In the food services industry, mobile food businesses are considered especially profitable and delicious.

In New York City, the dedicated consultants who investigate data for these businesses are members of an elite squad known as the **Y**ummy **U**nbelievable **M**eals consultants.

These are their stories.

LUNCH &
ORDER
YUMMY UNBELIEVABLE MEALS

Project Benson (Week 1)

Jeff Kao, Mike Lin, Chuoran Wang

MIDTOWN MANHATTAN
THURSDAY, MARCH 29

Presenting to the President of the
NYC Food Truck Association (NYFTA) ...

Proposal

A **commissioned analysis** for NYFTA members:

  - A Recommendation Report on placement given various factors, e.g.,
    ○ growth
    ○ seasonality of product
    ○ meal time (breakfast, lunch, dinner)

  -A Dashboard that visualizes foot-traffic flows for a similar context (time and location)

Recommendation Report

BEST LOCATIONS FOR
FOOD TRUCK PLACEMENT ON A SEASONAL BASIS

FOOD TRUCKS ARE POPULAR
FOR **BREAKFAST**, LUNCH, **DINNER**

ANALYZING DINNER TRAFFIC
FIRST LOOKING AT **ENTRY DATA** TO MTA

MTA System is the primary mode of transportation in NYC

Station Distribution In NYC

Past Year Absolute Traffic Data

AGGREGATED DATA
ON A QUARTERLY BASIS

COMPARE YEAR TO YEAR
TO DETERMINE GROWTH BY
STATION

QUARTERLY DATA TRAFFIC DATA - 2015 to 2017 SORTED BY YOY % CHANGE

STATIONS	2015Q4	2016Q1	2016Q2	2016Q3	2016Q4	2017Q1	2017Q2	2017Q3	YOY_2017Q2
75 AV	102,409,959	307,561,225	308,075,808	308,574,879	309,069,083	503,599,029	891,705,915	891,699,865	189.44%
AVENUE P	3,272,734	9,954,129	10,093,795	10,311,171	14,929,429	23,945,720	24,242,306	24,361,371	140.17%
EASTCHSTER/DYRE	537,285,056	1,612,002,943	1,612,174,092	1,612,351,436	1,612,526,389	1,612,709,860	3,655,363,789	4,676,486,621	126.74%
MYRTLE AV	5,933,156	18,031,205	18,145,041	18,226,258	18,332,217	25,394,614	39,553,757	39,653,173	117.99%
VAN SICLEN AVE	10,861,071	7,955,482	8,043,313	14,003,701	17,149,592	17,241,422	17,340,026	17,936,142	115.58%
WALL ST	504,070,383	504,204,045	906,836,863	2,030,210,993	504,599,650	504,727,865	1,947,170,559	3,322,408,956	114.72%
BEVERLEY ROAD	7,078,641	6,981,947	6,897,194	6,796,566	14,971,052	14,062,101	14,036,221	13,994,055	103.51%
UTICA AV	50,331,693	150,995,137	150,995,218	150,995,274	150,995,363	251,810,641	302,676,411	303,172,636	100.45%
59 ST	3,120,966,533	3,121,074,916	3,121,181,495	3,121,288,079	3,121,404,730	3,121,514,152	6,093,144,567	6,092,506,972	95.22%
175 ST	355,198,285	355,558,592	355,884,827	455,584,120	654,446,792	654,496,945	654,549,594	654,600,437	83.92%
ALABAMA AV	2,385,261	7,319,590	7,544,292	7,785,161	8,011,549	9,993,600	13,768,519	13,924,634	82.50%
AVENUE J	9,110,223	27,449,584	27,639,898	251,668,681	110,011,730	50,346,110	50,362,517	50,374,593	82.21%
14 ST	3,685,746,130	3,685,302,627	3,684,633,888	3,683,884,938	3,682,993,516	6,391,631,096	6,391,196,444	6,390,776,881	73.46%
RIT-MANHATTAN	5,419,836	4,728,935	4,746,467	5,269,683	5,766,401	6,179,861	8,084,477	3,961,127	70.33%
NEW LOTS AV	7,213,475	21,898,563	22,096,185	32,464,786	37,580,664	37,421,709	37,452,706	37,347,696	69.50%
CRESCENT ST	15,341,736	15,448,470	15,566,078	15,685,545	15,823,503	15,947,110	25,790,212	30,851,119	65.68%
182-183 ST	7,383,779	22,349,591	22,524,521	27,264,804	36,737,760	36,870,105	37,005,602	37,065,603	64.29%
34 ST-HUDSON YD	241,075	485,050	4,633,927	6,779,371	6,995,393	7,191,815	7,423,182	7,644,459	60.19%
21 ST	33,747,257	3,739,290	5,009,151	7,425,118	7,529,252	7,633,150	7,733,895	7,805,766	54.40%
MT EDEN AV	726,681	2,304,393	8,634,888	11,903,065	11,984,983	12,637,926	13,067,209	13,098,082	51.33%
KOSCIUSZKO ST	13,682,434	13,590,168	13,523,902	13,438,921	15,631,838	20,305,406	20,420,652	20,559,036	51.00%
BAY RIDGE-95 ST	455,957,189		304,534,190	457,110,424	457,488,834	457,849,617	458,209,618	458,529,371	50.46%
BAY PKWY	100,662,608	301,987,712	301,987,482	401,812,999	450,169,190	449,726,650	449,294,470	448,859,951	48.78%
AVENUE H	2,693,159	8,154,457	237,630,638	352,321,638	352,321,676	352,321,725	352,321,770	352,321,789	48.26%
47-50 STS ROCK	134,217,728	369,172,751	3,927,760,814	5,766,258,211	5,766,956,895	5,767,711,566	5,768,479,143	5,769,118,133	46.86%
GRANT AV	6,387,208	19,302,244	19,347,083	19,417,835	29,278,216	28,327,876	28,378,236	28,434,451	46.68%

