Being smart with OakCrime

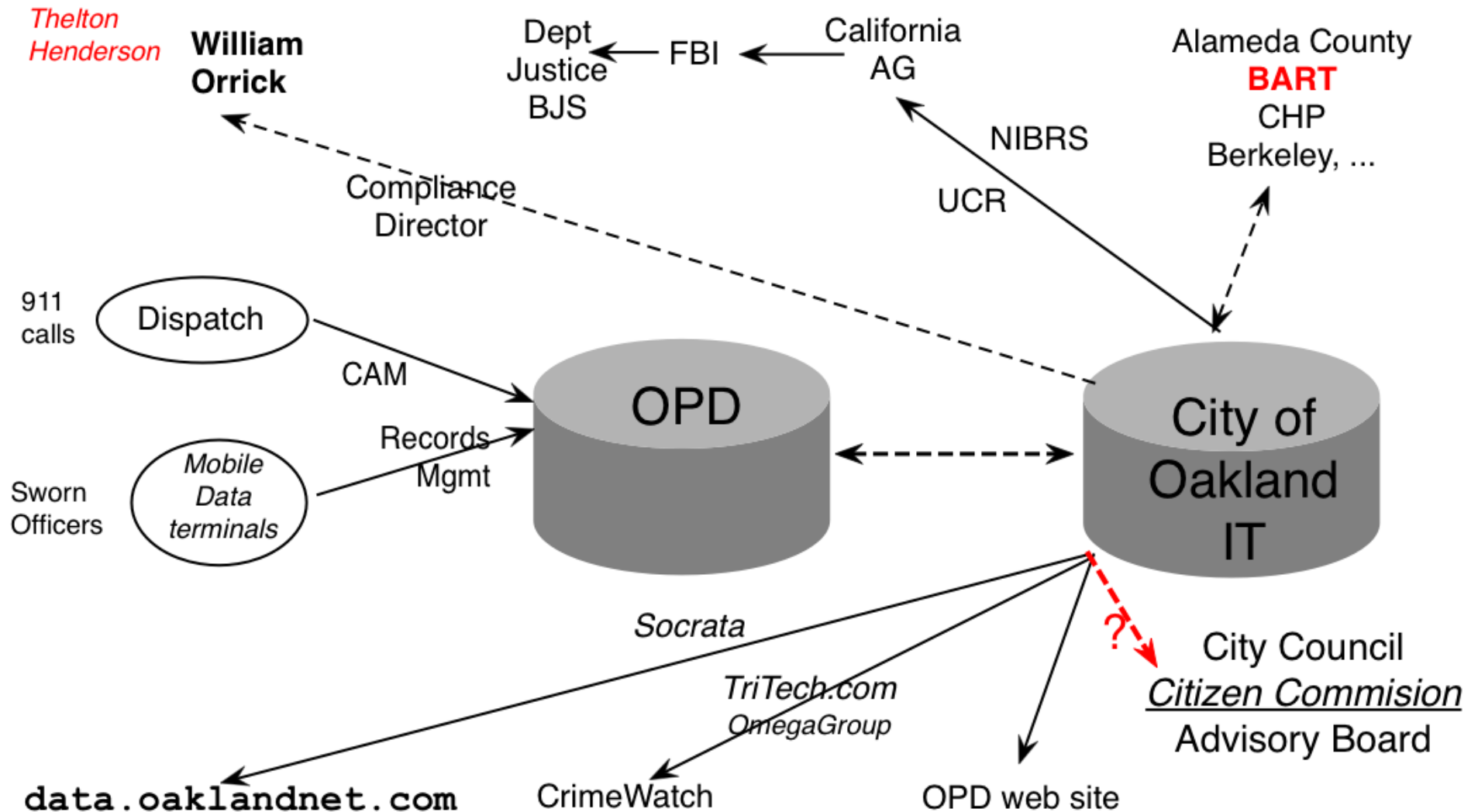## SmartOakland, 22 July 2017

Richard K. Belew

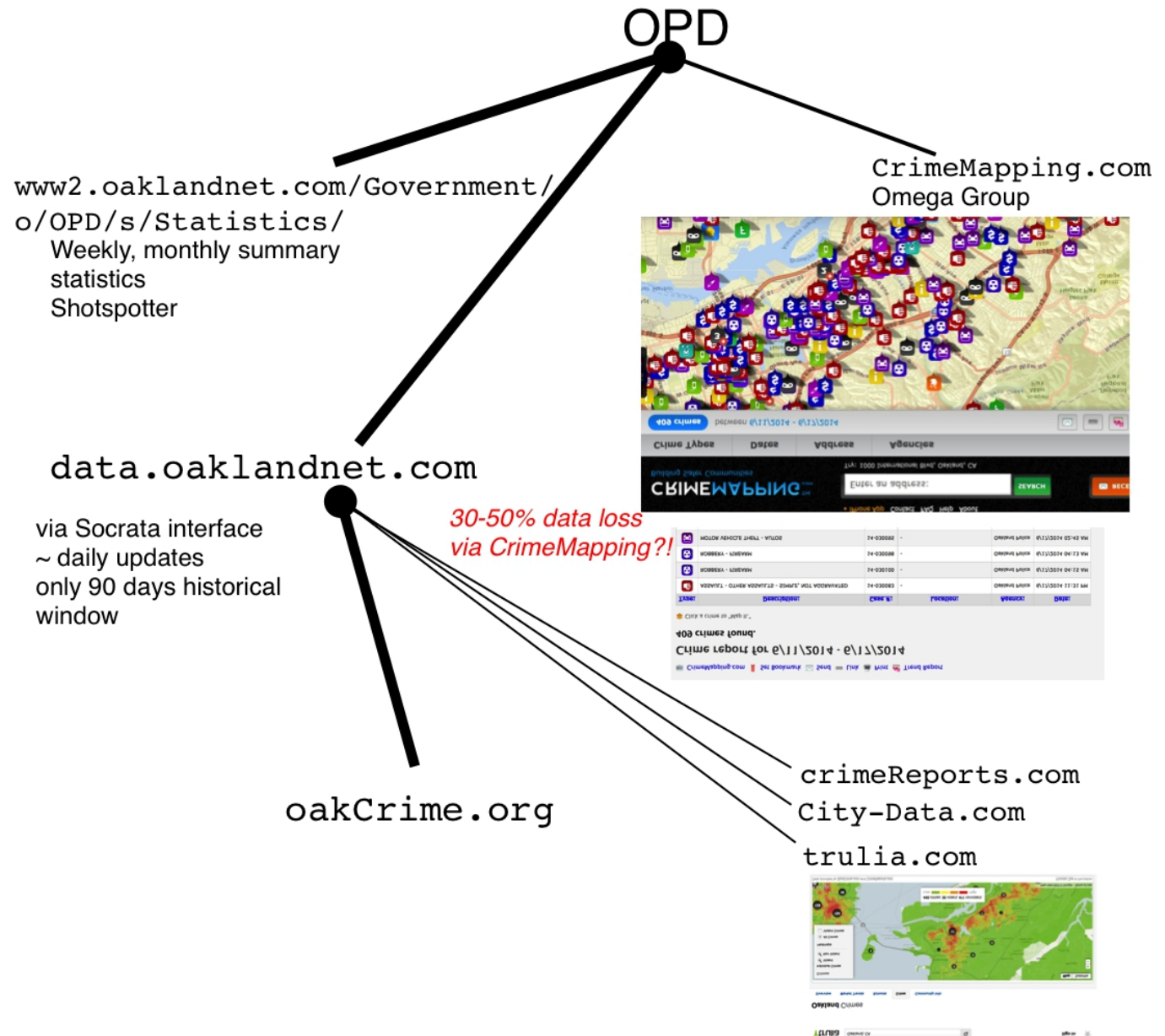`rik@electronicArtifacts.com`

- Preview
  - Range of data provided by OakCrime
