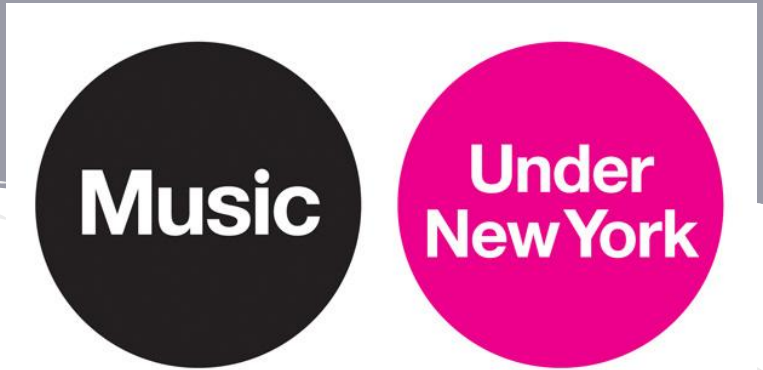
# Optimal Performance Scheduling for MUNY




*Data Dudes (and Dudettes), LLC*

# Client

**Music Under New York (MUNY)**

MUNY is a program of the Metropolitan Transportation Authority that schedules performances in the New York City Subway

# Initial Problem

Interested in harnessing the power of MTA data and analytics to optimize the scheduling and placement of our performers

# Preliminary Analysis of MTA Data

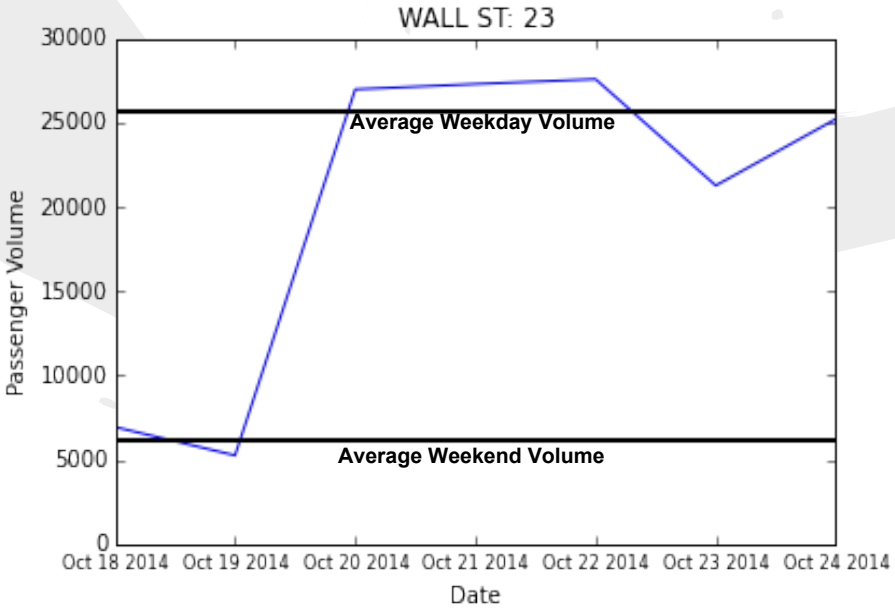
From a preliminary analysis of MTA data, we are able to determine passenger volume by:

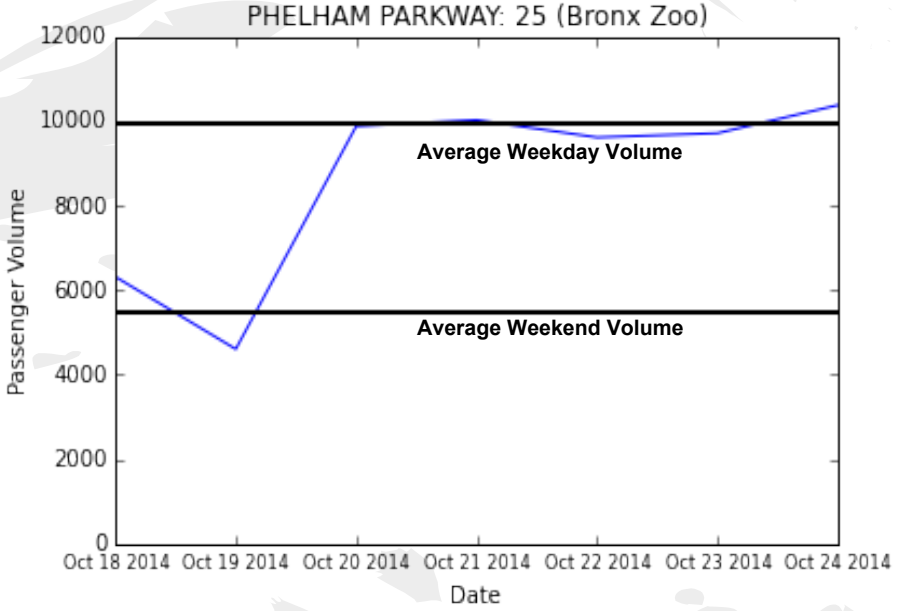
- Stations
- Times of day
- Days of week
- Seasons (and tourists!)