Highest Growth (SPRING 2017)

Where They Live

Median Rental Price per Bedroom

< $400 $3,000+
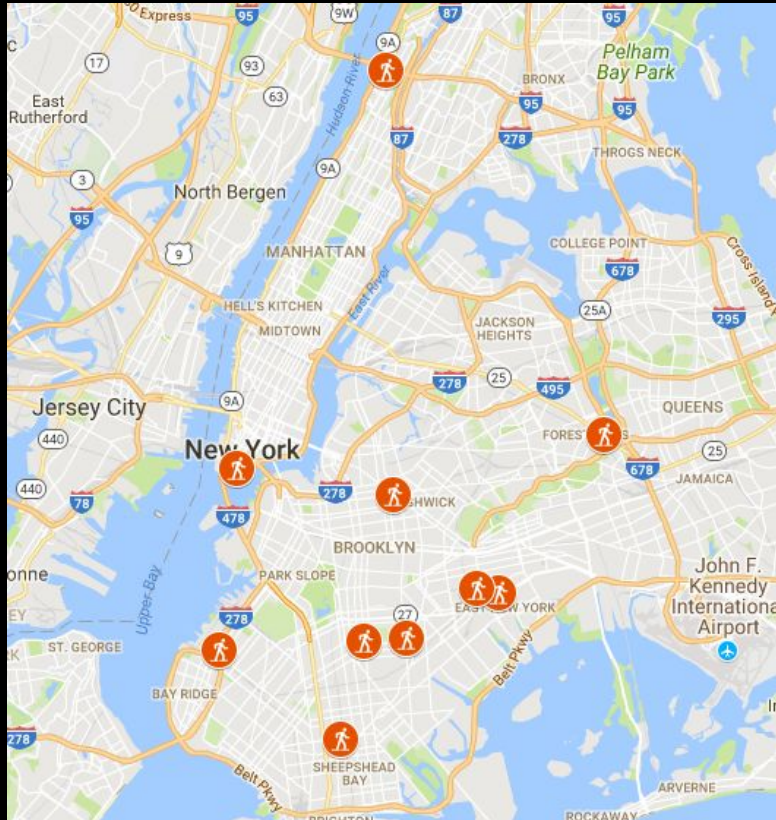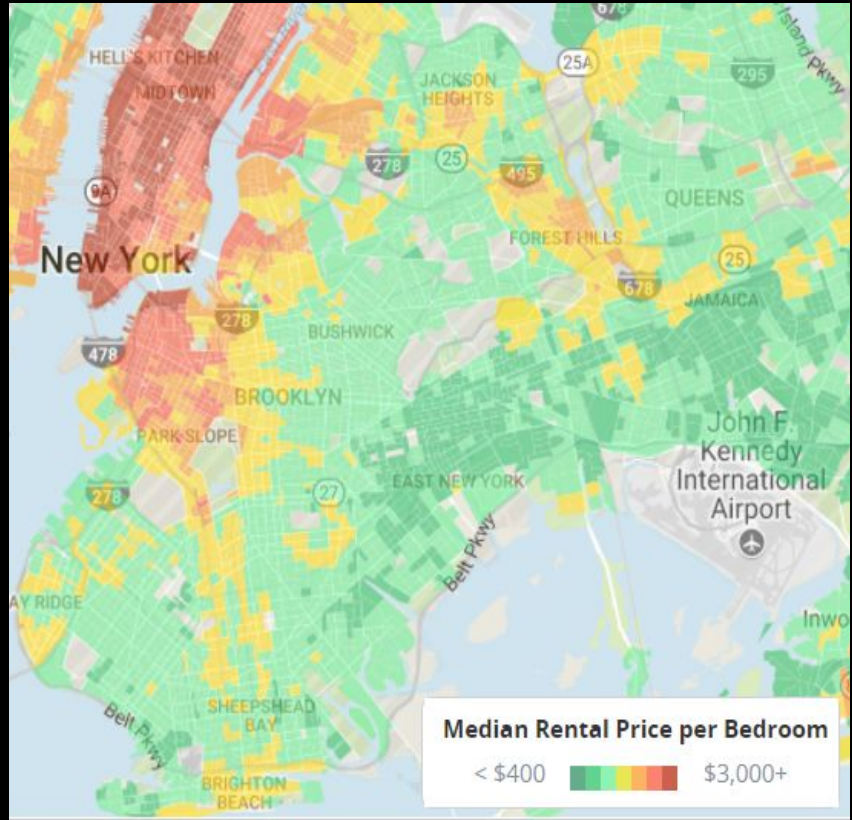
Dashboard

