

HOW TO PUT DATA SCIENCE AND MACHINE LEARNING TO WORK - FOR YOU !

RESULTS FROM ANALYZING 11.5 MILLION ROWS OF TAXI TRIP DATA



I.TOURIST / RESIDENT PERSPECTIVE

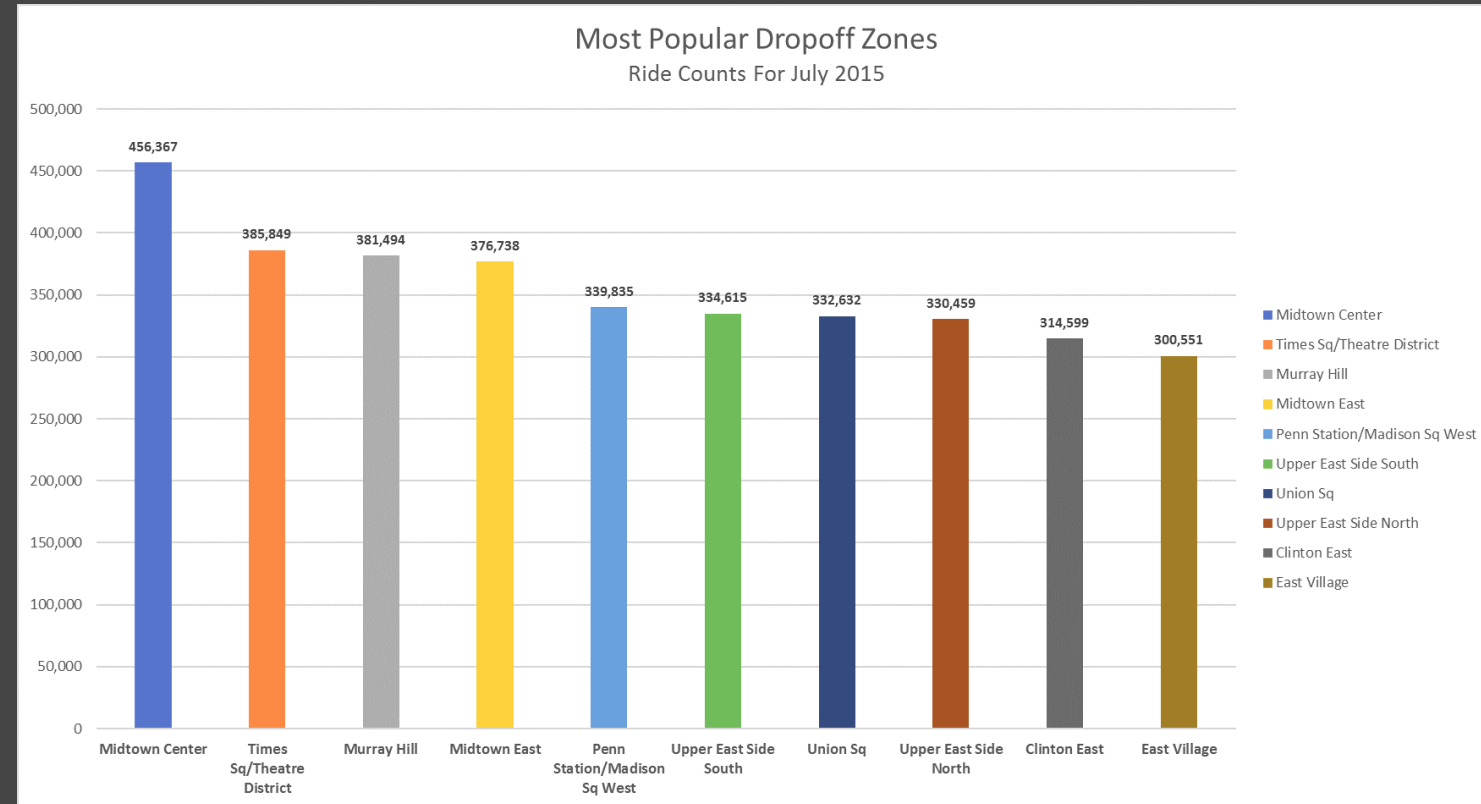
Question:

Which are the most popular destinations in New York City overall?