| Station | Volume (week of 10/18/14) |
|---|---|
| 34 ST-PENN STA(123ACE) | 1024837 |
| 42 ST-GRD CNTRL (4567S) | 852718 |
| 34 ST-HERALD SQ (BDFMNQR) | 666442 |
| 14 ST-UNION SQ (456LNQR) | 622381 |
| 42 ST-TIMES SQ (1237ACENQRS) | 529169 |
| 42 ST-PA BUS TE (1237ACENQRS) | 517993 |
| FULTON ST (2345ACJZ) | 398180 |
| 86 ST (456) | 380631 |
| MAIN ST (7) | 355610 |
| 59 ST-COLUMBUS (1ABCD) | 354795 |

**Preliminary analysis of MTA data provided several metrics and insights (some of which were obvious), but deeper analysis into the interaction effects between the metrics may yield useful knowledge for MUNY planners**

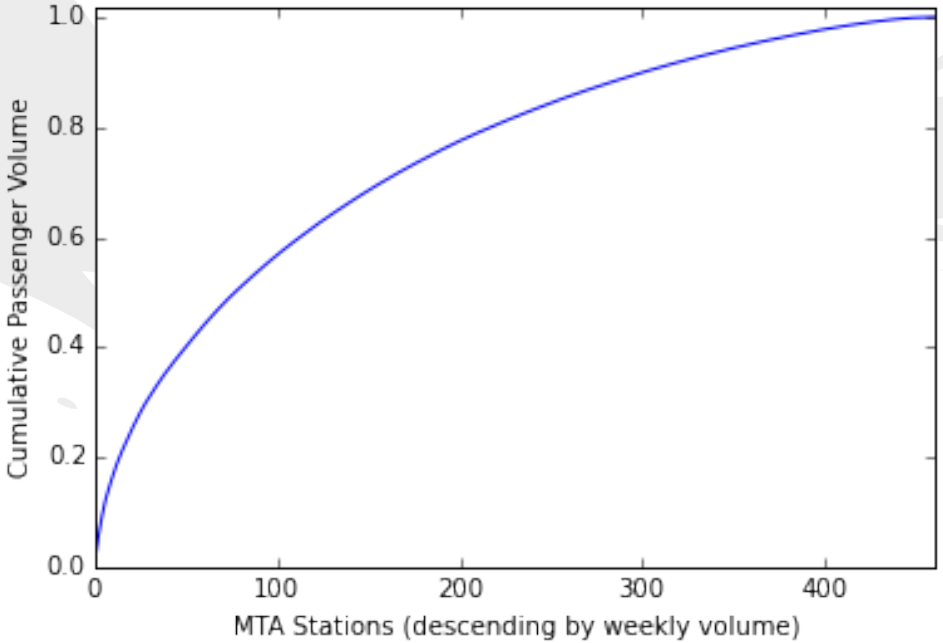
# Not all MTA Station Volume Patterns are Alike




**MTA stations vary in their weekly traffic patterns. This insight (and others yet to be discovered) can drive us to optimally schedule MUNY performers.**

# Diminishing Returns on Station Expansion




| *n* Largest Stations | Ridership Coverage |
|---|---|
| 30 | 31% |
| 60 | 44% |
| 90 | 54% |
| 120 | 62% |
| 150 | 68% |

**A relatively small subset of stations capture a relatively large volume of MTA passengers, and there are diminishing returns on MUNY station expansion.**

# Opportunities for Deeper Research

With additional data, we could further explore:

- Choosing best venue per performer based on:
  - Station dimensions (physical surveys of stations)
  - Station demographics (US Census Data)
- Highest grossing times of day:
  - weekdays vs. weekends vs. holidays
  - peak timing of “likeliness to give”
- Increasing revenue streams/brand recognition via advertising
- Scheduling to both maximize coverage while limiting “performance inundation”