Why is a Dashboard useful?

After getting the big picture, vendors **want to know the specifics** of what to do:

-are riders interested in buying my products?

-how will my business change over the week and within a day?

For Food Truck Vendors, Exits are Important

Food Truck customers are **more likely to buy food when exiting** the subway, less likely to buy food when entering the subway[1]

[1] while it is not illegal to eat while riding the NYC subway, it is bad manners and generally frowned upon

Location- and Time-Based Analysis

Location:

-decide **where to operate** on a particular day

Time:

-**different food is eaten at different times** of the day

-to **maximize sales, change locations over time** (e.g., during the day (morning/evening) or the week (weekday/weekend))
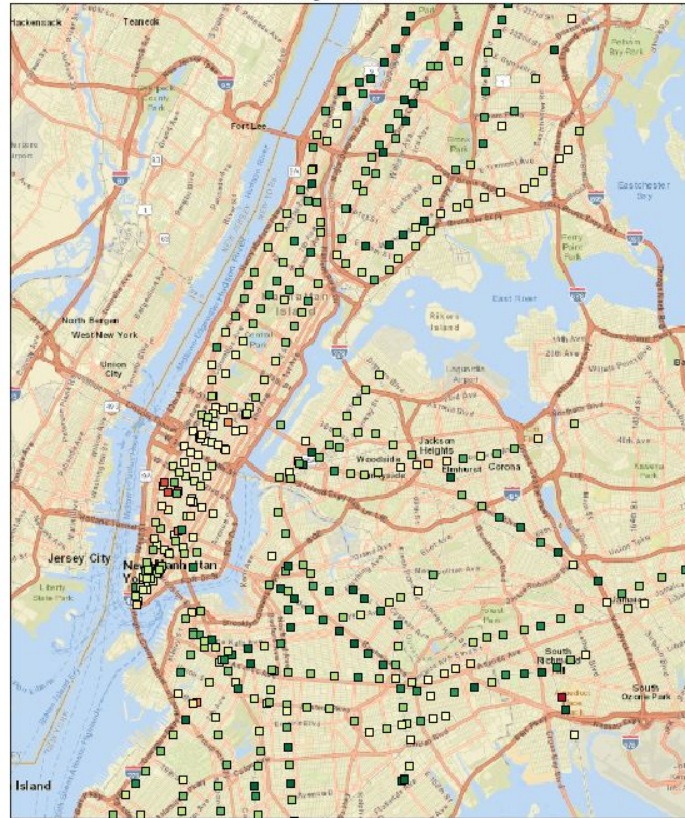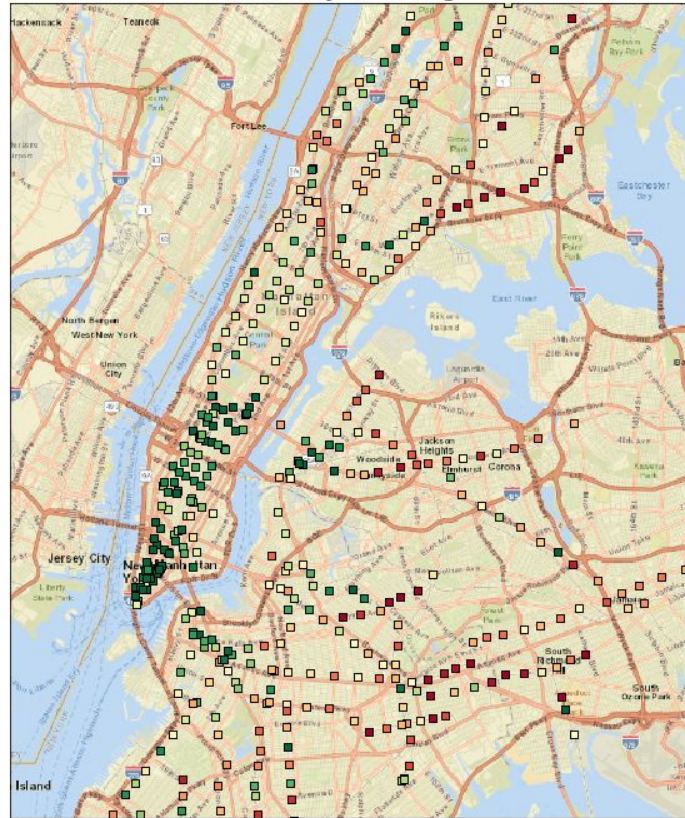
Sept 2016 - Sept 2017

Monday Mornings

more exiting <---> more entering
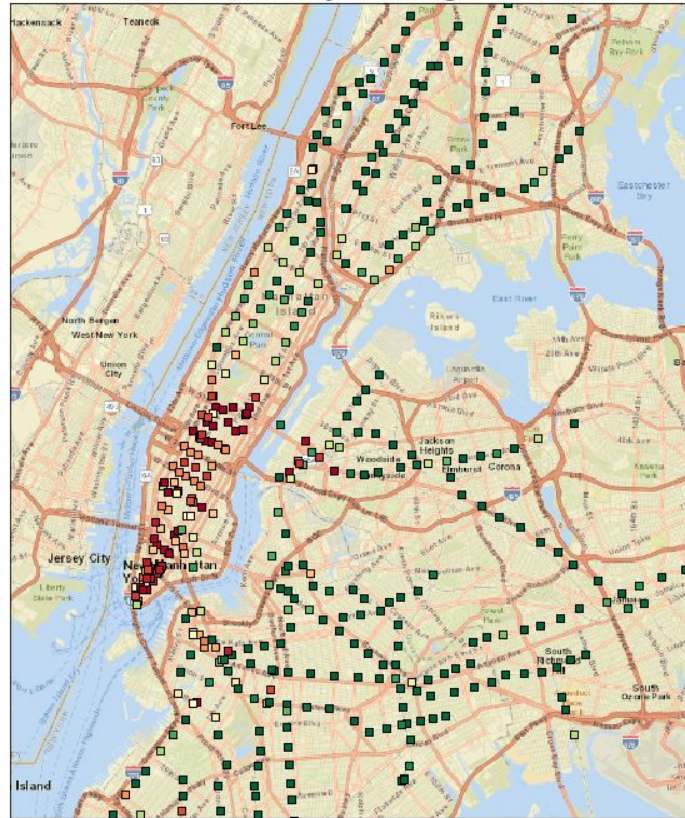
Sept 2016 - Sept 2017

Monday Afternoons

more exiting <---> more entering

Sept 2016 - Sept 2017

Monday Evenings

more exiting <---> more entering

Sept 2016 - Sept 2017

Monday (Late) Nights

more exiting <---> more entering

Sept 2016 - Sept 2017

Sunday Mornings

more exiting <---> more entering

We need to drill down deeper..