Answer:

Midtown Center (overall),
followed by Times Sq and
Murray Hill

Link: [Excel Workbook With
Pivot Table and Charts](#)



I.TOURIST / RESIDENT PERSPECTIVE

Question:
Which are the most popular destinations in New York City at various times of the day/night/weekend?

Answer:
Explore this pivot table to see which areas are active during specific times

Link: [Excel Workbook With Pivot Table and Charts](#)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	
1	Sum of ridecount	Column Labels																					
2		Sunday																					
3	Row Labels		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
7	Midtown East		1,577	1,442	839	689	537	293	308	522	800	1,111	1,468	1,709	1,755	1,870	1,751	1,865	1,837	1,833	1,789	1,663	1,472
8	Penn Station/Madison Sq West		2,172	1,783	1,738	1,007	792	449	894	1,166	1,861	2,726	2,660	3,039	2,815	2,473	2,614	2,590	2,594	2,444	2,616	2,848	1,804
9	Upper East Side South		794	599	381	316	215	133	247	401	631	929	1,806	1,858	2,041	2,117	2,039	2,148	1,962	2,030	1,838	1,774	1,348
10	Union Sq		1,744	1,433	1,056	758	434	181	205	310	500	855	1,416	1,910	2,155	2,092	1,964	1,849	1,878	1,977	2,104	2,092	1,766
11	Upper East Side North		1,022	929	738	612	334	163	238	451	669	975	1,552	1,767	1,847	1,927	1,951	2,060	1,872	1,708	1,810	1,855	1,590
12	Clinton East		2,843	2,498	2,168	1,697	1,134	409	405	527	703	991	1,279	1,632	1,946	2,250	2,398	2,228	2,352	2,344	2,522	2,611	2,266
13	East Village		4,400	4,141	3,141	2,212	1,112	306	180	234	365	681	1,011	1,452	1,772	1,953	1,760	1,850	1,899	2,193	2,713	2,818	2,447
14	Midtown North		1,296	932	637	487	278	147	201	290	534	835	1,271	1,586	1,774	1,867	1,779	1,864	1,772	1,647	1,785	1,504	1,473
15	Midtown South		1,922	1,545	1,227	959	619	199	172	238	388	598	882	1,246	1,443	1,510	1,564	1,485	1,645	1,967	1,998	1,899	1,624
16	East Chelsea		2,849	2,254	1,747	1,209	774	321	249	301	569	896	1,191	1,492	1,616	1,673	1,729	1,733	1,826	1,780	1,924	2,145	1,644
17	Lincoln Square East		1,255	982	763	527	371	186	234	414	724	1,099	1,502	1,678	2,033	2,460	2,364	2,058	1,999	1,998	2,131	1,942	1,528
18	Gramercy		1,936	1,854	1,649	1,294	719	229	216	273	354	568	905	1,207	1,280	1,354	1,475	1,455	1,470	1,635	2,075	2,163	1,844
19	Lenox Hill West		1,577	1,425	1,162	850	471	162	222	280	433	731	968	1,093	1,260	1,426	1,516	1,611	1,691	1,718	1,941	2,015	1,735
20	Upper West Side South		1,293	1,092	835	582	481	290	209	328	675	1,162	1,408	1,825	1,998	1,931	1,828	1,743	1,750	1,754	1,922	1,791	1,485
21	West Chelsea/Hudson Yards		1,419	997	802	560	372	228	338	597	1,125	1,284	1,415	1,612	1,539	1,567	1,544	1,672	1,466	1,599	1,770	1,350	997
22	TriBeCa/Civic Center		1,158	1,076	885	631	362	155	98	184	359	606	973	1,132	1,184	1,187	1,100	1,084	950	1,066	1,184	1,191	992
23	West Village		1,966	1,714	1,209	855	416	117	106	122	266	473	806	1,248	1,441	1,468	1,291	1,206	1,257	1,331	1,703	1,891	1,522
24	Garment District		1,020	849	613	407	283	159	221	357	563	740	953	1,163	1,148	1,234	1,366	1,322	1,277	1,248	1,293	1,281	849
25	Lenox Hill East		971	841	729	502	309	147	322	581	310	397	592	705	801	891	877	959	884	960	1,062	1,094	954
26	Yorkville West		1,629	1,473	1,267	908	523	212	129	266	350	509	775	906	1,054	1,074	1,055	1,234	1,146	1,339	1,605	1,612	1,533
27	Sutton Place/Turtle Bay North		1,312	1,080	1,039	649	379	135	150	134	250	375	601	825	984	1,056	1,045	1,129	994	1,168	1,460	1,402	1,294
28	Upper West Side North		1,092	1,032	854	623	393	218	292	291	413	524	743	944	1,046	1,202	1,126	1,197	1,158	1,351	1,427	1,299	1,192
29	UN/Turtle Bay South		1,031	965	904	705	368	126	117	299	243	396	626	655	785	836	882	1,002	854	972	1,163	1,142	1,049
30	Flatiron		1,328	1,241	992	849	501	177	130	176	295	571	796	897	937	1,202	1,020	1,133	1,157	1,056	1,104	1,184	961

