



Cities Get Smarter: *Smart Growth and the Internet of Things*

Presented by:

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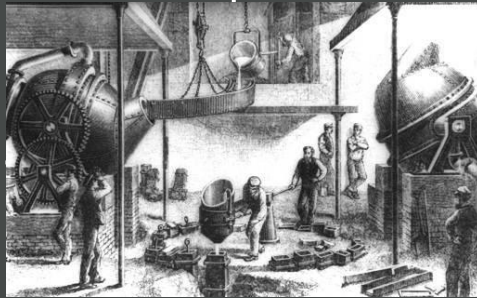
#npsg #smartcities

Major Changes in Land Use

**The Agricultural Age
(Land!)**



**The Industrial Age
(Iron!)**



**The Age of the Auto
(Cars!)**

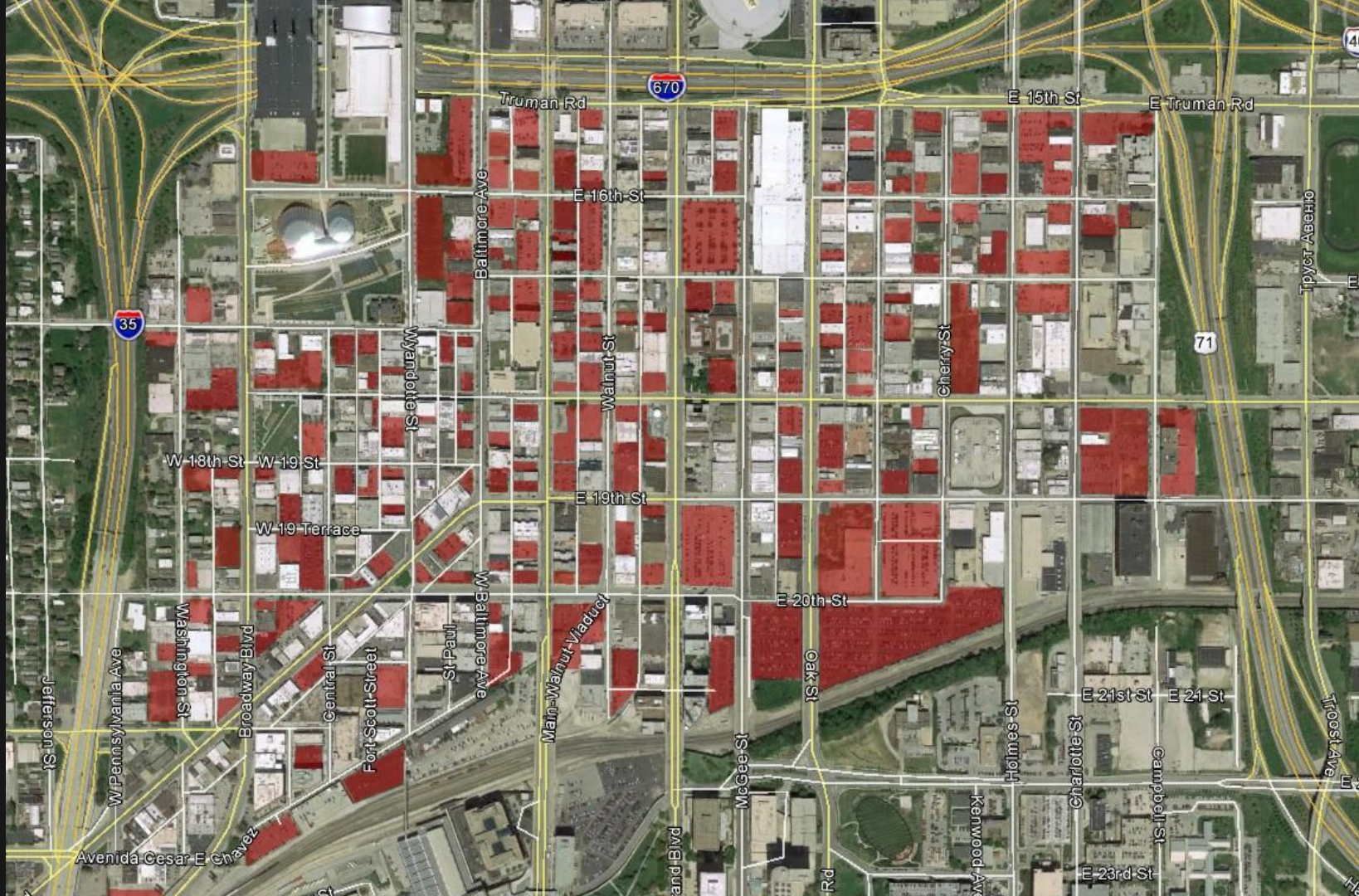


**The Information Age
(Data. Lots of Data.)**





LIFE



Truman Rd

670

E 15th St

E Truman Rd

E 16th St

Baltimore Ave

W 18th St

W 19 St

Walnut St

Cherry St

71

W 18th St

W 19 Terrace

E 19th St

W Baltimore Ave

E 20th St

Washington St

Broadway Blvd

Central St

Fort-Scott-Street

St Paul

Main-Walnut-Viartuck

Oak St

Jefferson St

W Pennsylvania Ave

McGee St

Heimes St

Charlotte St

Campbell St

E 21st St

E 24 St

Avenida Cesar E Chavez

Grand Blvd

Rd

Kenwood Ave

E 23rd St

Troost Ave





**We now live in the information age where
data is the raw material of innovation.**



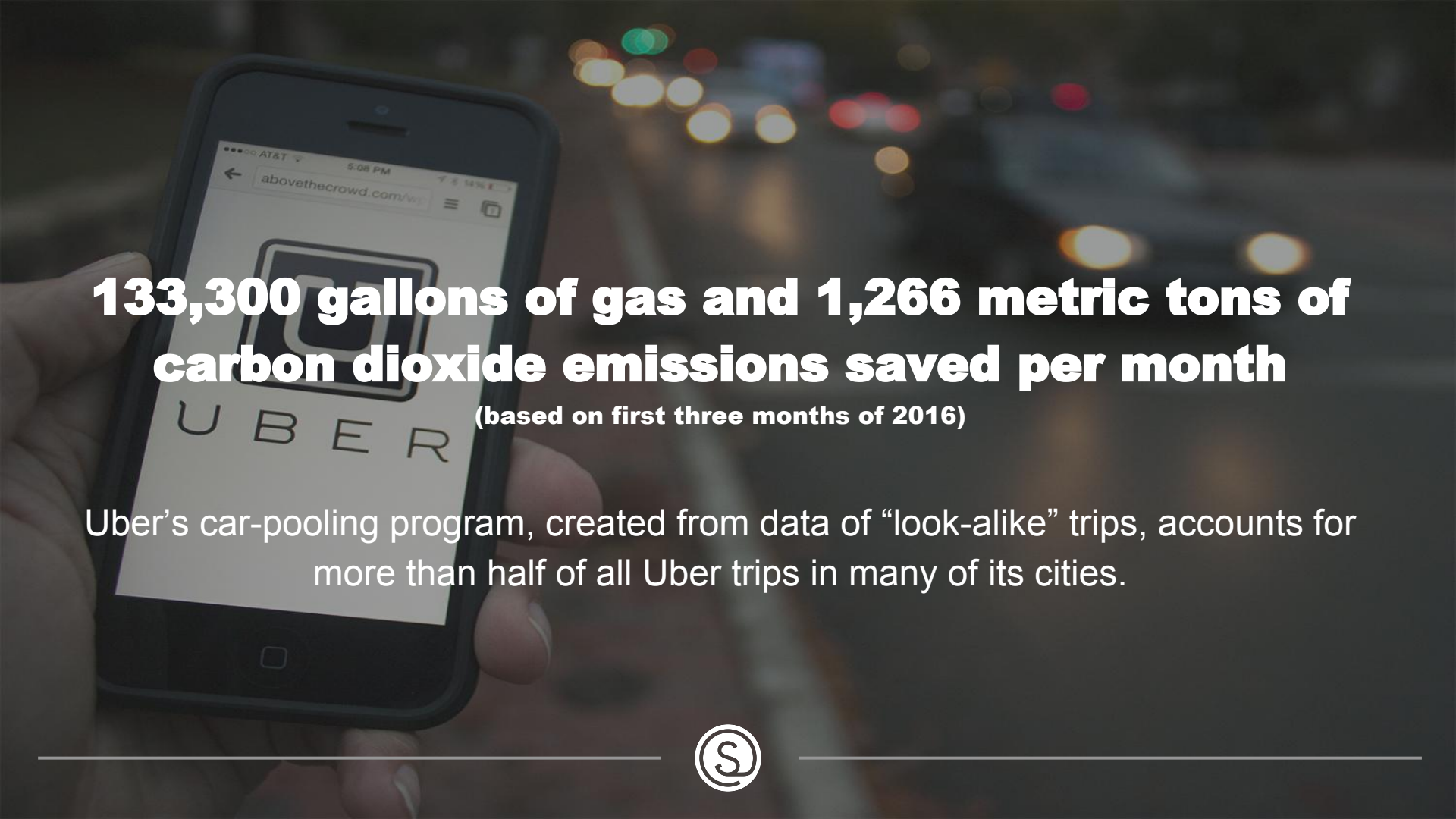






What are
YOU
going to do
about it?
Fight Climate Change in Florida
Don't let them take it from you





133,300 gallons of gas and 1,266 metric tons of carbon dioxide emissions saved per month

(based on first three months of 2016)

Uber's car-pooling program, created from data of "look-alike" trips, accounts for more than half of all Uber trips in many of its cities.



A photograph of an Amazon warehouse worker in a tan uniform and a camouflage cap, holding a cardboard box with the Amazon logo. The worker is standing in a large warehouse filled with many other cardboard boxes on a conveyor belt system. The background is slightly blurred, showing the industrial environment of the warehouse.