- you can choose the right region, but the wrong stations

- once a vendor has picks out a region, they still need to perform a detailed time of day analysis
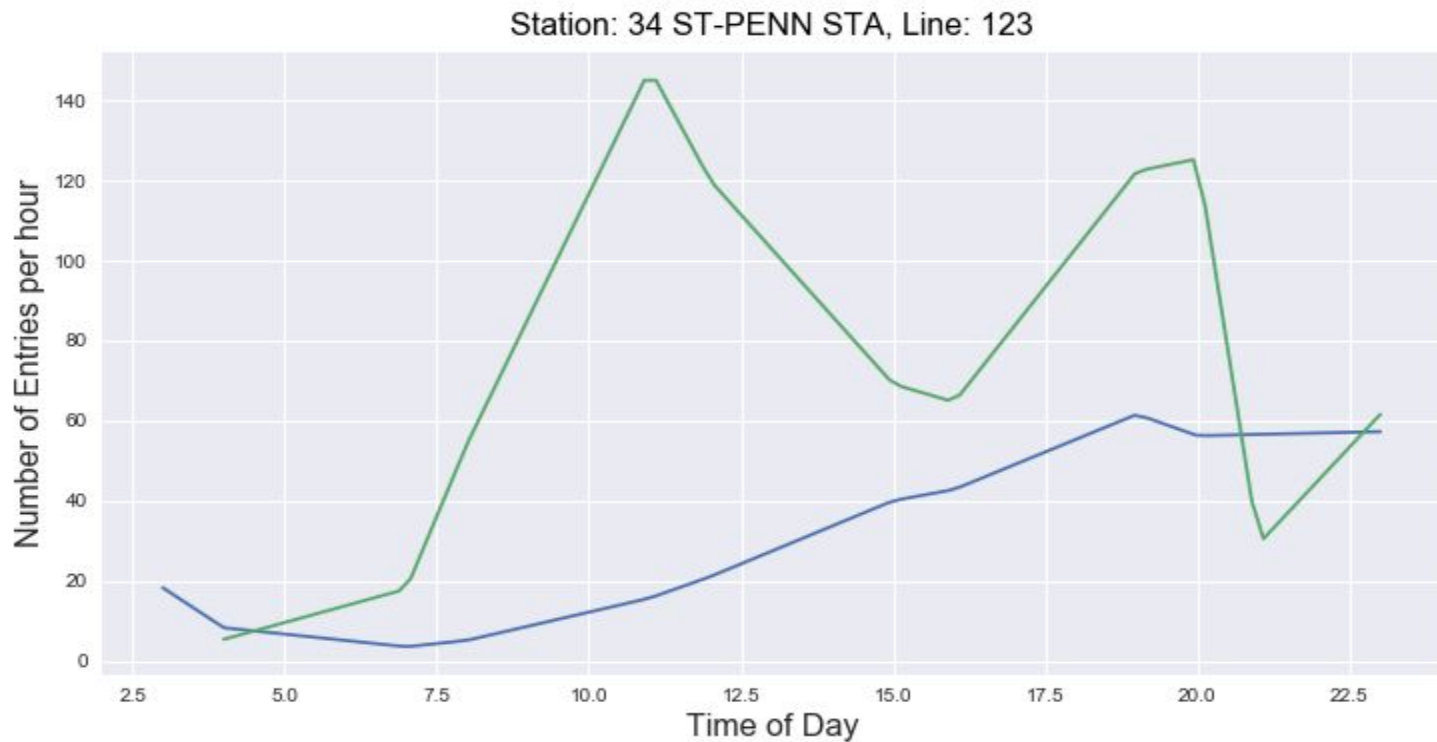
Dashboard:
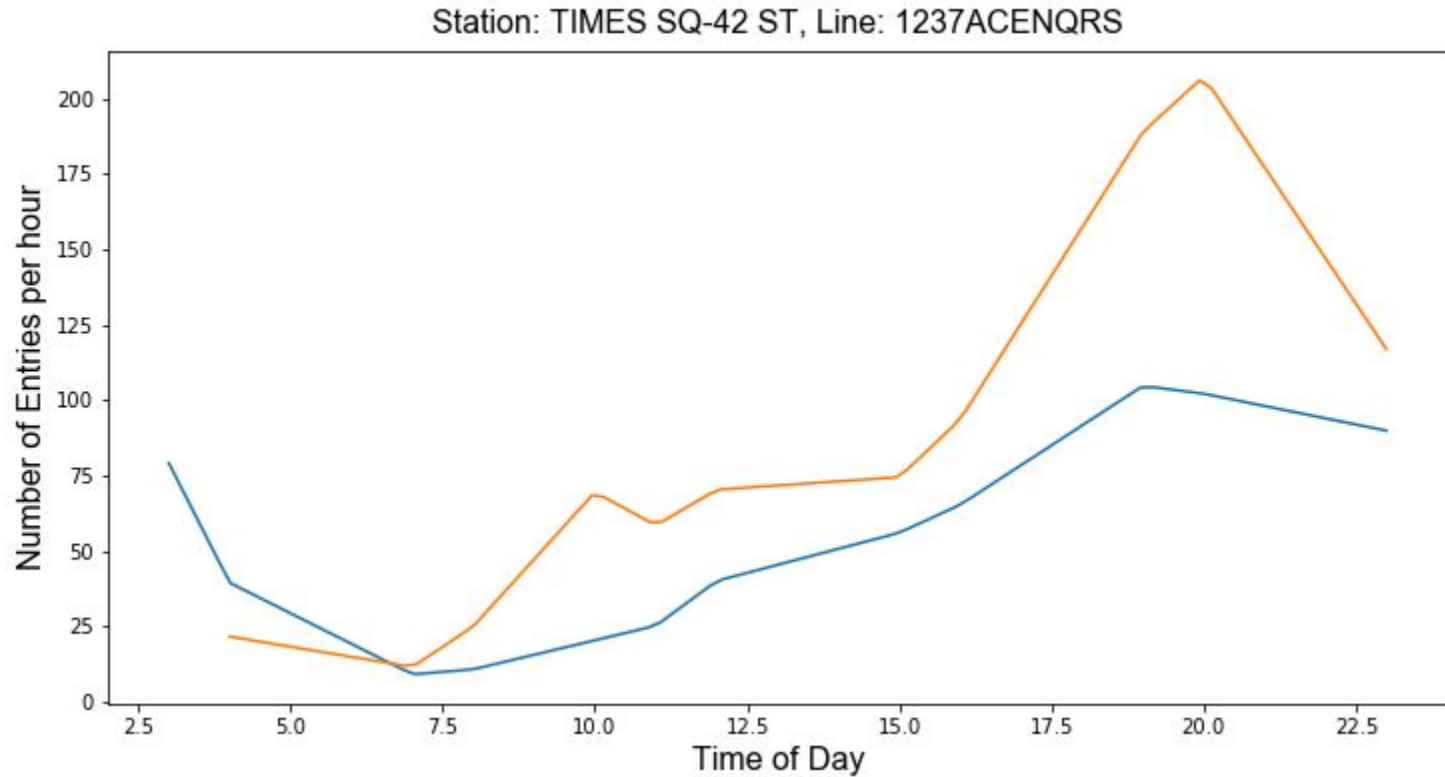
Time of Day (TOD) Analysis