I.TOURIST / RESIDENT PERSPECTIVE

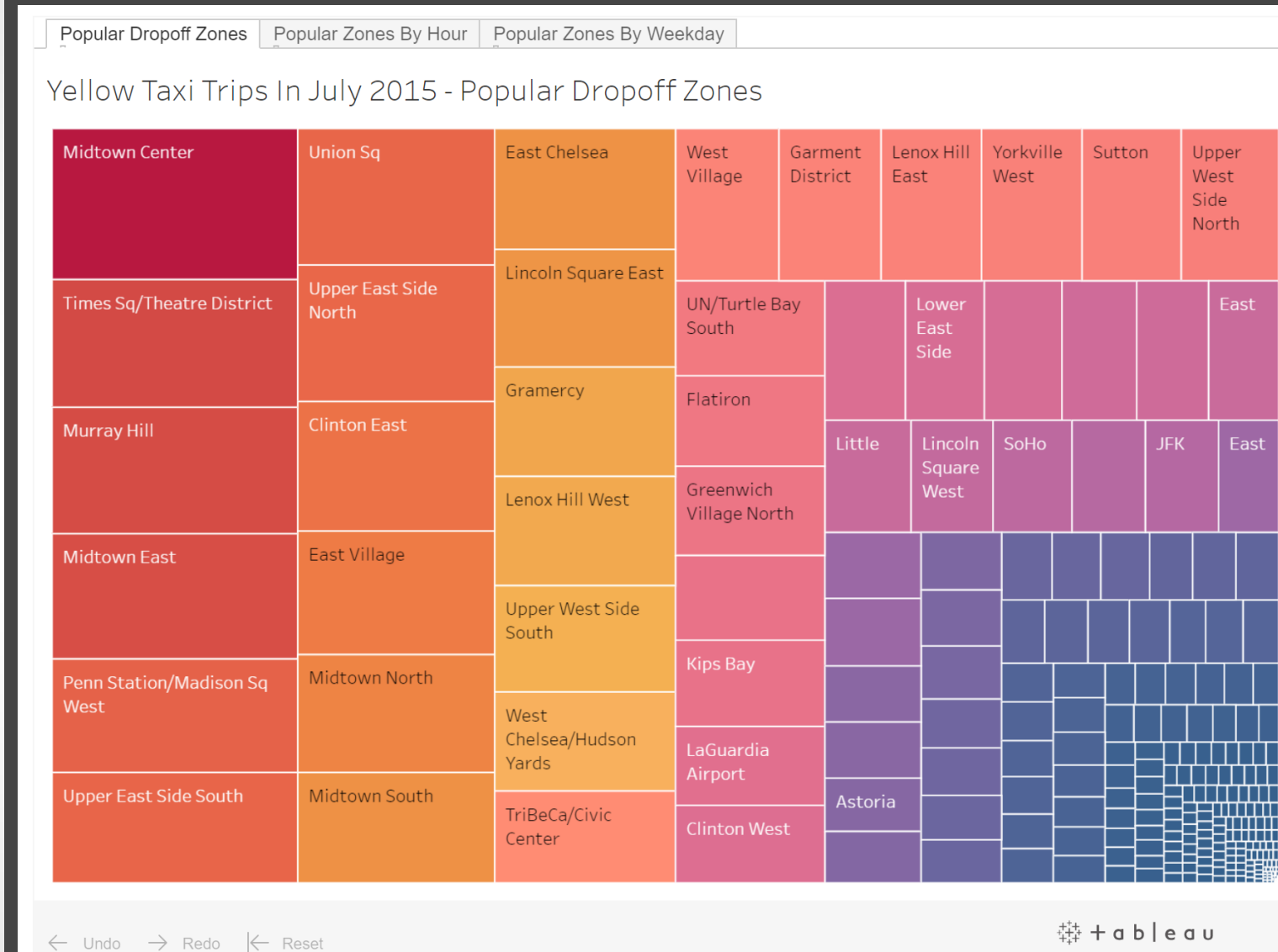
Question:

