STANFORD SOCIAL INNOVATION REVIEW PRESENTS

DATA ON PURPOSE

TELLING GREAT STORIES WITH DATA

February 9, 9:00 – 9:55 a.m.

Practice Safe Stats!: A PSA

Jake Porway
Founder and Executive Director, DataKind

STANFORD SOCIAL INNOVATION REVIEW PRESENTS
DATA ON PURPOSE
TELLING GREAT STORIES WITH DATA

Stanford SOCIAL INNOVATION Review

We live in revolutionary times.

Tor
I support Online Rights

YOU ARE JUST A NUMBER

Can you make yourself healthier and happier by logging every snore, step and mood swing? As a Californian trend for obsessional data-tracking makes its way over here, **Tim Chester** covers his body in gadgets to find out if self-knowledge is power. Photograph by Paul Stuart

Today I have climbed the equivalent of a tall giraffe. Coffee is my most frequent food. On average, I walk 11,726 steps a day, burning 3,089 calories, over 2.4 hours of activity. I sleep for 6 hours and 9 minutes a night. This week, my sleep efficiency is 72% and my food is 77% healthy. My BMI of 23.5 is 14 percentage points below the median for men my age, and my average daily Met score is 1.71, although I have no idea what a Met score is.

I am, it seems, nothing more than a bundle of numbers and milestones, spurred on by LEDs and chided by pop-up messages. A wireless accessory for the iPhone; perhaps its most sophisticated yet.

My arms are covered in bands, my pockets augmented with accelerometers, my eyes numb from all the charts, my heart pumping to the beat of a heart-rate monitor and forcing its ventricles to keep up with the national average. My head is about to implode from all the positive affirmation and gentle nudging, but it's OK because my memories are being saved to my hard drive and my mood swings are earning me *hugs* from strangers.

I am producing, analysing and socially sharing personal data. I am becoming fitter, happier, and more productive. I am staying motivated by earning badges. I have become a Quantified Self (QS).

The QS movement that I've temporarily joined began, as these things tend to do, in San Francisco's Bay Area in 2007. Two Wired magazine editors, Gary Wolf and Kevin ⋙→

OLD SYSTEM

BAP workers handwrote bike repayment transactions

NEW SYSTEM

With Open Data Kit, BAP has improved data collection efficiencies & data analysis

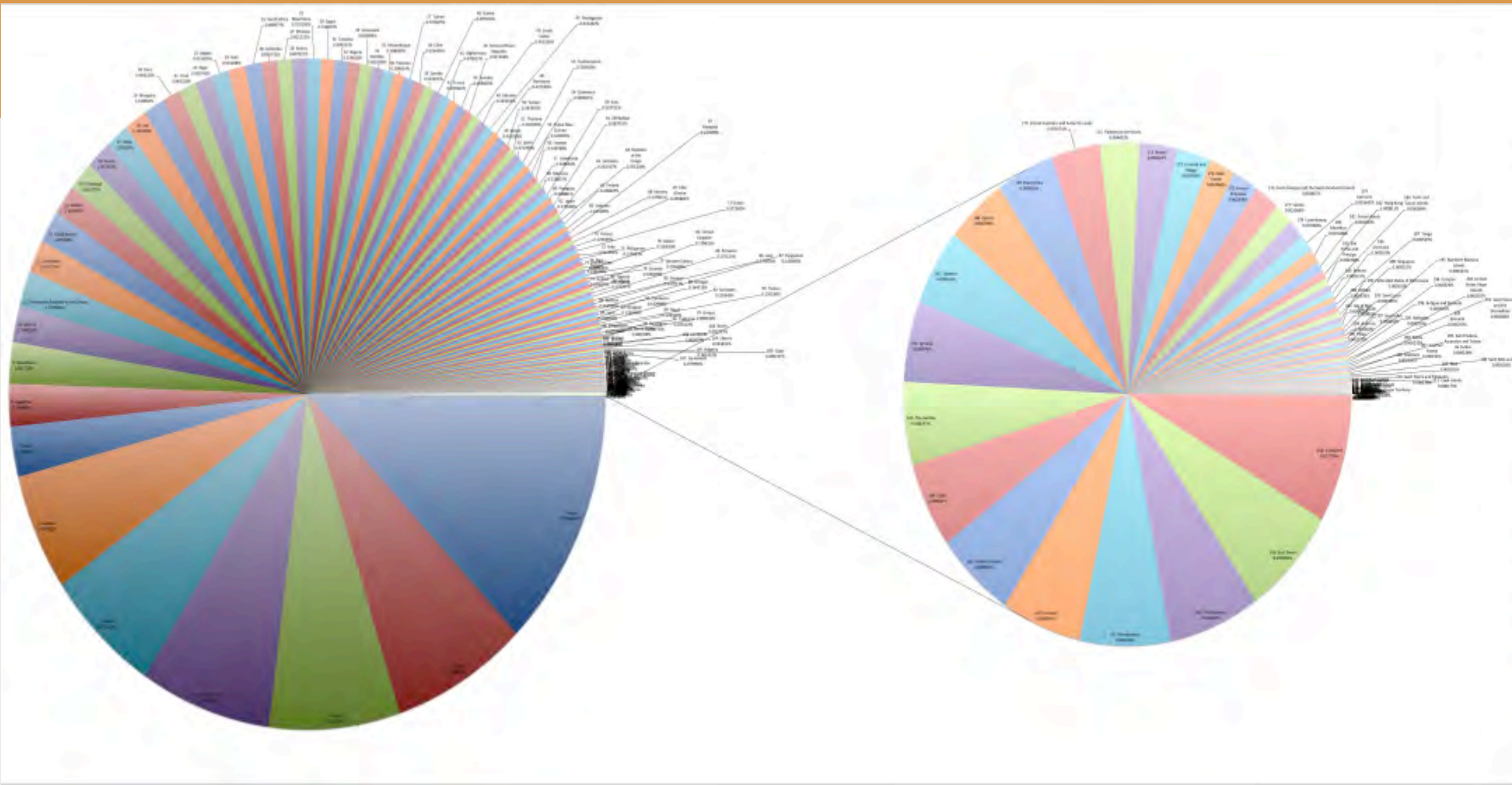
STANFORD SOCIAL INNOVATION REVIEW PRESENTS

DATA ON PURPOSE

TELLING GREAT STORIES WITH DATA

Stanford SOCIAL INNOVATION Review

Traffic Trends
Country
All
Dates
4/1/12 to 12/30/12
Visits
≤ 0K
20K
40K
60K
80K
≥ 100K
Section
Blog
Community
Examples
Register
Search
Training
User-generated
Visits
565K
Apr 15
May 13
Jun 10
Jul 8
Aug 5
Sep 2
Sep 30
Oct 28
Nov 25
Dec 23

