3:45 pm - 4:30 pm

Denise Hawkins & Stacey Schipper

The City and County of Denver's Approach to Actionable Intelligence with Data

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Agenda

- **Denver's Data program – Where are we today?**
- **Bloomberg Grant**
  - –Partnerships with What works cities and Sunlight foundation
- **What is open data?**
- **Open Data Policy**
- **What's next**
- **Marijuana lightening talk**
- **Driving data outcomes**

Where are we today with our program?

- Formed a team in technology services
- Worked on productivity dashboard for the Denver Police department
- Ramp' d up the program by going on "road show"
  - DPD
  - Sheriff
  - Citywide KPI/metrics

Overview
What is Open Data

- 2012 -The open data initiative for the City and County of Denver began as an employee level initiative to get our data out to the public to help with both transparency and to free up staff from processing many data requests.
- On May 9, 2013, President Obama signed an executive order that made open and machine-readable data the new default for government information.
- Making information about government operations more readily available and useful is also core to the promise of a more efficient and transparent government. http://www.whitehouse.gov/open
- Over the past few years, the Administration has launched a number of Open Data Initiatives aimed at scaling up open data efforts across the Health, Energy, Climate, Education, Finance, Public Safety, and Global Development sectors.
- The White House has also launched Project Open Data, designed to share best practices, examples, and software code to assist federal agencies with opening data. These efforts have helped unlock troves of valuable data — that taxpayers have already paid for — and are making these resources more open and accessible to innovators and the public.

Open Data value

- **The current Open Data Catalog has 191 datasets available**
  - Open Data Catalog high usage
    - Crime 3,000 + downloads
    - Parcel 3,000 + downloads
    - Mostly Spatial (MAPS) – some non spatial data
  - PocketGOV
  - Open checkbook
  - Code for America initiatives - marijuana crimes and tax revenue
  - Procurement and Travel webpage (Budget) and the Open Checkbook
  - Street sweeping app is using open data to notify citizens if requested, via email or text
  - The State of Colorado downloads our GIS data to help create State-wide GIS layers
  - Our neighboring municipalities download our data to help create regional GIS layers
  - The media uses the "Open Checkbook" to research City spending on various projects
  - Researchers use the data on the ODC for various studies:
    - project that develops a displacement metric to predict when market rate affordable housing will be demolished or remodeled to reflect the increase in land value and decrease in building value, therefore displacing low-income renters
- New arrivals
  - Marijuana operations data
  - DPD - Traffic and Pedestrian stops + 2 more
  - Data Sharing agreement with Louisville KY – Sheriff department data analysis
  - Energy efficient Buildings

Open Data Nationwide

Case Study: NYC OpenData

- 2012: Local Law 11, requiring city agencies to open data
- 1,350 current data sets
- 282 planned data sets
- Used for visualizations of noise complaints, building construction, recycling rates, urban streetscape, etc.

38 U.S. Cities with Open Data Policies

7 U.S. Counties with Open Data Policies

15,000 Available datasets on Socrata multi-tenant platform

$3 trillion Potential economic benefit of releasing federal data (McKinsey)

Why an Open Data Policy

- **Align with the Mayor and White House government transparency initiatives**
- **Incorporate best practice**
- **Facilitate the dissemination of information in a rational and legal manor that best serves the public**
- **Bloomberg Grant resources – Sunlight Foundation**
- **perfect opportunity for us to use these resources to get this accomplished**
- **Zero-** CCD policies providing support for open data initiatives, guidance for agencies, and governance of open data practice

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What happens next

- Finalize open data policy
- Formalize Data governance
- Establish open data procedures
- Identify Data coordinators
- Identify useful data sets
- Tell stories using data instead of just publish datasets
- Revamp open data web site

Marijuana Portal and Data Sensitivity Concerns Lightening talk

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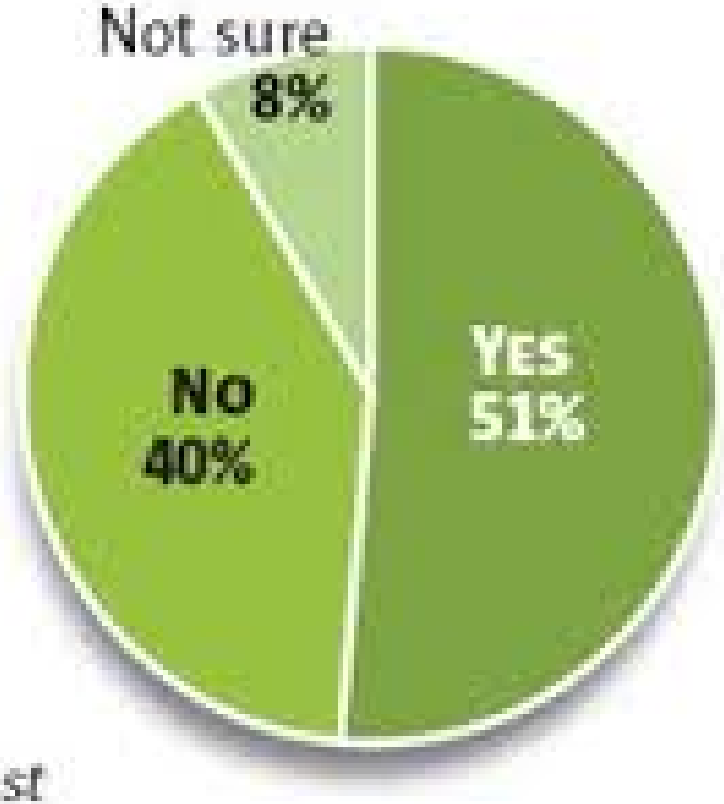
Amendment 64 PASSED

Amendment 64

Would decriminalize marijuana in Colorado.

Survey USA polled 615 Colorado adults who were likely to vote in the November election from Sept. 9-12. Totals may not equal 100 percent due to rounding. The margin of error is plus or minus 4 percentage points.

