911 Hotspot Prediction

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Problem Statement:

Is there any way to reduce 911 call response time by predicting services call locations?
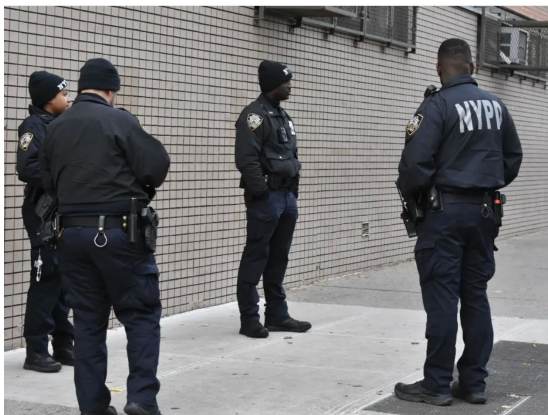
NYPD's Slow Response Times Keep Growing Longer, Data Shows

Cops are taking 16 minutes to respond to crimes, nearly two minutes longer than a year ago, according to a new study.
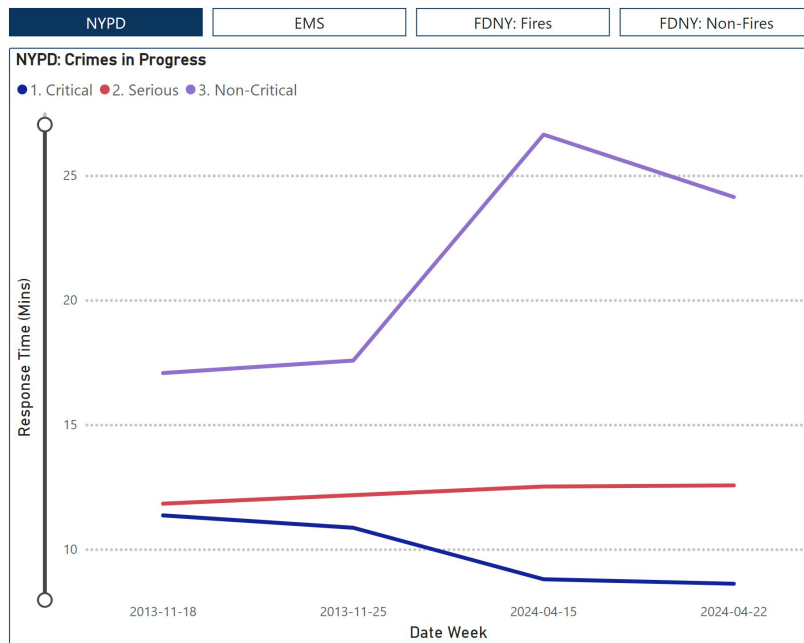
Matt Troutman, Patch Staff

Posted Fri, Feb 2, 2024 at 2:53 pm ET | Updated Fri, Feb 2, 2024 at 4:20 pm ET

A 15-year-old was stabbed inside Edward R. Murrow High School in Brooklyn on Dec. 5. (Kyle Mazza/NurPhoto/Shutterstock)
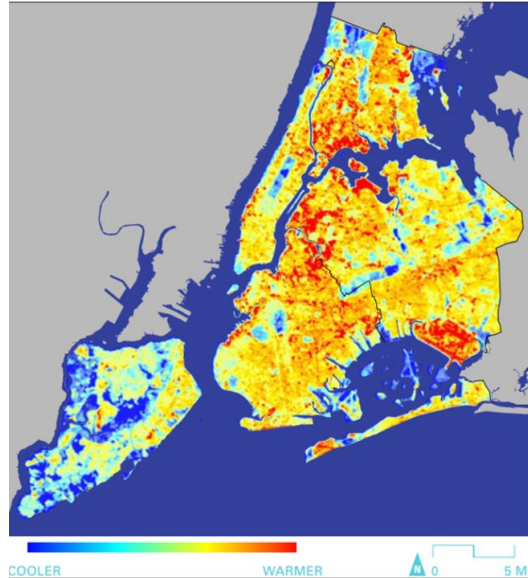
| NYPD | EMS | FDNY: Fires | FDNY: Non-Fires |

NYPD: Crimes in Progress

● 1. Critical   ● 2. Serious   ● 3. Non-Critical

Response Time (Mins)

25
20
15
10

2013-11-18   2013-11-25   2024-04-15   2024-04-22

Date Week

Vision:

As an end product I would like to create a heat map broken down by hour that can predict 911 call hot spots. The goal here would be to station units in the hot spots to reduce travel time and decrease response time.

