

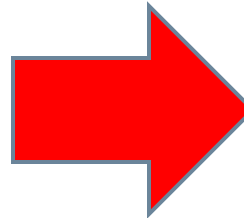
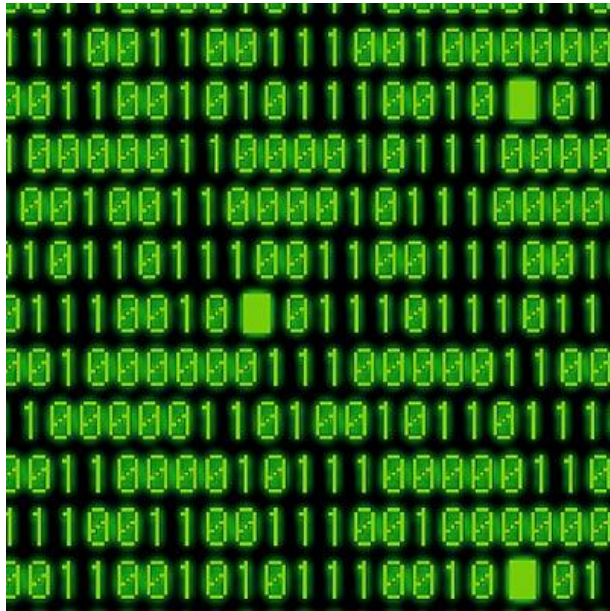
# OFFICE OF POLICY AND STRATEGIC PLANNING

## *Analytics*



# City Analytics – Moneyball for Govt.

2



- Crime Prevention
- Fire
- Public Safety
- Revenue Collection
- Public Health
- Transportation
- Infrastructure

# Examining Fires and Identifying Metrics

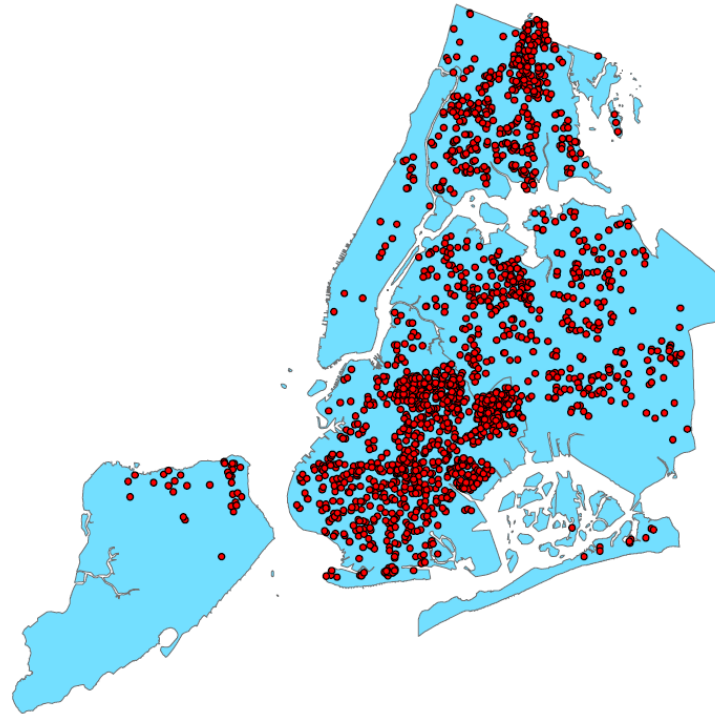
3

- From 2008-2010, Fires in 1-3 Family Buildings often had in common:
  - ▣ Owners in Financial Distress
  - ▣ Multiple DOB and HPD complaints
  - ▣ Multiple 911 calls on LL/T issues
  - ▣ Pre-1938 construction
  - ▣ Location in neighborhoods with high concentration of low-rise structures and below average household income
  - ▣ Utilities Issues
- Interviews with DOB/FDNY/HPD confirmed commonality of conditions for High Risk Illegal Conversions

# NYC Fires: 2008-2011

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## Fires in 1-3 Family Units