  - Applications towards more intelligent decision-making in/about Oakland
  - *Demo of OakCrime.org ?!*
  - Experience, lessons that go beyond crime
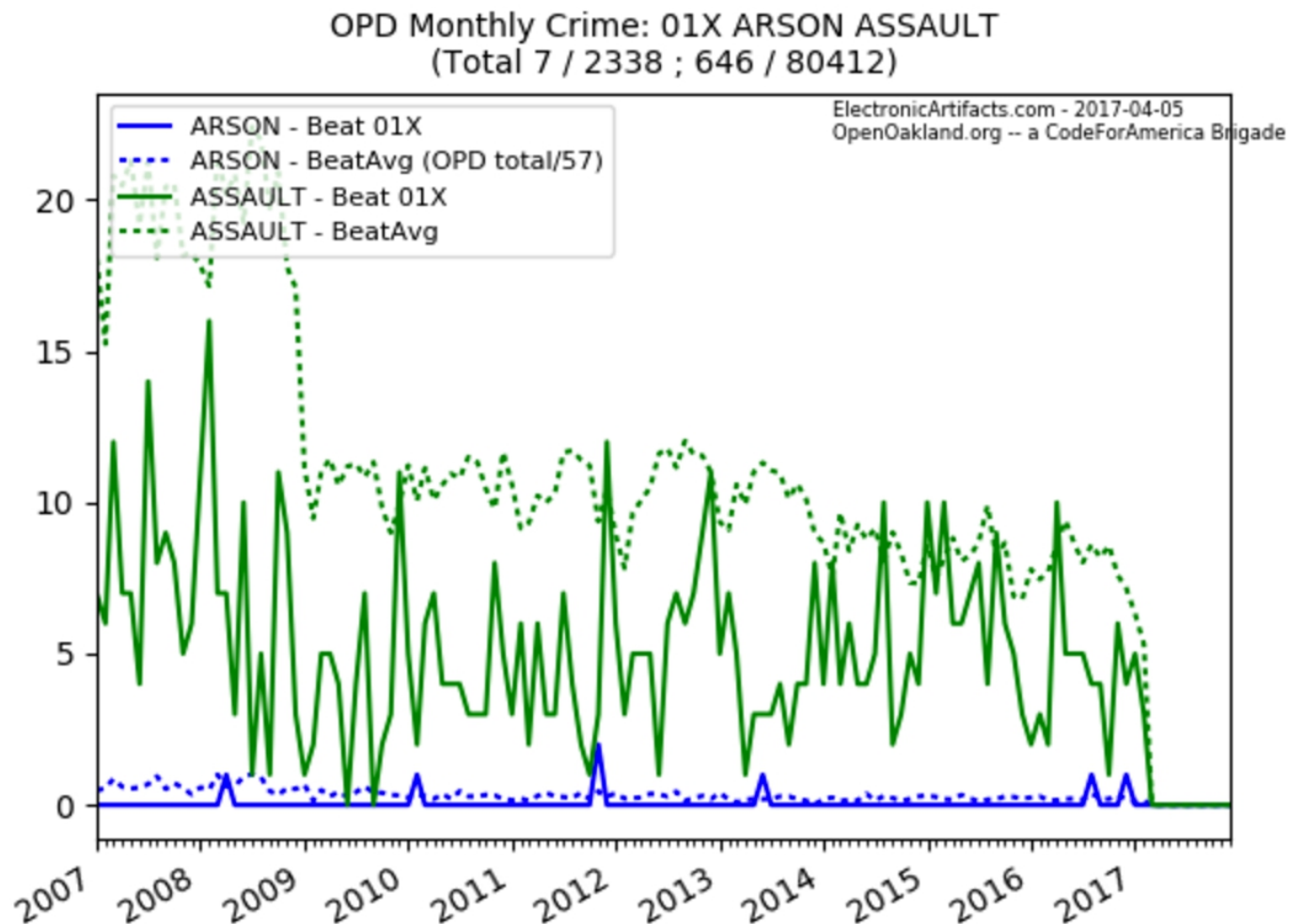
Data flow overview