\$32.7 billion in sales, Q3 2016

35% of all sales are estimated to be generated by Amazon's recommendation engine based on user's purchase history, items in their shopping cart, items they've rated and liked, and what other customers have viewed and purchased.



A person is sitting on a couch in a living room, watching a large television. The TV screen displays the Netflix logo at the top and a grid of movie and TV show thumbnails below. The person is wearing blue jeans and white socks with stripes at the top. In the foreground, there is a large bowl of popcorn on a purple surface. The background is a brick wall.

NETFLIX

\$1 billion saved per year

Fueled by data analytics, Netflix's recommendation engine saves the company money by increasing the amount of time viewers watch content and keeps subscriber churn low. This allows the company to confidently make substantial investments in new content.



What's the common thread?



Businesses are investing millions in data and analytics related activities. **City halls**, on the other hand, are **hamstrung** when it comes to investing in and using data and analytics.



*“Citizens talk to their government with 21st century technology;
their government listens with 20th century technology,
and responds with 19th century policies.”*

Madeleine Albright



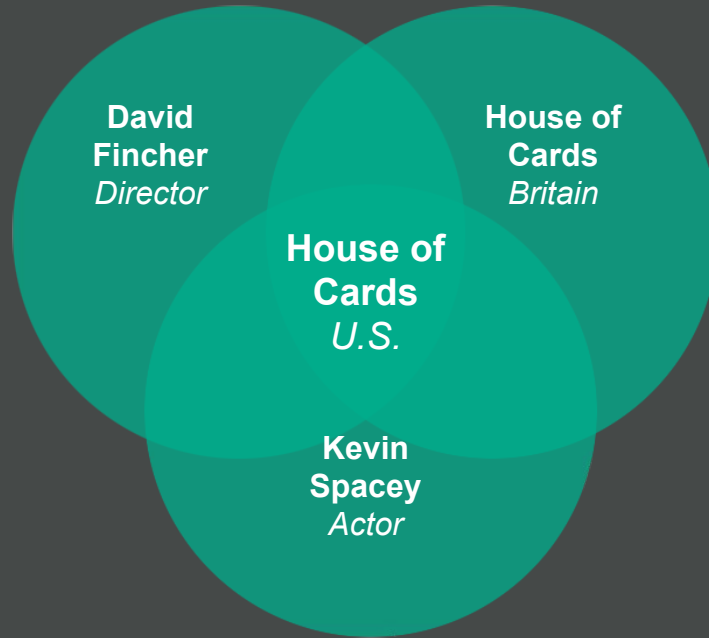
In the Information Age:

Most cities will protect their data. Many will open their data.

A few will **harness** their data.

