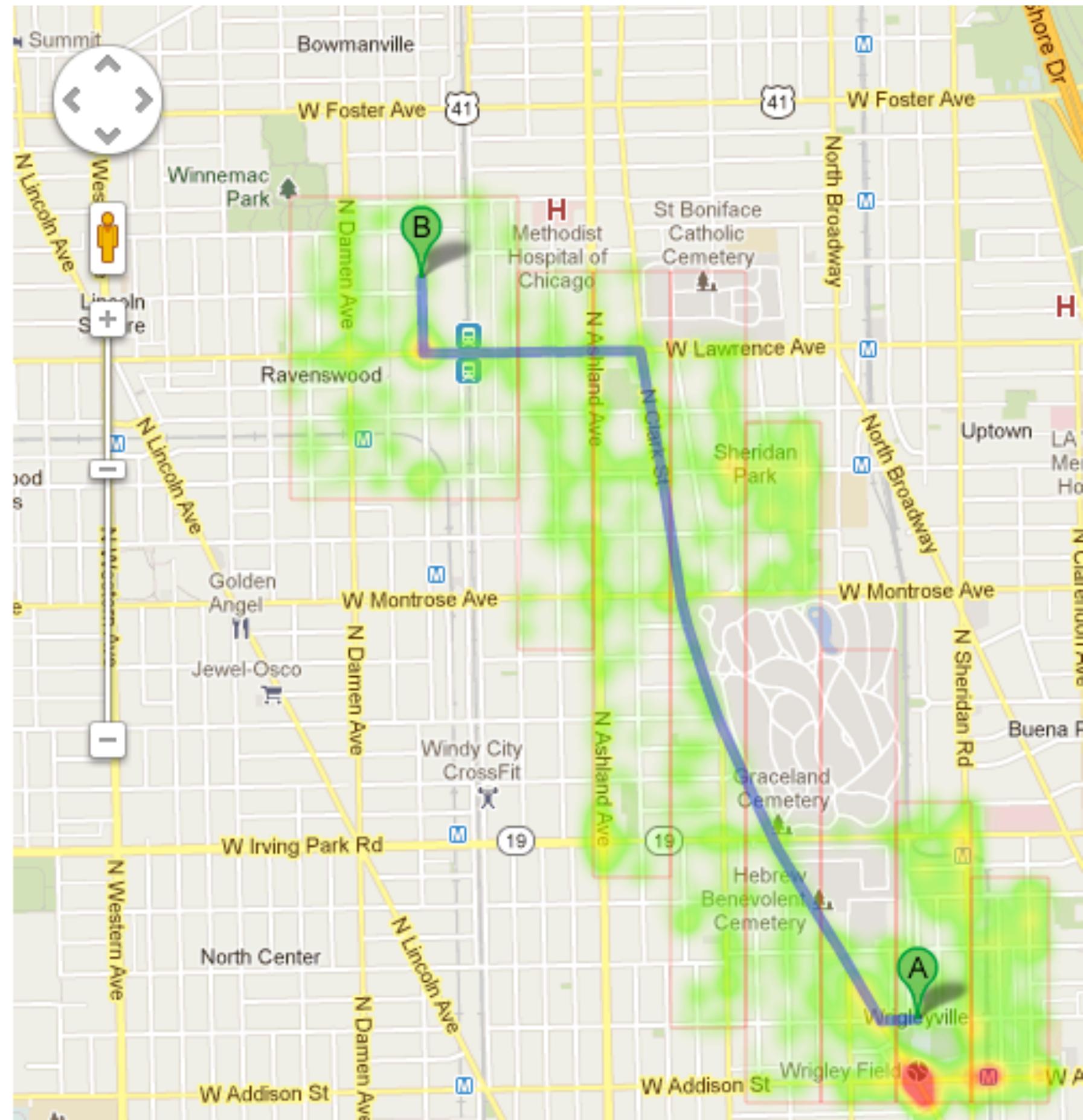
End

41.97094,-87.67627

Direct Me

## Stats: Don't Panic

- 2041 crimes since Mon Apr 16 2012
  - 18% between 19:34 and 1:34
- 
- 21% violent
  - 27% of violent crime between 19:34 and 1:34



# Crime Step: Implications

- What are we really showing?
- Why not make a bike collision map?

