

# RAT PACK Consulting

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Analysis of weekend late-night subway traffic patterns and  
crime analysis for the NYPD



# NYPD Request

NYPD is interested in allocating officers and resources in most effective manner to reduce crime rates at subway stations

**Initial task:** Determine efficient allocation of police officers to transit stations

Begin by undertaking analysis for most high risk stations of weekend nights



# Assumptions

- Initial analysis is for 12-4am on Friday nights and Saturday nights
  - Late-night passengers have greater potential for crime related activity
- Data - 16 weeks from May 27-Sept 15 2017
- Good predictors for high risk traffic:
  - High ratio of late night weekend traffic to overall traffic on weekends
  - Substantially increased late night traffic on weekends vs weeknights

# Approach

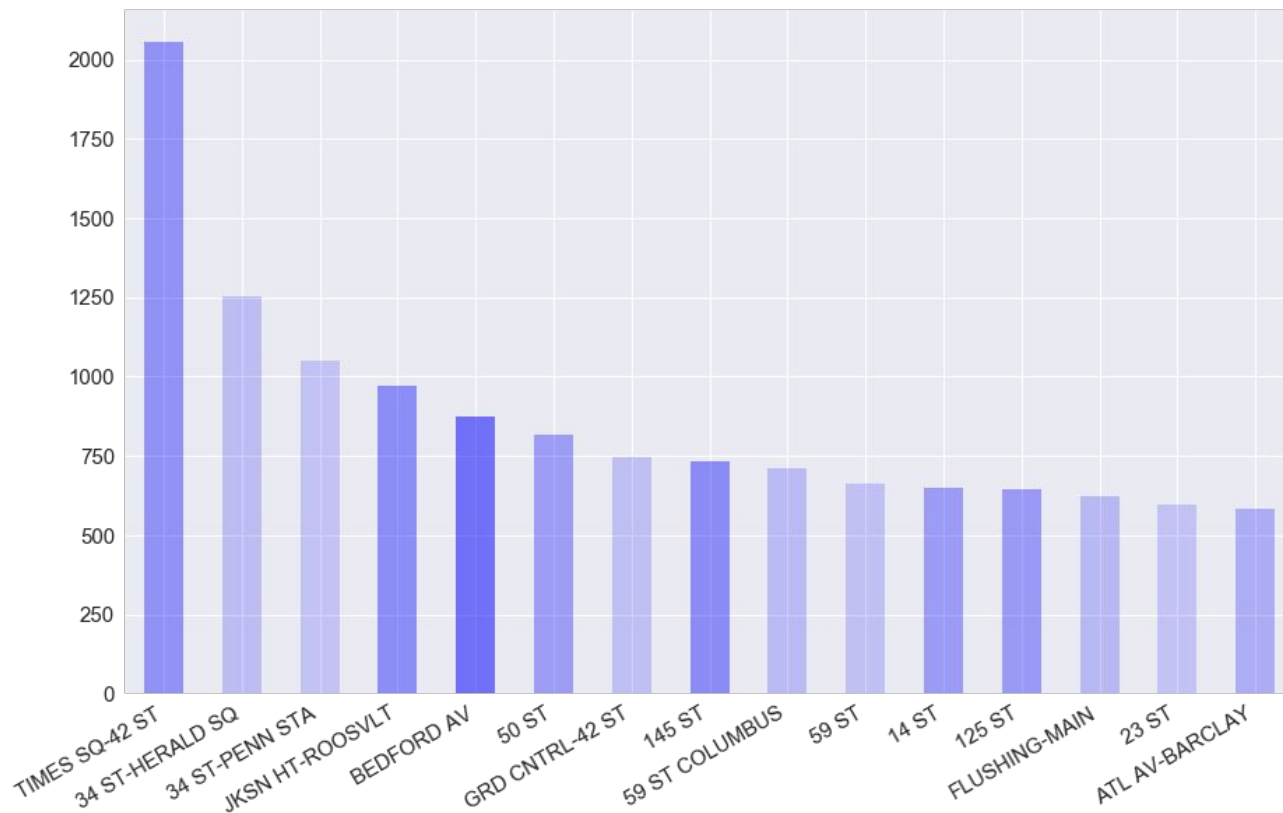
- Combined entry and exit counts for total traffic
- Zoom in on data for late Friday and Saturday nights
- View top 10 trafficked stations
- Compare against other traffic data