Maintaining provenance

- Provenance ~ history of a thing

- We are dependent on Oakland for access to open *bona fide* data

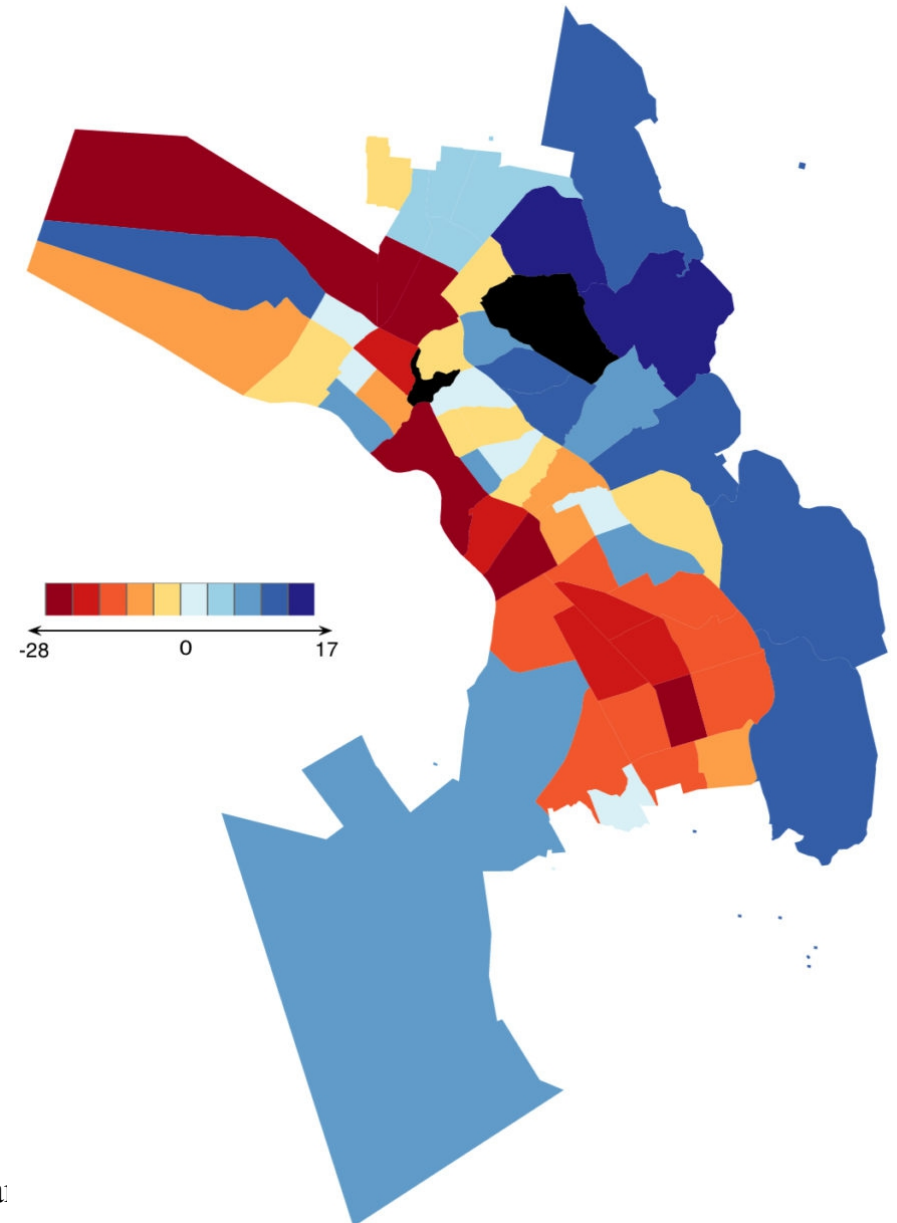- We then need to keep subsequent work open (and take good notes)

OPD

www2.oaklandnet.com/Government/o/OPD/s/Statistics/
   Weekly, monthly summary statistics
   Shotspotter

CrimeMapping.com
Omega Group

data.oaklandnet.com

via Socrata interface
~ daily updates
only 90 days historical window

30-50% data loss via CrimeMapping?!

oakCrime.org

crimeReports.com
City-Data.com
trulia.com

Longitudinal analysis of beats

- Back to 2007

- By Beat

- Crime classifications

OPD Monthly Crime: 01X ARSON ASSAULT
(Total 7 / 2338 ; 646 / 80412)

ElectronicArtifacts.com - 2017-04-05
OpenOakland.org -- a CodeForAmerica Brigade

Legend:
- ARSON - Beat 01X
- ARSON - BeatAvg (OPD total/57)
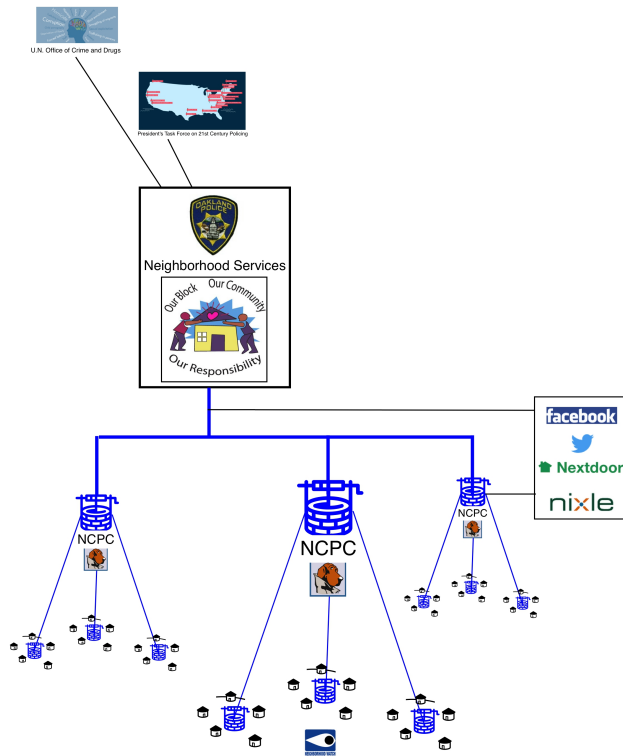- ASSAULT - Beat 01X
- ASSAULT - BeatAvg

Differing crime patterns

- Principal components analysis of beats across crimes types

- Geographically remote areas share similar crime patterns

- Best practices can be broadly shared

- rikiwiki: different-beats

Connecting to NCPC's

Private police patrols?!

- Rent-a-cop

- Private dollars beyond OPD

- Treat as "intervention"