# **Publishing Data and Services**

# Data Exchange is the problem

- Are custom-built maps the solution?
- For government, it often makes sense to publish an API
- Some people prefer raw data and GitHub

[Cambridge GIS](#)

# OpenStreetMap

- Shared open wiki
- Geo data from all sources
- Support from Red Cross, Doctors without Borders, State Dept

လွှတ်တော်အမျိုးအစား

အမျိုးသားလွှတ်တော်

ပြည်သူလွှတ်တော်

တိုင်းဒေသကြံး/ပြည်နယ် လွှတ်တော်

အမျိုးသားလွှတ်တော် / ပဲခူးတိုင်းဒေသကြံး / 11



ဒေါက်တာဝင်းမြင့်  
အမျိုးသားဒီမိုကရေစိအဖွဲ့ချုပ်ပါတီ



ဦးသိန်းစိုး  
တိုင်းရင်းသားစည်းလုံးညီညွှတ်ရေးပါတီ

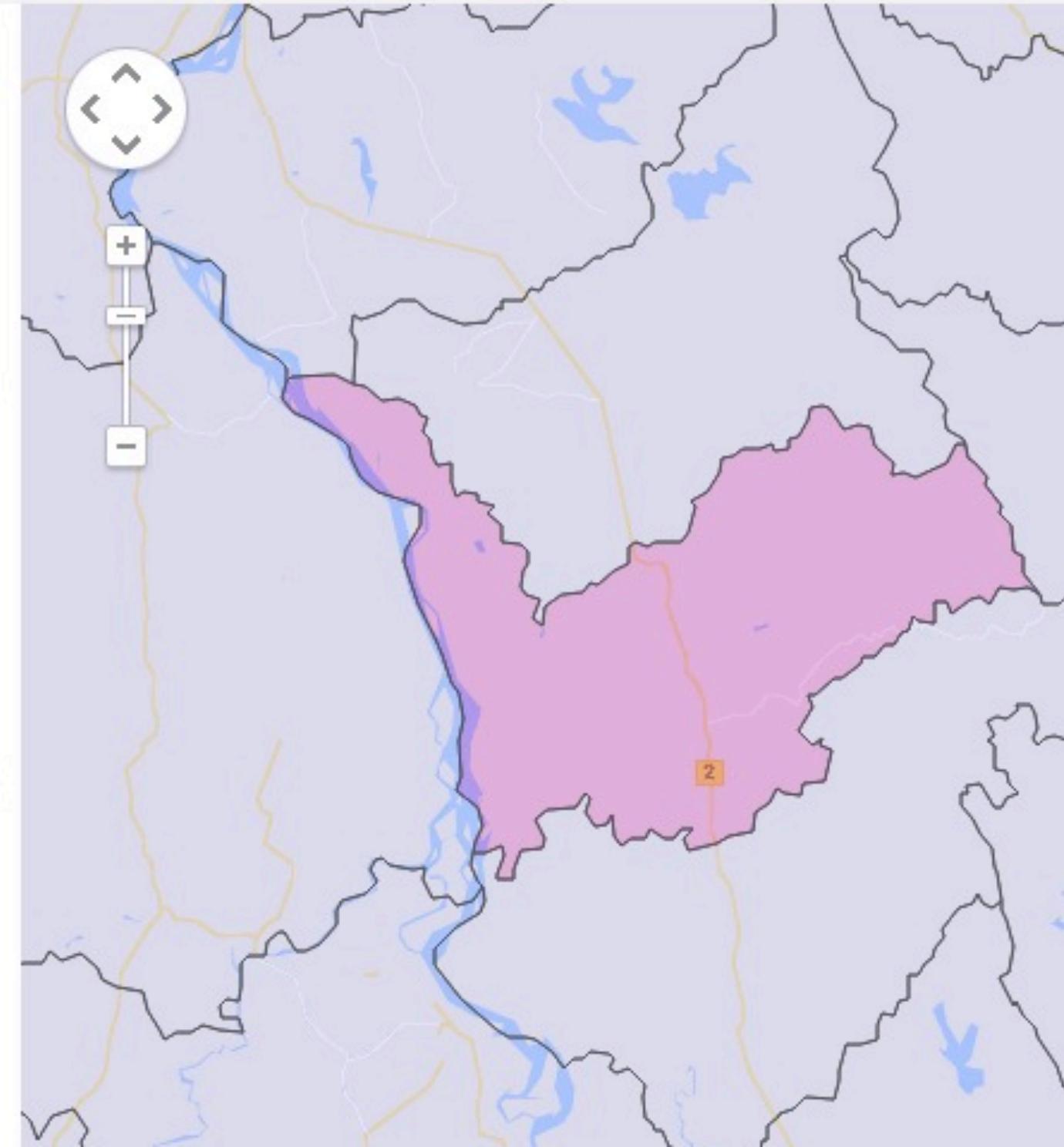


ဦးအောင်ချို့ခြီး  
ပြည်ထောင်စုကြံ့ခိုင်ရေးနှင့်ဖွံ့ဖြိုးရေးပါတီ

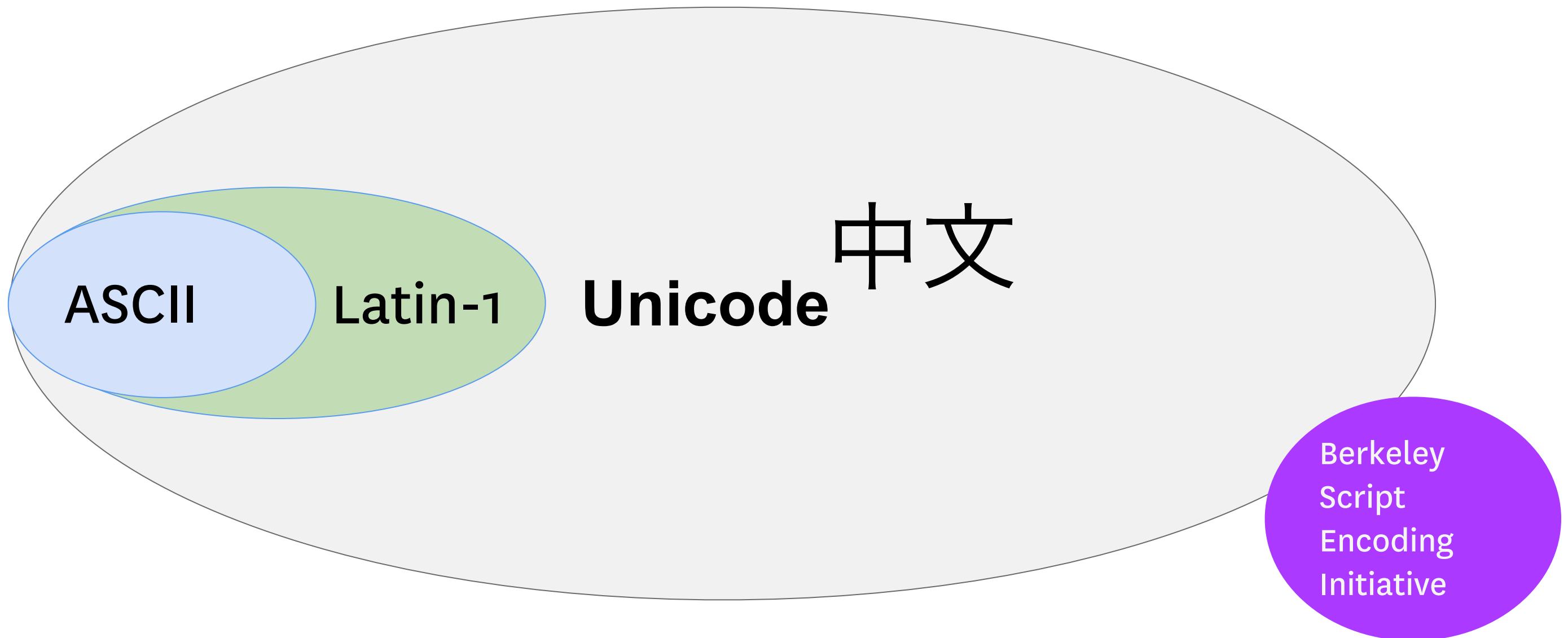


# Election Map

Share



# Common Python Issue



# Documented Data

## GeoJSON APIs

### GET District Location By Longitude and Latitude

Get District Location By Longitude and Latitude.

<http://api.maepaysoh.org/geo/district/find?token=user-token-key&lon=96.253221147838&lat=26.1248220476>

<b>token</b>	ImeiOxzUTQFOfIANfS3oFQ631YXqLqBt	Api key of your application	String
<b>lon</b>	96.253221147838	Longitude of Location	Float
<b>lat</b>	26.1248220476	Latitude of Location	Float
<b>no_geo</b>	true	Get District Location without geometry	string

200

500

javascript

```
data": [{}  
{"  
"id": "55a64c0eab5d4d297a0e9ccc",  
"type": "Feature",  
"properties": {  
"OBJECTID": 1,  
"ST": "Ayeyarwady",  
"ST_PCODE": "MMR017",  
"DT": "Hinthada",  
"DT_PCODE": "MMR017D002",  
"Shape_Leng": 4.94490045094,  
"Shape_Area": 0.597080590429,  
"DT_Mya": "?????????????",  
"Myanmar3": "ဟာသာတေရာင်",  
"ZawGyiOne": "ဟာမြသာတေရာင်",  
"state_name": "ဧရာဝတီတိုင်းဒေသကြီး"}]
```

# Thanks!

Q & A time