Source: SurveyUSA Elections
The Denver Post



Need answers

Safety

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- Denver implements data driven policies
- Compliance Metrics
- Crime Metrics
- Industry Trends
- Youth Usage Metrics
- Enforcement Tactics
- Policing Tactics
- Command Economics
- Education Campaigns

Inspections

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DATA

Internal dashboard

Denvergov.org customer facing

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Neighborhood Business Visiting Government Online Services A to Z Search

Denver Marijuana Information

Newsroom | Marijuana Data & Statistics

Denver Marijuana Information / Marijuana Data & Statistics

Marijuana Data & Statistics

Revenue & Sales

Crime Statistics

Licensing & Locations

Public Health Statistics

Past Presentations

- Zoning Permits & Change of Use
- Zoning & Building Inspections
- Fire Safety Permits
- Food Safety
- Taxes & Revenue
- Public Hearing Schedule
- Medical Marijuana Licensing
- Retail Marijuana Licensing

Related Resources

Contact Us

Webb Municipal Office Building
201 W. Colfax Ave., Dept. 206
Denver, CO 80202
Phone: Call 311
Outside Denver: Call (720) 913-1311
Fax: (720) 865-2881
MarijuanaInfo@denvergov.org

Marijuana in Colorado
Be educated. Be responsible.

Active licenses

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Neighborhood | Business | Visiting | Government | Online Services | A to Z | Search

Denver Marijuana Information

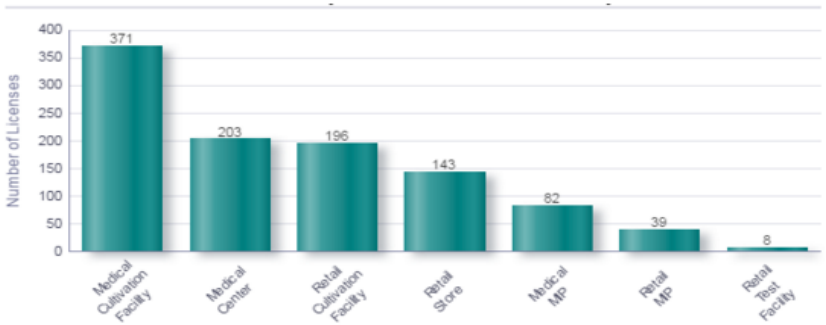
Newsroom | Marijuana Data & Statistics

Denver Marijuana Information / Marijuana Data & Statistics / Licensing and Locations

Active Marijuana Licenses & Locations

Number of Marijuana Business Licenses Currently Issued

This graph represents the total number of marijuana business licenses currently issued in the City and County of Denver. Please note, many of these licenses are co-located in a single physical location. Please see below for a count of distinct marijuana business locations.

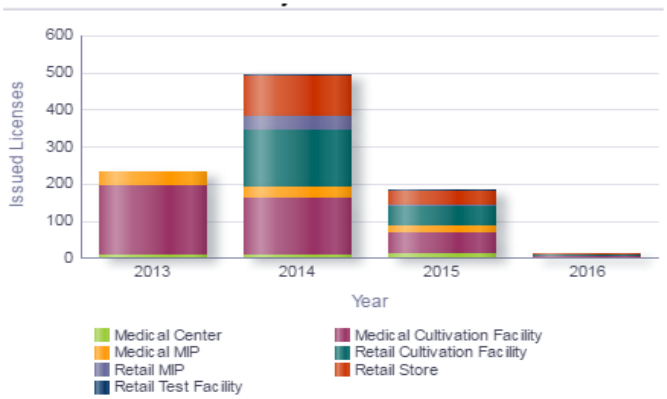


MIPs are manufacturers of infused products (such as edibles)

This graph was updated on 02/04/16. A CSV export of the number of active licenses, updated daily, can be found here.

New Licenses Issued by Facility Type

This graph represents the total number of new marijuana business licenses issued in the City and County of Denver by month. This graph only includes license applications received on or after Jan. 1, 2012. Also, these graphs only show original issue dates occurring on or after Jan. 1, 2013.



MIPs are manufacturers of infused products (such as edibles)

This graph was updated on 02/04/16. A CSV export of the number of new marijuana licenses issued, updated daily, can be found here.

Licenses issued vs total issued

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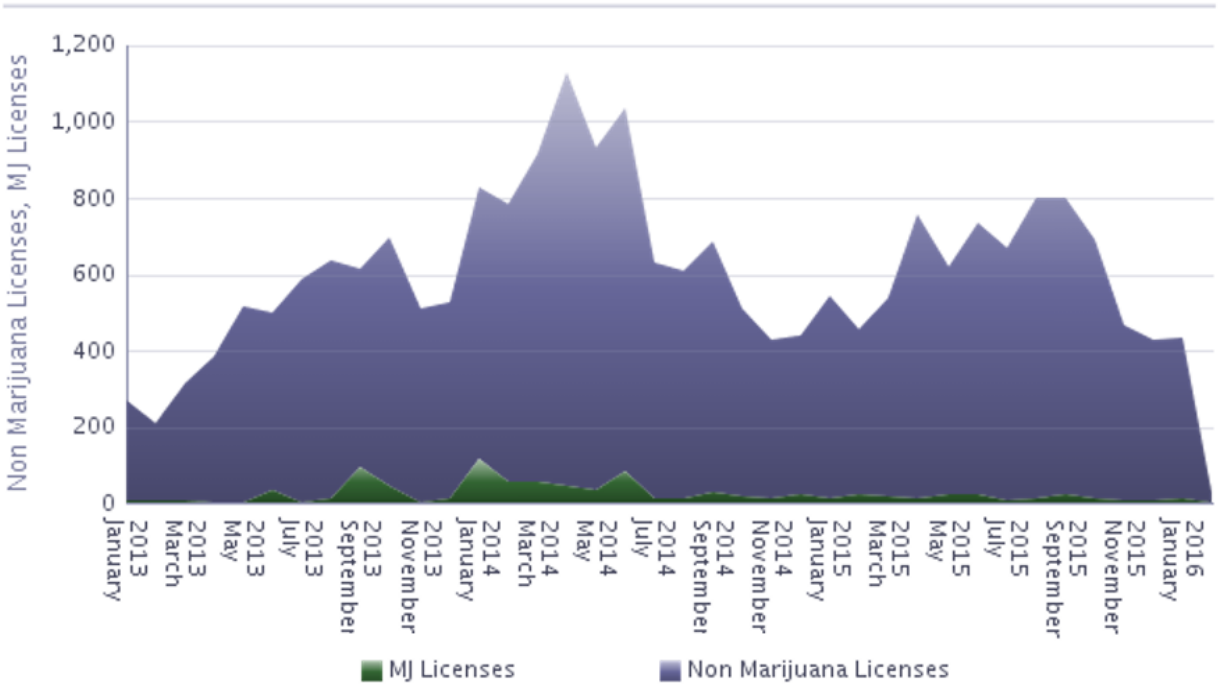
Neighborhood Business Visiting Government Online Services A to Z Search

