Cities Get Smarter:
Smart Growth and the Internet of Things

Presented by:

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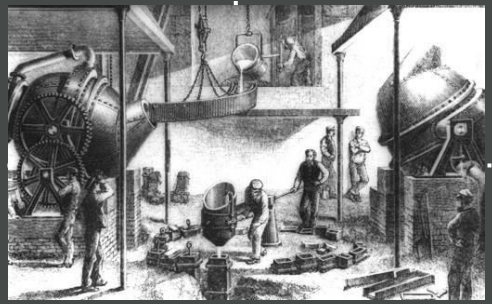
#npsg #smartcities

Major Changes in Land Use

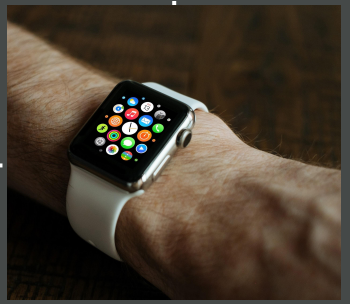
The Agricultural Age
(Land!)

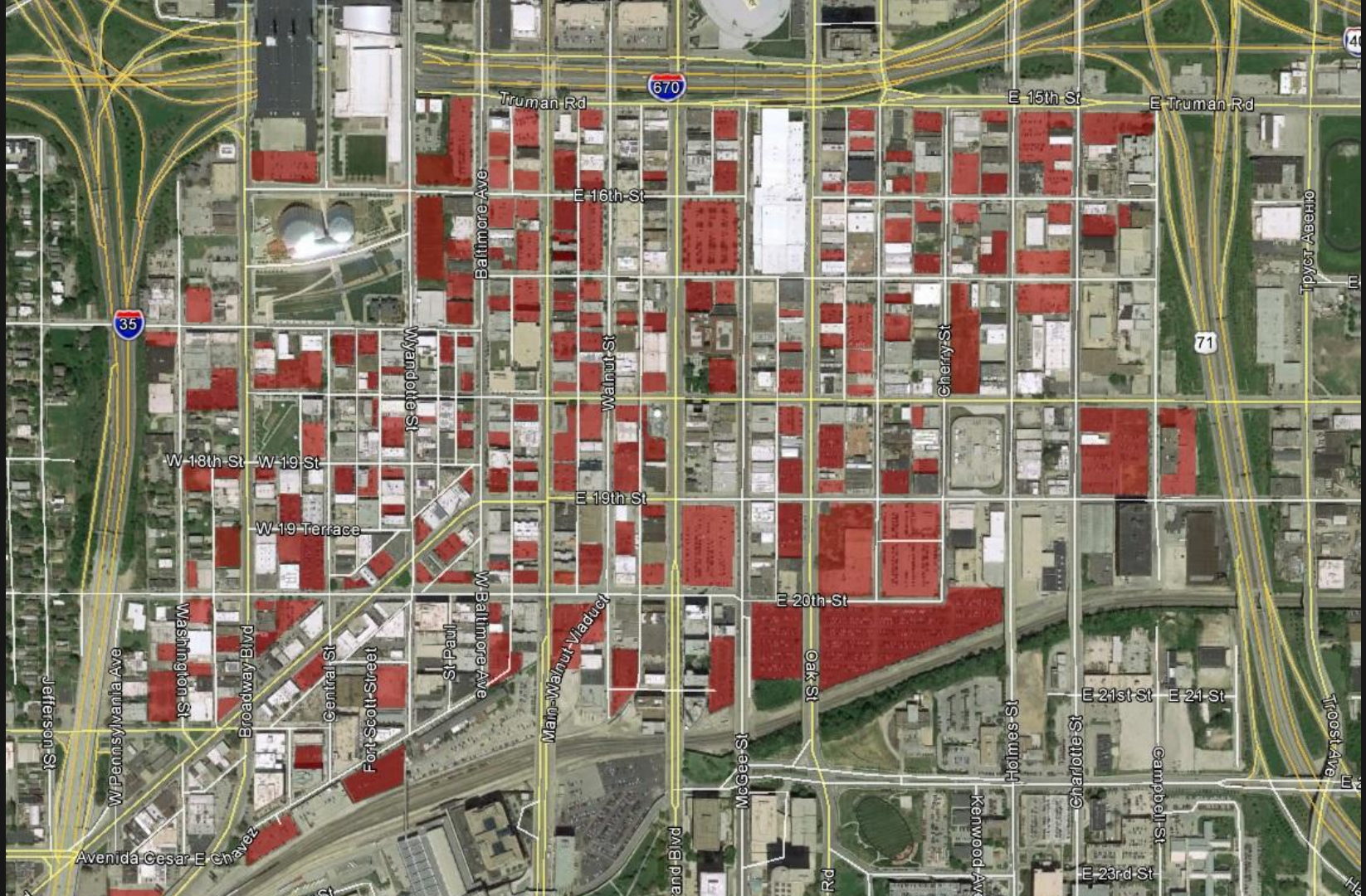
The Industrial Age
(Iron!)



The Age of the Auto
(Cars!)

The Information Age
(Data. Lots of Data.)