- rikiwiki: analysis-of-a-neighborhood-intervention-using-open-data
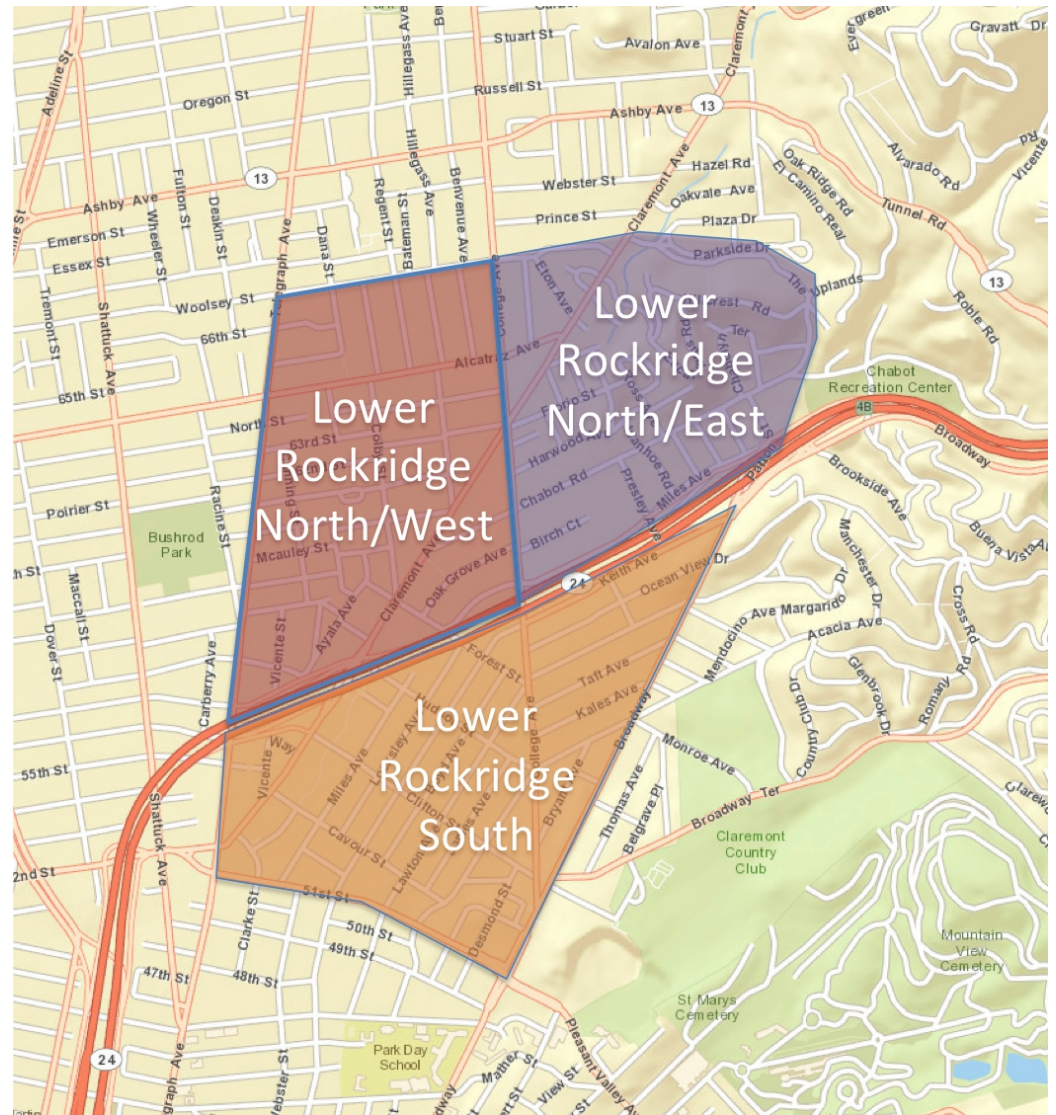
Watching the data source

- Multiple charges can arise from same incident
- We used to see them all, now we don't!

StopData

Race

- Asian 2484
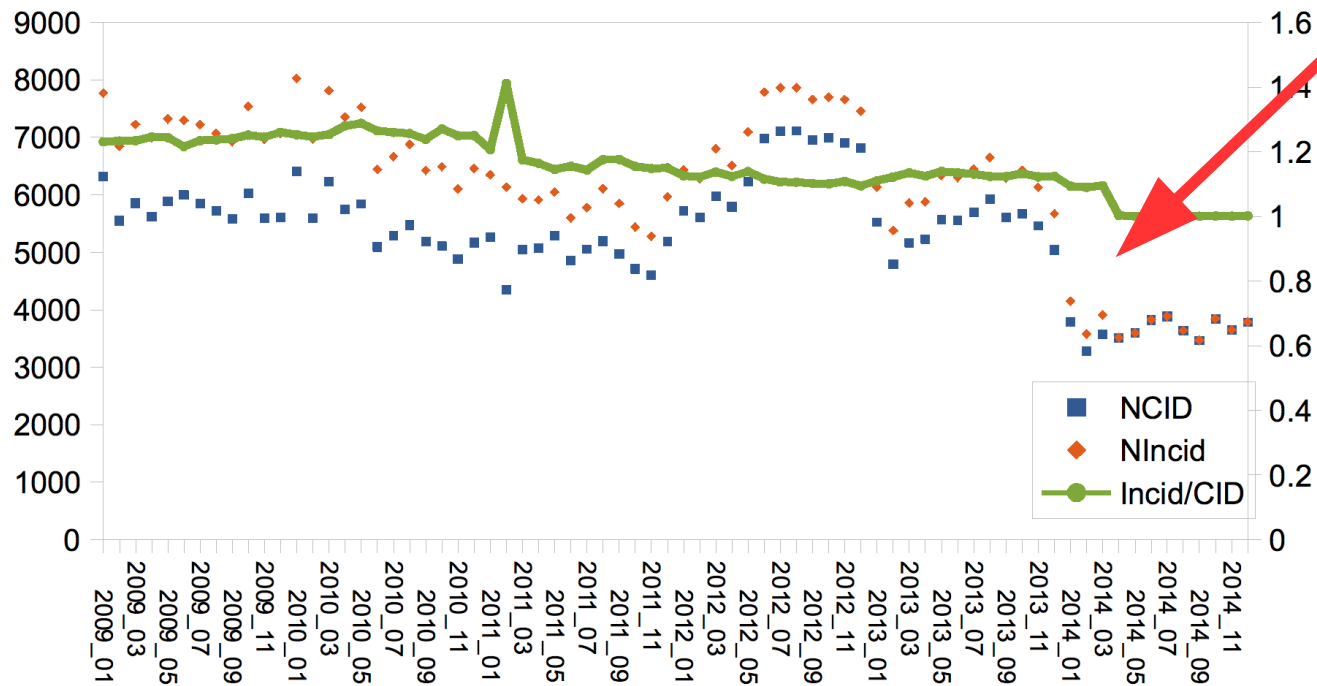- other 1149
- White 4329
- Hispanic 7498
- African American 22503

Type

- pedestrian 5157
- other 503
- bicycle 764
- vehicle 31539

Result

- felony arrest 2161
- misdemeanor arrest 1834
- fi report 10360
- report taken-no action 164
- warning 7984
- citation 15460

- http://static.electronicartifacts.com/stopData/
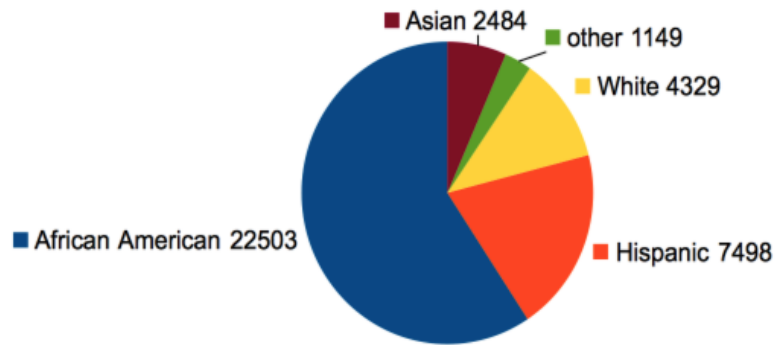
- rikiwiki: visualizing-discretionary-stops-by-the-oakland-police-department