Denver Marijuana Information

Newsroom Marijuana Data & Statistics

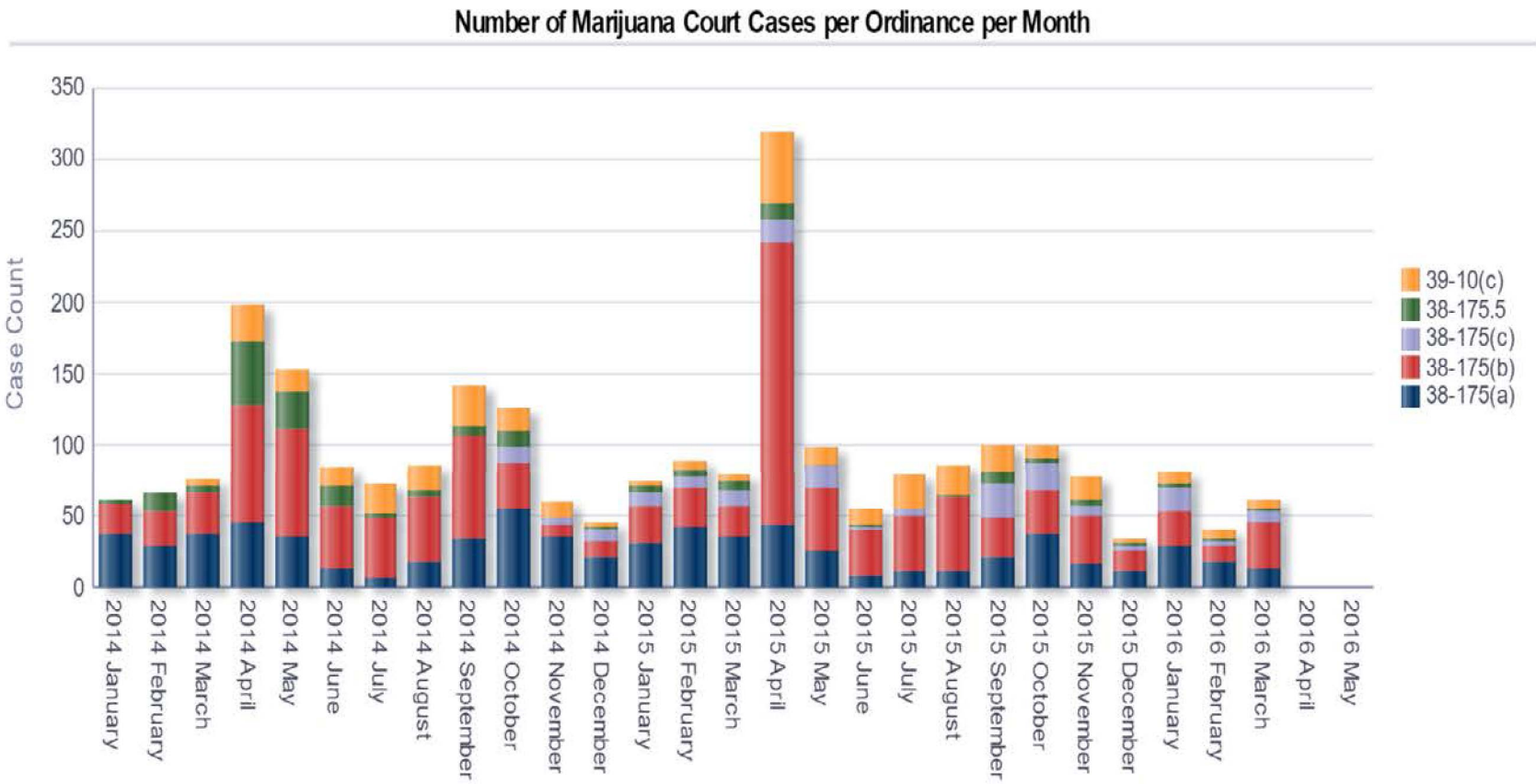
Total Licenses Issued vs. Total Marijuana Licenses Issued

This graph represents the total number of new marijuana business licenses issued in the City and County of Denver by month. This graph only includes license applications received on or after Jan. 1, 2012. Also, these graphs only show original issue dates occurring on or after Jan. 1, 2013.



This graph was updated on 02/04/16. A CSV export of the total number of new licenses issued by Excise and Licenses, updated daily, can be found here.