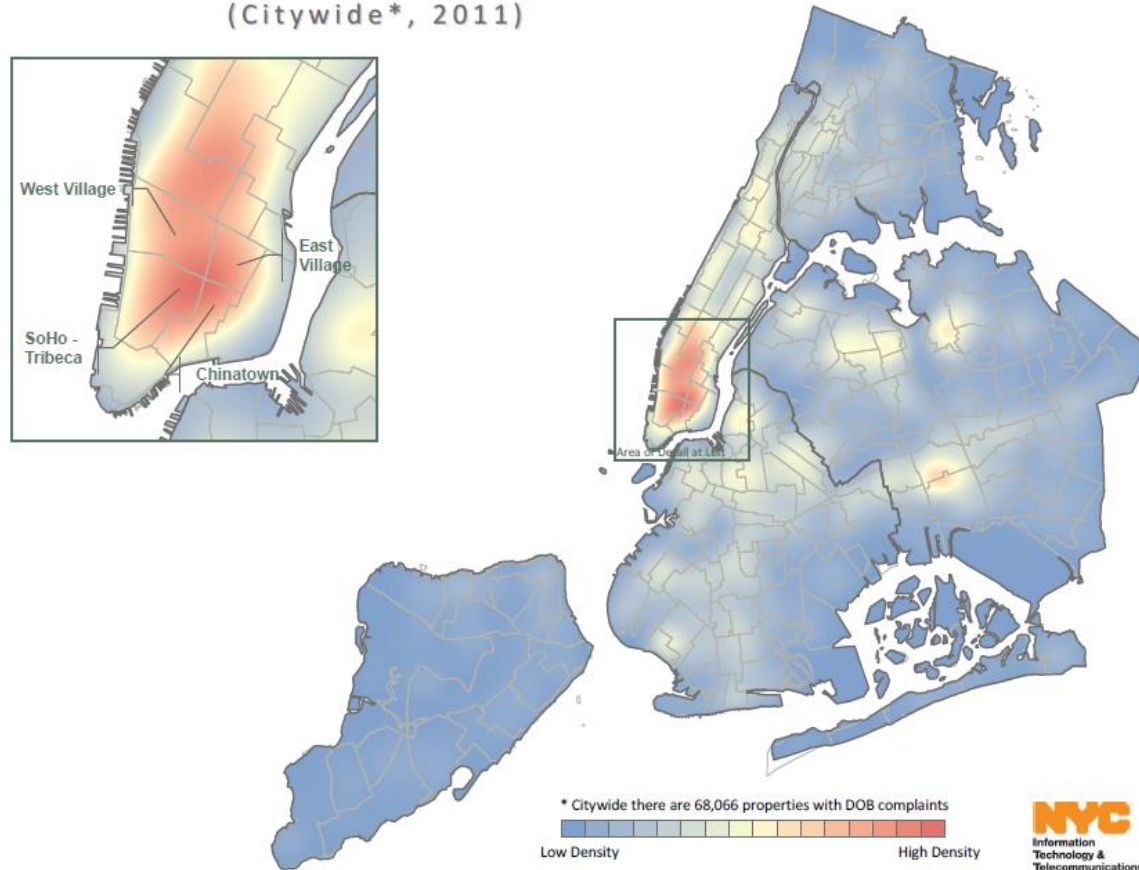
Source: FDNY



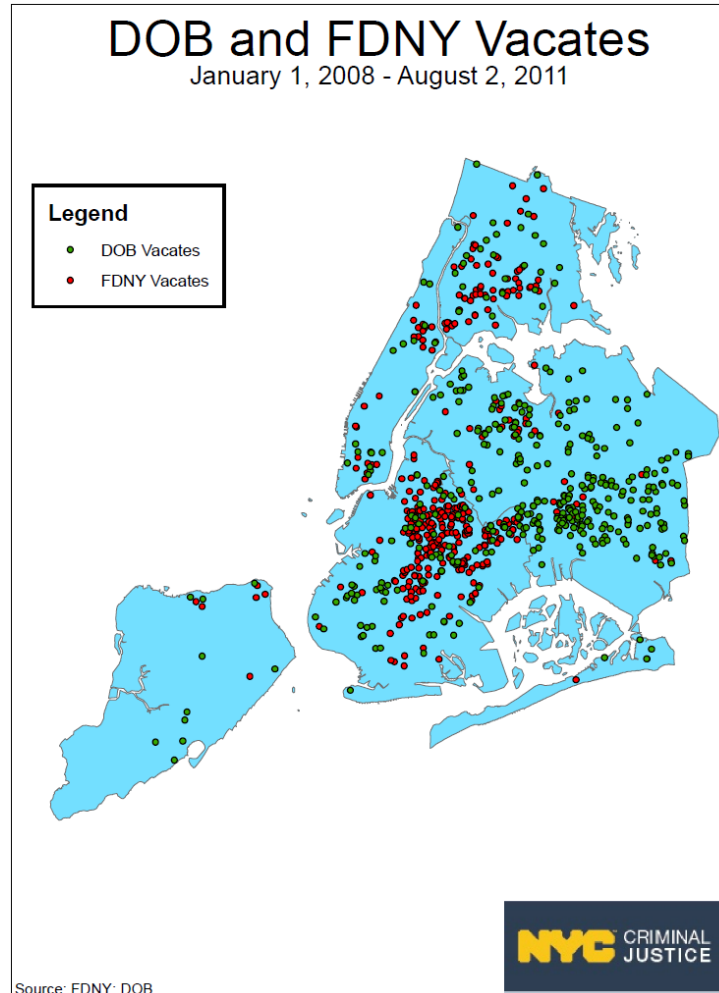
# Illegal Conversion Complaint Density

5

Density of DOB complaints  
(Citywide\*, 2011)