## Top 10 Trafficked Stations

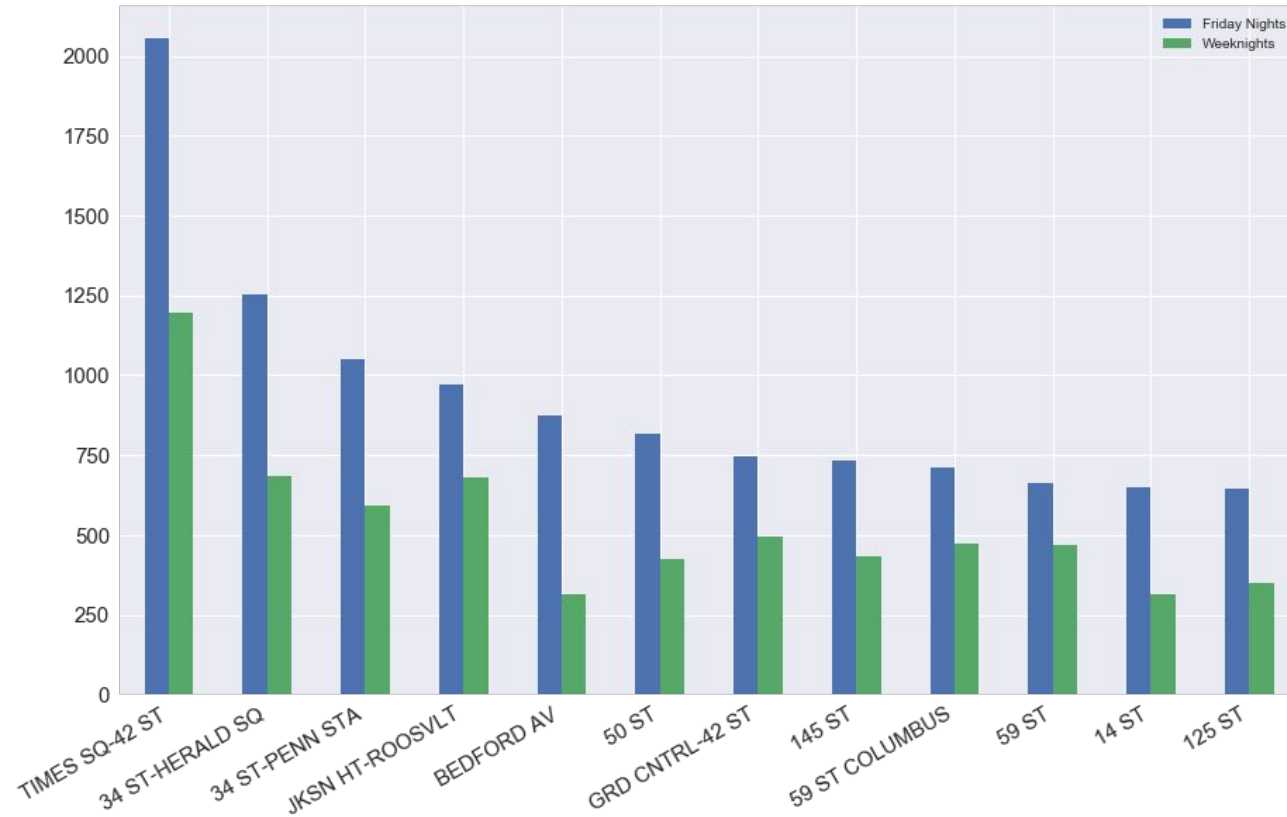


TIMES SQ-42 ST
34 ST-HERALD SQ
34 ST-PENN STA
JKSN HT-ROOSVLT
BEDFORD AV
50 ST
GRD CNTRL-42 ST
145 ST
59 ST COLUMBUS
59 ST