Court Cases by Month



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Citations 4/20

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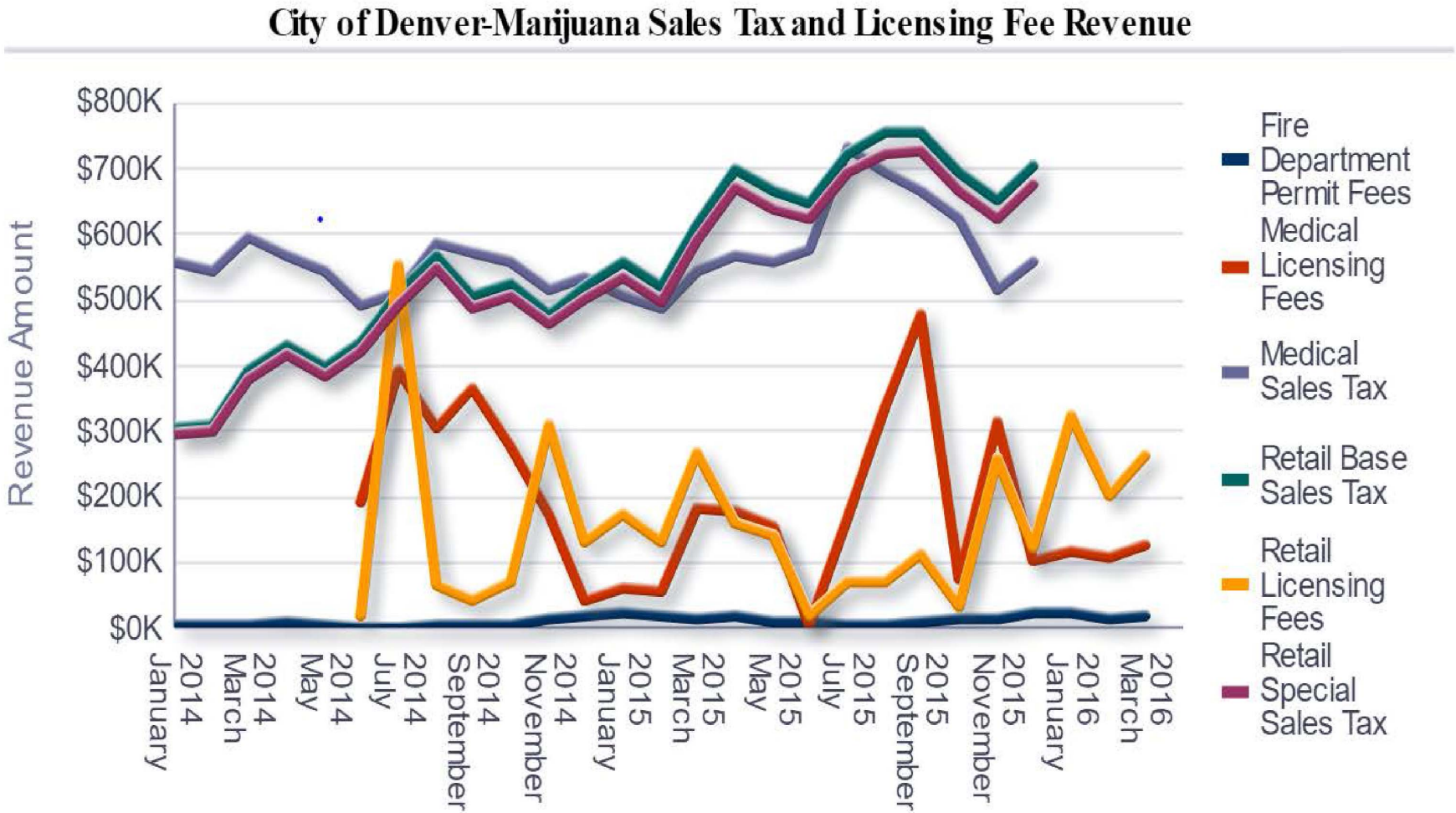
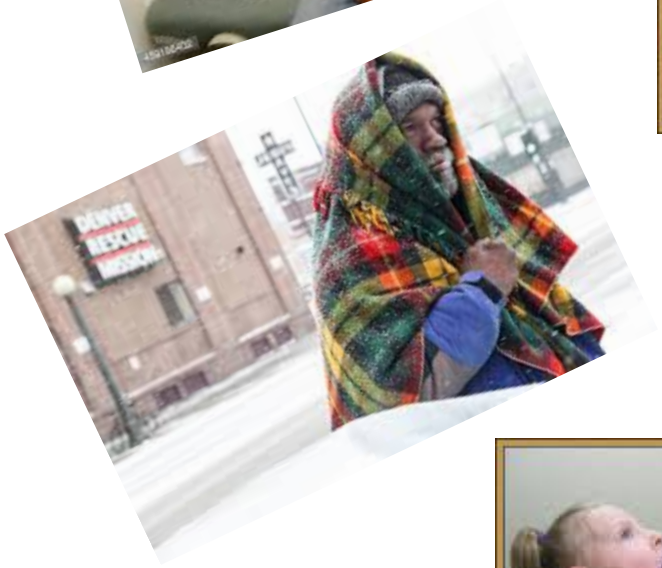
Revenue



Health and homeless impact



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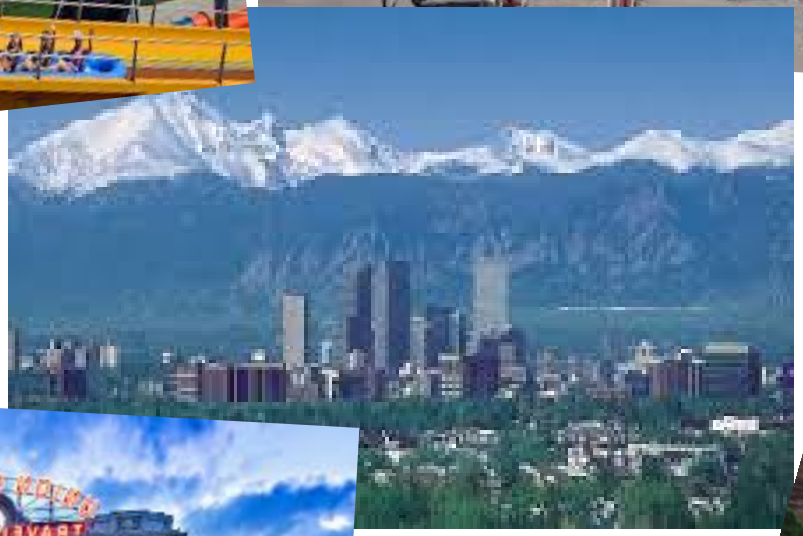
Tourism



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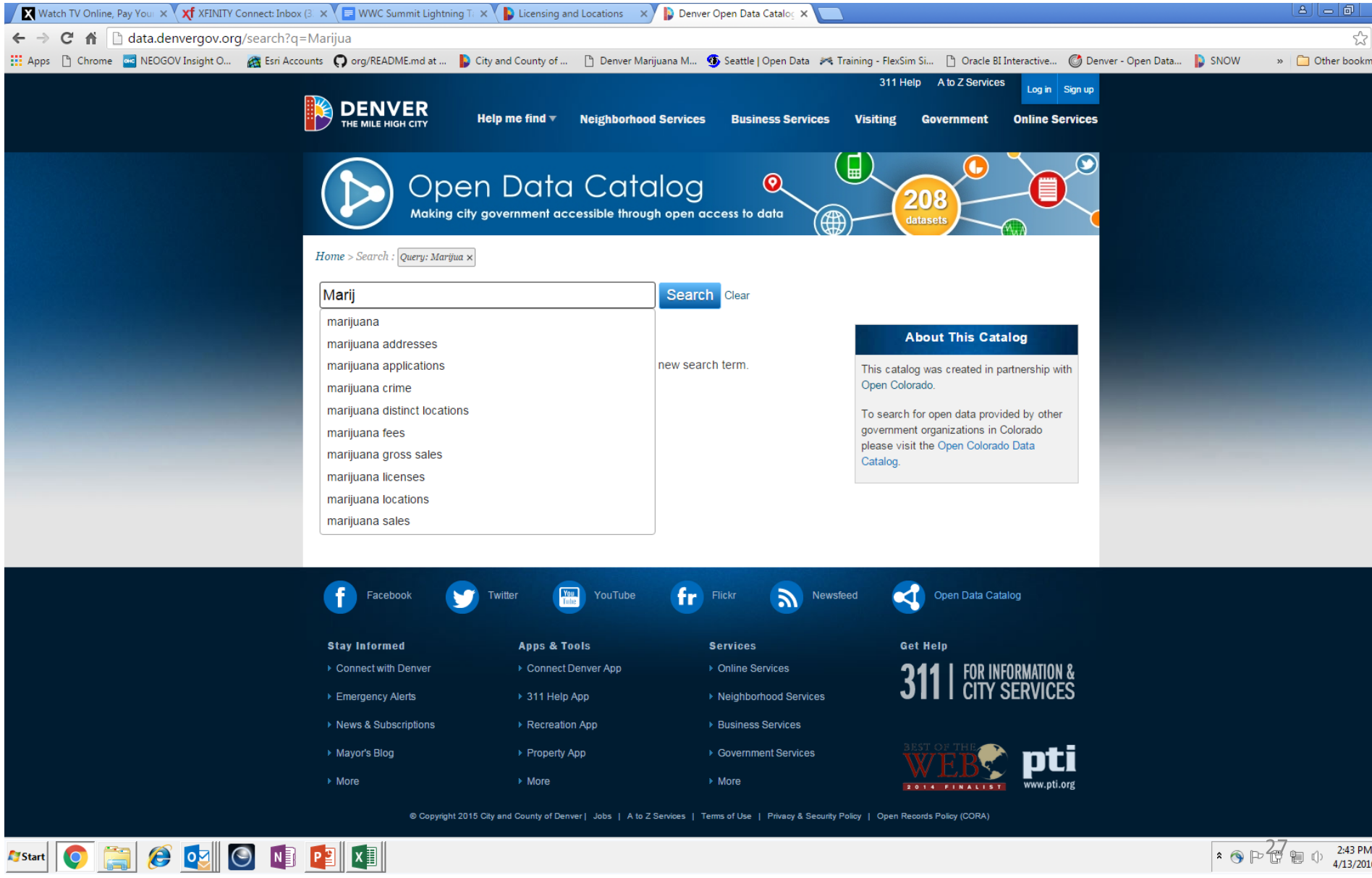
Data challenges