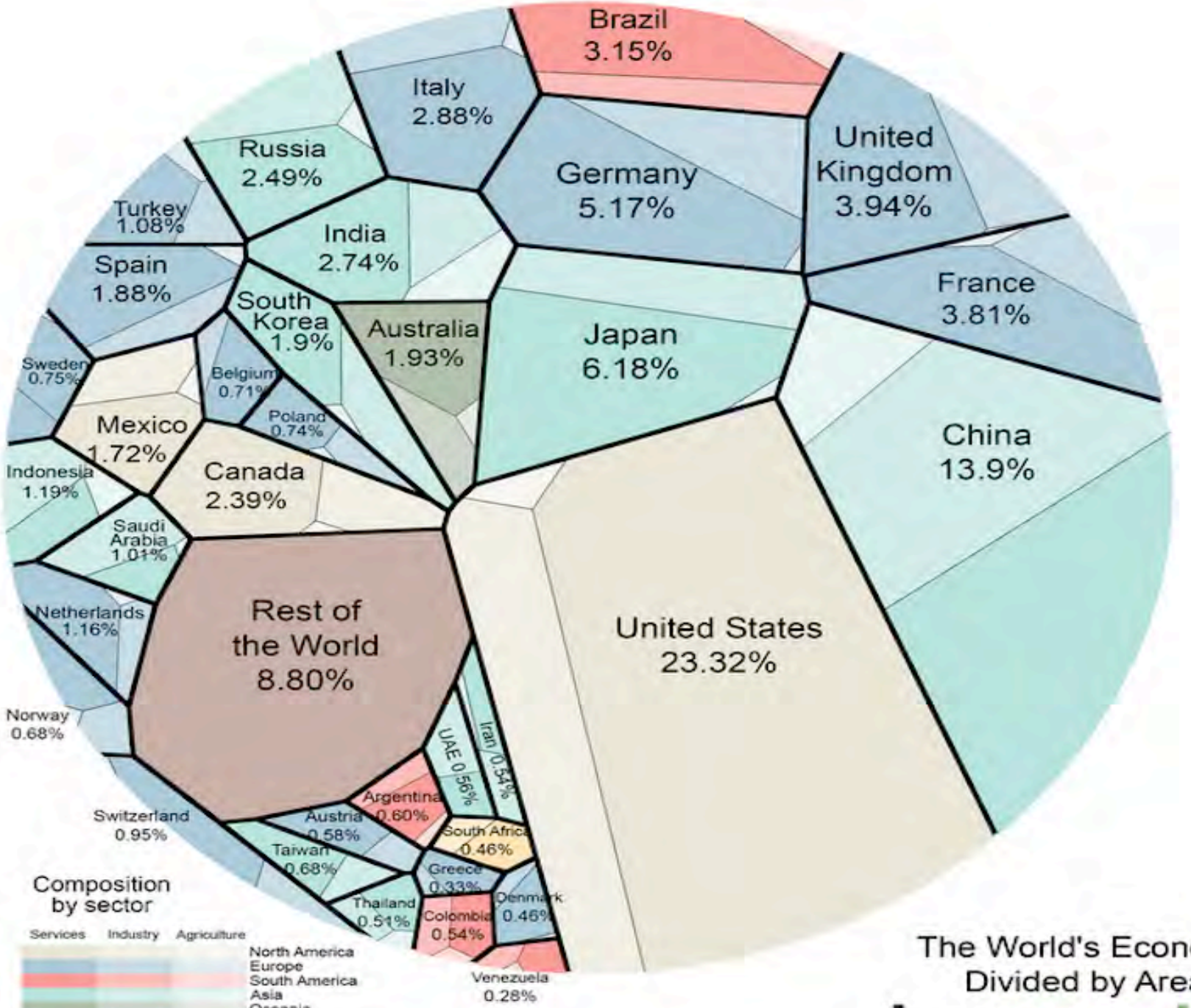


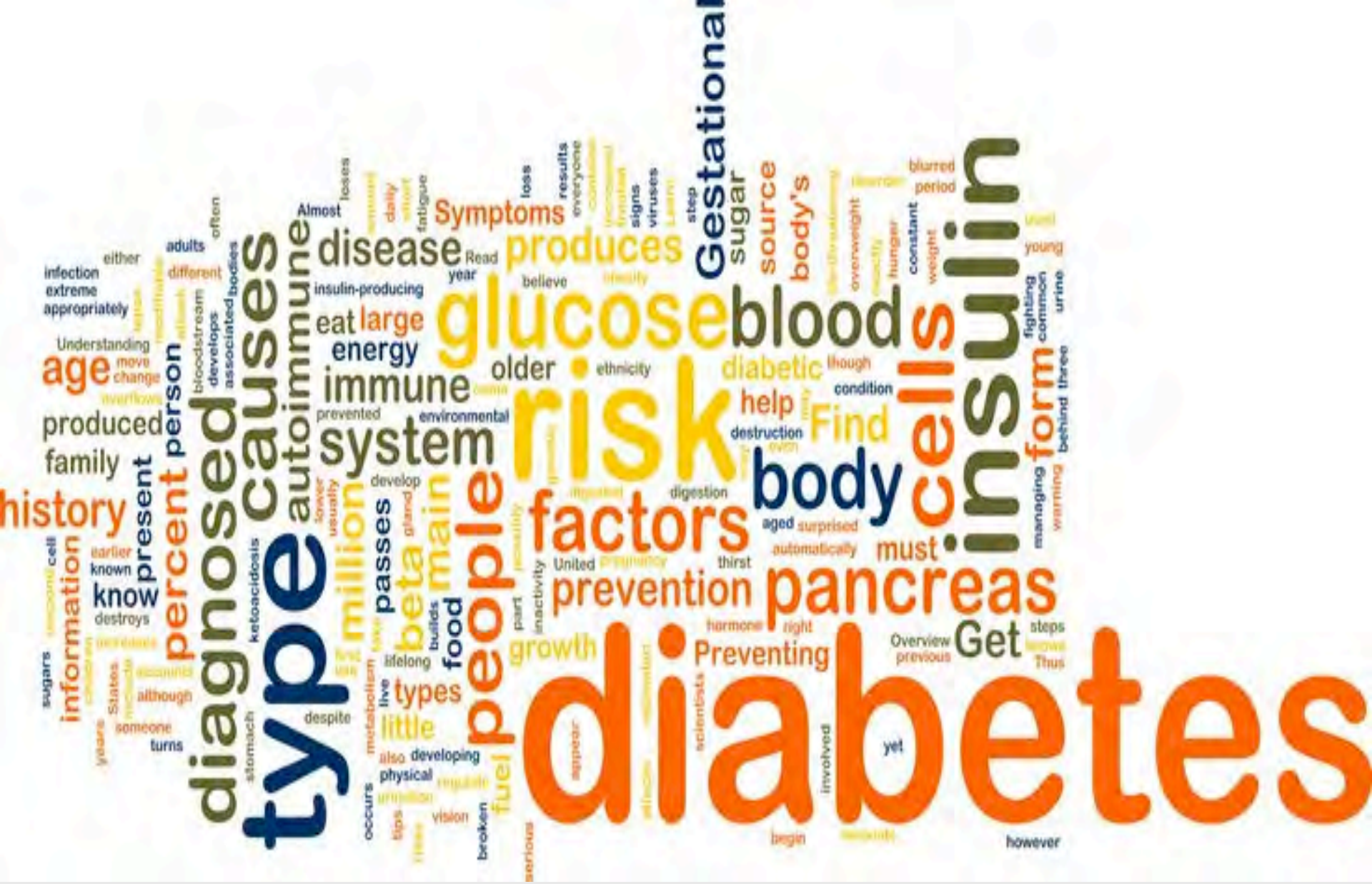
STANFORD SOCIAL INNOVATION REVIEW PRESENTS

DATA ON PURPOSE

TELLING GREAT STORIES WITH DATA

Stanford SOCIAL INNOVATION Review


Brazil
3.15%
Italy
2.88%
Russia
2.49%
Germany
5.17%
United
Kingdom
3.94%
Turkey
1.08%
India
2.74%
Spain
1.88%
South
Korea
1.9%
Australia
1.93%
Japan
6.18%
France
3.81%
Sweden
0.75%
Belgium
0.71%
Poland
0.74%
Mexico
1.72%
China
13.9%
Indonesia
1.19%
Canada
2.39%
Saudi
Arabia
1.01%
Netherlands
1.16%
Rest of
the World
8.80%
United States
23.32%
Norway
0.68%
Iran 0.54%
UAE 0.56%
Argentina
0.60%
Switzerland
0.95%
Austria
0.58%
South Africa
0.46%
Taiwan
0.68%
Greece
0.33%
Thailand
0.51%
Denmark
0.46%
Colombia
0.54%
Venezuela
0.28%
Composition
by sector
Services
Industry
Agriculture
North America
Europe
South America
Asia
Oceania
Africa
Rest of the World
The World's Economy
Divided by Area
howmuch.net

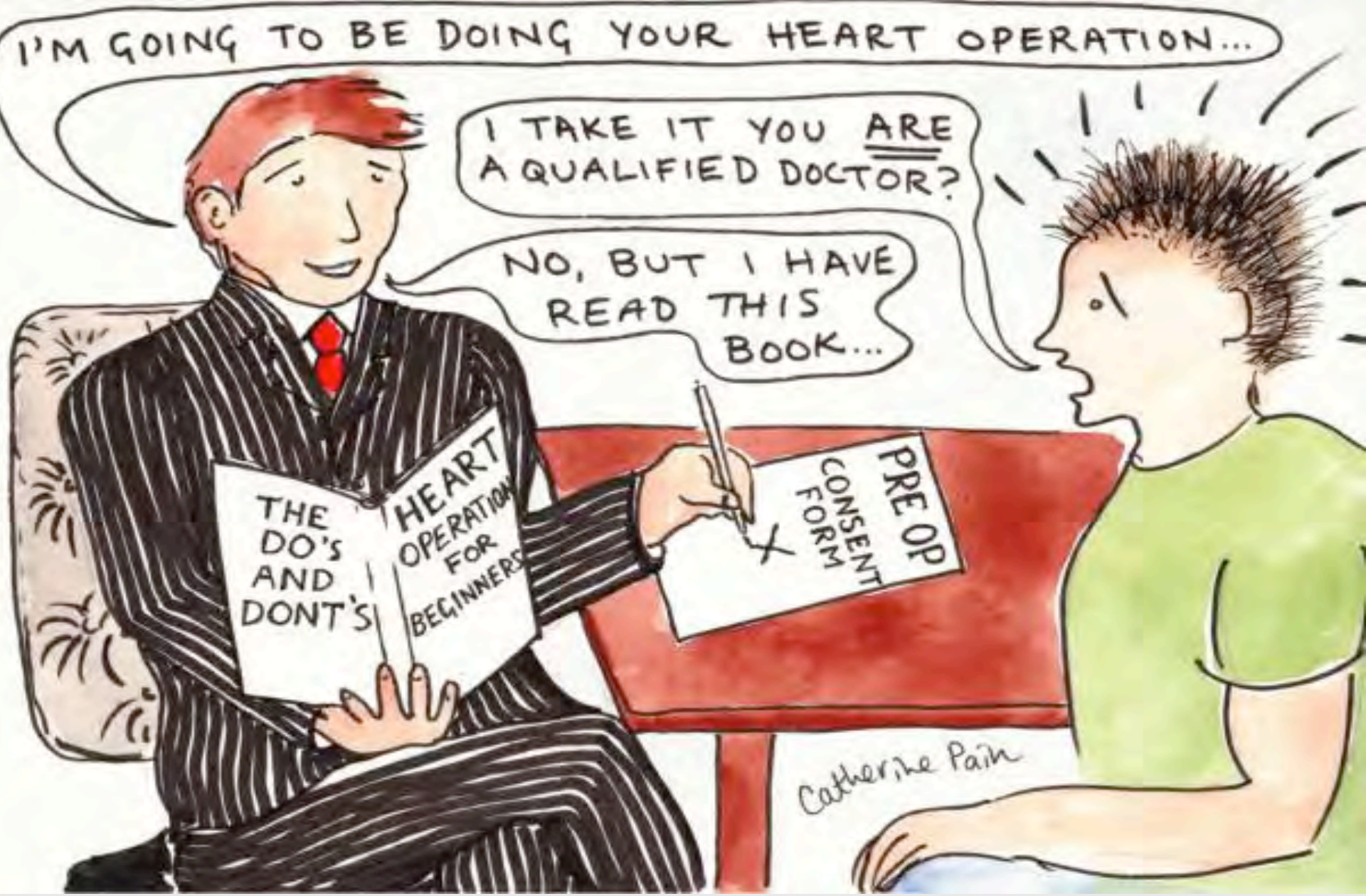


STANFORD SOCIAL INNOVATION REVIEW PRESENTS

DATA ON PURPOSE

TELLING GREAT STORIES WITH DATA

Stanford SOCIAL INNOVATION Review



STANFORD SOCIAL INNOVATION REVIEW PRESENTS
DATA ON PURPOSE
TELLING GREAT STORIES WITH DATA
Stanford SOCIAL INNOVATION Review

WEAPONS OF CHOICE

BANG! EDITOR FIRED AFTER PUBLISHING GUN-OWNER MAP

Released addresses of permit holders, then hired armed guard herself

Published: 08/07/2013 at 9:32 PM

ADVERTISEMENT

- **High Power Flashlight Selling Out Fast**
  G700 Tactical Flashlight
- **Brilliant Mortgage Payoff Method Has Banks On...**
  Comparisons.org
- **iPhone 6 Plus's Being Sold for Next to Nothing**
  QuiBids

Sponsored Links

9.5K

Print

A A

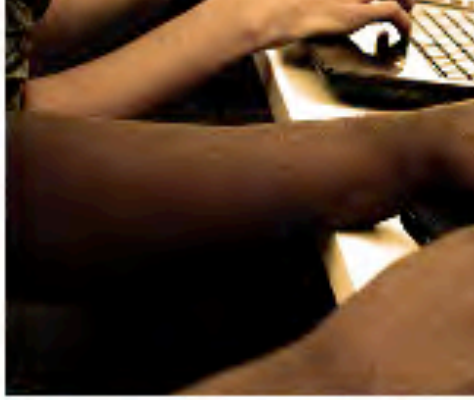
WND RELATED STORIES

- Town imposes essay-writing for gun permit
- 1st challenge to Obama's gun orders hits court
- Now foster parents can't have guns
- Select Obama invite went to 'f--k police officers' professor
- NRA's Wayne LaPierre challenges Obama to debate
- U.S. attorney general to 'institutionalize' Obama gun laws
- Gun-control comment backfires on White House
- Congressman to Obama: 'Target the lawbreakers'
- Obama gun grab shot down by 'American Sniper' widow
- Obama admits: 'I've never owned a gun'
- Sheriff David Clarke: Obama, Clinton 'anti-gun bigots'