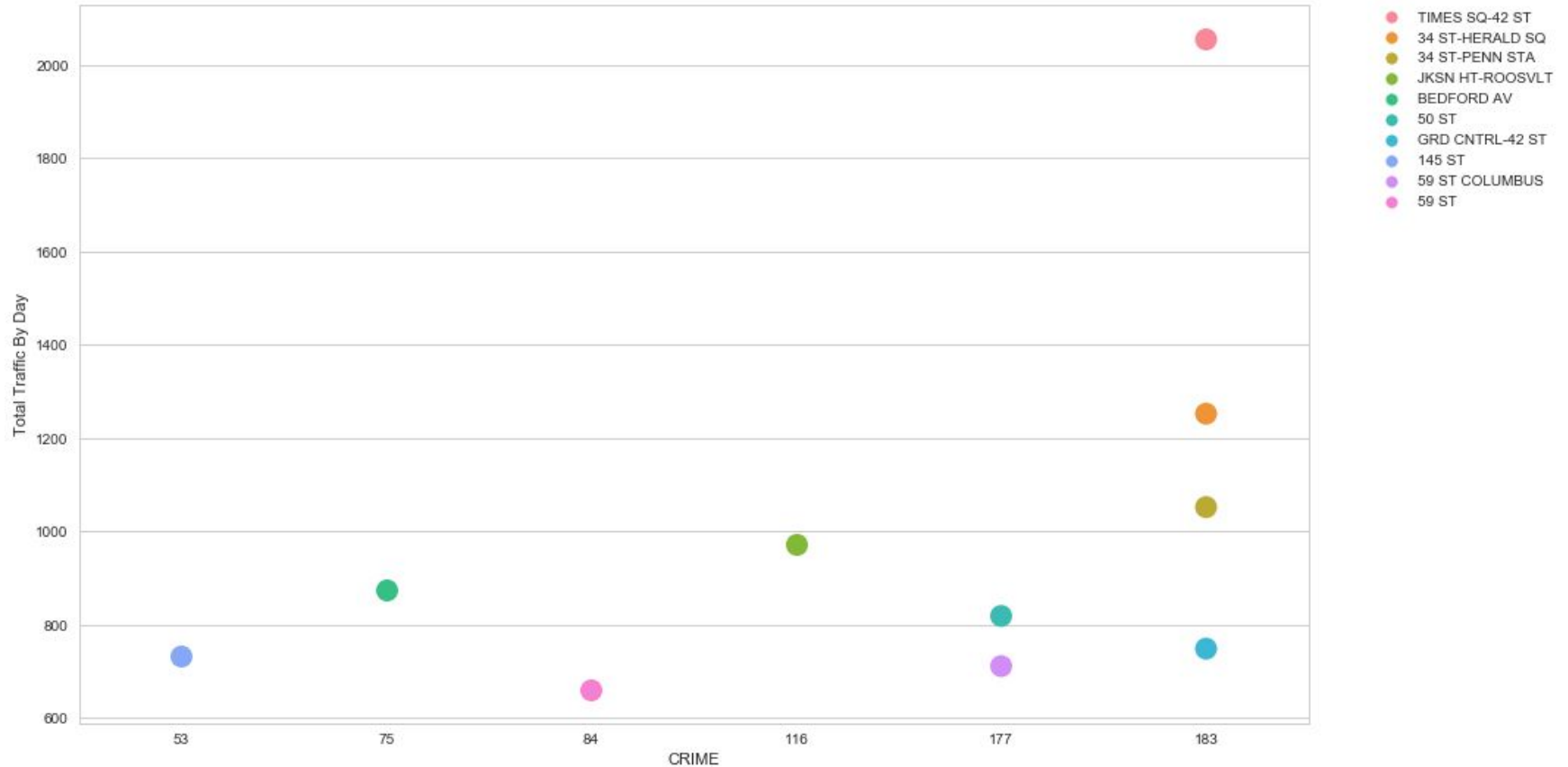
# Friday nights vs Friday total



# Friday nights vs Weeknights



# Top 10 Trafficked Stations: Traffic and Crime Data





# Conclusions

From our initial investigation we have the following proposals:

- Stations located in Precinct 14 - Midtown North (Times Square and 34th St stations) should be given priority given the higher crime rates in this precinct and high traffic
- Bedford Ave station Friday night has the biggest change from an average Friday daytime
- 14th St and 125 St stations are similarly worth looking at staffing up based on similar circumstances to a slightly lesser degree

## Conclusions (cont'd.)

The department should prioritize allocating more resources to the following stations

On FRIDAYS: Times Square–42nd Street, Jackson Heights–Roosevelt, Bedford Ave, 145th St, 14th St, and 125th St

And on SATURDAYS: Times Square–42nd Street, Bedford Ave, Jackson Heights–Roosevelt, Grand Central–42nd Street, Flushing–Main Street, and Atlantic Avenue–Barclays Center

# Future Tasks and Next Steps

- Drill down on granular crime data by location rather than at the precinct level to identify trends in subway turnstile traffic volumes and crime rates
- Look at additional time frames throughout the day for trends against crime data for those time frames
- Look at crime stats within the subway stations to analyze sections of the station requiring higher staffing and monitoring
- Extend data analysis to a wider range of subway stations beyond the top 10
- Review crime data vs traffic to identify stations with higher crime ratios