To Publish or not to publish

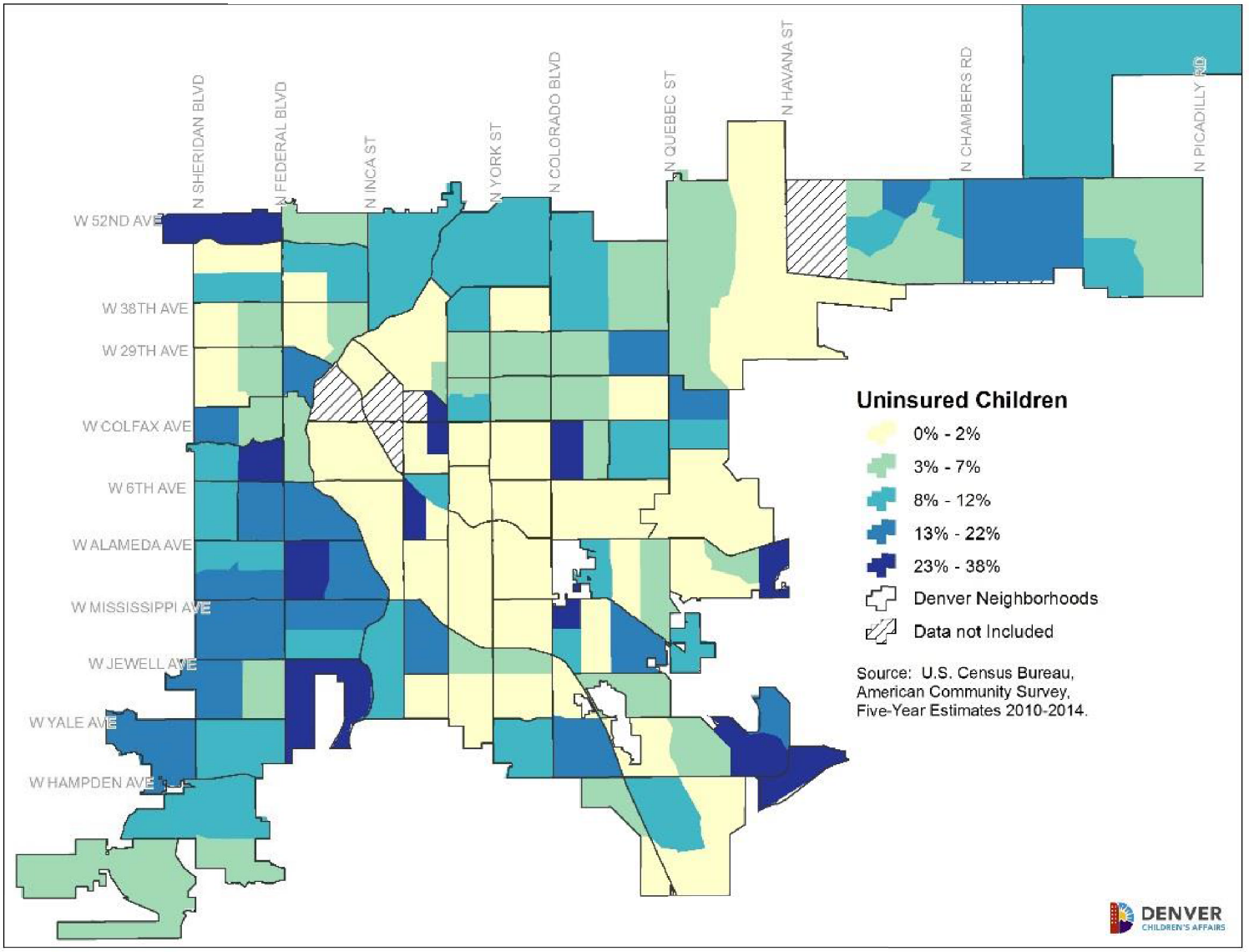
Open data portal



Driving data outcomes
Stacey Schipper

- Intro
- Challenges with Public Data
- Types of Analytics
- Delivery and Strategy
- Aligning on methodology and definitions
  - Chicago – using rat data and predicative analytics
  - Denver – Community corrections