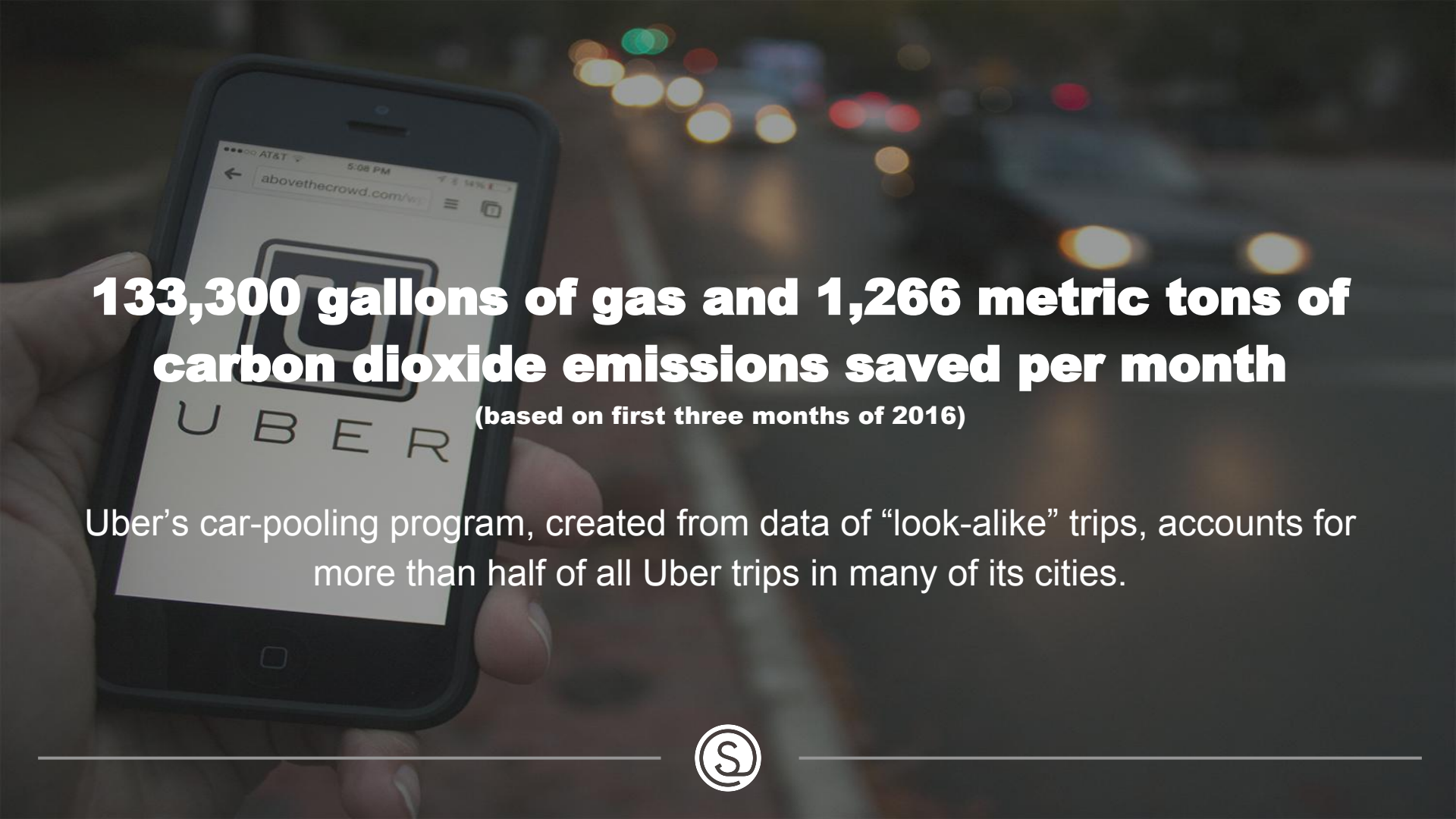

670
Truman Rd
E 15th St
E Truman Rd
E 16th St
Baltimore Ave
Wyandotte St
Walnut St
Cherry St
Troost Avenue
35
71
W 18th St
W 19 St
E 19th St
W 19 Terrace
E 20th St
Jefferson St
W Pennsylvania Ave
Washington St
Broadway Blvd
Central St
Fort Scott Street
St Paul
W Baltimore Ave
Main-Walnut Viaduct
Oak St
McGee St
Holmes St
Charlotte St
Campbell St
Kenwood Ave
Troost Ave
E 21st St
E 21 St
Avenida Cesar E Chavez
E 23rd St

FIRE

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

10101
01001
11010
10101
01001
11010

STRONGER TOGETHER
STRONGER TOGETHER
STRONGER TOGETHER
STRONGER TOGETHER



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.

$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.

$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.

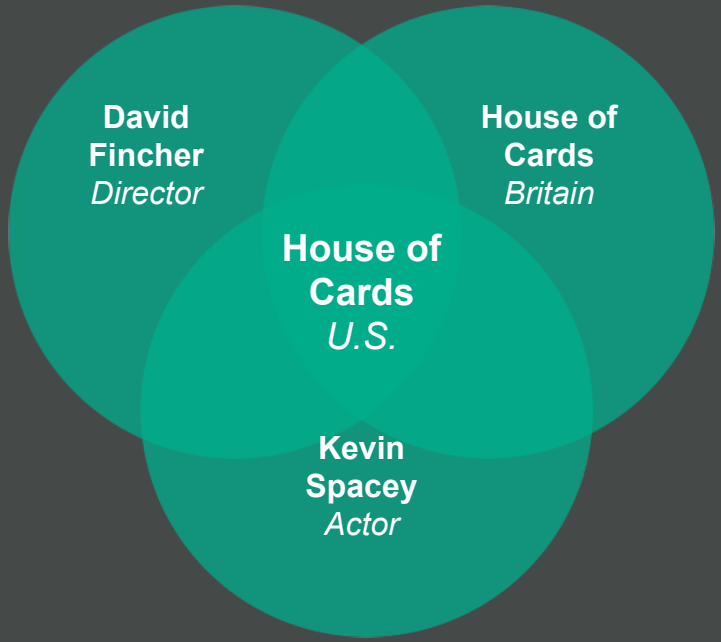
“Citizens talk to their government with 21st century technology;
their government listens with 20th century technology,
and responds with 19th century policies.”
Madeleine Albright

In the Information Age:

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

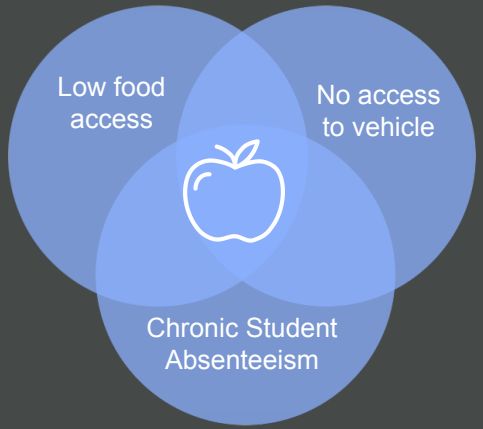
A few will **harness** their data.