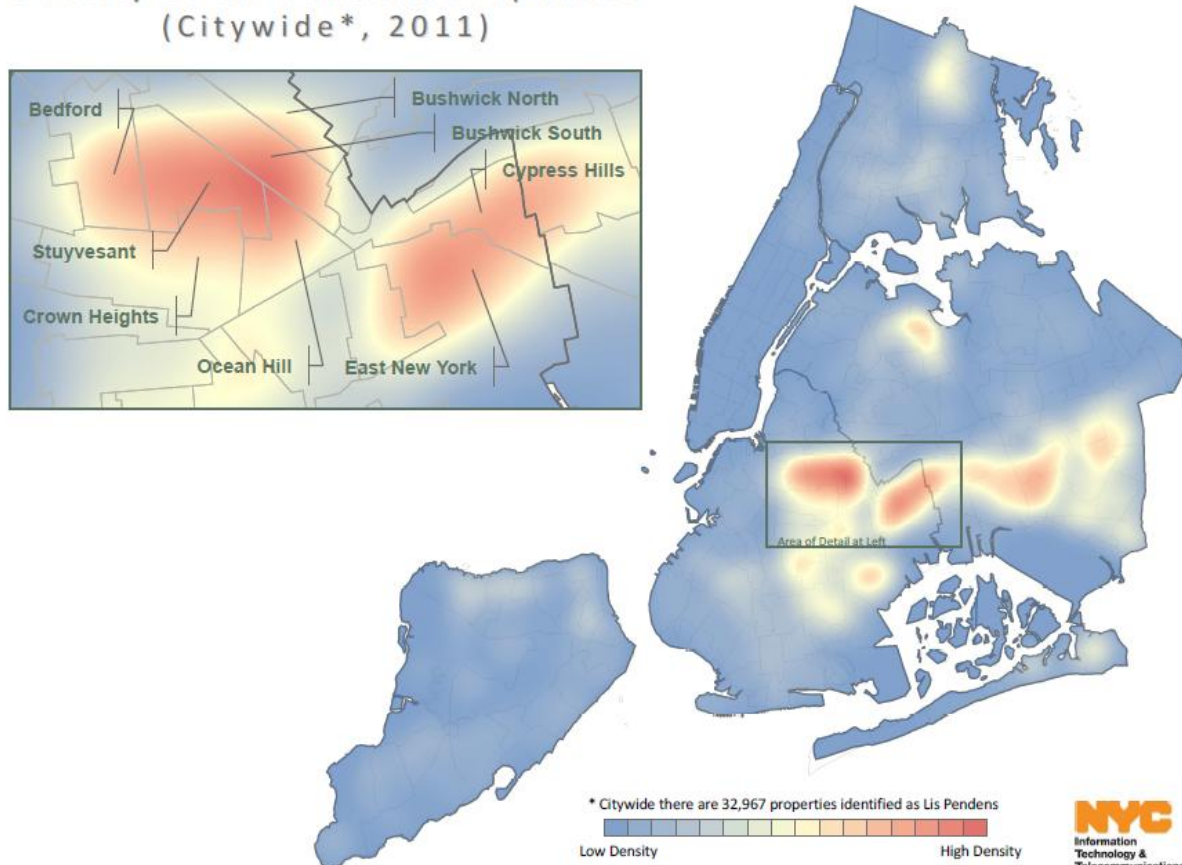


# Vacates 2008-2011



# Pending Foreclosures in NYC

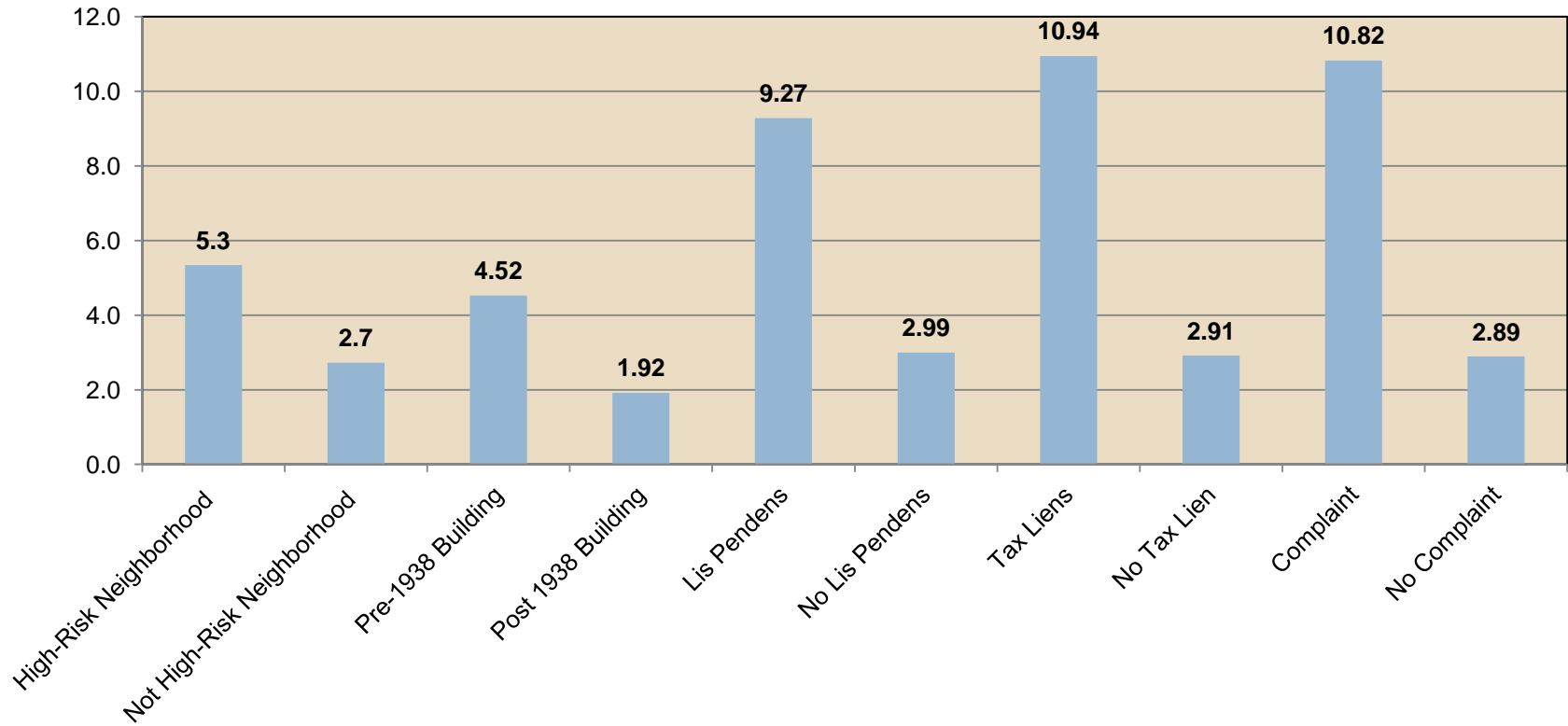
Density of Lis Pendens Properties  
(Citywide\*, 2011)



# Metrics Correlating with Fire Risk

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**Fires per 1000 Buildings In NYC: 2008-10  
1-3 Family Buildings Only**