Challenges With Public Data



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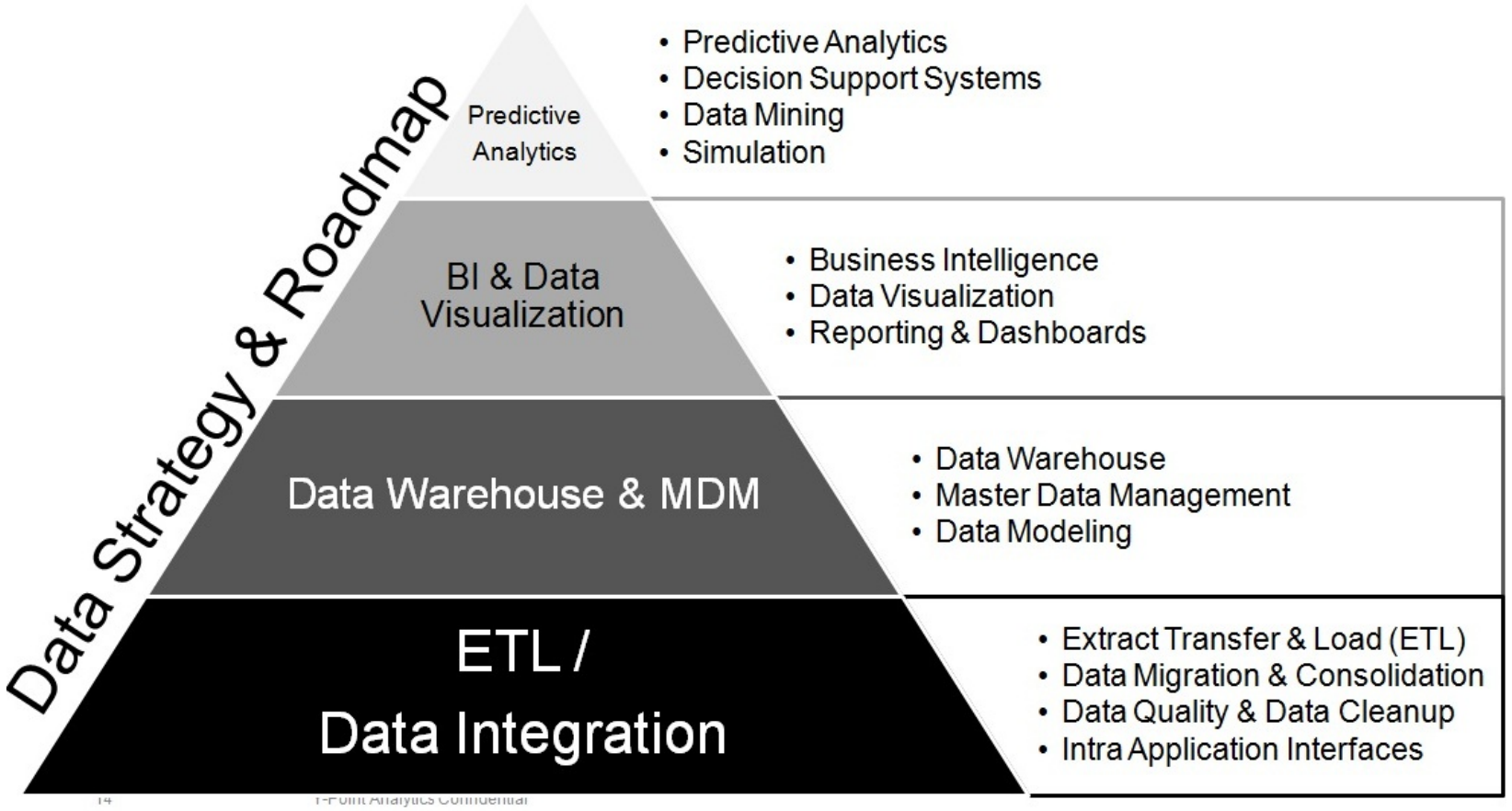
Types of Analysis

Descriptive - exploratory

Predictive - forecasting, classification

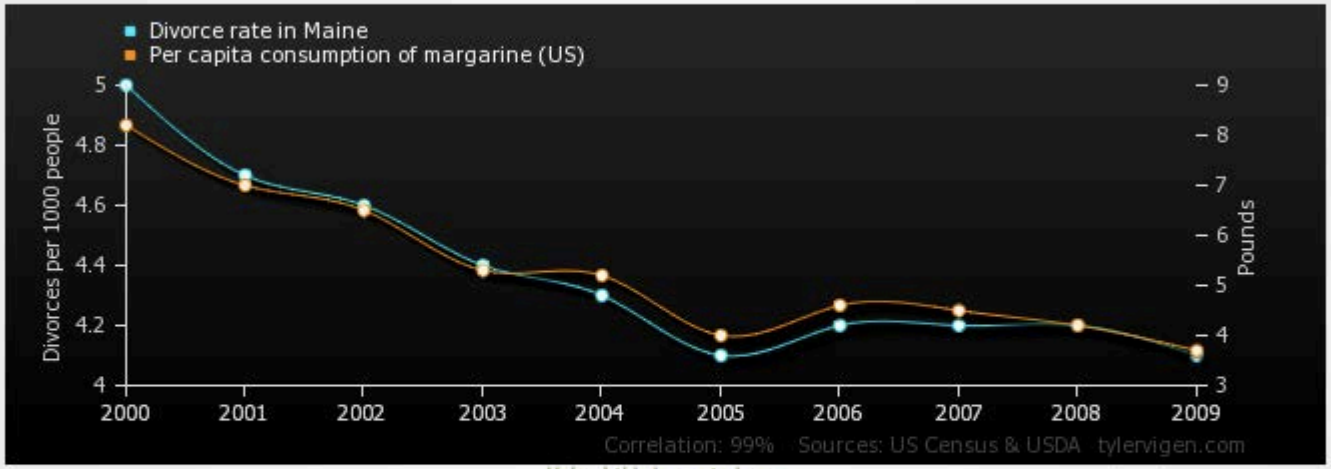
Prescriptive - decision making

Delivery and Strategy



Importance of Understanding the Data

Divorce rate in Maine
correlates with
Per capita consumption of margarine (US)



Upload this image to imgur

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Divorce rate in Maine *Divorces per 1000 people (US Census)*	5	4.7	4.6	4.4	4.3	4.1	4.2	4.2	4.2	4.1
Per capita consumption of margarine (US) *Pounds (USDA)*	8.2	7	6.5	5.3	5.2	4	4.6	4.5	4.2	3.7