The Trials and Tribulations of Data Visualization for Good

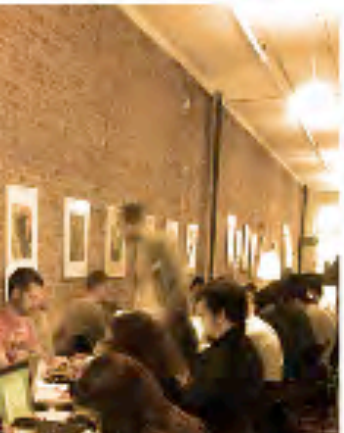
OR

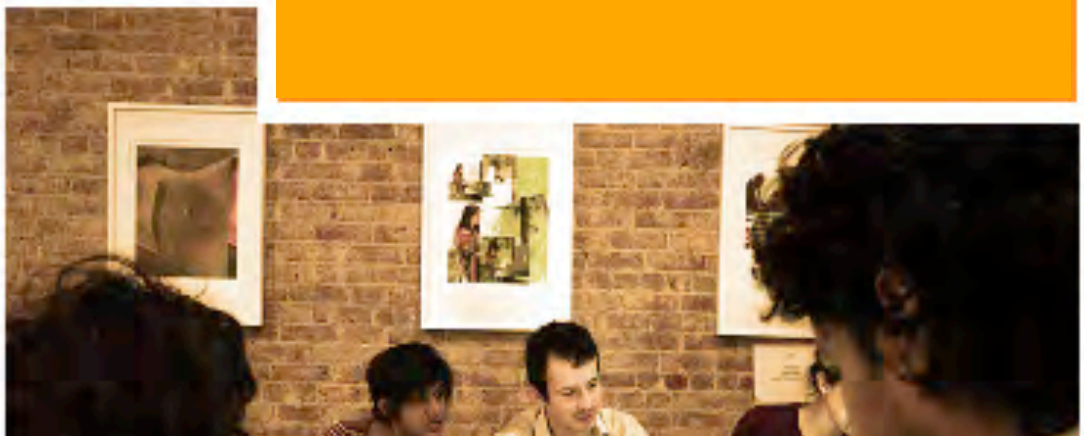
How to Practice Safe Stats



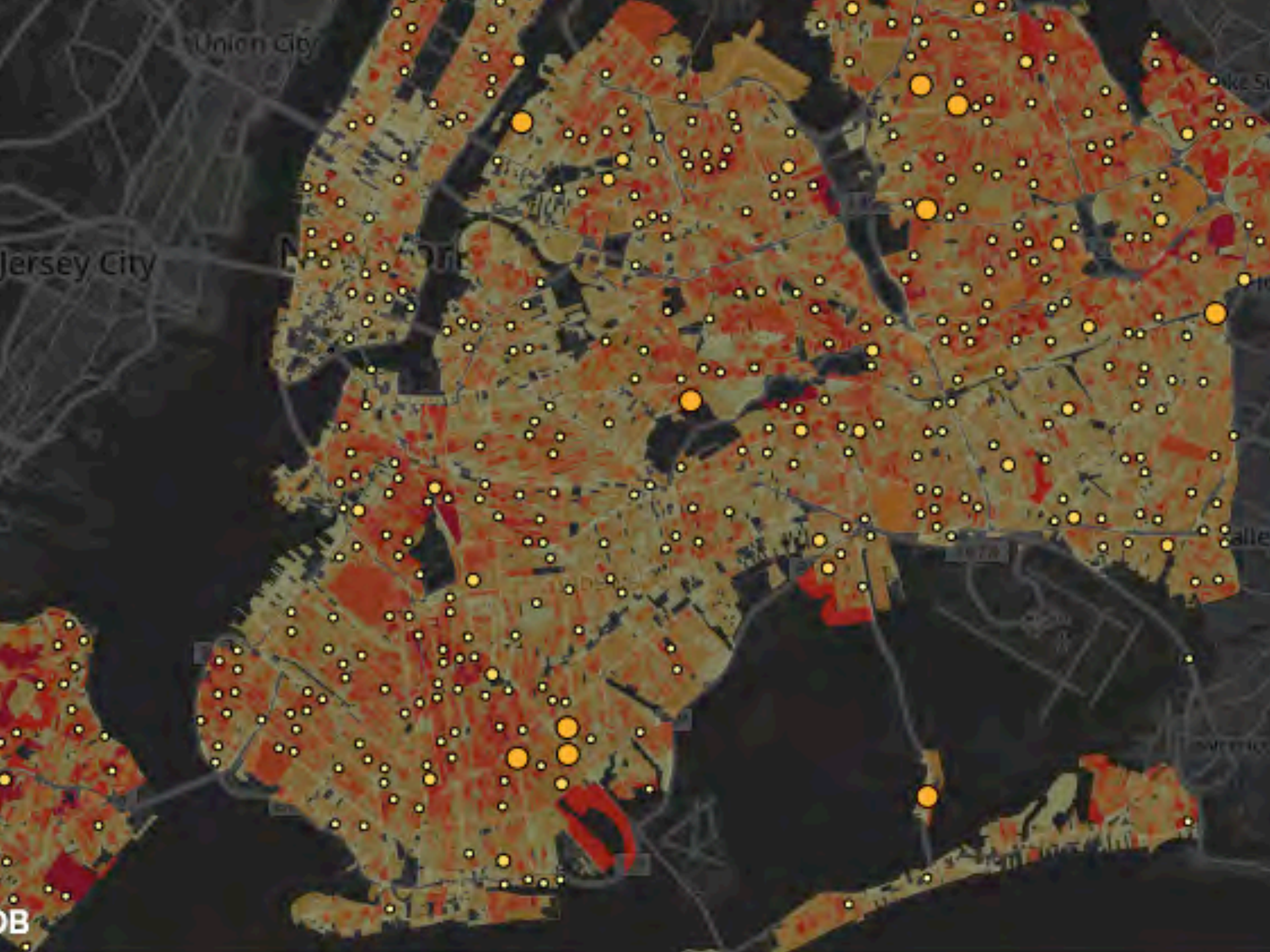
DataKind

Harnessing the power of data science in the service of humanity.





NYC
Information
Technology &
Telecommunications
NYC Parks


Union City
Jersey City

COMBINE INTO ONE CSV
SCRUB NAMES
LON LAT
2005-present
TREE MGMT SYSTEM
1998-2008
SCRUB NAMES
Brooklyn only
TREE SPECIES CHARACTERIST
- USDA Plant Database
- VA Tech Dendrology website
- NYC Parks website, "Approved Species
of Florida IFAS Extension

Data…?

“535 visitors to stanford.edu”

“99% retention rate”

“1 in 3 African Americans”

“$140,000 in Q3”

…Or Data?

sample1og.log

```
1  #Software: Microsoft Internet Information Services X.X
2  #Version: X
3  #Date: 2010-03-24 07:00:01
4  #Fields: date time s-sitename s-computername s-ip cs-method cs-uri-stem cs-uri-query s-port cs
5  2010-03-24 07:00:01 ZZZZC941948879 RUFFLES 222.222.222.222 GET / - 80 - 220.181.7.113 HTTP/1.1
6  2010-03-24 07:00:23 ZZZZC941948879 RUFFLES 222.222.222.222 GET /2009/12/im_not_mean_im_just_ar
7  2010-03-24 07:00:32 ZZZZC941948879 RUFFLES 222.222.222.222 GET /terminal-blank.gif - 80 - 217.
8  2010-03-24 07:00:32 ZZZZC941948879 RUFFLES 222.222.222.222 GET /grep-options.gif - 80 - 217.23
9  2010-03-24 07:00:32 ZZZZC941948879 RUFFLES 222.222.222.222 GET /terminal-cat.gif - 80 - 217.23
10 2010-03-24 07:00:32 ZZZZC941948879 RUFFLES 222.222.222.222 GET /terminal-pwd-cd.gif - 80 - 217
11 2010-03-24 07:00:39 ZZZZC941948879 RUFFLES 222.222.222.222 GET /robots.txt - 80 - 95.55.207.95
12 2010-03-24 07:00:39 ZZZZC941948879 RUFFLES 222.222.222.222 GET /rss-short.xml - 80 - 173.45.23
13 2010-03-24 07:00:43 ZZZZC941948879 RUFFLES 222.222.222.222 GET /2009/08/22-things-you-dont-kno
14 2010-03-24 07:00:44 ZZZZC941948879 RUFFLES 222.222.222.222 GET /screen.css - 80 - 98.88.35.133
15 2010-03-24 07:00:44 ZZZZC941948879 RUFFLES 222.222.222.222 GET /img/rss-header-red.gif - 80 -
16 2010-03-24 07:00:44 ZZZZC941948879 RUFFLES 222.222.222.222 GET /img/logo.jpg - 80 - 98.88.35.1
17 2010-03-24 07:00:44 ZZZZC941948879 RUFFLES 222.222.222.222 GET /img/input-emailsend.jpg - 80 -
18 2010-03-24 07:00:45 ZZZZC941948879 RUFFLES 222.222.222.222 GET /images/cm-ebook-banner.gif - 8
19 2010-03-24 07:00:45 ZZZZC941948879 RUFFLES 222.222.222.222 GET /img/bg.jpg - 80 - 98.88.35.133
20 2010-03-24 07:00:45 ZZZZC941948879 RUFFLES 222.222.222.222 GET /img/bg-top.jpg - 80 - 98.88.35
21 2010-03-24 07:00:45 ZZZZC941948879 RUFFLES 222.222.222.222 GET /21things/checkout-login.gif -
22 2010-03-24 07:00:45 ZZZZC941948879 RUFFLES 222.222.222.222 GET /img/topnav-contact.jpg - 80 -
23 2010-03-24 07:00:45 ZZZZC941948879 RUFFLES 222.222.222.222 GET /21things/portent-email-sub.gif
24 2010-03-24 07:00:45 ZZZZC941948879 RUFFLES 222.222.222.222 GET /rss-header.jpg - 80 - 98.88.35
```

Statistics…?

California

Want more? Browse data se

People QuickFacts	California
Population, 2014 estimate	38,802,500
Population, 2010 (April 1) estimates base	37,254,503
Population, percent change - April 1, 2010 to July 1, 2014	4.2%
Population, 2010	37,253,956
Persons under 5 years, percent, 2014	6.5%
Persons under 18 years, percent, 2014	23.6%
Persons 65 years and over, percent, 2014	12.9%
Female persons, percent, 2014	50.3%
White alone, percent, 2014 (a)	73.2%
Black or African American alone, percent, 2014 (a)	6.5%
American Indian and Alaska Native alone, percent, 2014 (a)	1.7%
Asian alone, percent, 2014 (a)	14.4%
Native Hawaiian and Other Pacific Islander alone, percent, 2014 (a)	0.5%
Two or More Races, percent, 2014	3.7%
Hispanic or Latino, percent, 2014 (b)	38.6%
White alone, not Hispanic or Latino, percent, 2014	38.5%
Living in same house 1 year & over, percent, 2009-2013	84.2%

…or Statistics?

same length N. The derivation is equally valid if the document lengths vary.

According to the model, the total probability of the model is:

$$P(\boldsymbol{W}, \boldsymbol{Z}, \boldsymbol{\theta}, \boldsymbol{\varphi}; \alpha, \beta) = \prod_{i=1}^{K} P(\varphi_i; \beta) \prod_{j=1}^{M} P(\theta_j; \alpha) \prod_{t=1}^{N} P(Z_{j,t}|\theta_j) P(W_{j,t}|\varphi_{Z_{j,t}}),$$

where the bold-font variables denote the vector version of the variables. First of all, $\boldsymbol{\varphi}$ and $\boldsymbol{\theta}$ need to be integrated out.

$$P(\boldsymbol{Z}, \boldsymbol{W}; \alpha, \beta) = \int_{\boldsymbol{\theta}} \int_{\boldsymbol{\varphi}} P(\boldsymbol{W}, \boldsymbol{Z}, \boldsymbol{\theta}, \boldsymbol{\varphi}; \alpha, \beta)\, d\boldsymbol{\varphi}\, d\boldsymbol{\theta}$$

$$= \int_{\boldsymbol{\varphi}} \prod_{i=1}^{K} P(\varphi_i; \beta) \prod_{j=1}^{M} \prod_{t=1}^{N} P(W_{j,t} \mid \varphi_{Z_{j,t}})\, d\boldsymbol{\varphi} \int_{\boldsymbol{\theta}} \prod_{j=1}^{M} P(\theta_j; \alpha) \prod_{t=1}^{N} P(Z_{j,t} \mid \theta_j)\, d\boldsymbol{\theta}.$$

All the θs are independent to each other and the same to all the φs. So we can treat each θ and each φ separately. We now focus only on the θ part.

$$\int_{\boldsymbol{\theta}} \prod_{j=1}^{M} P(\theta_j; \alpha) \prod_{t=1}^{N} P(Z_{j,t} \mid \theta_j) d\boldsymbol{\theta} = \prod_{j=1}^{M} \int_{\theta_j} P(\theta_j; \alpha) \prod_{t=1}^{N} P(Z_{j,t} \mid \theta_j)\, d\theta_j.$$

We can further focus on only one θ as the following:

$$\int_{\theta_j} P(\theta_j; \alpha) \prod_{t=1}^{N} P(Z_{j,t} \mid \theta_j)\, d\theta_j.$$

Actually, it is the hidden part of the model for the jth document. Now we replace the probabilities in the above equation by the true distribution expression to write o

$$\int_{\theta_j} P(\theta_j; \alpha) \prod_{t=1}^{N} P(Z_{j,t} \mid \theta_j)\, d\theta_j = \int_{\theta_j} \frac{\Gamma\left(\sum_{i=1}^{K} \alpha_i\right)}{\prod_{i=1}^{K} \Gamma(\alpha_i)} \prod_{i=1}^{K} \theta_{j,i}^{\alpha_i - 1} \prod_{t=1}^{N} P(Z_{j,t} \mid \theta_j)\, d\theta_j.$$

Data for Humans (Viz)
Data for Machines (Stats)
images
javascripts
stylesheets
style.css
routes
index.js
user.js
views
index.jade
layout.jade
app.js
package.json
var path = require('path');
var net = require('net');
var app = express();
// all environments
app.set('port', process.env.PORT || 3000);
app.set('views', path.join(__dirname, 'views'));
app.set('view engine', 'jade');
app.use(express.favicon());
app.use(express.logger('dev'));
app.use(express.json());
app.use(express.urlencoded());
app.use(express.methodOverride());
app.use(app.router);
app.use(express.static(path.join(__dirname, 'public')));
// development only
if ('development' == app.get('env')) {
app.use(express.errorHandler());
}
app.get('/', routes.index);
app.get('/users', user.list);
http.createServer(function (req, res) {

HUMAN BEHAVIOR FLOWS FROM THREE MAIN SOURCES: DESIRE, EMOTION, AND KNOWLEDGE.