The Netflix Example



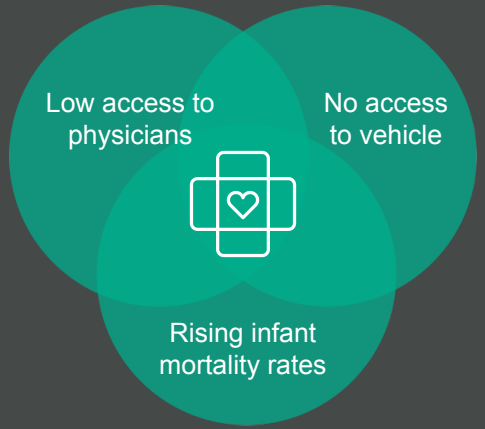
Small Scale Examples

Where should we host a weekend farmer's market?



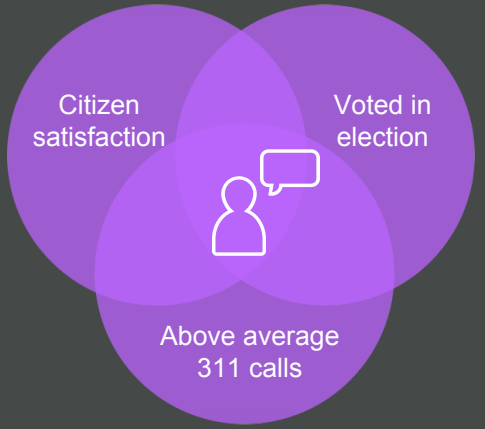
*U.S. Department of Education Civil Rights Data Collection, USDA Food Access Database, ACS 5-year Estimates

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



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

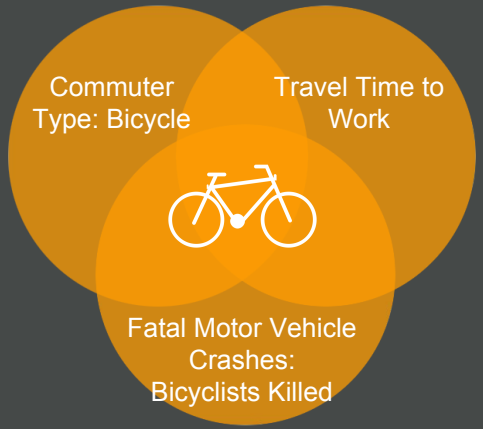
Where should we conduct our next engagement workshop?



*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?

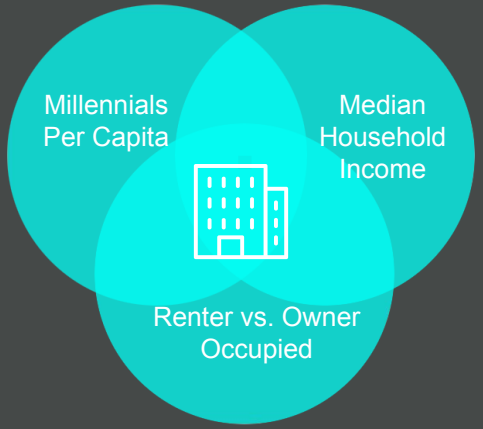


*National Highway Traffic Safety Administration (NHTSA) Fatality Analysis Reporting System, ACS 5-year Estimates

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

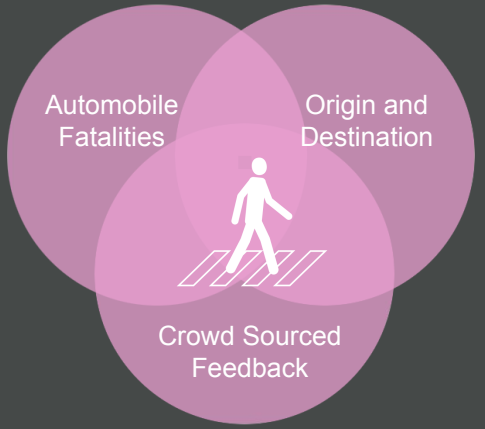
Disaster Preparedness (*Citizen Safety*)

*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*)



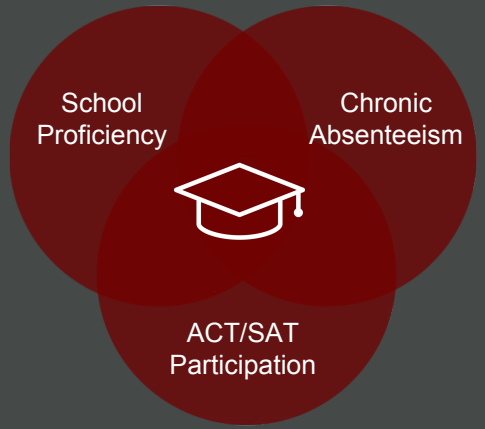
*LEHD Origin-Destination Employment Statistics, National Highway Traffic Safety Administration (NHTSA) Fatality Analysis Reporting System, mySidewalk user-generated data

Large Scale Examples

Citizen Satisfaction (*City Management*)

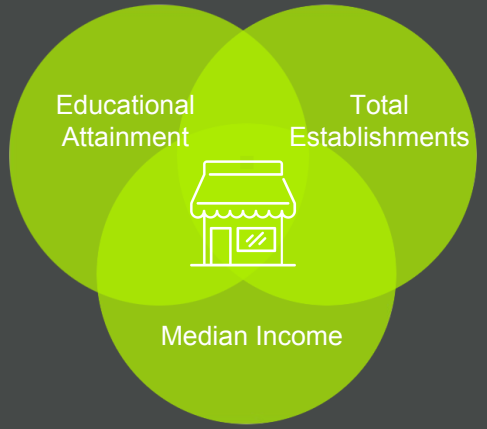
*Municipal Citizen Satisfaction Survey, Locally Reported Crime Incidents, ACS 5-year Estimates

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

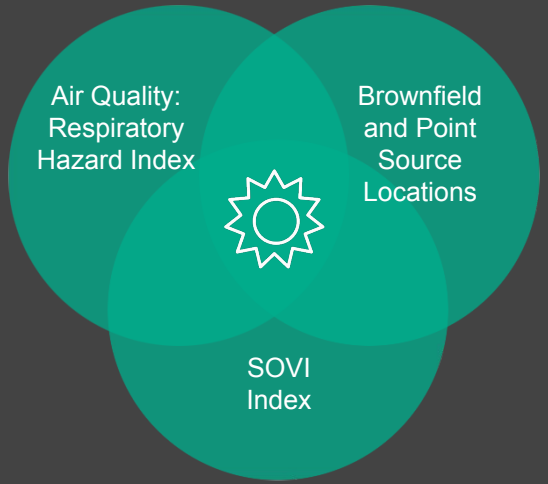
Economic Development (*Attract New Businesses*)