Which are the most popular destinations in New York City overall?

Answer:

Explore the interactive visualization for details

Link: [Tableau \(Interactive\)](#)



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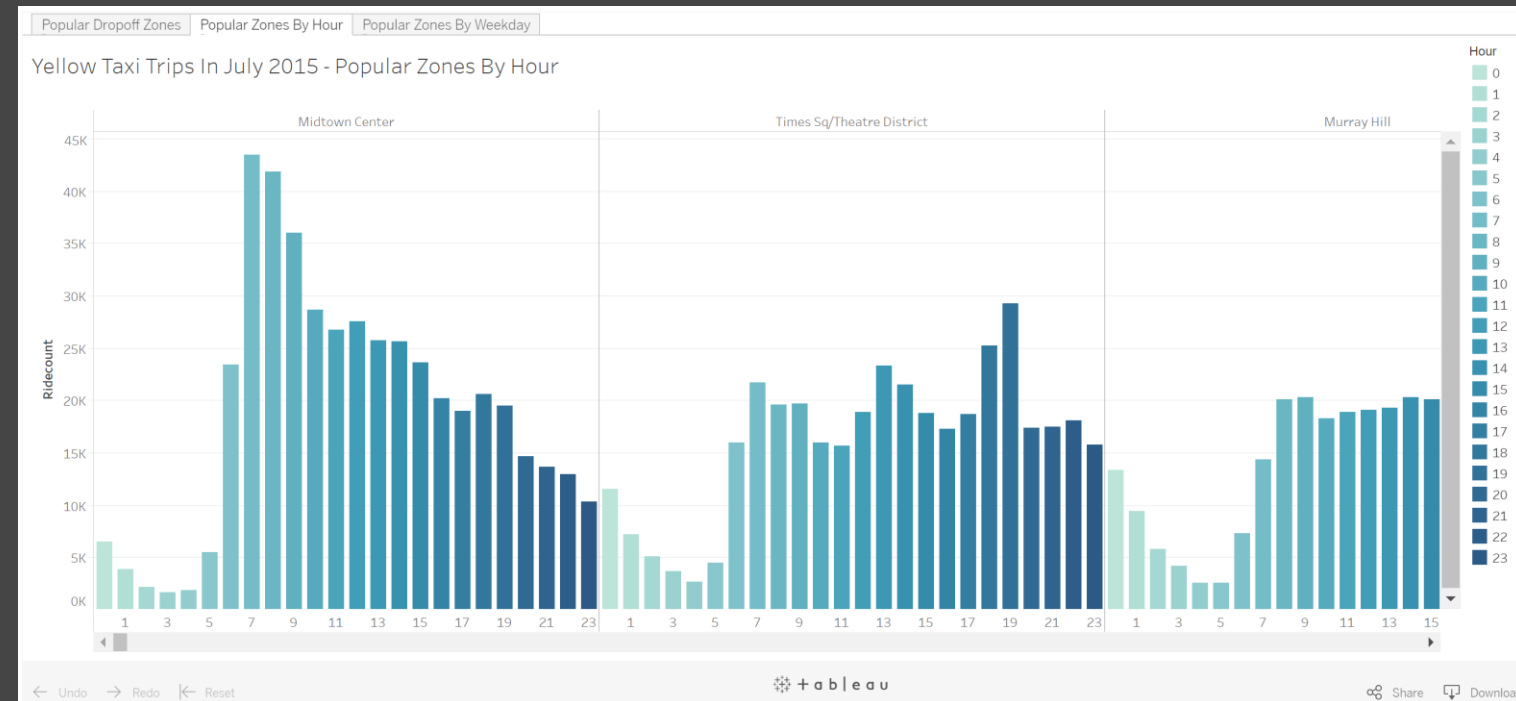
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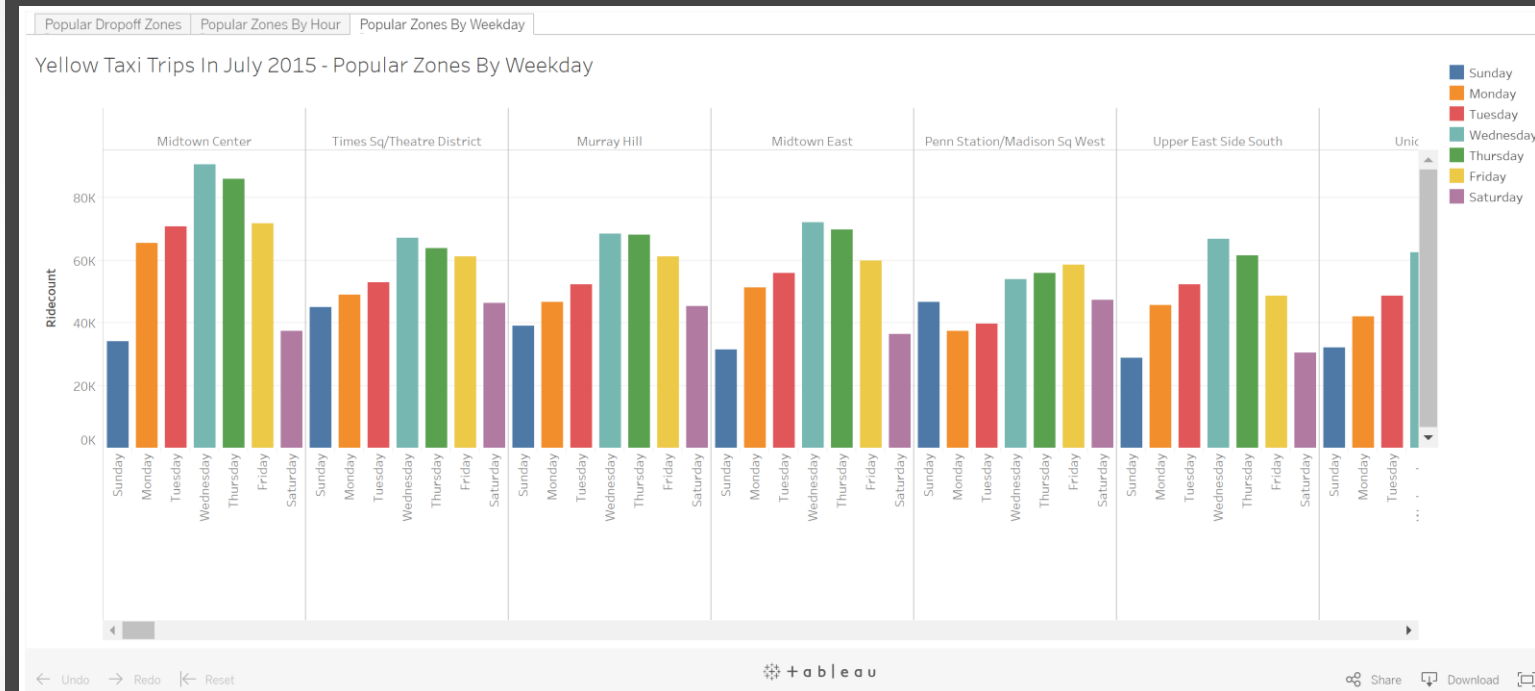
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2. CAB DRIVER PERSPECTIVE