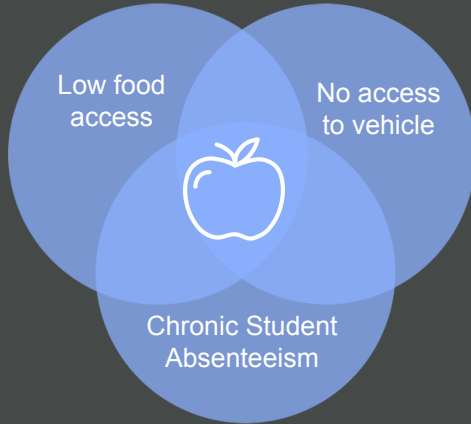


The Netflix Example

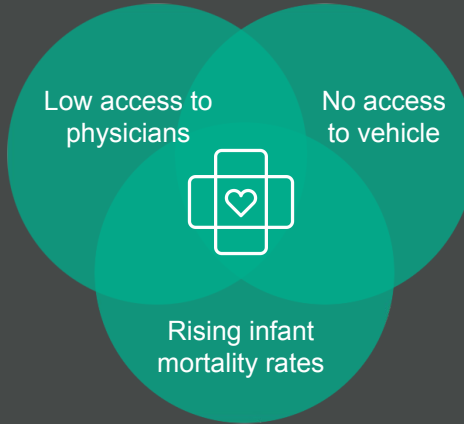


Small Scale Examples

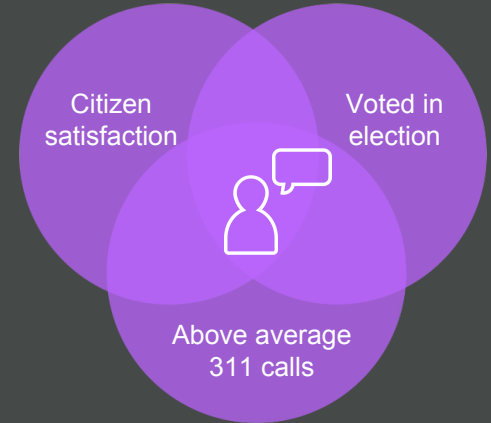
Where should we host a weekend farmer's market?



Where should we locate a pop-up infant health clinic?



Where should we conduct our next engagement workshop?



*U.S. Department of Education Civil Rights Data Collection, USDA Food Access Database, ACS 5-year Estimates

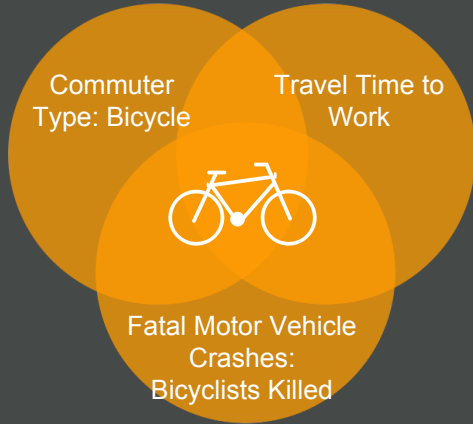
*U.S. Department of Health and Human Services, ACS 5-year Estimates

*Municipal Citizen Satisfaction Survey, Locally Reported 311 Data, Secretary of State Offices and State Board of Elections



Small Scale Examples

Where do commuters bike to work?



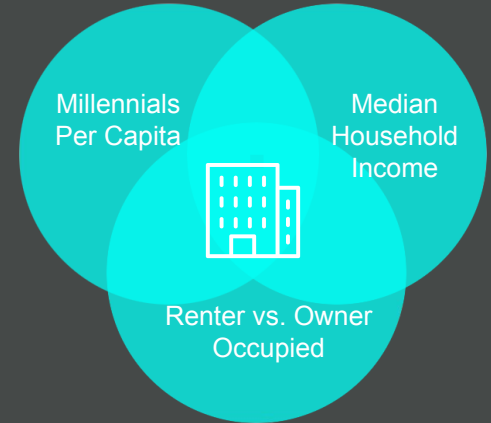
*National Highway Traffic Safety Administration (NHTSA) Fatality Analysis Reporting System, ACS 5-year Estimates

Where should we host our after school arts program?



*U.S. Department of Education Civil Rights Data Collection, USDA Food Access Database, ACS 5-year Estimates

Where should we build housing to retain millennials?



*American Community Survey 5-year Estimates



Large Scale Examples

Disaster Preparedness (Citizen Safety)



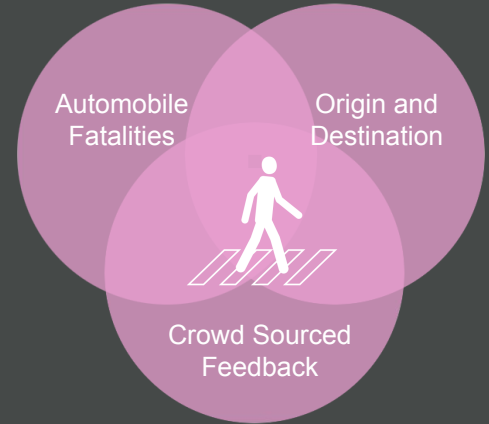
*Hazards & Vulnerability Research Institute Social Vulnerability Index, USDA Food Access Database, ACS 5-year Estimates

Fight Blight (Locate Neglected Areas)



*Locally Reported Crime Incidents, Locally Reported Resident Data, ACS 5-year Estimates

Vision Zero (Eliminate Pedestrian Deaths)

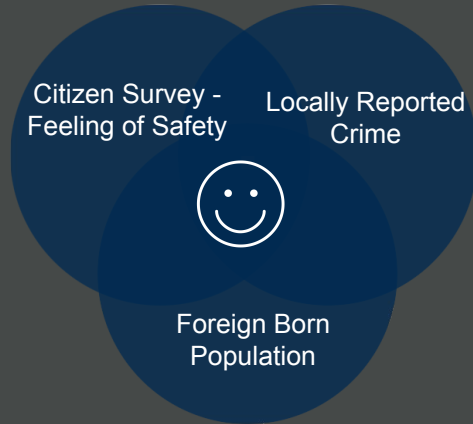


*LEHD Origin-Destination Employment Statistics, National Highway Traffic Safety Administration (NHTSA) Fatality Analysis Reporting System, mySidewalk user-generated data



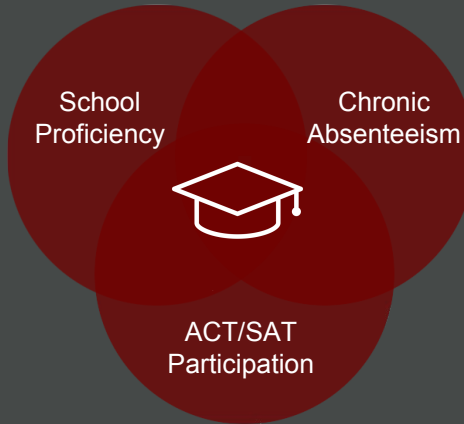
Large Scale Examples

Citizen Satisfaction (City Management)