National perspective
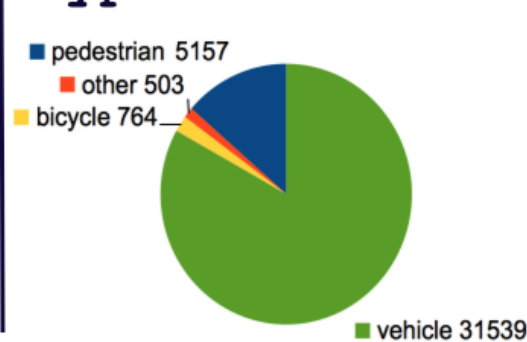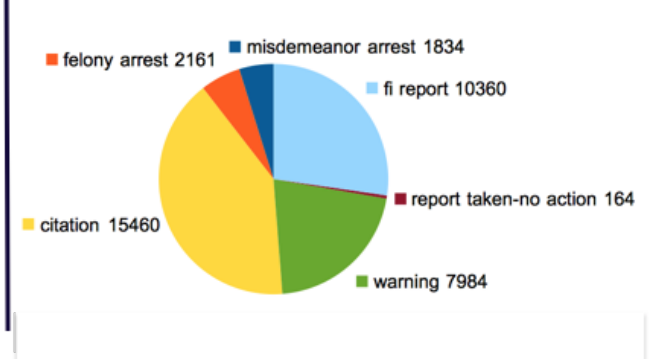

Police Open Data Census: Oakland in the National Context
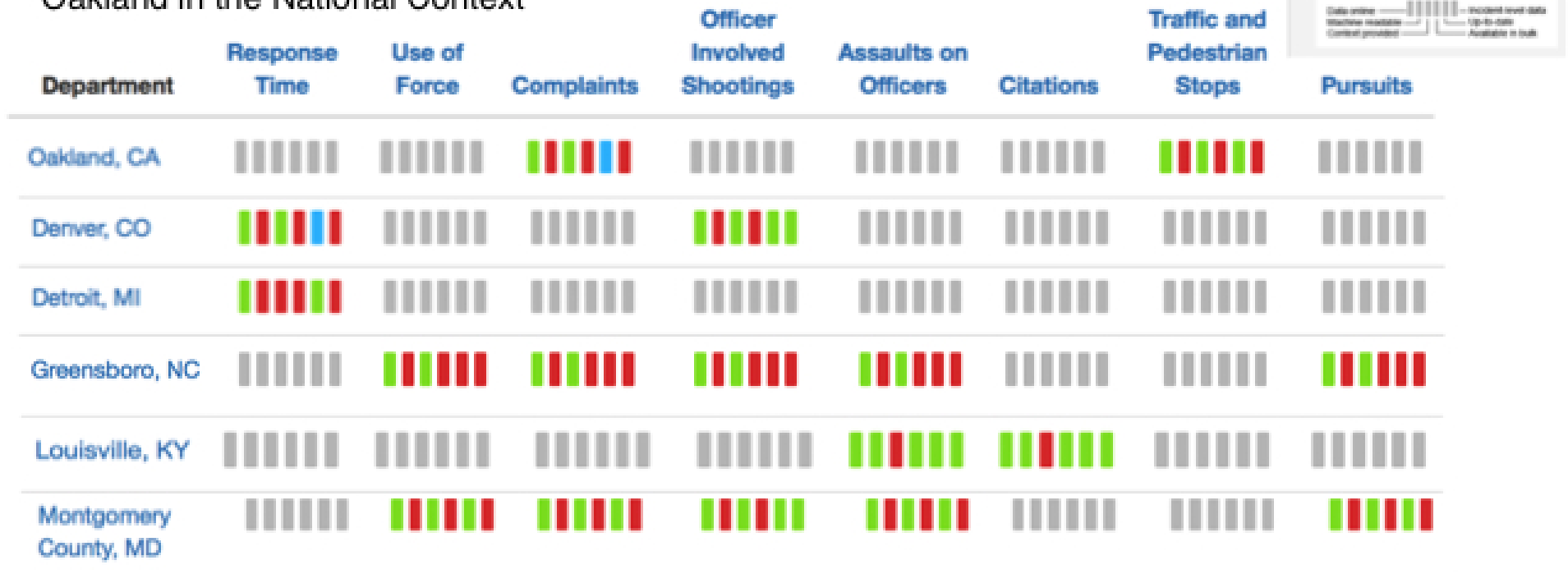
OakCrime.org

NearHere (mz): (37.828199,-122.265944) N=306; 📍 : Homocide, Rape, Robbery, Assault, Weapons; 📍 : Other
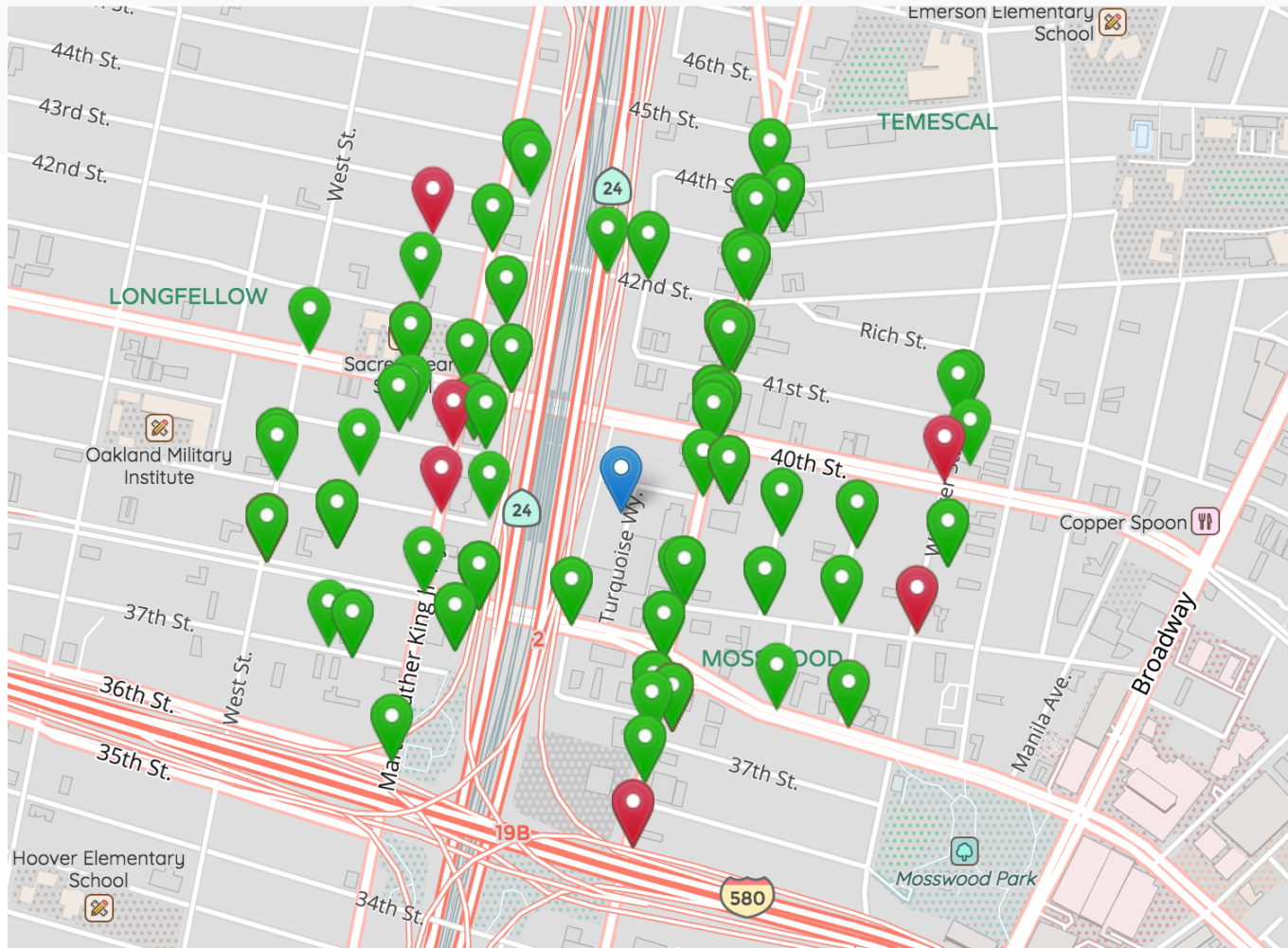
; 📍 : Homocide, Rape, Robbery, Assault, Weapons; 📍 : Other