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

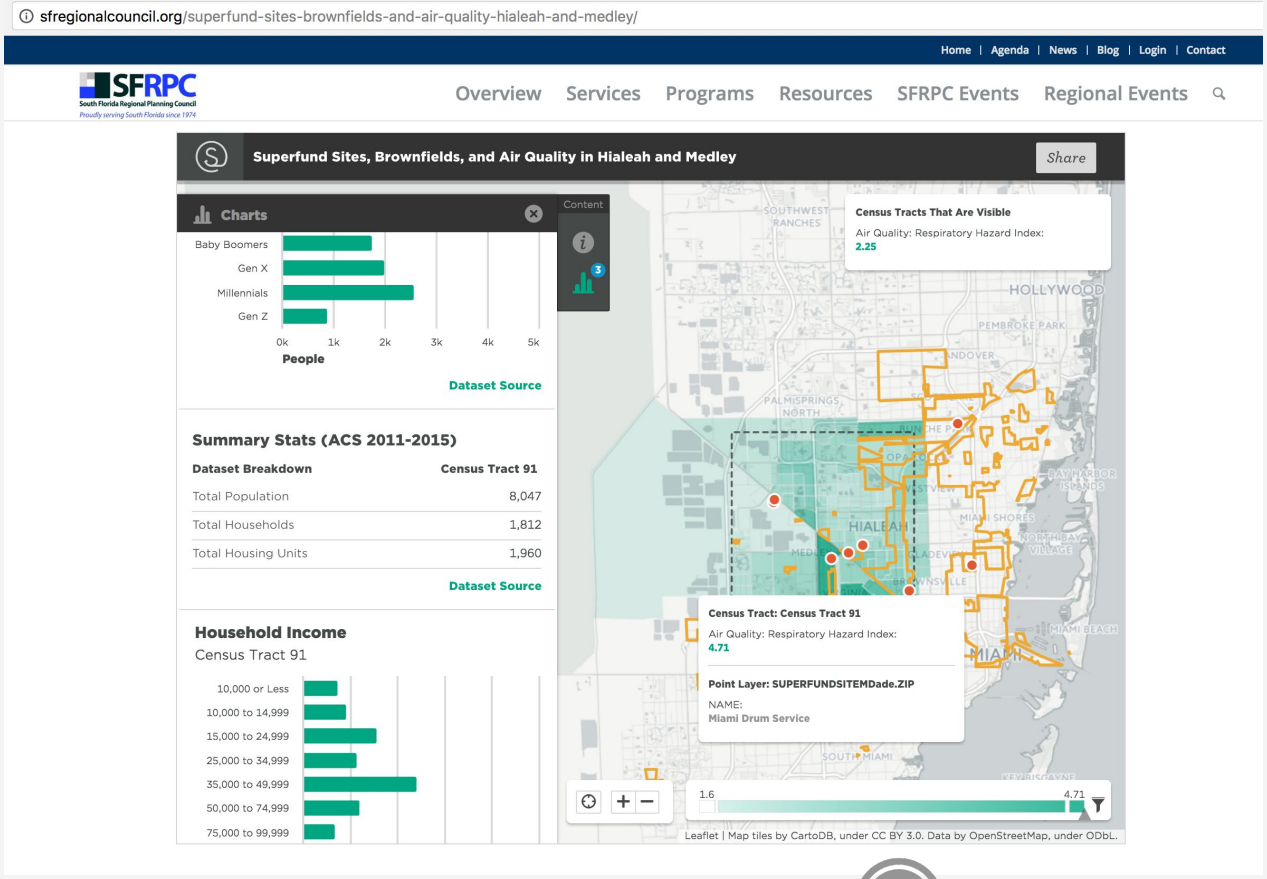
South Florida Regional Planning Council: Data Recipe

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



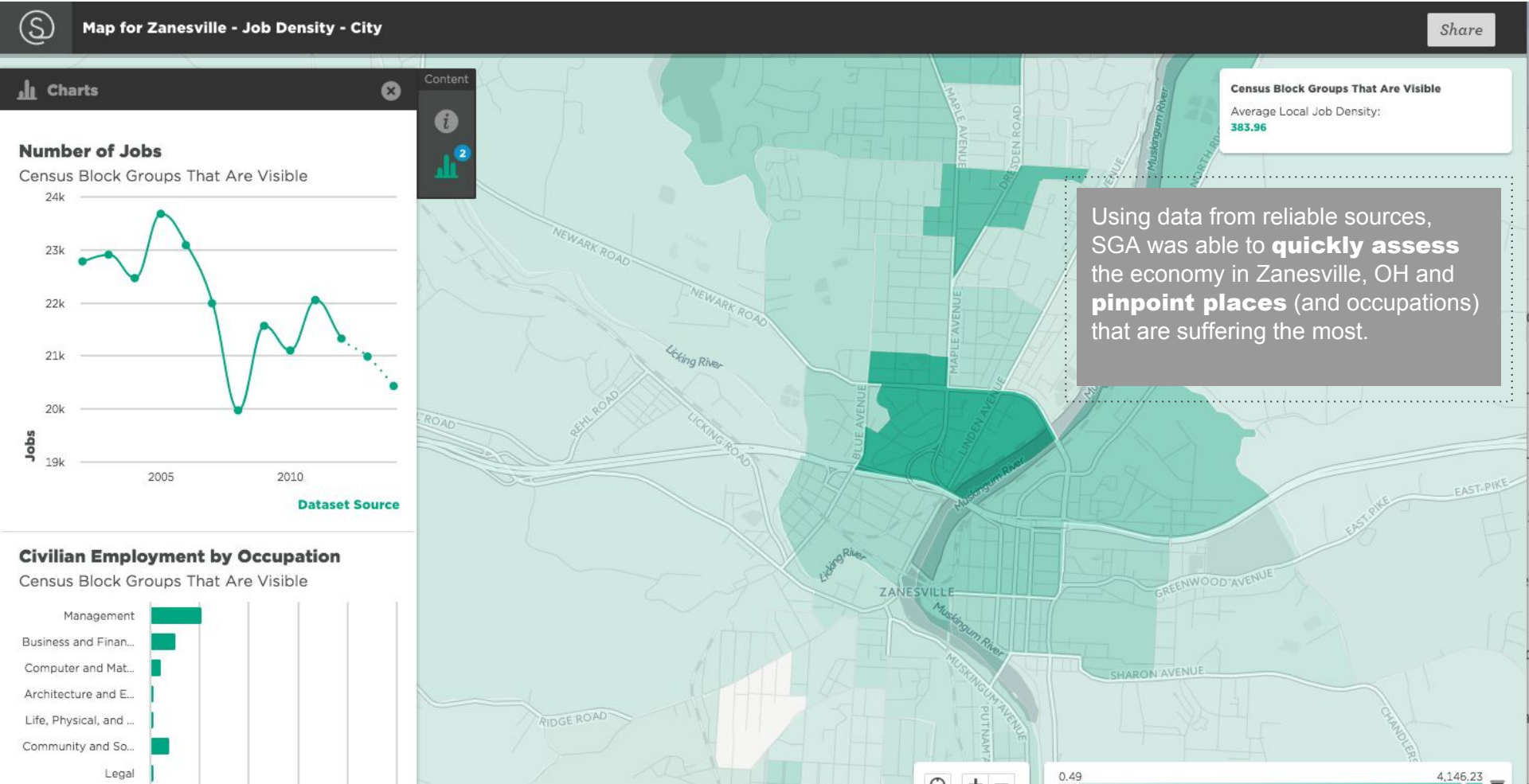
Maps, like this one on the DataCommons website, are making data more **user-friendly**. These maps are helping Dr. Bolter and her team create **visualizations** that tell a story about the citizens who live in Southeast Florida.