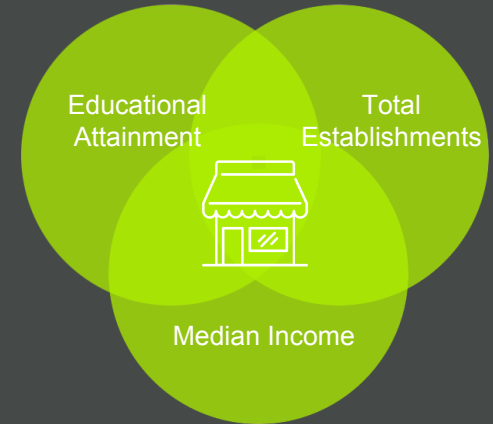
*Municipal Citizen Satisfaction Survey, Locally Reported Crime Incidents, ACS 5-year Estimates

Quality of Education (School Performance)



*U.S. Department of Housing and Urban Development School Proficiency Index, U.S. Department of Education Civil Rights Data Collection

Economic Development (Attract New Businesses)

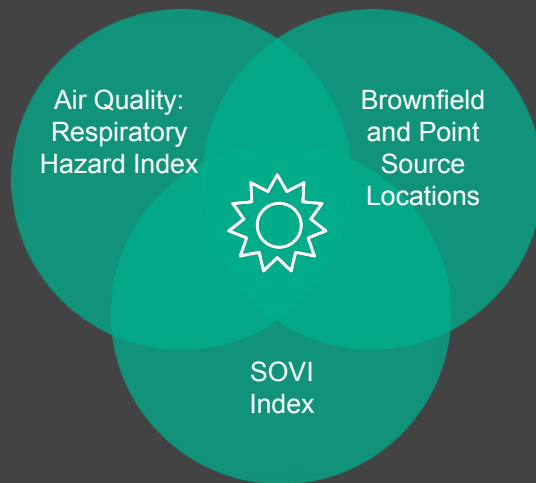


*Bureau of Labor Statistics Business Patterns Data, ACS 5-year Estimates



South Florida Regional Planning Council: Data Recipe

Where should we focus cleanup and redevelopment of brownfields?



*U.S. Environmental Protection Agency - National Air Toxics Assessment of 2011 air toxics emissions. Locally uploaded data provided by SFRPC.



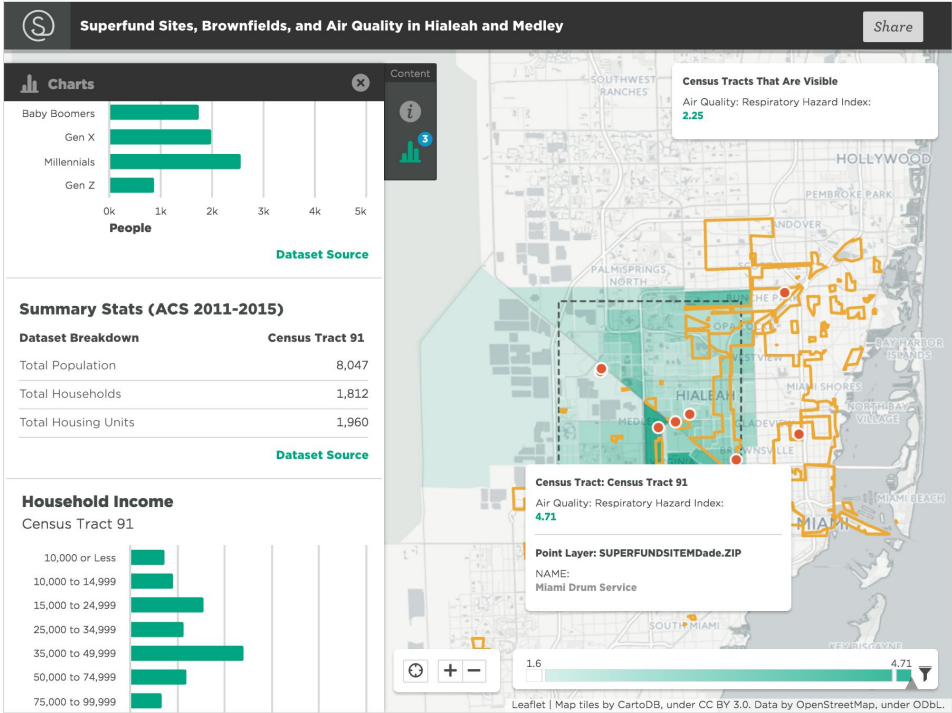
Customer Story: South Florida Regional Planning Council

sfregionalcouncil.org/superfund-sites-brownfields-and-air-quality-hialeah-and-medley/

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Overview Services Programs Resources SFRPC Events Regional Events

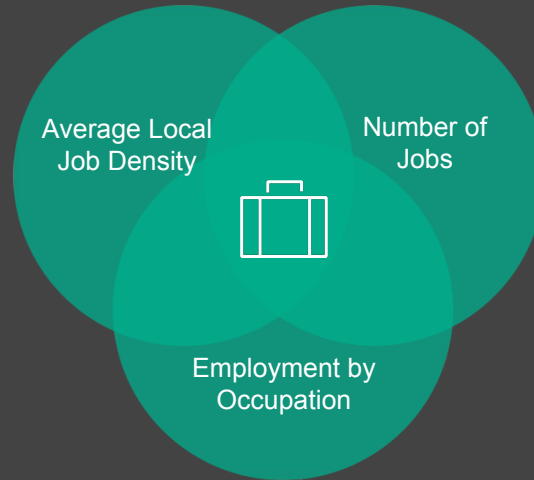


Maps, like this one on the DataCommons website, are making data more **user-friendly**. These maps are helping Dr. Bolter and her team create **visualizations** that tell a story about the citizens who live in Southeast Florida.



Smart Growth America: Data Recipe

What is the current state of the Zanesville, OH economy?



*U.S. Census Bureau's Longitudinal Employer-Household Dynamics Data (LEHD), LEHD Origin-Destination Employment Statistics (LODES), U.S. Census Bureau, 2011-2015 American Community Survey (ACS) 5-Year Estimates.