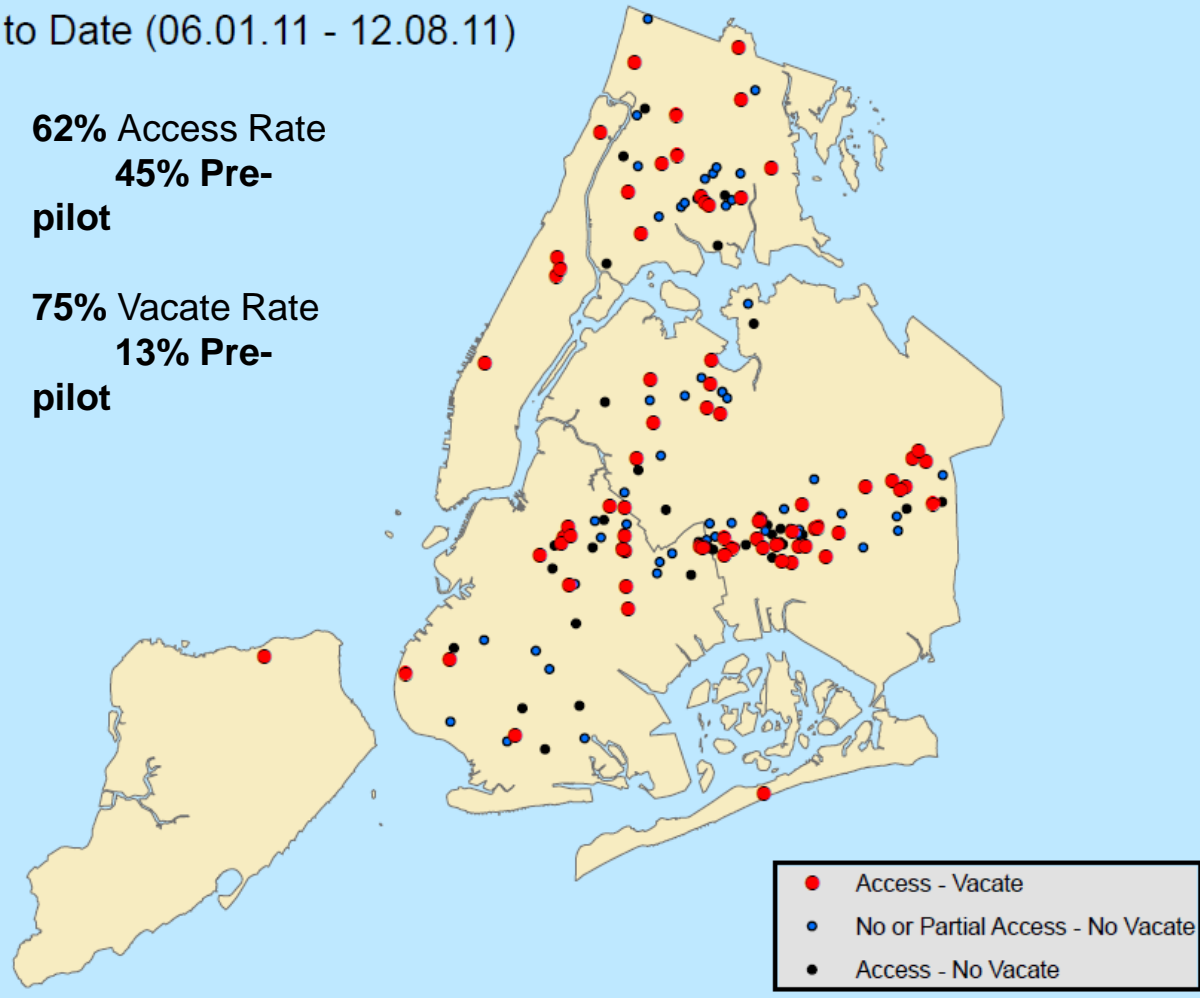


# Results: Efficient Inspections

Results to Date (06.01.11 - 12.08.11)