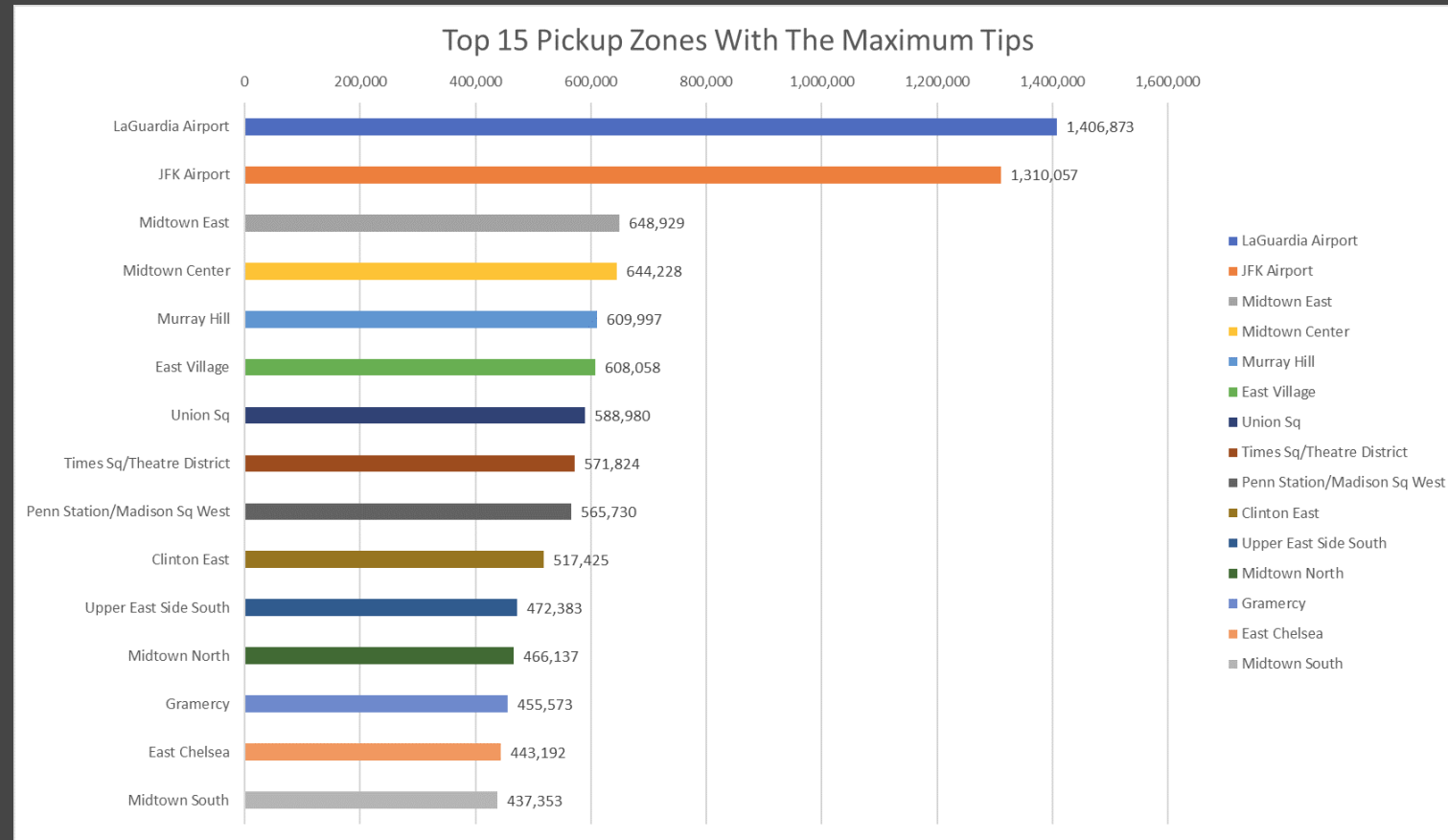
Question:

Where should I go to pick up passengers to earn the maximum tips?

Answer:

LaGuardia Airport, followed by JFK Airport and Midtown East

Link: [Excel Workbook With Pivot Table and Charts](#)



2. CAB DRIVER PERSPECTIVE

Question:

Where should I go to pick up passengers to earn the maximum tips per minute (best ROI of driver's time)?