Customer Story: Smart Growth America



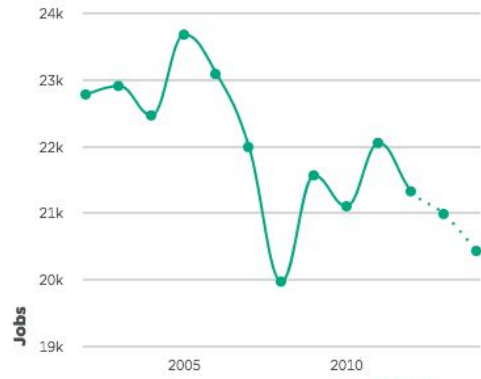
Map for Zanesville - Job Density - City

Share

Charts

Number of Jobs

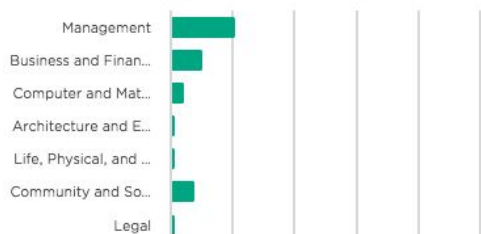
Census Block Groups That Are Visible



Dataset Source

Civilian Employment by Occupation

Census Block Groups That Are Visible



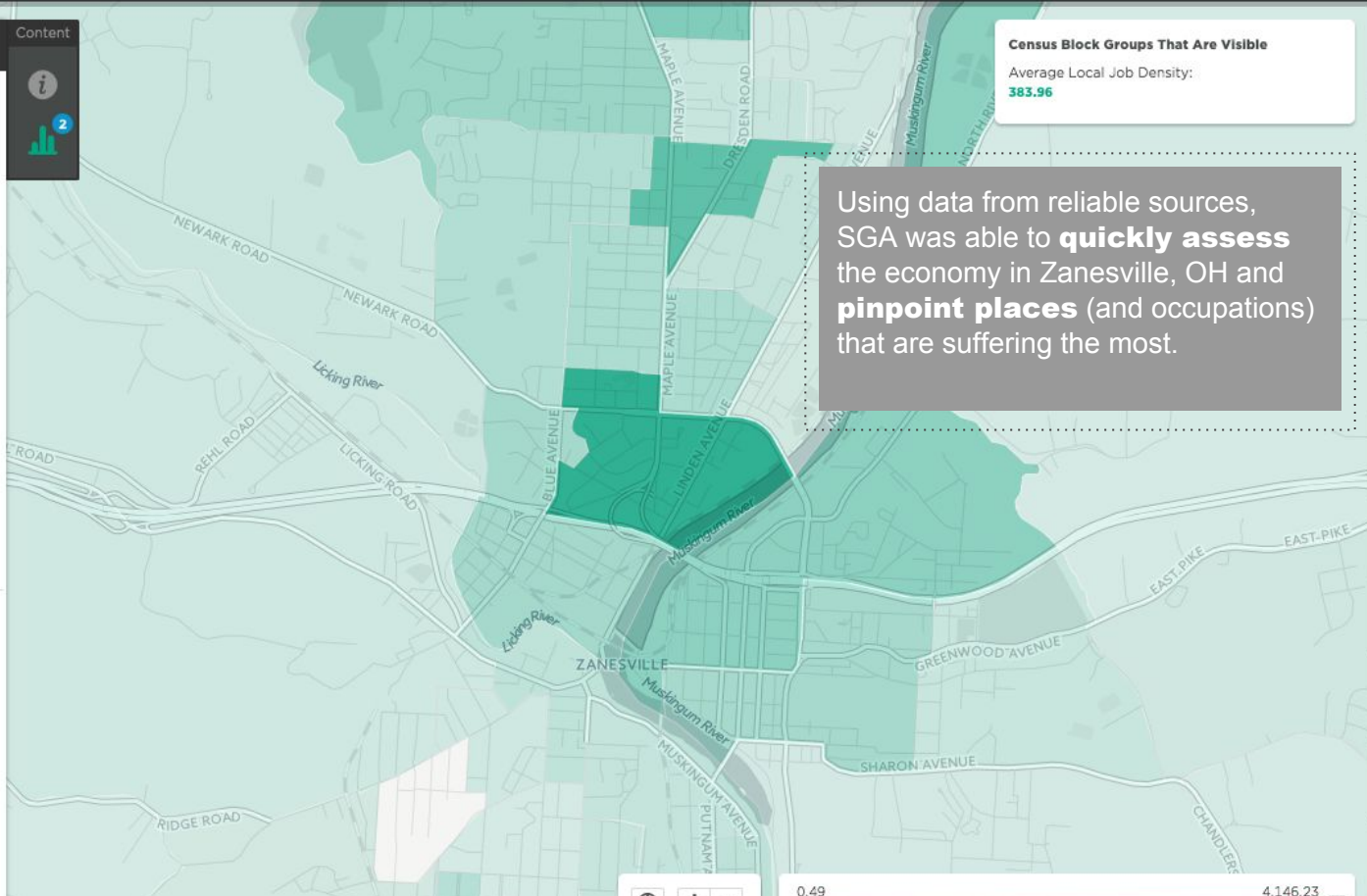
Content

2

Census Block Groups That Are Visible

Average Local Job Density:
383.96

Using data from reliable sources, SGA was able to **quickly assess** the economy in Zanesville, OH and **pinpoint places** (and occupations) that are suffering the most.

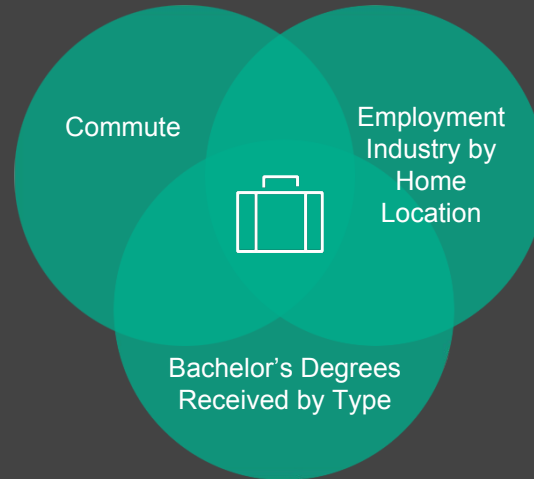


0.49

4,146.23

Clay County Florida EDC: Data Recipe

What businesses should we recruit to Clay County, FL?