Smart Growth America: Data Recipe

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

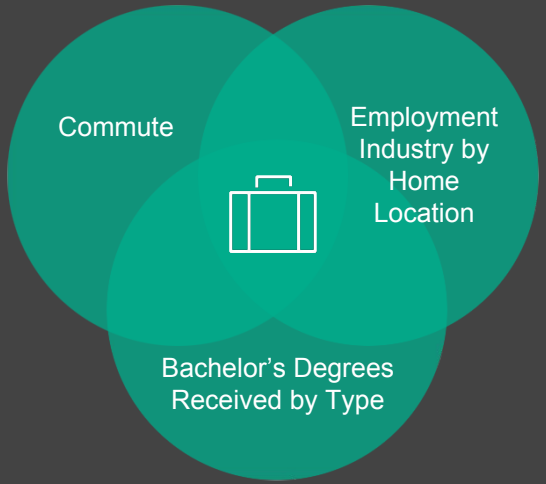
*U.S. Census Bureau's Longitudinal Employer-Household Dynamics Data (LEHD), LEHD Origin-Destination Employment Statistics (LODES). U.S. Census Bureau, 2011-2015 American Community Survey (ACS) 5-Year Estimates.

Customer Story: **Smart Growth America**



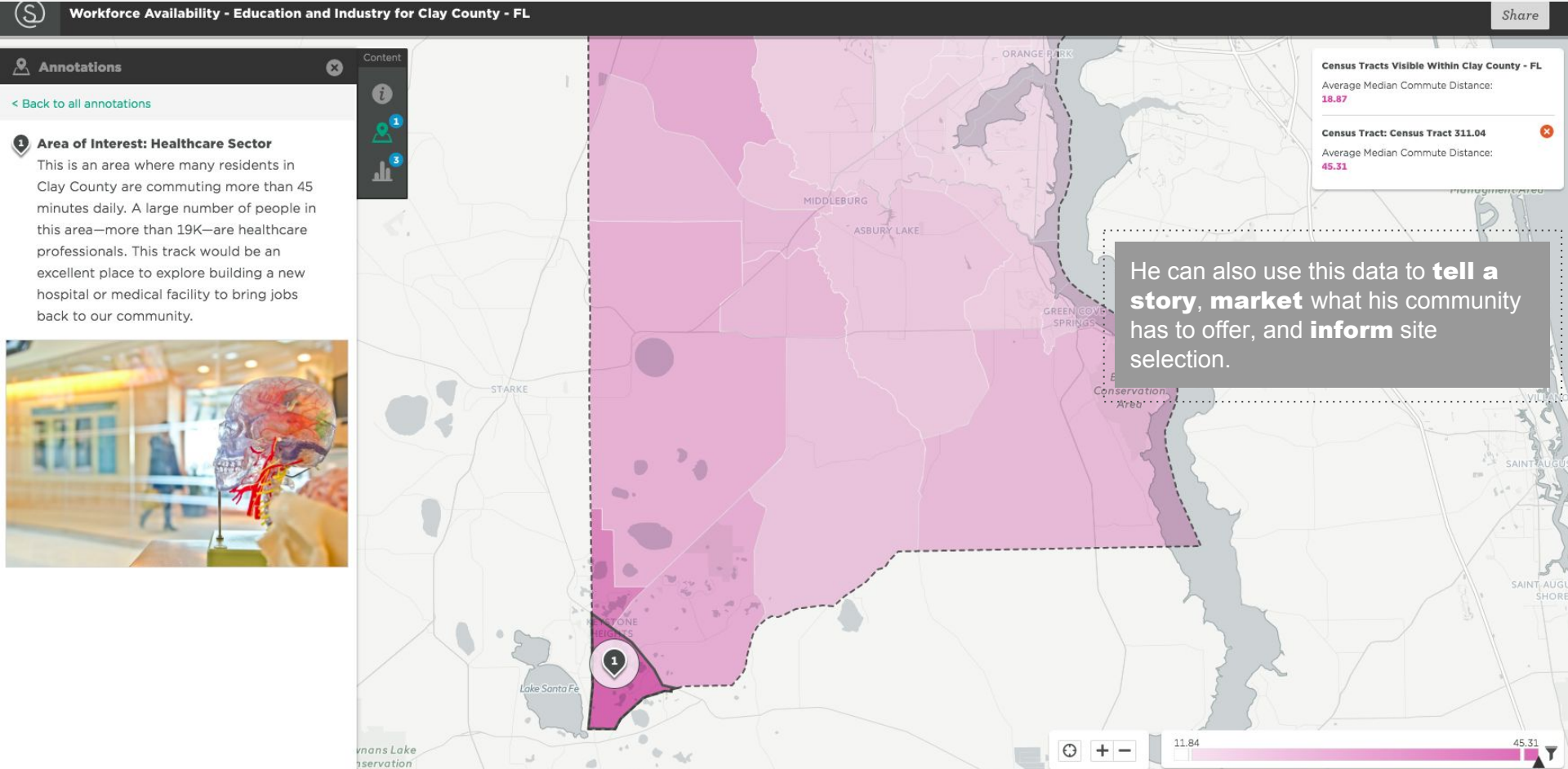
Clay County Florida EDC: Data Recipe

What businesses should we recruit to Clay County, FL?