PLATO

24

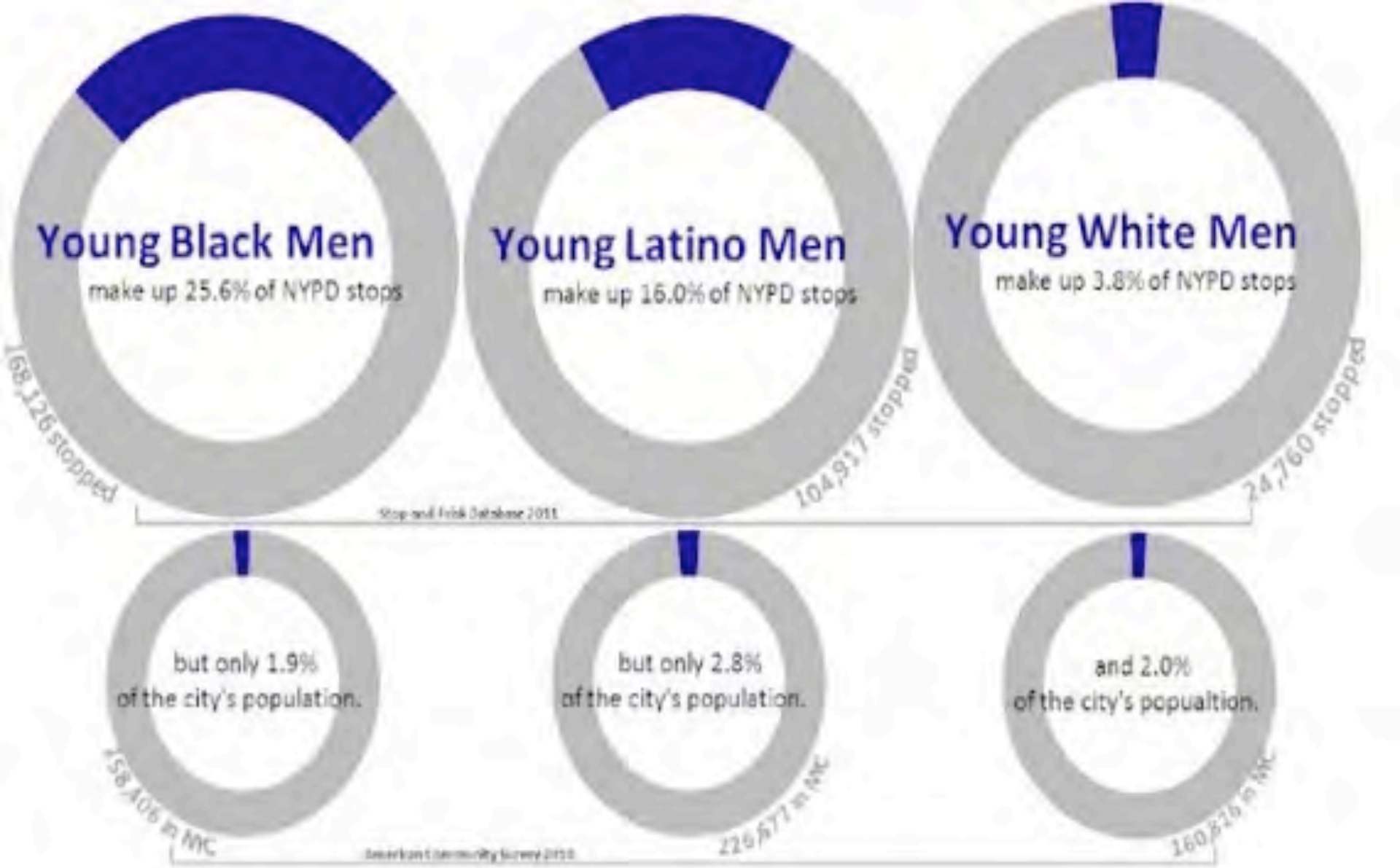
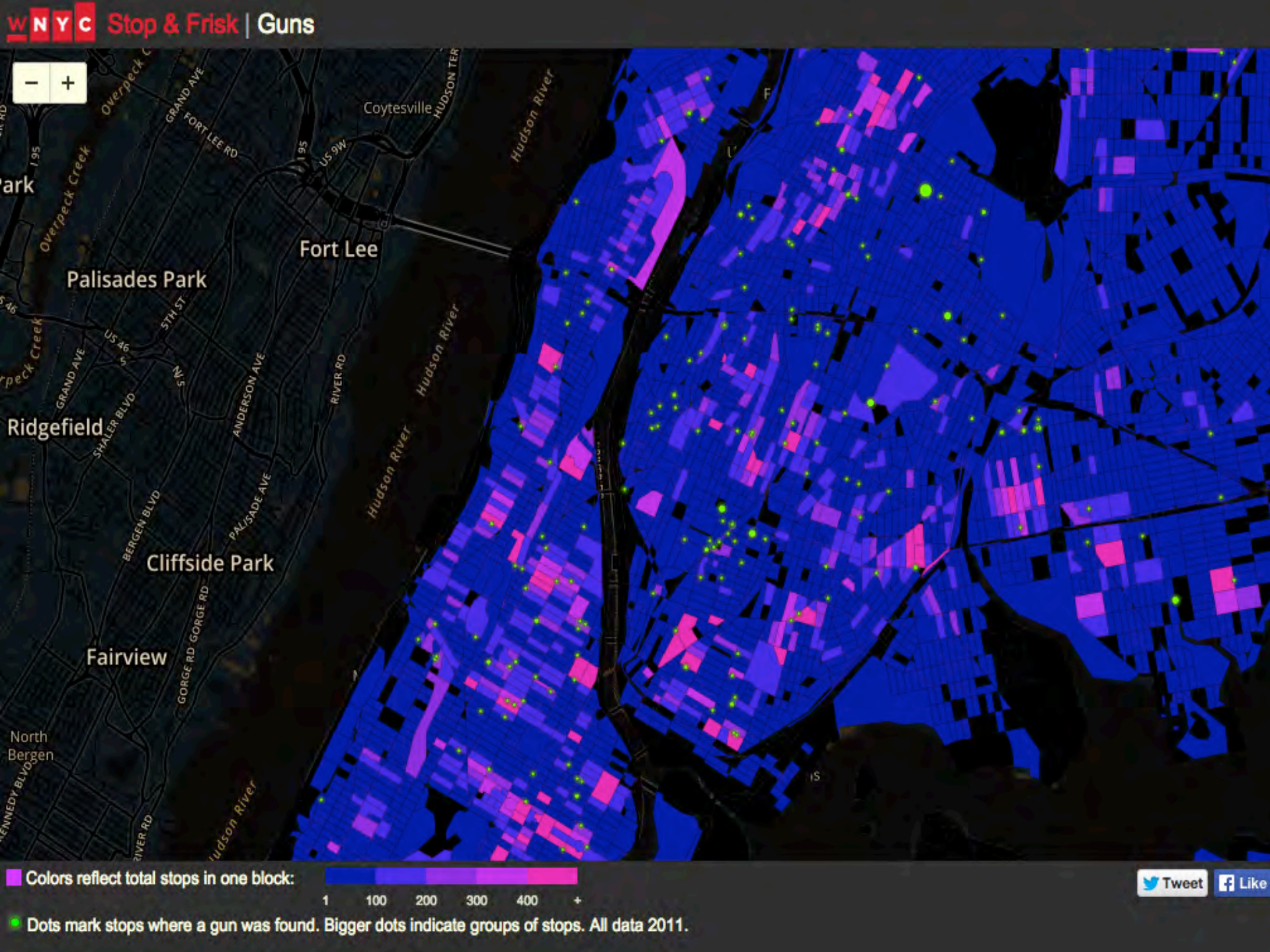
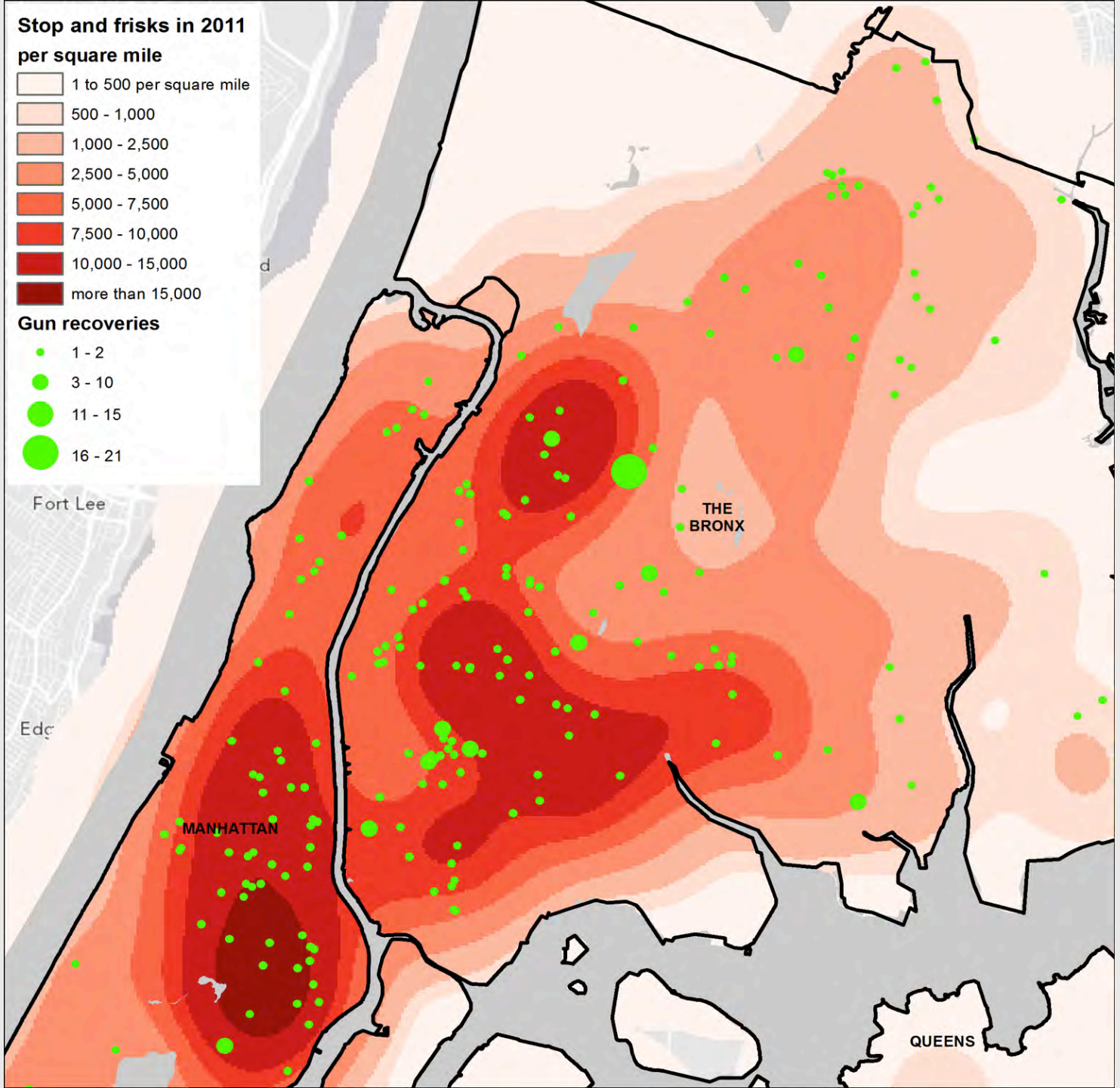


Image by the New York Civil Liberties Union.