COOLER   WARMER   0   5 MI.

https://www.nyc.gov/assets/orr/pdf/Cool_Neighborhoods_NYC_Report.pdf
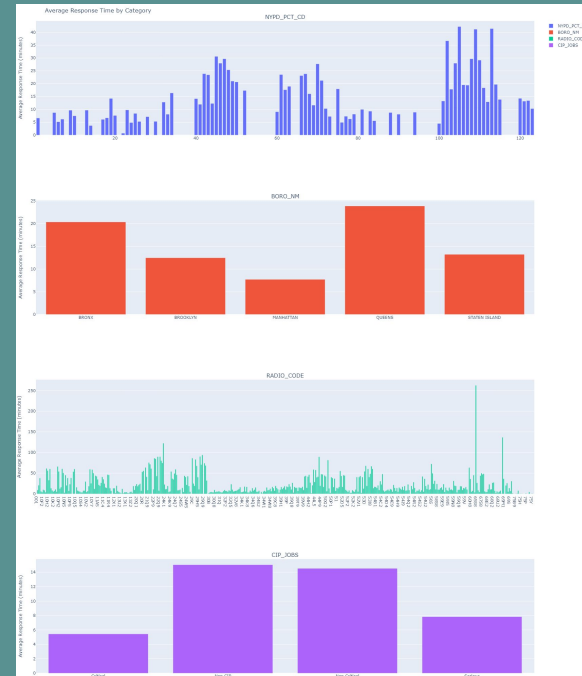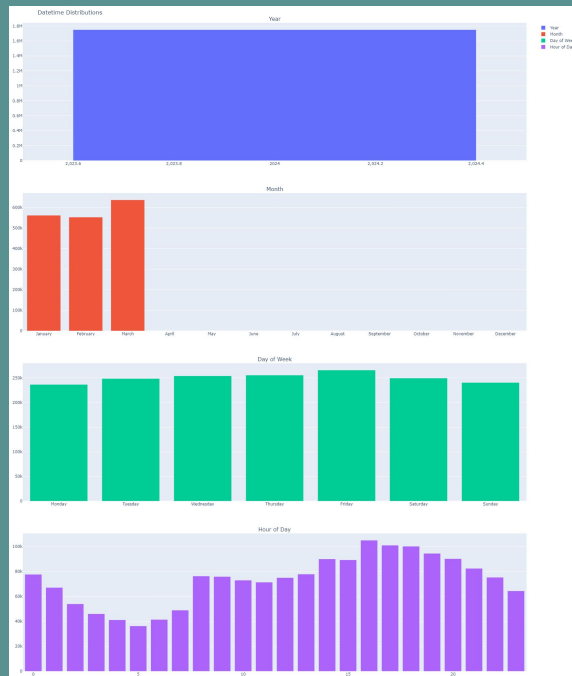
Impact:

- Decreasing response time leads to increased public opinion.
- Increase public opinion leads to high crime reporting, more trust.
- Most crimes are not critical so decreasing response time doesn't really lead to less crime.
- Saving lifes, even if one life is saved with faster response is worth it!

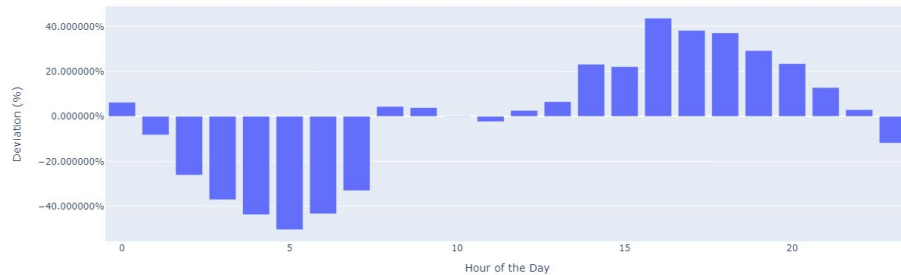# Introducing the Data:

Insights shared on EDA notebook

Introducing the Data:
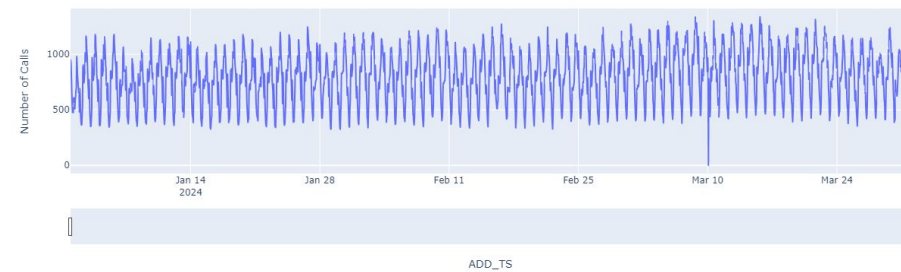

daily deviation from mean number of calls (%)

Hourly Deviation from Mean Number of Calls (%)

Number of Calls by day

Number of Calls by hours

Next Steps:

- Download full database from the API
  - Figure out the api, current accessing from different entry point every time. Need to sort this so I am sure I am collecting full database.
- Re-run through EDA to assure new dataset is cleaned
- Modeling!