“Precision Policing” Using Operations Dashboard

An Operational Use-case for Dynamic Mapping
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Chief of Strategic Initiatives – Office of Management Analysis & Planning
  Operations Research Section – Geospatial Analysis Unit
Weekly Crime Meeting

- Briefing tool used by executive staff for insightful decision making/resource allocation

- CompStat cases, summary of city-wide statistics, patterns, data visualizations, charts & graphs, etc.
Weekly Crime Meeting

- Static maps produced beforehand
- Areas of focus derived from statistical analysis
- Obvious limitations on amount of data and layers that could be displayed
Methodology

▪ Complaints, Arrests, Shootings
  ▪ Queried & filtered for specific time-period indicators, charts & graphics on Dashboard

▪ Analysis and Visualizations
  ▪ Kernel Density Estimation, contours, density change, dot density

▪ Multiple web-maps brought in to supplement main datasets

▪ Automation of workflow
  ▪ Python programming language and various APIs
Weekly Crime Meeting

Complaints within Last 28 Day Period: 660 (down 0.452%)
Complaints within Calendar Year (YTD): 5,976 (up 2.276%)
Complaints within Last 52 Week Period: 6,828 (down 0.741%)

52 Week Complaints by Borough:
- 1048 (22.5%)
- 1346 (28.0%)
- 1426 (25.0%)
- 1220 (24.5%)

Complaints by Type:
- Shoplifting (1200)
- Burglary (900)
- Grand Larceny (800)
- Graffiti (700)
Weekly Crime Meeting

Complaints within Last 28 Day Period: 21 (down 48.78% from prior 28 day period)
Complaints within Calendar Year (YTD): 237 (up 17.91% from prior year)
Complaints within Last 52 Week Period: 262 (up 13.61% from prior 52 week period)

52 Week Complaints by Precinct:

Complaints by Year:

NYC
Further Considerations

- Development of other dashboards to be used operational, not just analytically
- Live updates & live fed data
  - Direct connection to multiple databases to drive the attributes on dashboard & maps
- Further development of Department-wide Enterprise system
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Contact
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