**62% Access Rate**  
**45% Pre-pilot**

**75% Vacate Rate**  
**13% Pre-pilot**

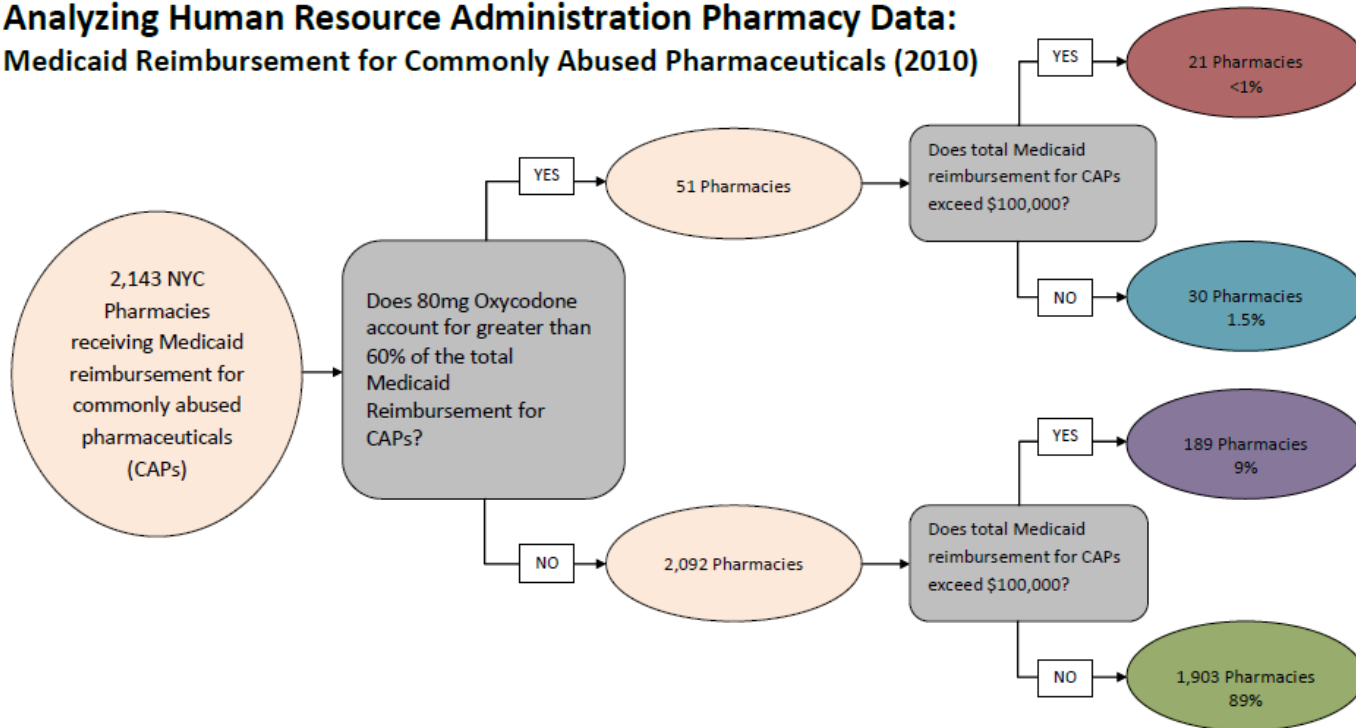


# Prescription Drug Analytics

Mapping Drug Flows and Finding Pill Mills through Innovative Data Analysis

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## Analyzing Human Resource Administration Pharmacy Data: Medicaid Reimbursement for Commonly Abused Pharmaceuticals (2010)



In 2010, NYC HRA paid \$3.4 Billion in Medicaid funds to 2143 City Pharmacies

\* \$3.4 Million was for pure high-dose Oxycodone, or .1% of their total Medicaid revenue

\* For less than 1% of these pharmacies, nearly 10% of their total Medicaid revenue was for pure high-dose