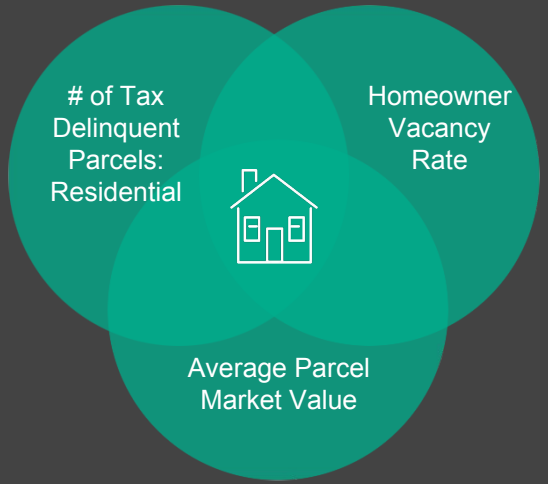
U.S. Census Bureau, 2011-2015 American Community Survey (ACS) 5-Year Estimates.

Customer Story: **Clay County, FL EDC**



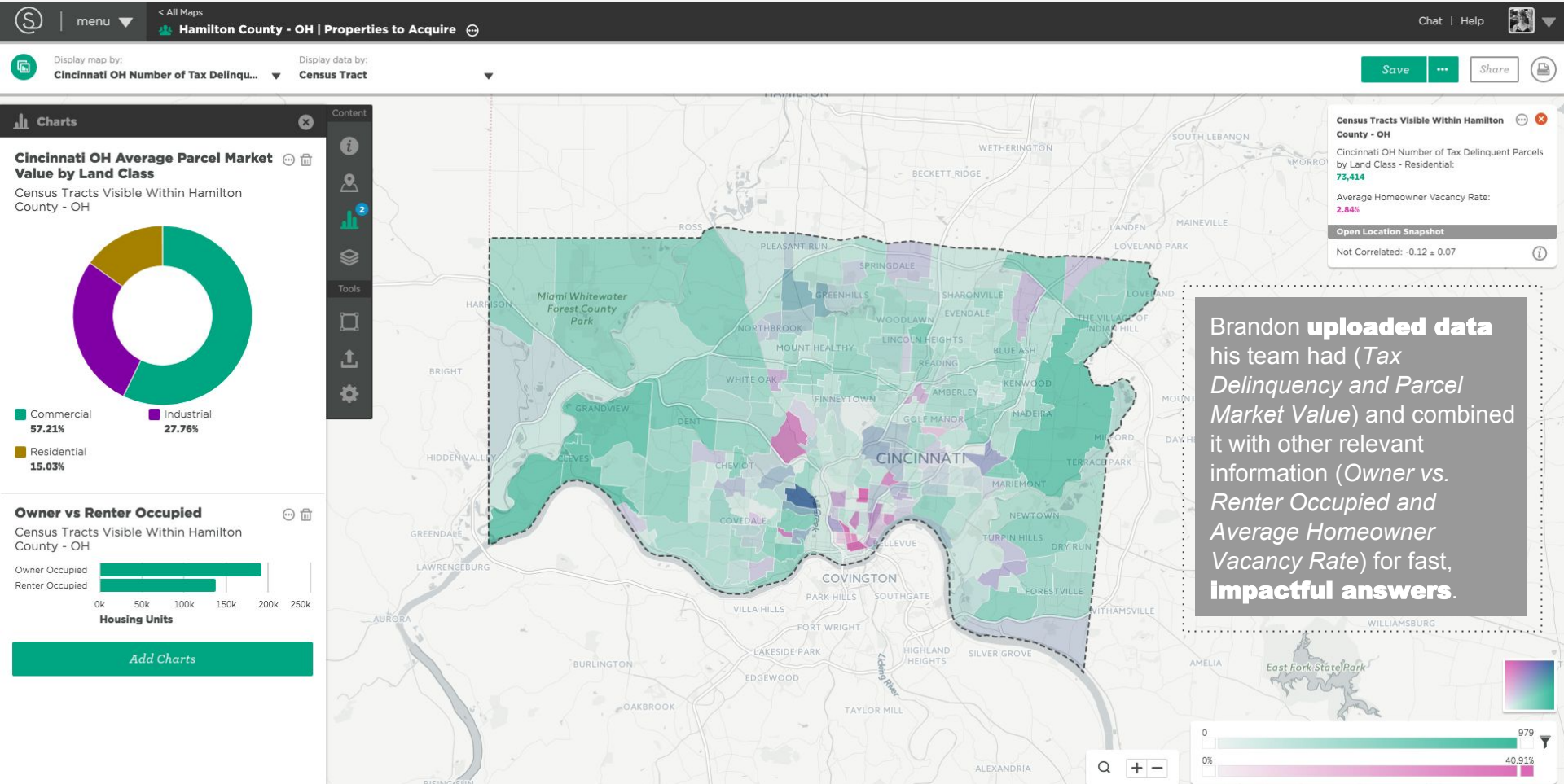
Hamilton County Land Bank : Data Recipe

Where are there properties we should acquire in Hamilton County?