NYCLU


WNYC Stop & Frisk | Guns
Coytesville
Fort Lee
Palisades Park
Ridgefield
Cliffside Park
Fairview
North Bergen
Hudson River
Overpeck Creek
GRAND AVE
FORT LEE RD
HUDSON TER
US 9W
I 95
5TH ST
US 46
ANDERSON AVE
RIVER RD
SHALER BLVD
BERGEN BLVD
PALISADE AVE
GORGE RD
Colors reflect total stops in one block:
1
100
200
300
400
+
Dots mark stops where a gun was found. Bigger dots indicate groups of stops. All data 2011.
Tweet
Like


Stop and frisks in 2011
per square mile
1 to 500 per square mile
500 - 1,000
1,000 - 2,500
2,500 - 5,000
5,000 - 7,500
7,500 - 10,000
10,000 - 15,000
more than 15,000
Gun recoveries
1 - 2
3 - 10
11 - 15
16 - 21
Fort Lee
THE BRONX
MANHATTAN
QUEENS

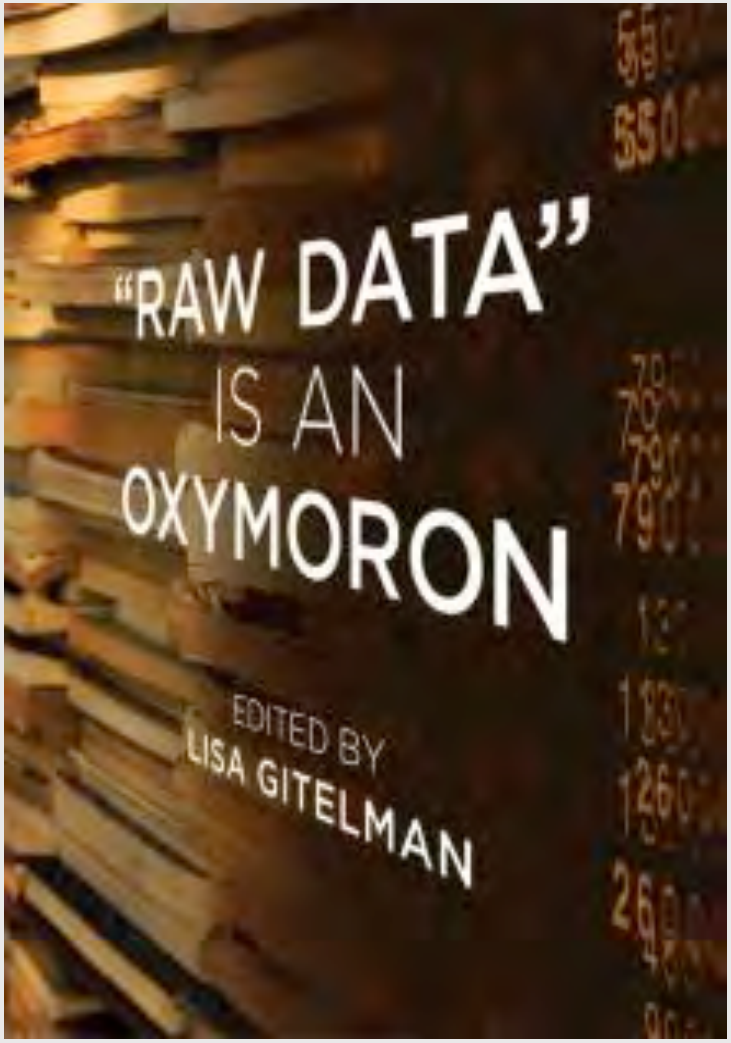
Stop and Frisk Data API

4259606 total records match your query

Learn more

Previous Page | Next Page

crimsusp	age	sex	crossst	race	build	frisked	_id
CPW	28	M	NEWTOWN ROAD	P	M	False	506ec425519d0b5bf11415ea
BURGLARY	26	M	37 AVENUE	Q	M	True	506ec425519d0b5bf11415eb
BURG	32	M	GORDON STREET	B	M	True	506ec425519d0b5bf11415ec
GRAND LARCENY AUTO	36	M		B	M	False	506ec425519d0b5bf11415ed
C.P.W.	18	Z		Z	T	True	506ec425519d0b5bf11415ee
FEL	20	M	SAGAMORE AVENUE	B	T	False	506ec425519d0b5bf11415ef
ROBBERY	35	M		Q	M	False	506ec425519d0b5bf11415f0
M	20	F	NEPTUNE AVENUE	Q	M	False	506ec425519d0b5bf11415f1
CPW	24	M		Q	M	True	506ec425519d0b5bf11415f2
CPW	14	M		B	M	True	506ec425519d0b5bf11415f3
FEL/ROBBERY	16	M	67 AVENUE	B	M	True	506ec425519d0b5bf11415f4
NARCOTICS SALE	20	Z		B	M	True	506ec425519d0b5bf11415f5
GRAND LARCENY AUTO	19	M		Q	M	False	506ec425519d0b5bf11415f6
MISD. FIREWORKS	19	M		Q	T	False	506ec425519d0b5bf11415f7
QUESTIONING	23	F		Q	H	False	506ec425519d0b5bf11415f8


"RAW DATA"
IS AN
OXYMORON
EDITED BY
LISA GITELMAN

Tips To Keep In Mind

1. **It's hard to imagine how a new medium is used at first.**

Statement of Functional Expenses

THE AMERICAN RED CROSS

Statement of Functional Expenses

Year ended June 30, 2004
(with summarized information for the year ended June 30, 2003)
(In thousands)

	Program Services							
	Armed Forces Emergency Services	Domestic Disaster Services	Liberty Disaster Relief - Sept 11 Response	Biomedical Services	Health and Safety Services	Community Services	Int'l Relief & Development Services	Total Program Services
Salaries and wages	$ 33,987	$ 75,580	$ 4,886	$ 835,690	$ 100,134	$ 55,743	$ 12,736	$ 1,122,726
Employee benefits	8,990	20,051	1,733	229,125	25,247	14,651	3,519	303,316
Subtotal	42,977	95,631	10,589	1,064,815	125,381	70,394	16,255	1,426,042
Travel and maintenance	1,133	15,552	268	32,619	3,834	3,210	2,360	58,976
Equipment maintenance and rental	1,030	9,029	182	58,606	4,534	5,293	1,234	80,507
Supplies and materials	2,572	15,463	195	455,247	39,581	17,657	806	529,491
Contractual services	8,866	47,089	8,310	405,853	32,514	20,220	10,681	533,573
Financial and material assistance	2,588	65,483	32,567	3,168	2,890	13,516	23,081	147,273
Depreciation and amortization	1,750	10,807	-	53,032	7,531	9,208	546	78,874
Total expenses	$ 60,896	$ 281,651	$ 52,101	$ 2,133,382	$ 216,265	$ 139,498	$ 54,963	$ 2,914,756

	Supporting Services				
	Fund Raising	Management and General	Total Supporting Services	Total Expenses 2004	Total Expenses 2003
Salaries and wages	$ 44,530	$ 86,617	$ 131,147	$ 1,253,873	$ 1,234,120
Employee benefits	11,610	23,598	35,208	338,524	295,063
Subtotal	56,140	110,215	166,355	1,592,397	1,529,183
Travel and maintenance	2,430	4,581	7,011	66,887	86,433
Equipment maintenance and rental	1,442	5,065	6,507	87,014	91,148
Supplies and materials	13,482	5,559	19,041	548,532	565,408
Contractual services	34,083	32,920	67,003	600,576	630,354
Financial and material assistance	1,014	1,403	2,417	149,690	378,474
Depreciation and amortization	2,597	13,765	16,362	95,236	88,494
Total expenses	$ 111,178	$ 173,518	$ 284,696	$ 3,199,452	$ 3,369,653

See accompanying notes to the consolidated financial statements.

March 2006

Corporation for NATIONAL & COMMUNITY SERVICE

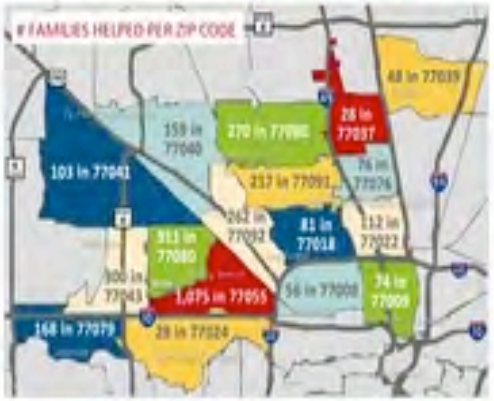
MAM 2012 ANNUAL REPORT

HOW DID YOU HELP YOUR NEIGHBORS IN 2012?

Total Population Helped
18,504

Unduplicated Family Count
4,642

MAM provides financial assistance to families in **17 ZIP CODES**



217: Out of Area 248: Homeless 115: Unreported

FAMILY ASSISTANCE PROGRAMS

Emergency Financial Assistance because sometimes there simply isn't enough income to cover basic needs, even for those who are working.

Rental assistance prevented eviction and homelessness for
1,090 FAMILIES

559 FAMILIES
received utility assistance

642 FAMILIES
were able to get to work with transportation assistance

1,208 FAMILIES
dressed for work and school with clothing from the MAM Resale Store

Help with clinic visits benefited
368 PEOPLE

258 PEOPLE
received assistance to pay for necessary prescription medications

SELF-SUFFICIENCY PROGRAMS

Self-sufficiency means balancing the household budget on a regular basis and building assets for the future.

83% OF FAMILIES
receiving Case Management services were able to stabilize their budgets and remain housed 3+ months after leaving MAM's program

70 % OF STUDENTS
enrolled in the Employment Certification Program found employment

87 INDIVIDUALS
attended classes to prepare for the GED Exam

5 INDIVIDUALS
took and passed the exam to become U.S. citizens after taking free citizenship classes at MAM

175 STUDENTS
learned English through MAM Adult ESL Classes

PROGRAMS FOR CHILDREN IN SCHOOL

Help children have what they need to learn, stay healthy and realize their potential.