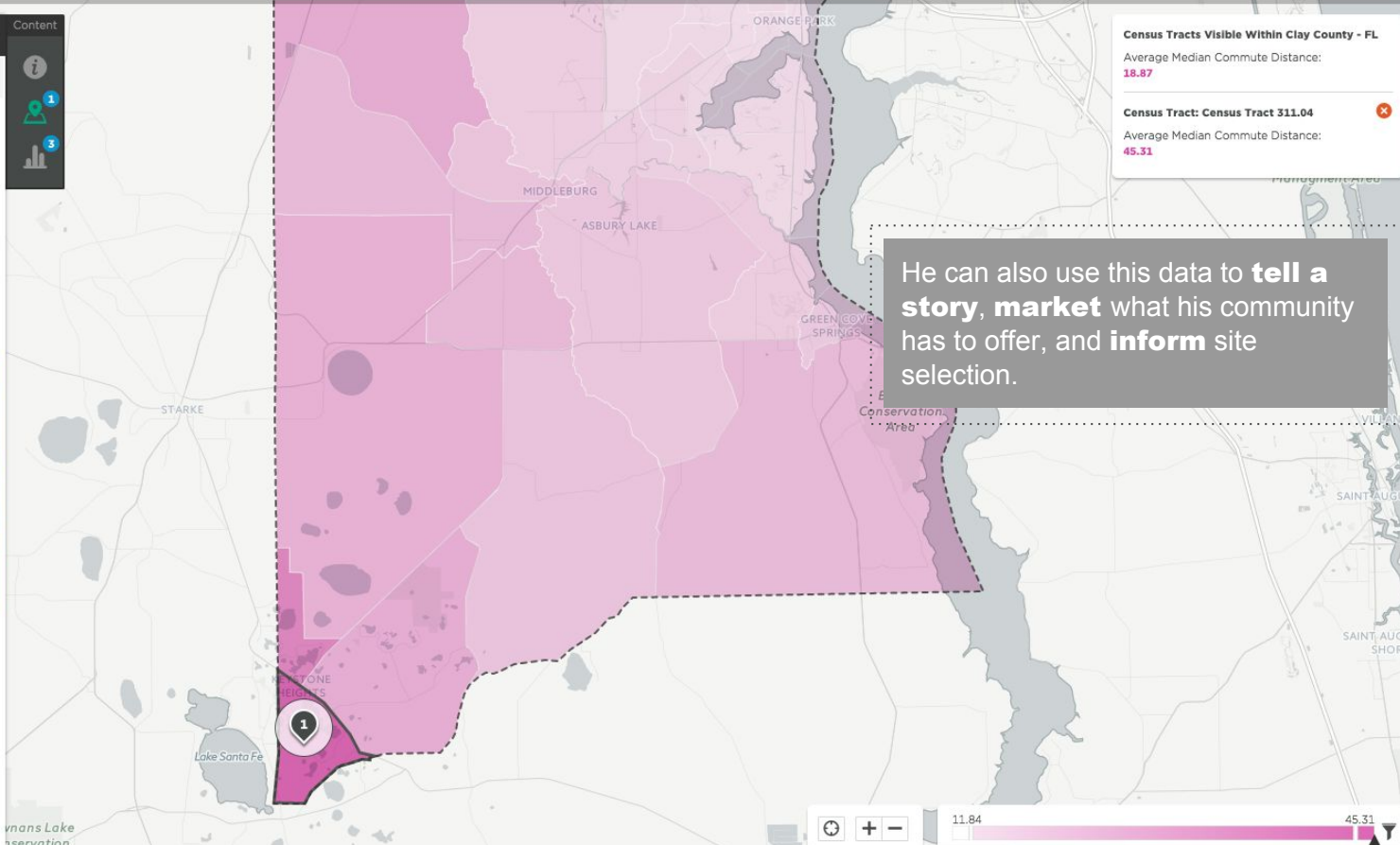
U.S. Census Bureau, 2011-2015 American Community Survey (ACS) 5-Year Estimates.



Customer Story: Clay County, FL EDC

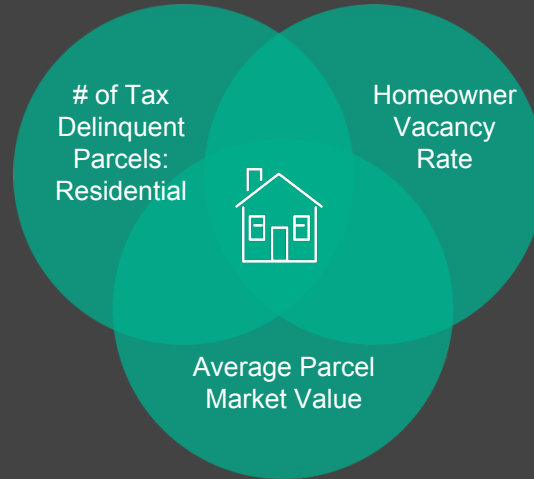
Annotations
Back to all annotations

1 Area of Interest: Healthcare Sector
This is an area where many residents in Clay County are commuting more than 45 minutes daily. A large number of people in this area—more than 19K—are healthcare professionals. This track would be an excellent place to explore building a new hospital or medical facility to bring jobs back to our community.