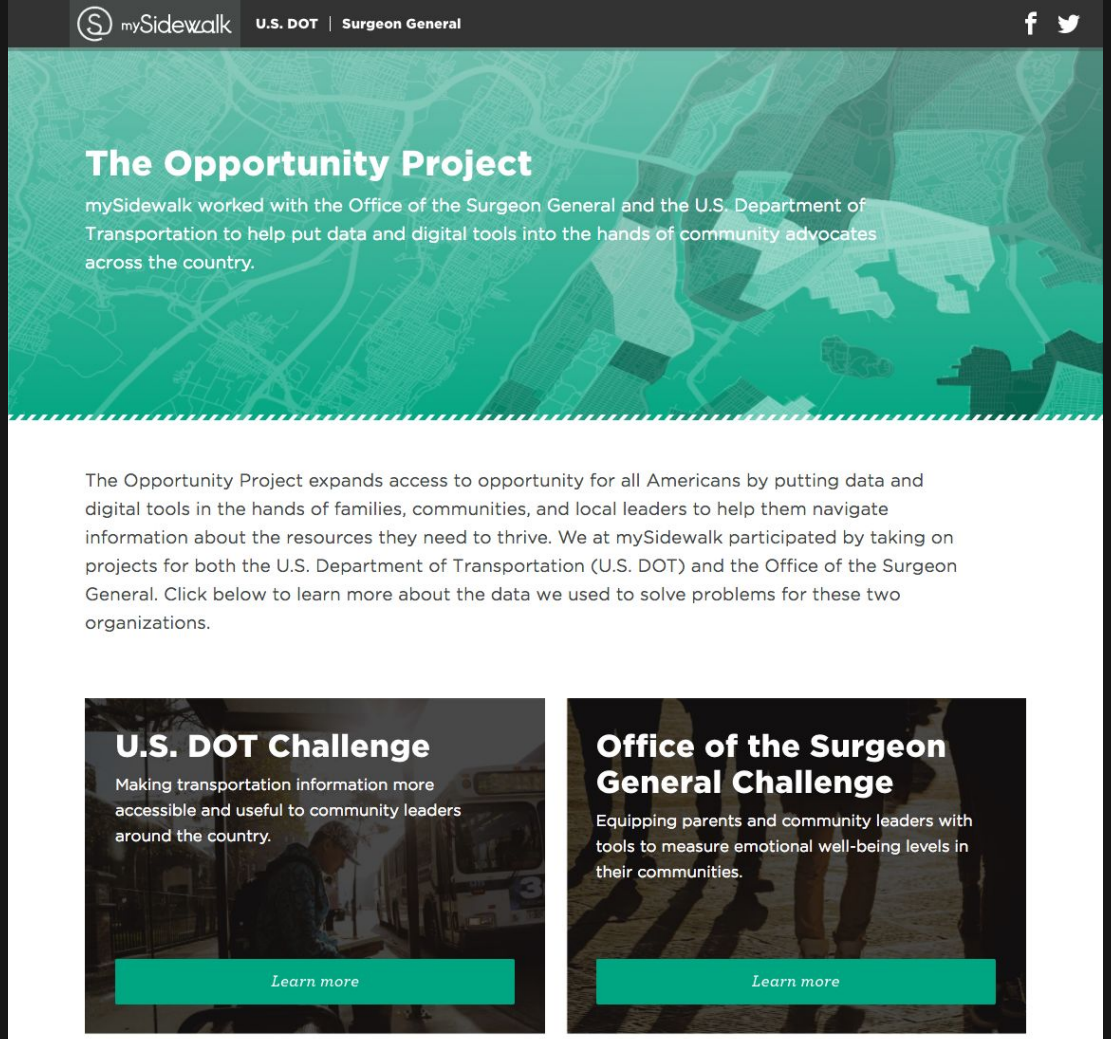


*Hamilton County, Ohio Parcel Dataset from April 6, 2016, U.S. Census Bureau, 2011-2015 American Community Survey (ACS) 5-Year Estimates.

Customer Story: **Hamilton County Land Revitalization Corporation**



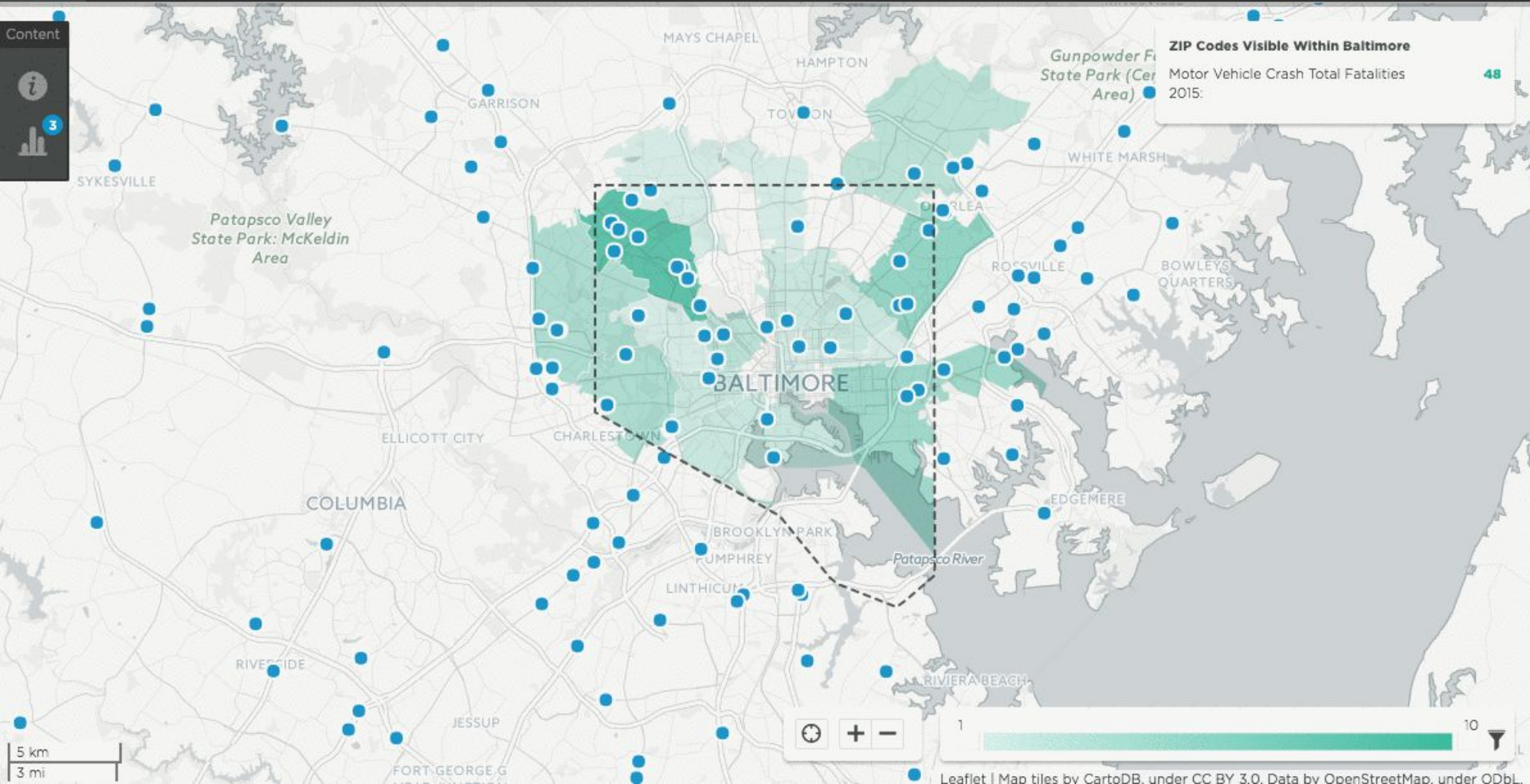
Brandon **uploaded data** his team had (*Tax Delinquency and Parcel Market Value*) and combined it with other relevant information (*Owner vs. Renter Occupied and Average Homeowner Vacancy Rate*) for fast, **impactful answers**.