Answer:

If you look at tips per minute, Newark Airport is at the top of the list

Link: [Excel Workbook With Pivot Table and Charts](#)

	A	B	C	D	E	F
1	Pickup Zone	Ridecount	sum_tip_amount	tripduration_minutes	tips_perminute_cents	Ridecount_Filter
5	Newark Airport	659	6,185	2,996	206	659
8	Dyker Heights	90	893	1,107	81	90
12	Marble Hill	101	494	968	51	101
14	Queens Village	100	659	1,411	47	100
21	Sunset Park East	174	699	2,286	31	174
24	Belmont	55	209	759	28	55
25	Randalls Island	710	3,416	12,731	27	710
29	Whitestone	79	274	1,101	25	79
31	East Flatbush/Farragut	149	471	2,106	22	149
32	Riverdale/North Riverdale/Fieldston	103	298	1,392	21	103
35	Schuylerville/Edgewater Park	77	216	1,094	20	77
36	Rosedale	50	193	998	19	50
37	Kew Gardens	721	1,881	9,964	19	721

2. CAB DRIVER PERSPECTIVE

Question:

Where should I go to pick up passengers to earn the maximum tips?

Answer:

Explore this visualization for details

Link: [Tableau \(Interactive\)](#)

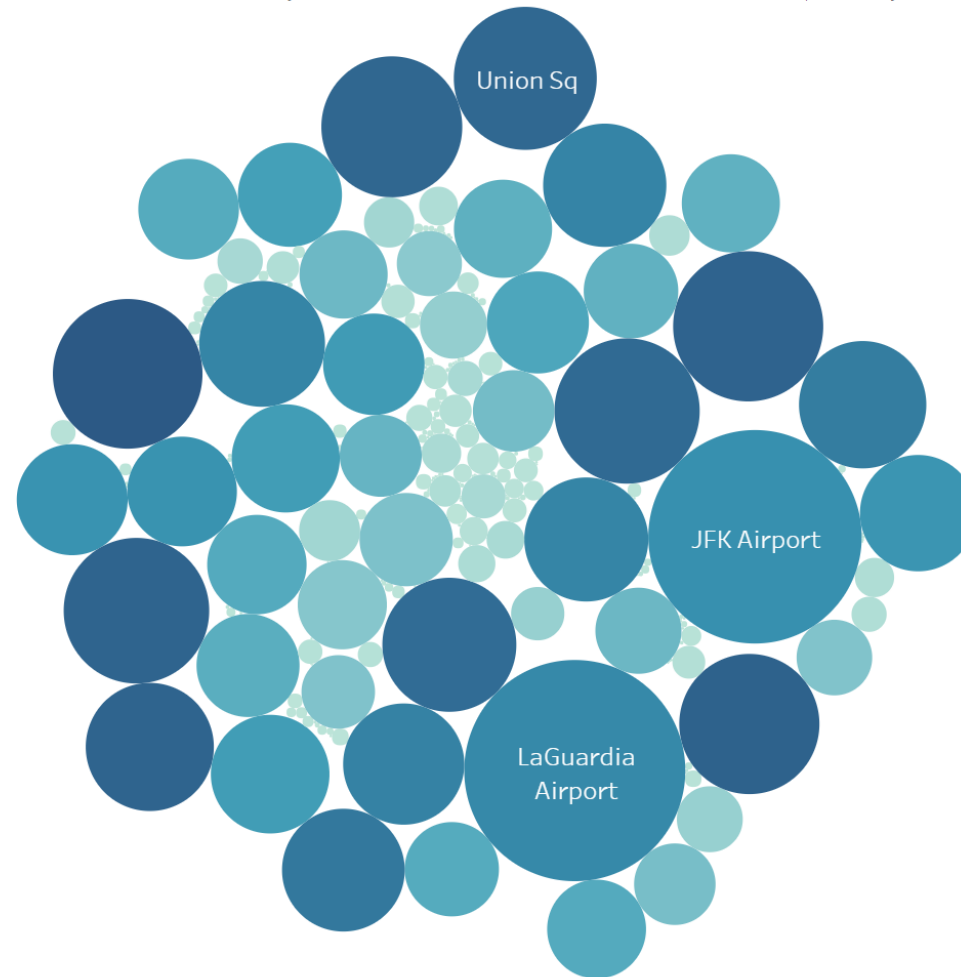
Pickup Zones With Max Tips

Hover over each bubble for more details

Bubble size=Total Tips, Bubble color=Ride Count

Data Source: New York City Taxi and Limousine Commission - Yellow Taxi Trips in July 2015

Ridecount



← Undo → Redo |← Reset

tableau

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3. BUSINESS OWNER PERSPECTIVE