Hamilton County Land Bank : Data Recipe

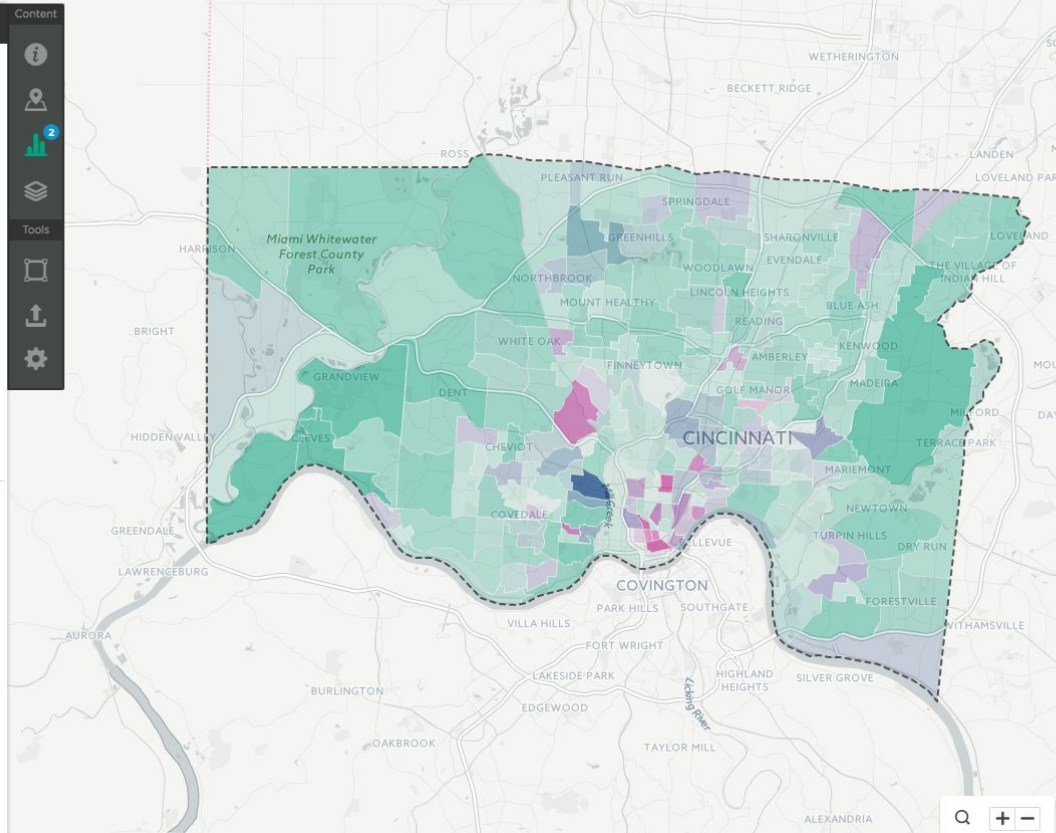
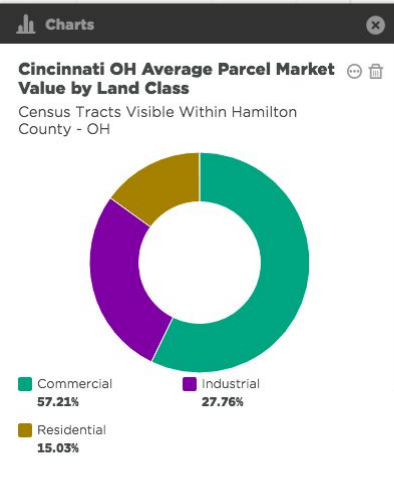
Where are there properties we should acquire in Hamilton County?



*Hamilton County, Ohio Parcel Dataset from April 6, 2016, U.S. Census Bureau, 2011-2015 American Community Survey (ACS) 5-Year Estimates.



Customer Story: Hamilton County Land Revitalization Corporation



Census Tracts Visible Within Hamilton County - OH

Cincinnati OH Number of Tax Delinquent Parcels by Land Class - Residential: **75,414**

Average Homeowner Vacancy Rate: **2.84%**

Open Location Snapshot

Not Correlated: -0.12 ± 0.07

Brandon **uploaded data** his team had (*Tax Delinquency and Parcel Market Value*) and combined it with other relevant information (*Owner vs. Renter Occupied and Average Homeowner Vacancy Rate*) for fast, **impactful answers.**

Add Charts



The Opportunity Project

mySidewalk worked with the Office of the Surgeon General and the U.S. Department of Transportation to help put data and digital tools into the hands of community advocates across the country.

The Opportunity Project expands access to opportunity for all Americans by putting data and digital tools in the hands of families, communities, and local leaders to help them navigate information about the resources they need to thrive. We at mySidewalk participated by taking on projects for both the U.S. Department of Transportation (U.S. DOT) and the Office of the Surgeon General. Click below to learn more about the data we used to solve problems for these two organizations.

U.S. DOT Challenge

Making transportation information more accessible and useful to community leaders around the country.

[Learn more](#)

Office of the Surgeon General Challenge

Equipping parents and community leaders with tools to measure emotional well-being levels in their communities.

[Learn more](#)