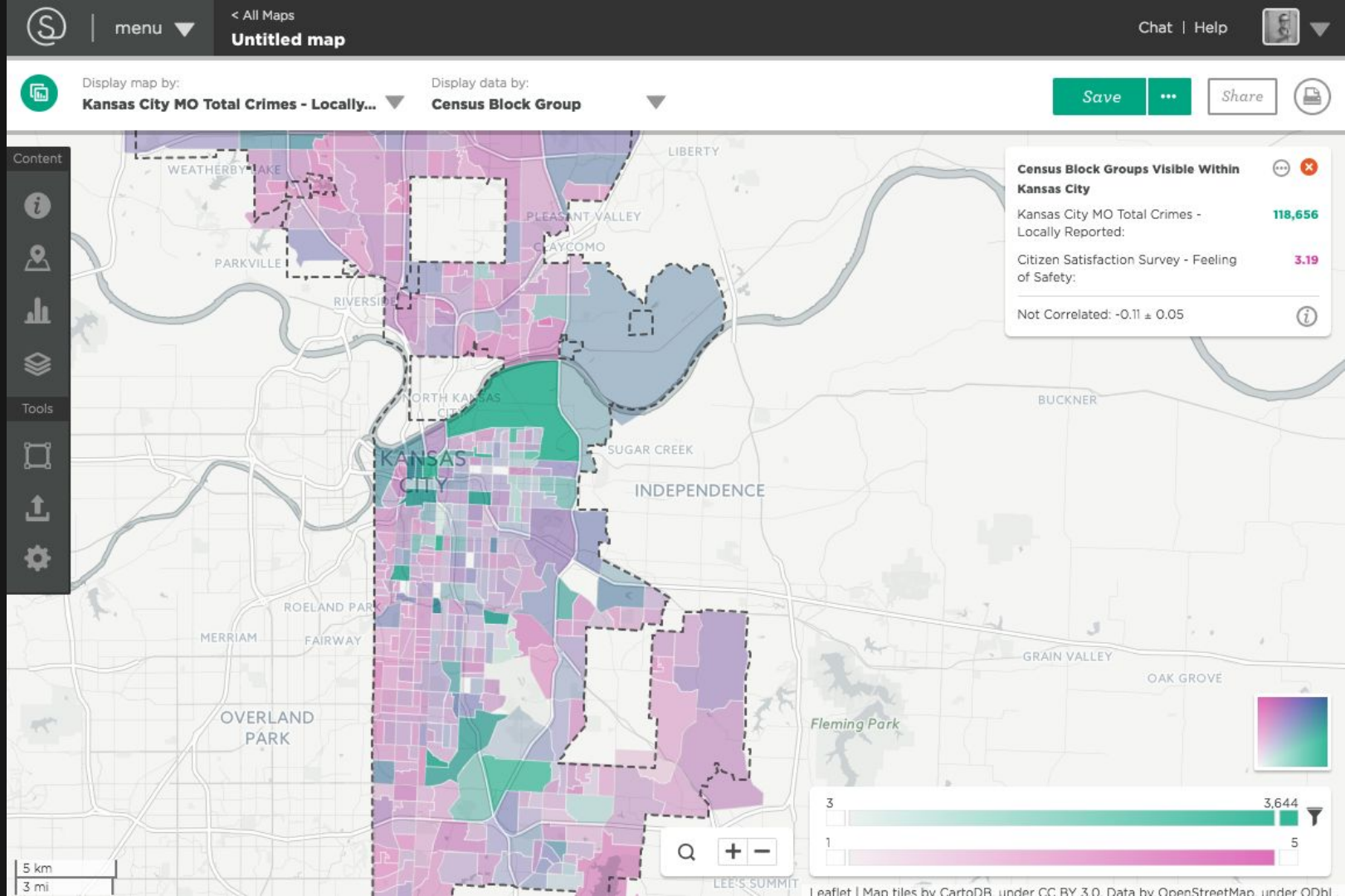


http://opportunity.census.gov/

Baltimore, MD: Motor Vehicle Crash Fatalities

Share




menu
< All Maps
Untitled map
Chat | Help
Display map by:
Kansas City MO Total Crimes - Locally...
Display data by:
Census Block Group
Save
Share
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
LIBERTY
WEATHERBY LAKE
PLEASANT VALLEY
CLAYCOMO
PARKVILLE
RIVERSIDE
NORTH KANSAS CITY
KANSAS CITY
SUGAR CREEK
INDEPENDENCE
BUCKNER
ROELAND PARK
MERRIAM
FAIRWAY
OVERLAND PARK
GRAIN VALLEY
OAK GROVE
Fleming Park
LEE'S SUMMIT
3
3,644
1
5
5 km
3 mi
Leaflet | Map tiles by CartoDB, under CC BY 3.0. Data by OpenStreetMap, under ODbl

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

KCweddings Bridal spectacular
$10 TICKETS - FEB. 4 - CLICK HERE

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