All BART stations

Serious crime incidence
500m radius, 180d previous
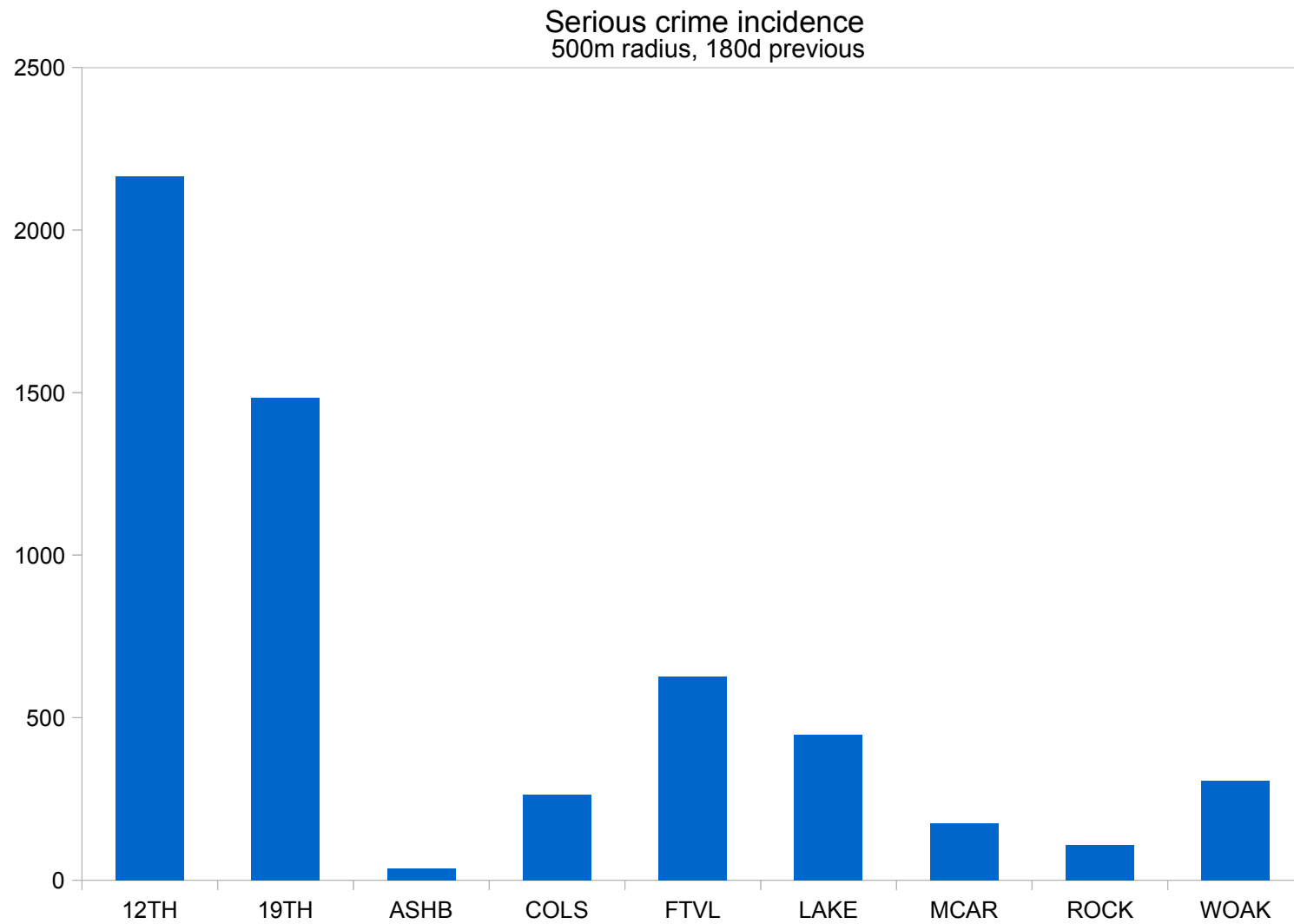
Relating incidents to ridership