5,714 CHILDREN
received essential clothing and supplies, for the start of a new school year

325 KIDS RECEIVED EYE EXAMS AND GLASSES
through the I Can See Program

Christmas Share provided toys and warm blankets to
637 CHILDREN
from
210 FAMILIES

517 CHILDREN
received free immunizations needed to return to and stay in class

VOLUNTEERS

Help MAM to serve the community in all of MAM's program areas. Volunteers have been the backbone of the organization for nearly 30 years. It takes a minimum of 40 volunteers each day to open our doors to clients and customers.

340 INDIVIDUALS
27 GROUPS
95 STUDENTS
174 NATIONAL CHARITY LEAGUE MEMBERS & THEIR DAUGHTERS

859 TOTAL VOLUNTEERS

Volunteers contributed
52,440 HOURS
of their time

or the equivalent of

26 FULL TIME EMPLOYEES

2. Beware the comfort of the familiar.
Put a bird on it
map

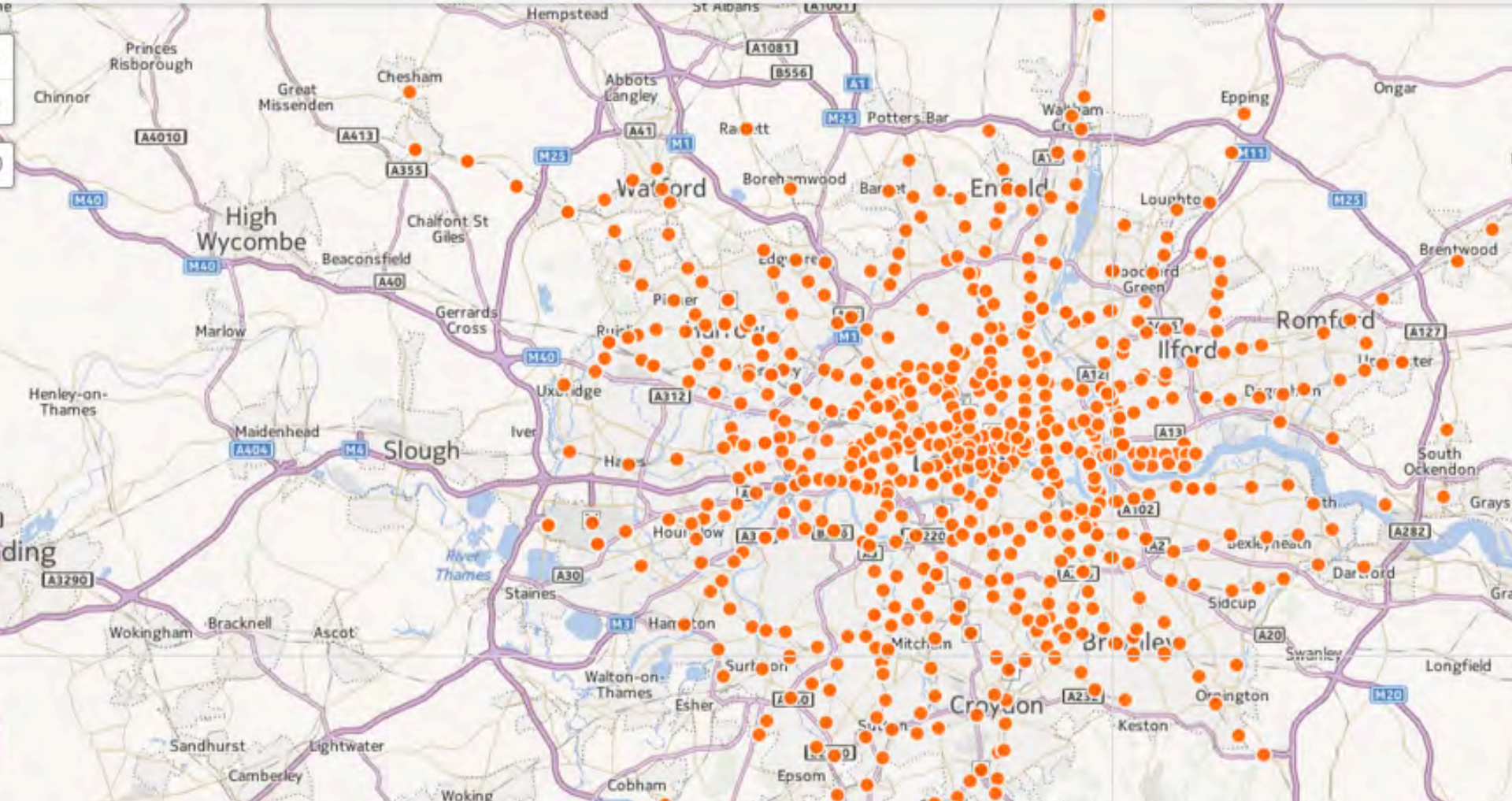
Россия
SE
NO
20
3119
DE
PL
1361
UA
7
KZ
MN
FR
1832
IT
UZ
ES
TR
52
184
IR
中国
DZ
LY
EG
SA
PK
16
MM
24
TH
NG
SD
ET
CD
25
12
AO
NA
2
796
287
México
20
VE
CO
7
PE
Brasil
6
BO
PY
127
AR

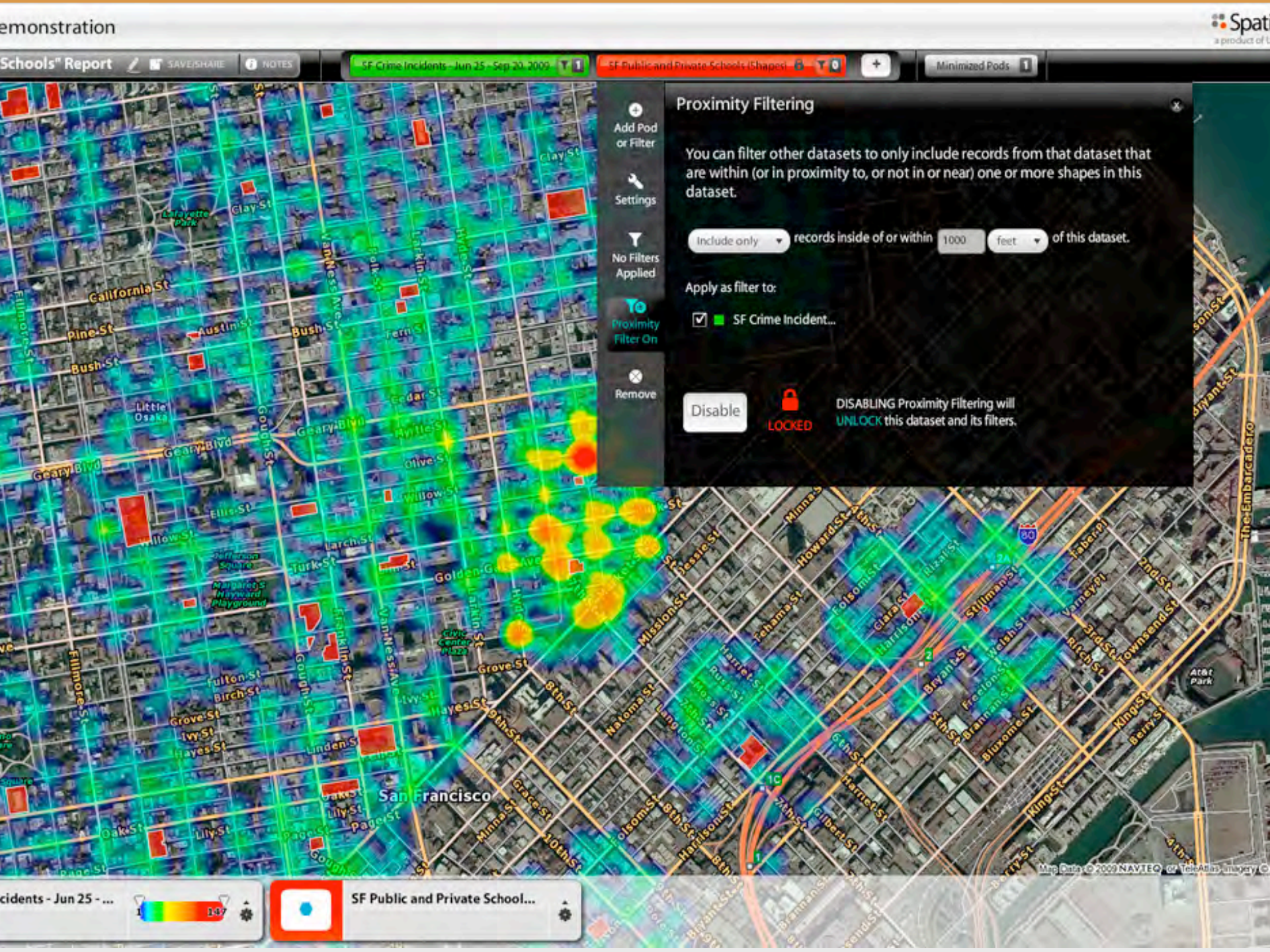
London's railway system | ADD TAGS

add a description...