Correlation: 0.992558

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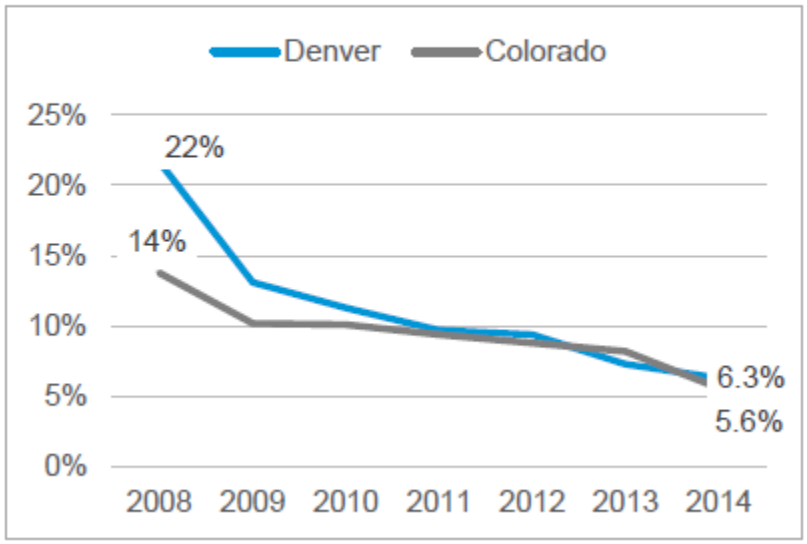
The Data Science Reality

John Foreman, Chief Data Scientist for MailChimp:

- 1/3 talking with others and figuring out how we can use our data to solve problems
- 1/3 up to my elbows in uggo data cleaning and prepping to solve a problem
- 1/3 hunting down data that's logged in some strange way, plying developers with drinks to get the data moved into our big data store in the appropriate way for modeling
- .00000001% actual training of models.

Start with the problem

Figure 66: Uninsured Children



Source: 2016 State of Denver's Children

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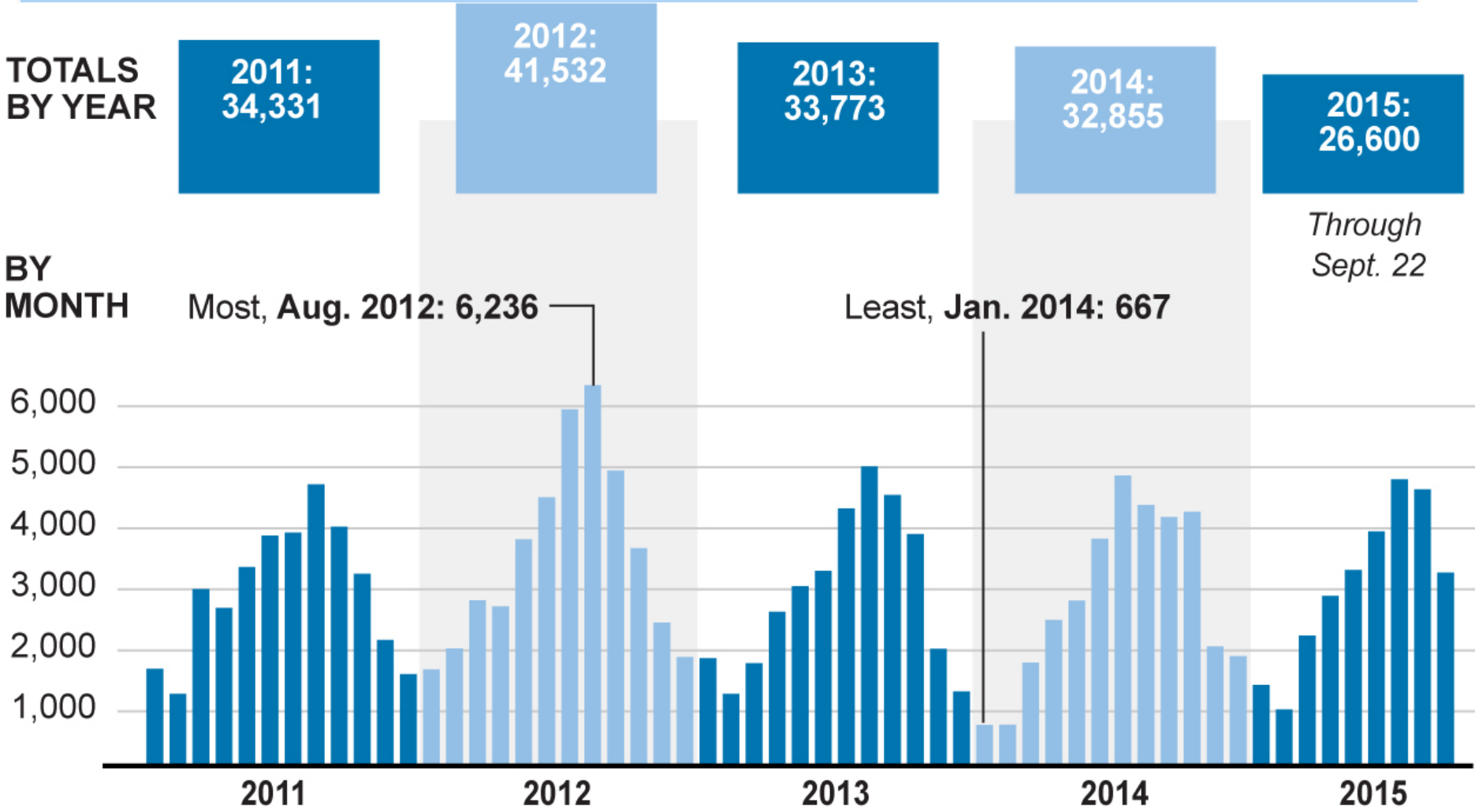
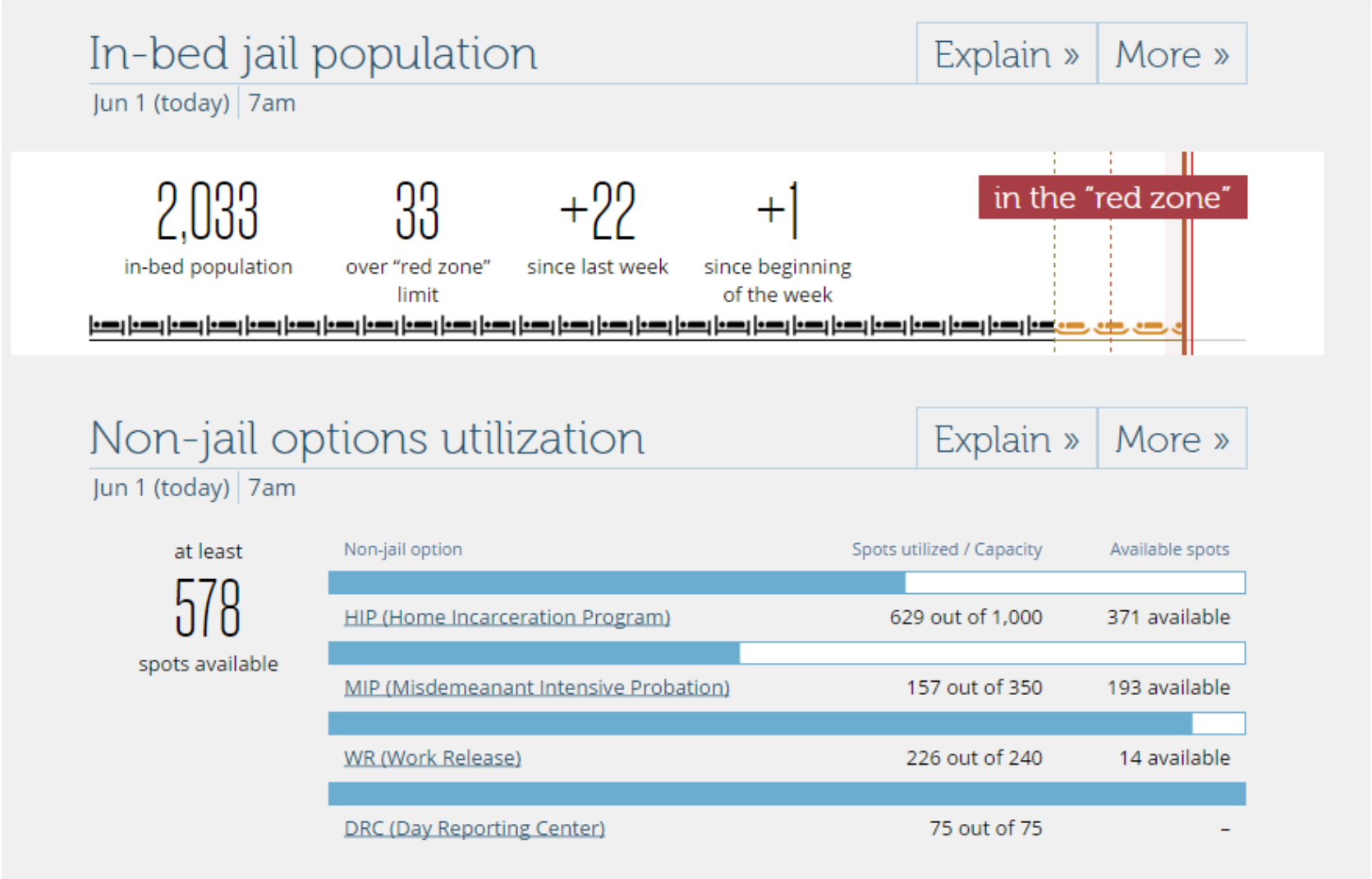
Chicago Rats!