Serious crime incidence, probability
500m radius, 180d previous, BART ridership
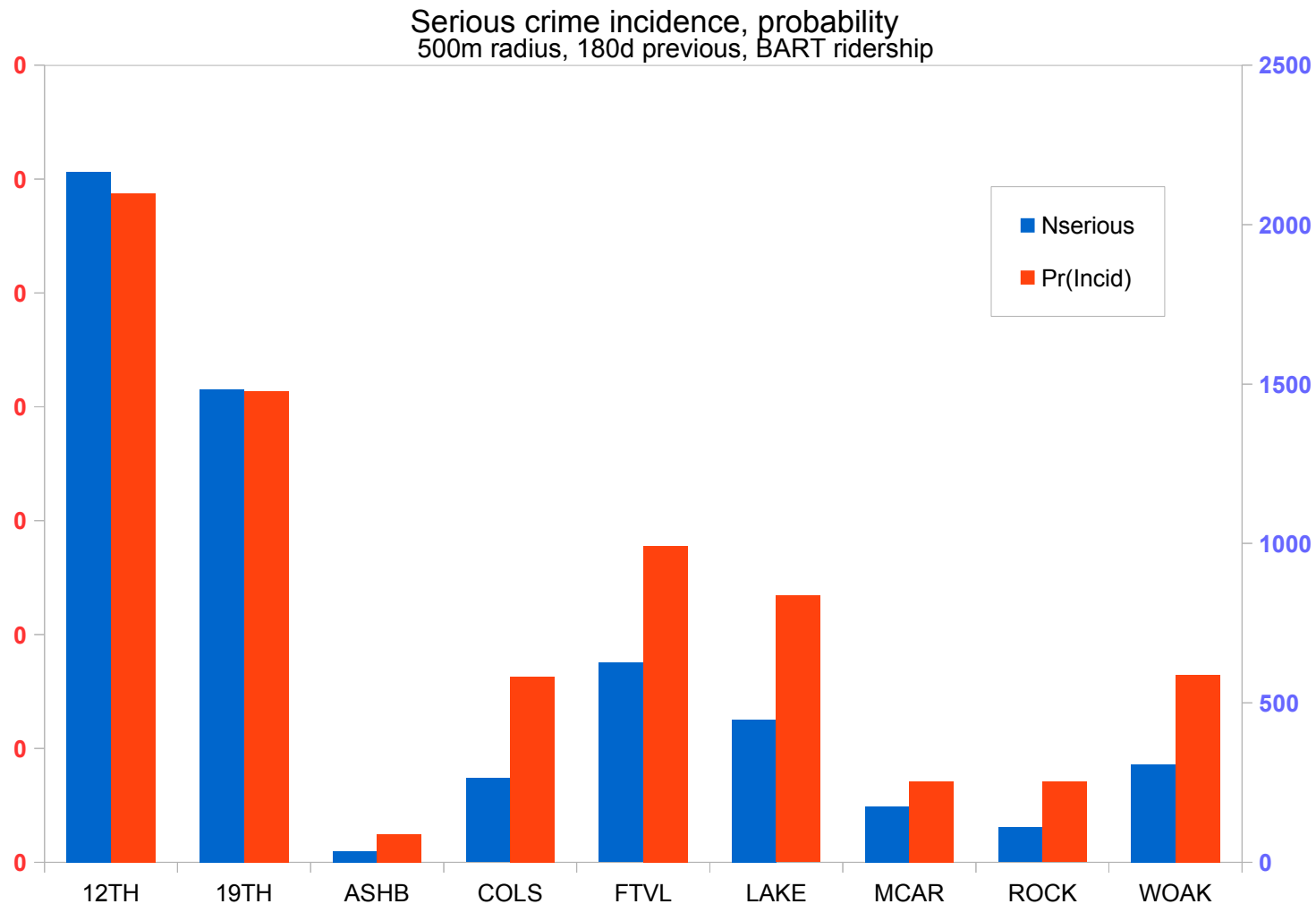
Incidents ~ BART "exposures"

Parks!