Table | Map view

Basemap - Nokia Day

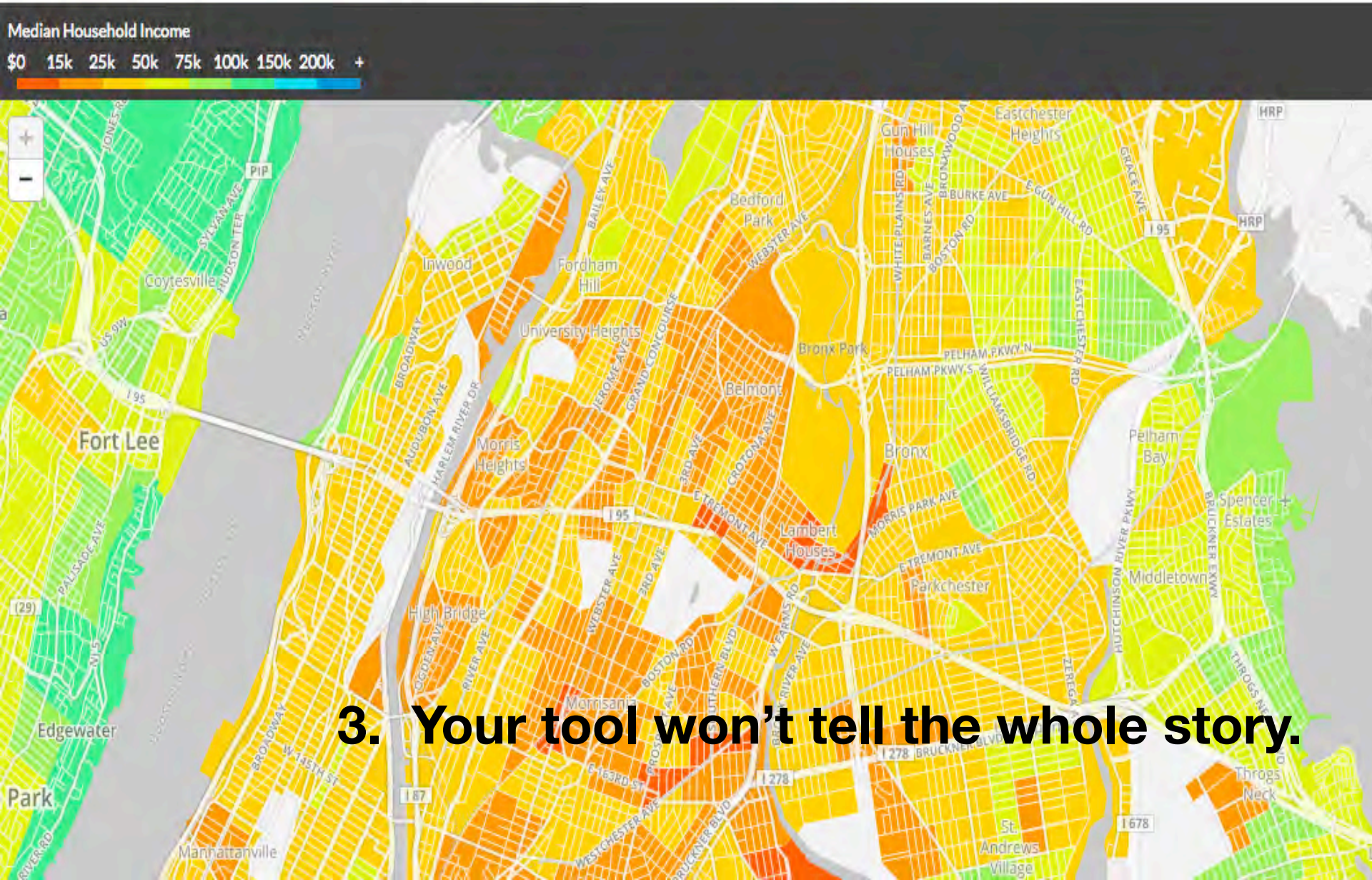



emonstration
Spati
Schools" Report
SAVE/SHARE
NOTES
SF Crime Incidents - Jun 25 - Sep 20, 2009
SF Public and Private Schools (Shapes)
Minimized Pods
Add Pod or Filter
Settings
No Filters Applied
Proximity Filter On
Remove
Proximity Filtering
You can filter other datasets to only include records from that dataset that are within (or in proximity to, or not in or near) one or more shapes in this dataset.
Include only
records inside of or within
1000
feet
of this dataset.
Apply as filter to:
SF Crime Incident...
Disable
LOCKED
DISABLING Proximity Filtering will UNLOCK this dataset and its filters.
San Francisco
cidents - Jun 25 - ...
SF Public and Private School...

Per capita
Finland
Sweden
Denmark
UK
Ireland
Belgium
Netherlands
Switzerland
Germany
Luxembourg
France
Spain
Morocco
Canada
United States
Haiti
Russia
Estonia
Poland
Czech Republic
Greece
Cyprus
UAE
Italy
Saudi Arabia
Indonesia
Brazil
Ghana
Australia
South Africa
The Damage
200,000 Dead
1.5 million homeless
97% Port-au-Prince schools out of commission

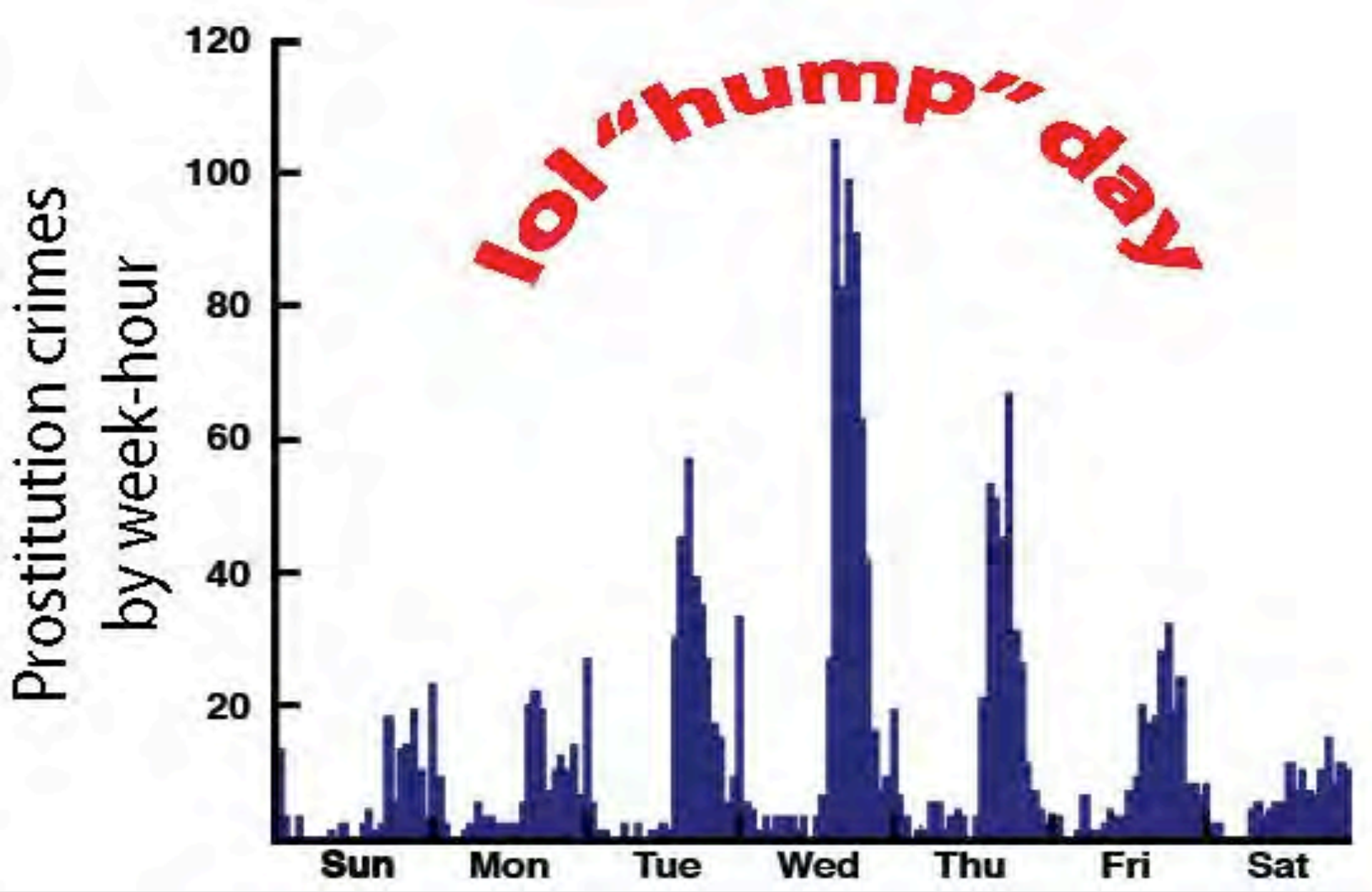
WNYC Median Income Across the US

Explore the median household incomes in neighborhoods across the United States, based on the latest U.S. Census Bureau data.