TOD - Time of Day Analysis

- Traffic pattern of a typical weekday/weekend for a station

- Compare peak foot traffic time among stations to strategically move your food truck
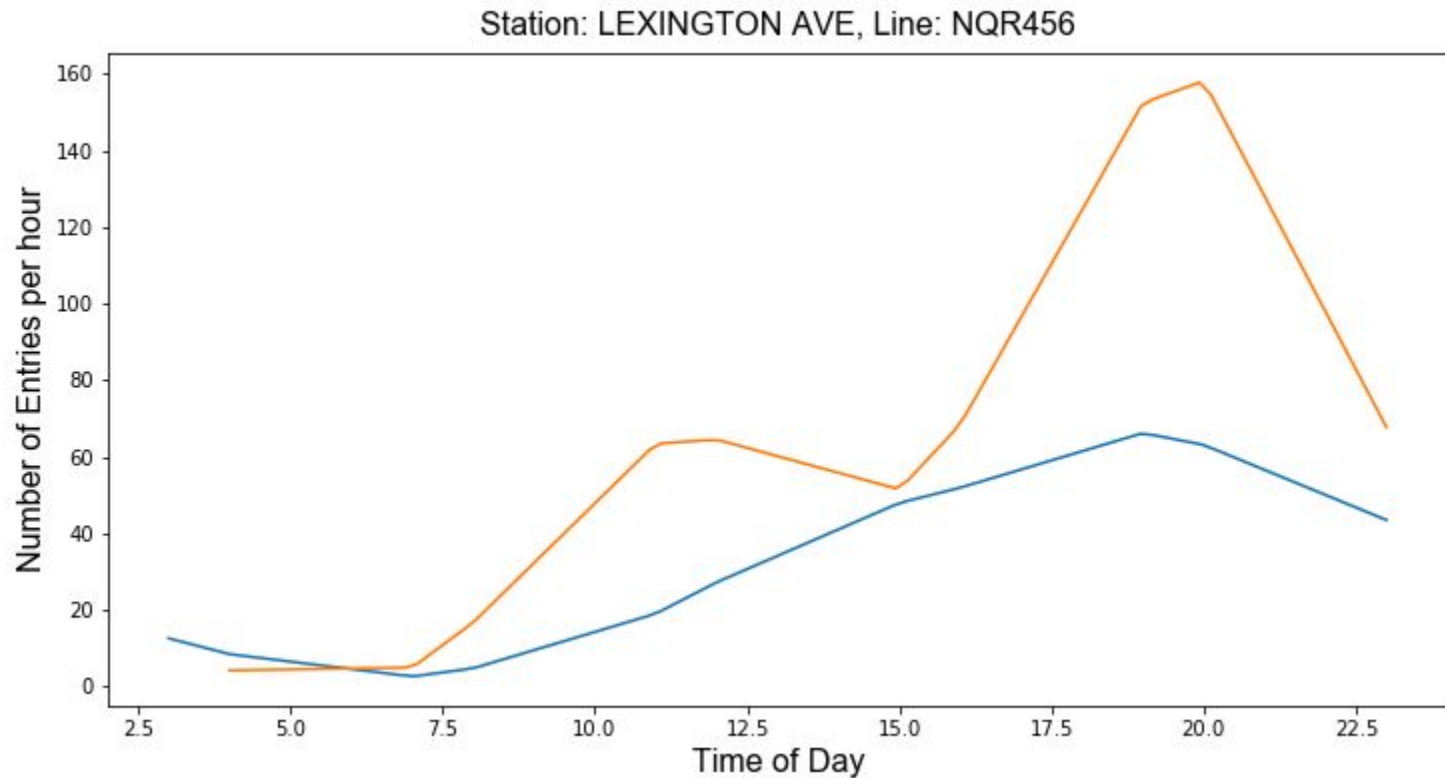
Dashboard Results

Station: 34 ST-PENN STA, Line: 123

Dashboard Results

Station: TIMES SQ-42 ST, Line: 1237ACENQRS

Dashboard Results

Conclusion

Concluding statements

- A commissioned report for NYFTA members with recommendations on placement

- A dashboard that visualizes foot-traffic flows

- **Maximize profit and increase the value of NYFTA membership**

Next Steps

-Normalize Station Name data

-Turnstile Counter Anomalies (ie: resets, negative numbers)

-Aggregate data over larger time period

-Plot graph of YOY percentage growth

-Restaurant Density / Growth Data (overlay)

-Restaurant Growth/Density + Traffic Growth Data

-Identify Key Areas of Opportunity for Food Truck Placements

(Questions?)

Executive Producer
DICK WOLF

A Metric For Entries/Exits

An exit/entry ratio that lets us compare rider movement over time and across stations

For each station/time period:

 2 * [(entries) / (entries + exits)] - 1