Crimes near parks

Dist 4, 500m radius, previous 180d
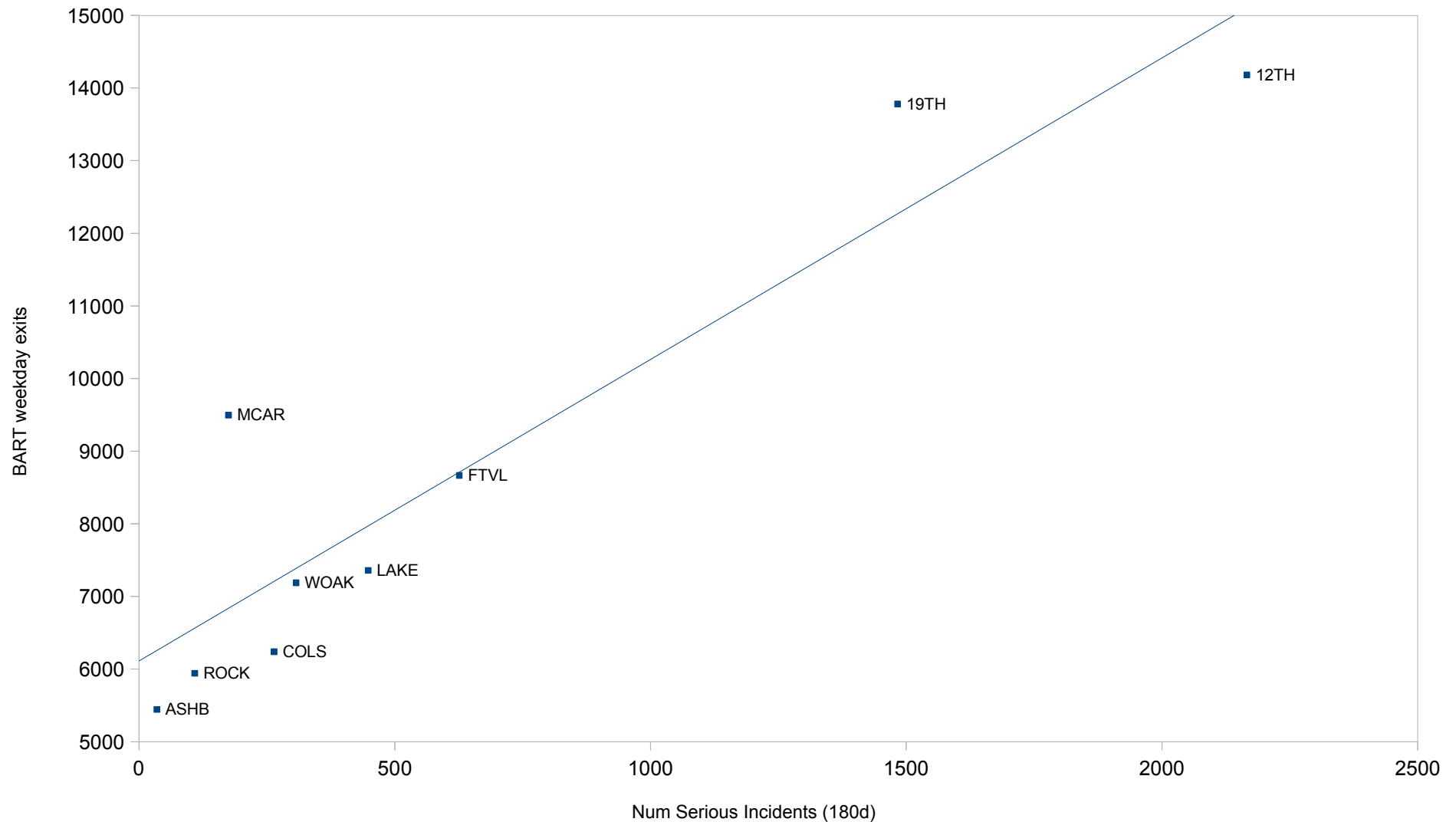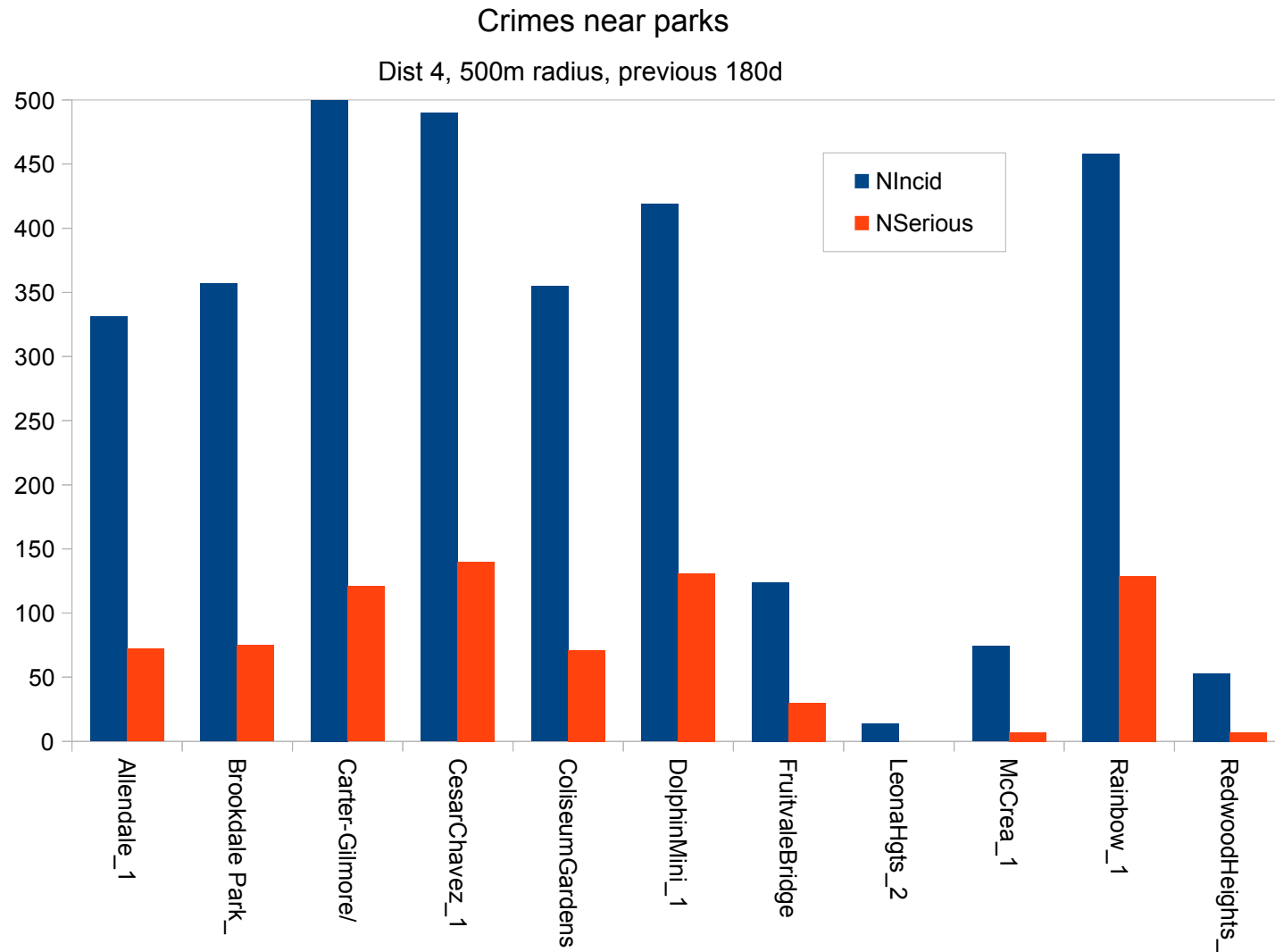
Demo of OakCrime.org

user:pw = asmartuser:oaksmart

1) Longitudinal plots
2) Geographic proximity queries
3) API

Ramy's questions (1)

- *Why is open data important?*

  – Exposing tacit assumptions

- *How do we use data to transform "smarter" change?*

  – Feedback loops, positive and negative [*Cybernetics*, Norbert Weiner, 1948]

- *Why does a healthy city = smart city?*

  – SmartCity : Healthy City :: Smart medical chart : healthy patient

- *How do we meet constituent needs with data?*

  – Ask, then deliver

Ramy's questions (2)

- *Who determines data need?*

  – Citizens query; Oakland needs to support the query

- *What are the power dynamics of data?*

  – Oakland (somewhere) knows; citizens need to dig

- *How can data not only bridge, but fill in digital and technological divides?*

  – Audience (eg, ethnic, generational) specific

- *What is the plural of data?*

  – Duh! But: data = "something given or admitted especially as a basis for reasoning or inference"

- *What if we had real-time data?*

  – Crowd-sourced reporting (crimes, OPD interactions in progress)

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Help!

- Data hacking
  - Capture CallForService (911) data
  - Register data wrt/ other *geographic* regions (eg, zip codes, census tracts, precincts)
  - Coordinate data collection with neighboring jurisdictions (eg, BART, Alameda Cty)
  - Improving user experience (eg, hierarchic CrimeCategory browser, FAQ, user support)
- Bringing the data to specific communities
  - Neighborhood Crime Prevention Councils (NCPC)
  - School, faith-based organizations
- Supporting Police Commission, Advisory Board

Summary

- *Why*: Mutual confidence in a common set of facts can help us discuss mutual problems

- *Provenance*: keeping careful track of open data sources, subsequent processing

- Oakland data as "spine" around which crowd-sourced data can be organized

- Every crime motivates a citizen, temporarily

- A crime statistic means it's already too late

Links

- `OakCrime.org`
  - Longitudinal plots
  - Recent crimes near BART, parks, specific locations
  - API
    - Specific beat
    - Specific location
    - Specific crime category
- `rikiwiki.electronicartifacts.com/opd-crime-statistics`

  - Background writing re: dropped data, crime classification, comparing to commercial sources, …

- `github:rbelew/OakCrime`

- **`openoakland.org/oakcrimedata/ !`**