<http://opportunity.census.gov/>



Baltimore, MD: Motor Vehicle Crash Fatalities

Share

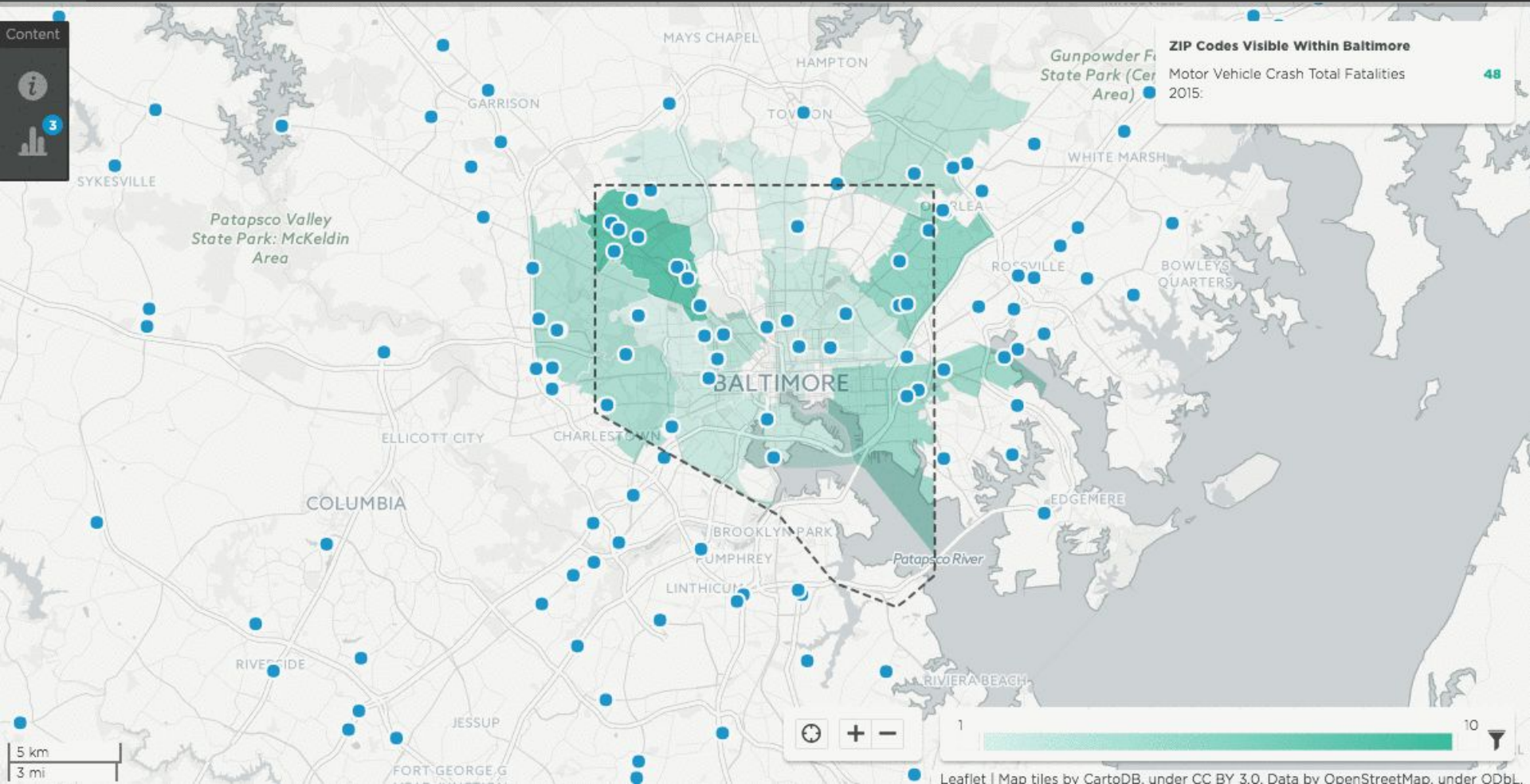
Content



3



ZIP Codes Visible Within Baltimore
Motor Vehicle Crash Total Fatalities 2015: **48**



5 km
3 mi







menu

< All Maps

Untitled map

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Display map by:

Kansas City MO Total Crimes - Locally...

Display data by:

Census Block Group

Save



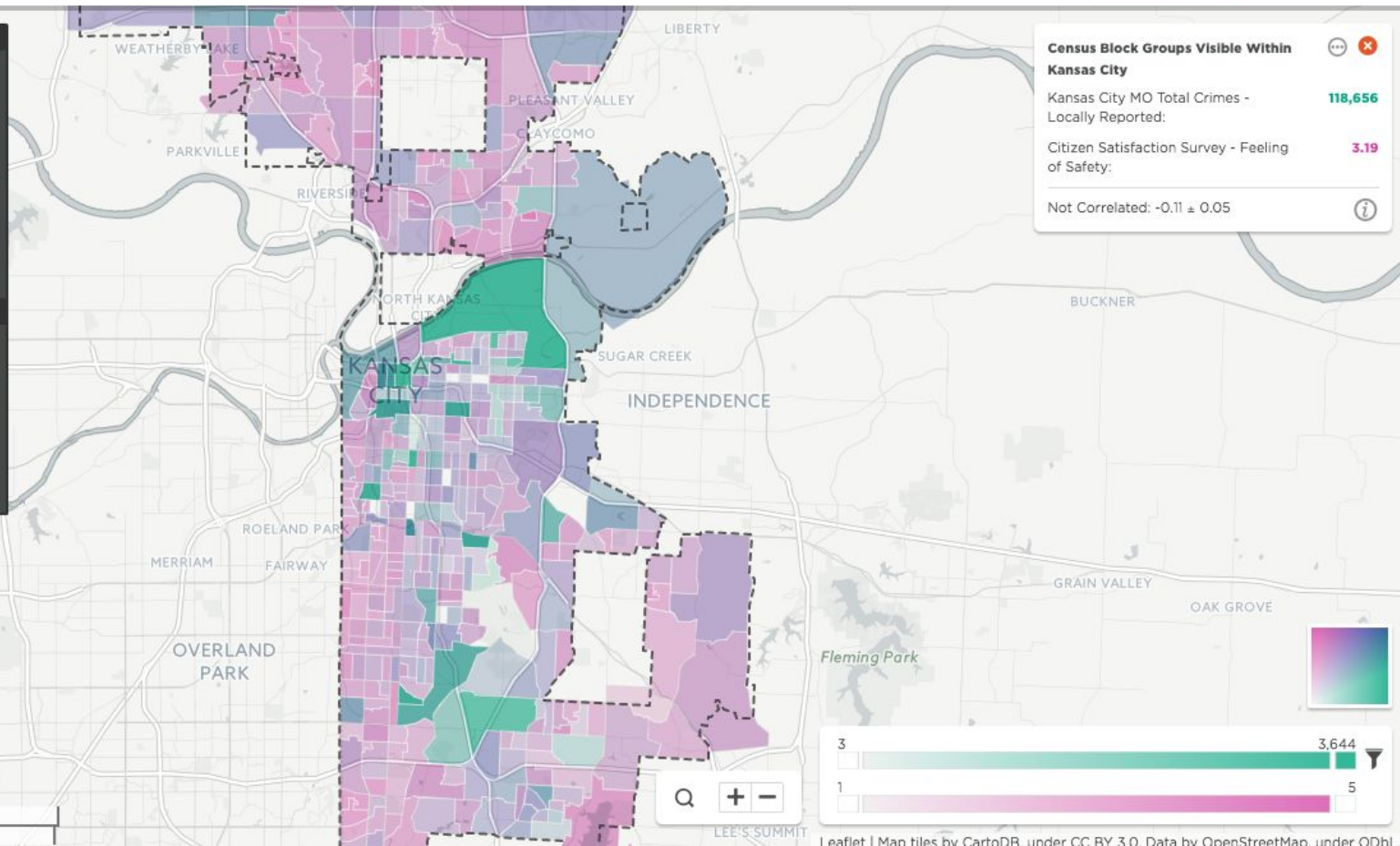
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Content



Tools



Census Block Groups Visible Within Kansas City

Kansas City MO Total Crimes - Locally Reported: 118,656

Citizen Satisfaction Survey - Feeling of Safety: 3.19

Not Correlated: -0.11 ± 0.05



5 km
3 mi

Search + -

If you let it, data can tell you more about the people in your community than you'd ever expect.

A few surprising correlations recently discovered in Citizen Satisfaction Data:

- **Feeling of Safety**

Employment to Population Ratio

*Also correlates highly with Quality of Parks and Recreation

- **Non-Violent crime** impacts perception of the effectiveness of the city government

- **Good Place to Raise Kids** - Inversely correlated with burglary

- **City's Image**

Bachelor's Degree in Visual Performing Arts



Residents worry that Kansas City, Kan., rail yard threatens their health





Open Data & Context



Innovation will happen in cities where data is:



ACCESSIBLE



INTEGRATED



SHAREABLE



UNDERSTANDABLE



IMPACTFUL

“There is no substitute for knowing a city in your bones.”

Stephanie Meeks, The Past and Future City



*It is our collective responsibility to put people at
the center of data-driven decisions.*



mySidewalk

@StephenRHardy