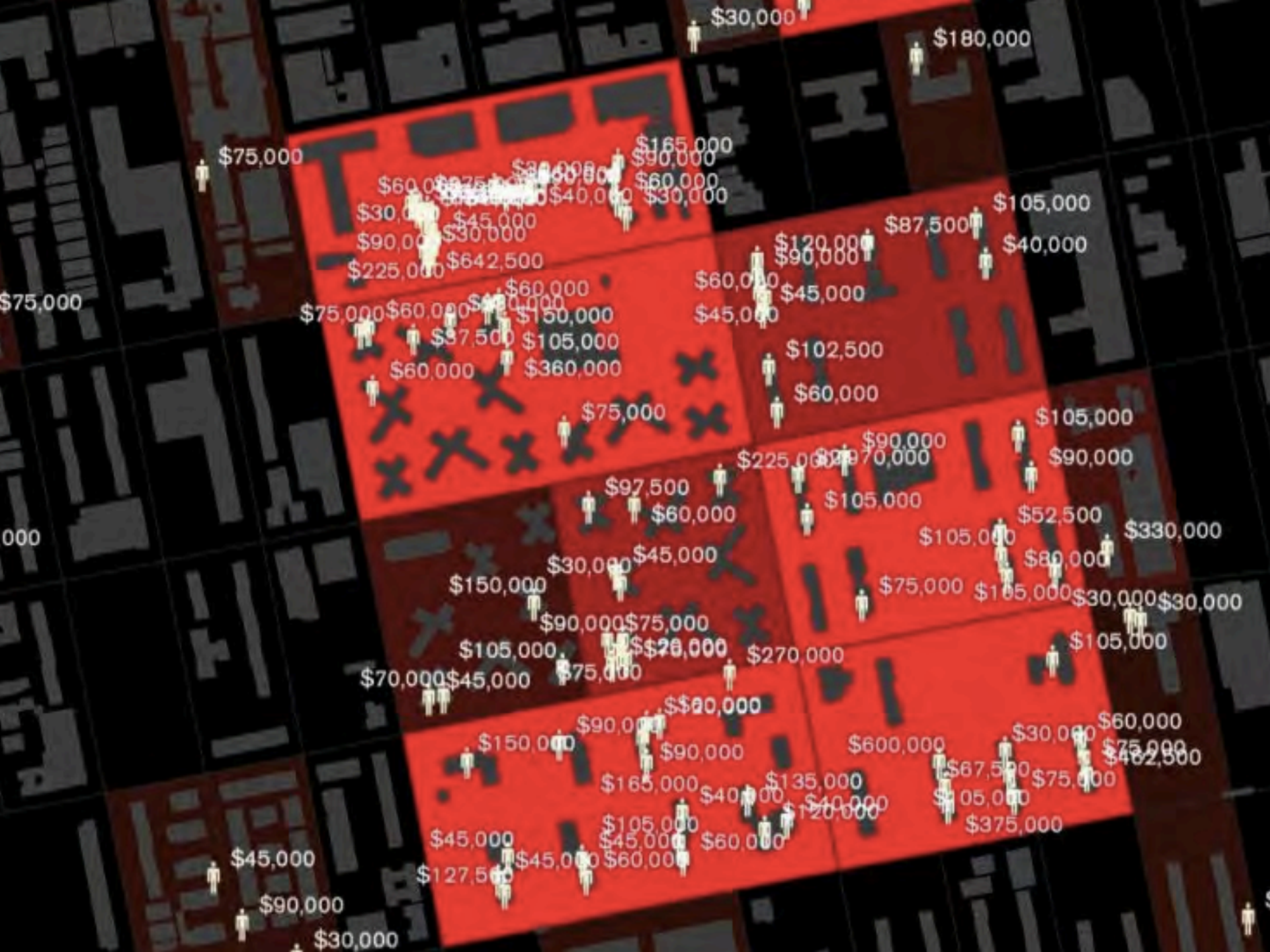


3. Your tool won't tell the whole story.

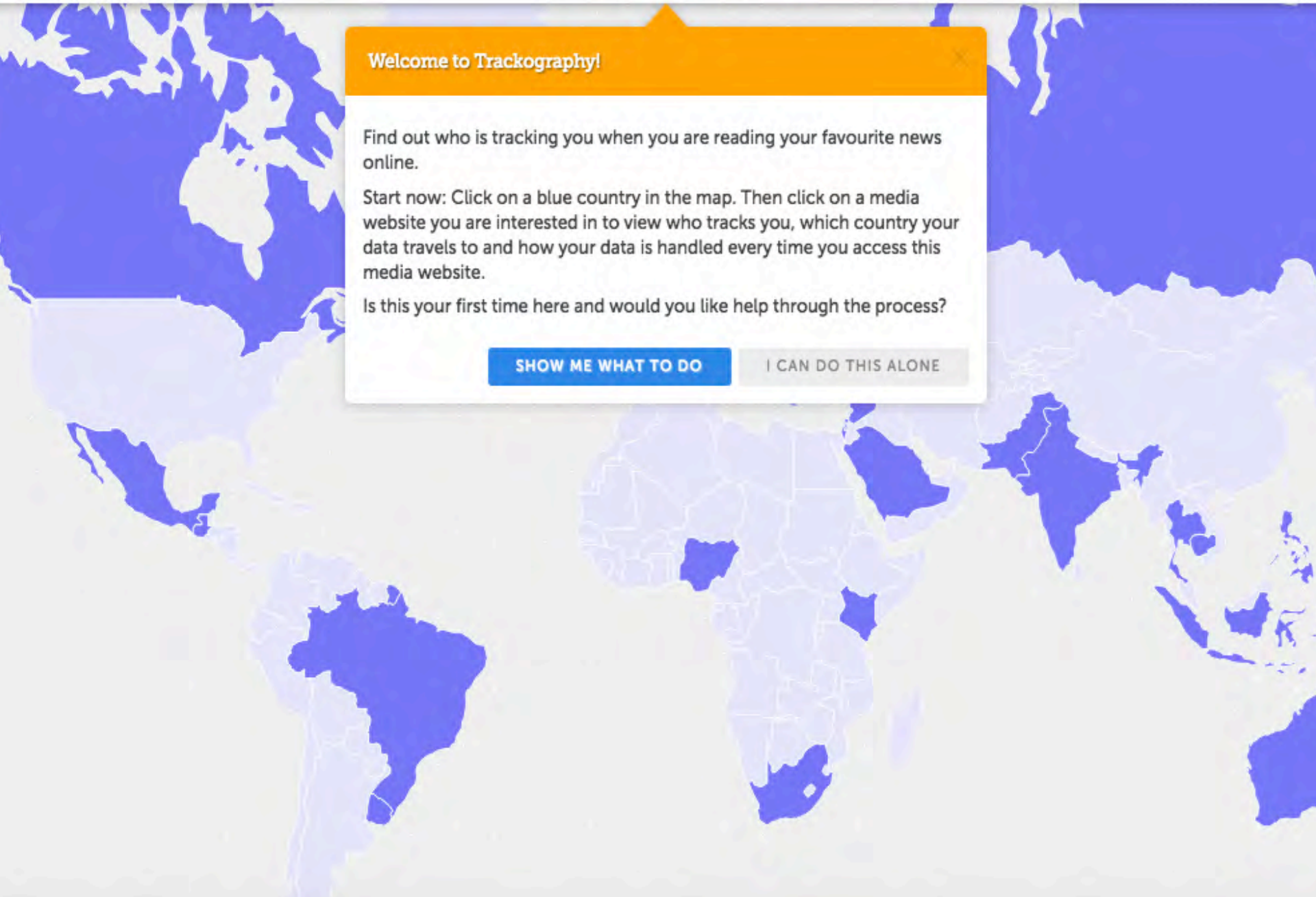
4. Context is key.


lol "hump" day
Prostitution crimes by week-hour
120
100
80
60
40
20
Sun
Mon
Tue
Wed
Thu
Fri
Sat

BEST IN CLASS
BEST IN CLASS
BEST IN CLASS
BEST IN CLASS
BEST IN CLASS
BEST IN CLASS
BEST IN CLASS
BEST IN CLASS


$30,000
$180,000
$75,000
$165,000
$90,000
$60,000
$30,000
$45,000
$642,500
$105,000
$87,500
$40,000
$120,000
$102,500
$97,500
$52,500
$330,000
$270,000
$600,000
$462,500
$375,000

click on a country to get started



Welcome to Trackography!

Find out who is tracking you when you are reading your favourite news online.

Start now: Click on a blue country in the map. Then click on a media website you are interested in to view who tracks you, which country your data travels to and how your data is handled every time you access this media website.

Is this your first time here and would you like help through the process?

SHOW ME WHAT TO DO

I CAN DO THIS ALONE

Hack Your Way To Scientific Glory

You're a social scientist with a hunch: **The U.S. economy is affected by whether Republicans or Democrats are in office.** Try to show that a connection exists, using real data going back to 1948. For your results to be publishable in an academic journal, you'll need to prove that they are "statistically significant" by achieving a low enough p-value.

1 CHOOSE A POLITICAL PARTY

Republicans | Democrats

2 DEFINE TERMS

Which politicians do you want to include?

- [ ] Presidents
- [ ] Governors
- [x] Senators
- [ ] Representatives

How do you want to measure economic performance?

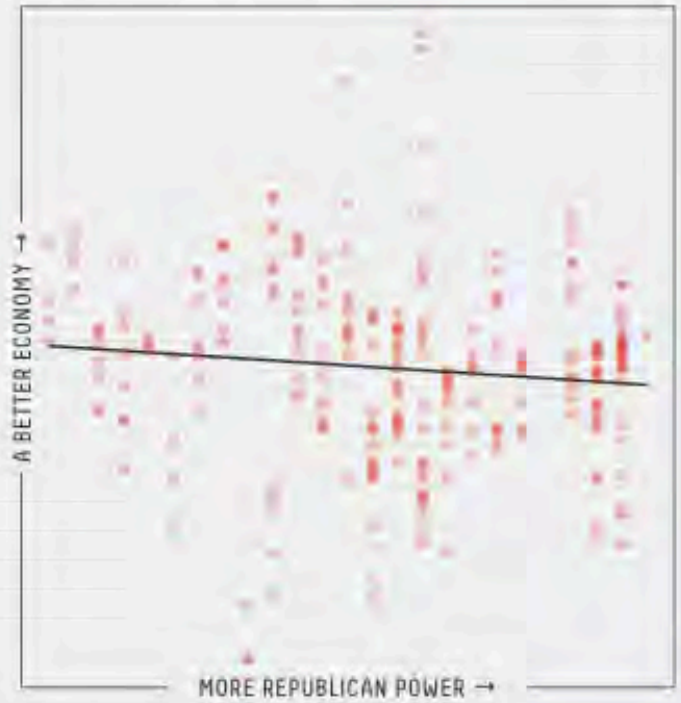
- [x] Employment
- [ ] Inflation
- [x] GDP
- [ ] Stock prices

Other options

- [x] Factor in power
  Weight more powerful positions more heavily.
- [ ] Exclude recessions
  Don't include economic recessions.

3 IS THERE A RELATIONSHIP?

Given how you've defined your terms, does the economy do better, worse or about the same when more Republicans are in power? Each dot below represents one month of data.



4 IS YOUR RESULT SIGNIFICANT?

If there were no connection between the economy and politics, what is the probability that you'd get results at least as strong as yours? That probability is your p-value, and by convention, you need a **p-value of 0.05 or less** to get published.

Result: Almost

Your **0.06** p-value is close to the 0.05 threshold. Try tweaking your variables to see if you can push it over the line!

If you're interested in reading real (and more rigorous) studies on the connection between politics and the economy, see the work of Larry Bartels and Alan Blinder and Mark Watson..

Data from The @unitedstates Project, National Governors Association, Bureau of Labor Statistics, Federal Reserve Bank of St. Louis and Yahoo Finance.

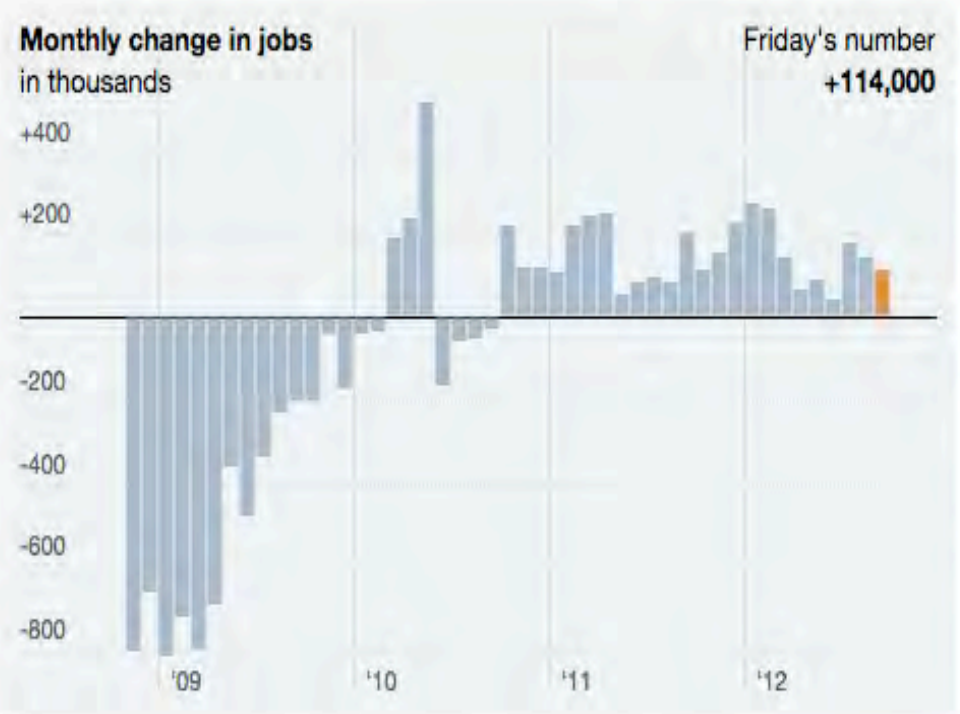
One Report, Diverging Perspectives

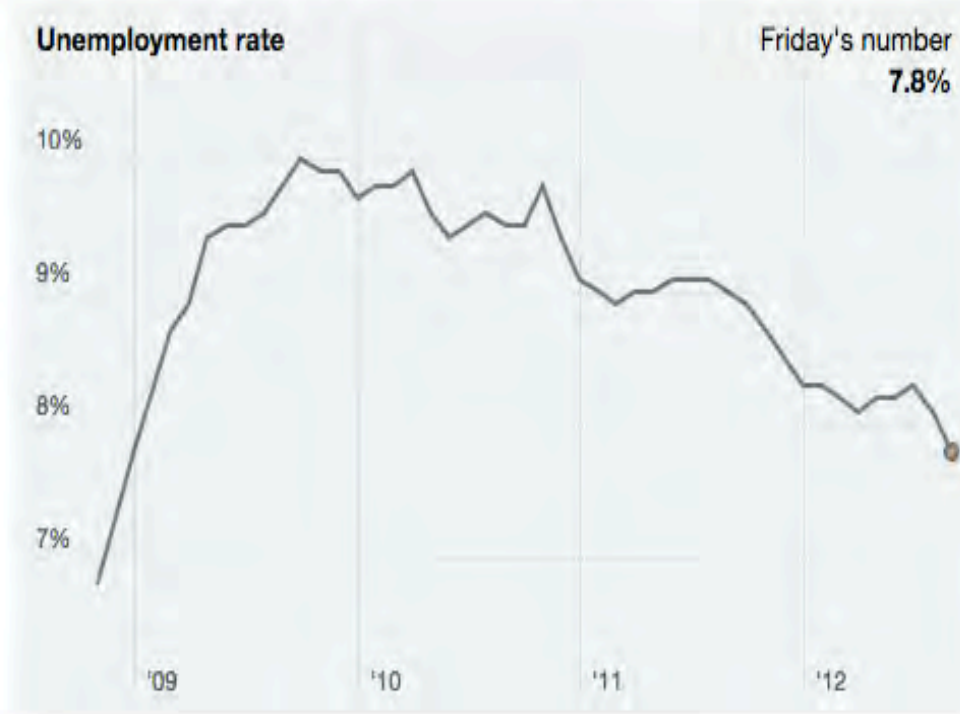
Friday's jobs report is the second-to-last of the presidential campaign. Each party will interpret the numbers in a way to convince voters that its policies will help economic growth. Related Article »

How a **Democrat** Might See Things | September Jobs Report | How a **Republican** Might See Things

The U.S. economy added 114,000 jobs in September.

The unemployment rate fell to 7.8%.





By MIKE BOSTOCK, SHAN CARTER, AMANDA COX and KEVIN QUEALY | Send Feedback

Source: Bureau of Labor Statistics

Jupiter
Mercury
Mars
Earth

Jupiter
Mercury
Mars
Earth

air mozilla

Audience Questions

Jake Porway
Founder and Executive Director, DataKind