Oxycodone - **100 times more than the Citywide average**

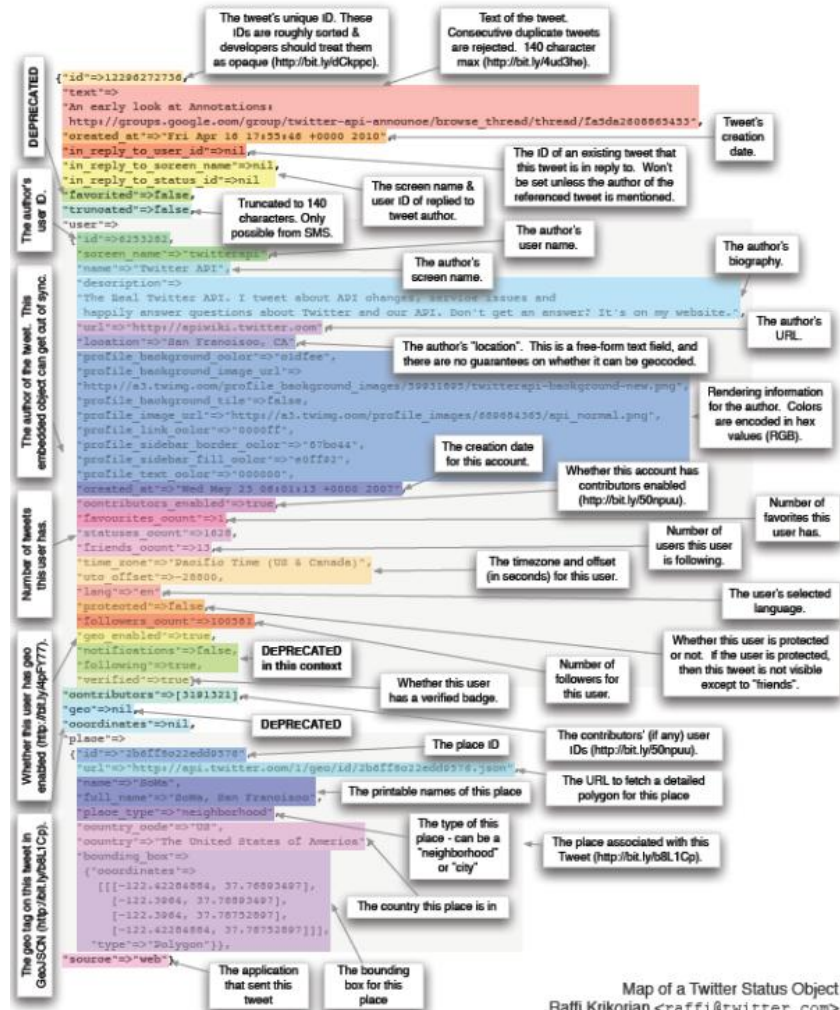
\* The locations of these pharmacies see disproportionately higher levels of complaints for criminogenic

conditions

# Social Media as 311 Supplement

Can we serve New Yorkers better, faster, and more efficiently using Social Media?

- Crossmatch tweets relating to restaurant experiences with DOH inspection outcomes to identify problems more rapidly and broadly
- Overlay 4Square check-ins with tourism resources to better serve visitors
- Get ahead of public transportation disruptions, and notify New Yorkers where service is running most quickly and conveniently



# Intercity Analytics Working Group

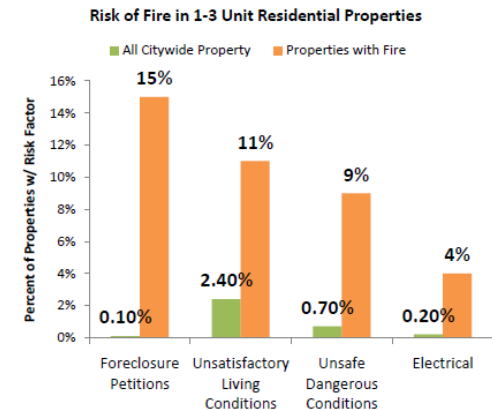
*Cities Sharing Ideas, Strategies and Methodologies to Tackle Common Challenges*

12

- *NYC, Chicago, Boston, Philadelphia and Newark launched effort to collaborate on Cross-Agency and Predictive Analytics Projects*
- *NYC's success with Fire Risk Analytics is being repeated in Boston and Chicago*
- *Philadelphia and Boston are helping NYC and Newark craft school data sharing platforms*

## How do we prevent structure fires?

- **Challenge:** Using NYC's efforts as a guide, create a risk model for predicting fires based on historical data mining
- **Analytics:** Compared last 4 years of fires against 311, foreclosure, land use, permitting, and code violation data.
- **Partners:** NYC
- **Result:** Still in progress... initial results are promising with a focus on 1-3 Family Residential buildings with 311 living condition complaints a possible risk factor



**Making Boston Better, Every Day**

To learn more about how the City is performing visit the BAR website at [www.cityofboston.gov/bar](http://www.cityofboston.gov/bar)