Source: Chicago Tribune

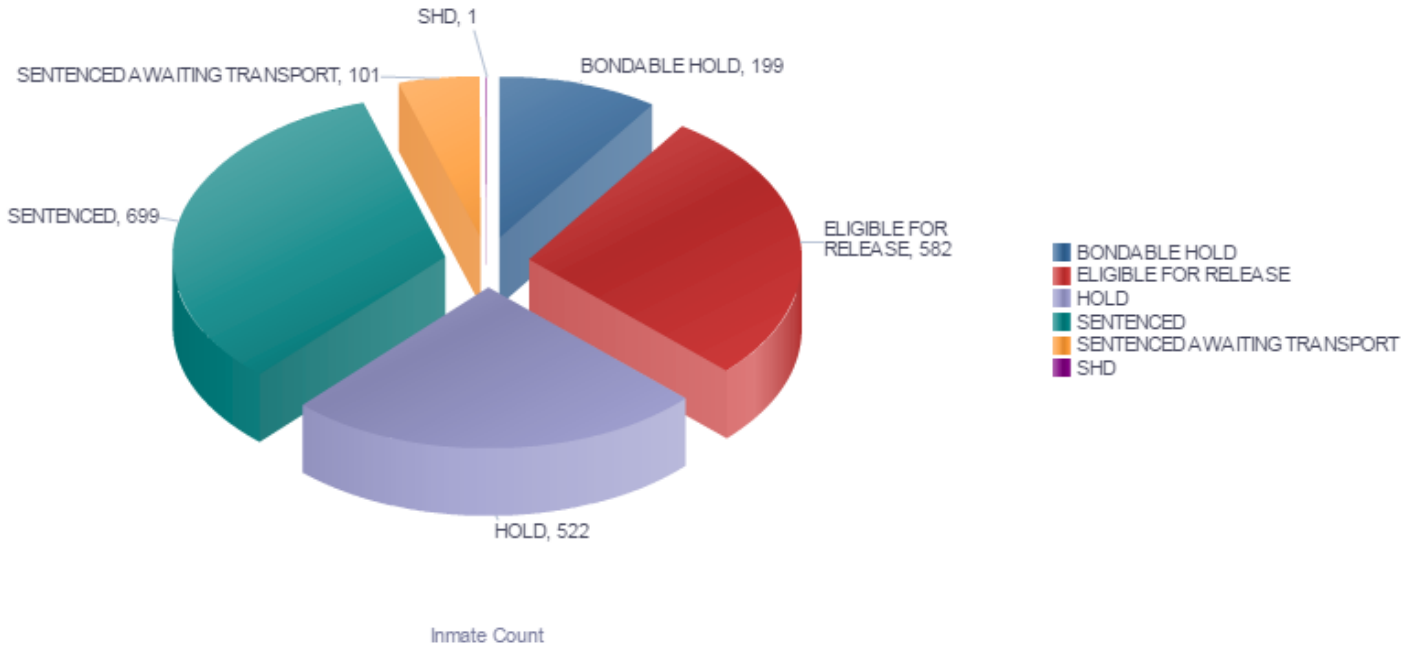
Denver – Louisville Partnership



Source: Code for America

Denver Community Corrections (Draft)

Population Eligible for release report



Cpcc Case Status	Inmate Count	Offender %
BONDABLE HOLD	199	9.5%
ELIGIBLE FOR RELEASE	582	27.7%
HOLD	522	24.8%
SENTENCED	699	33.2%
SENTENCED AWAITING TRANSPORT	101	4.8%
SHD	1	0.0%
Grand Total	**2104**	**100.0%**

Analyze - Refresh - Print - Export

Links to open data

- http://www.denvergov.org/opendata
- http://data.opencolorado.org/
- https://www.whitehouse.gov/open
- https://data.colorado.gov/
- Link to Denver Post article - Bloomberg grant
- White House Police Data Initiative