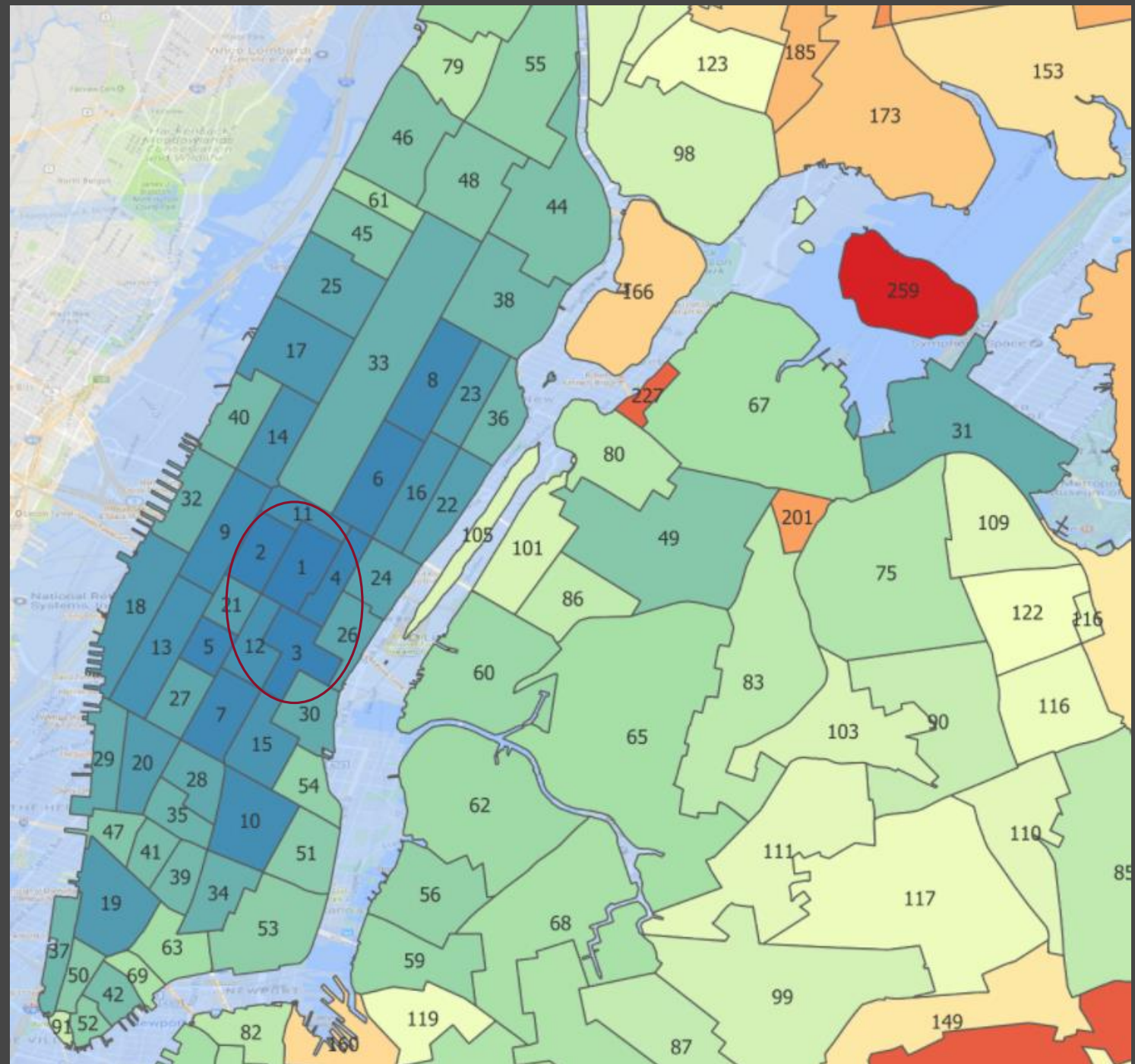
Question:

What is the ideal location to open a retail store based on traffic patterns?

Answer:

Top 4 neighborhoods are in Midtown: Midtown Center, Times Sq, Murray Hill, Midtown East

Link: [Interactive Map in QGIS Cloud](#)



3. BUSINESS OWNER PERSPECTIVE

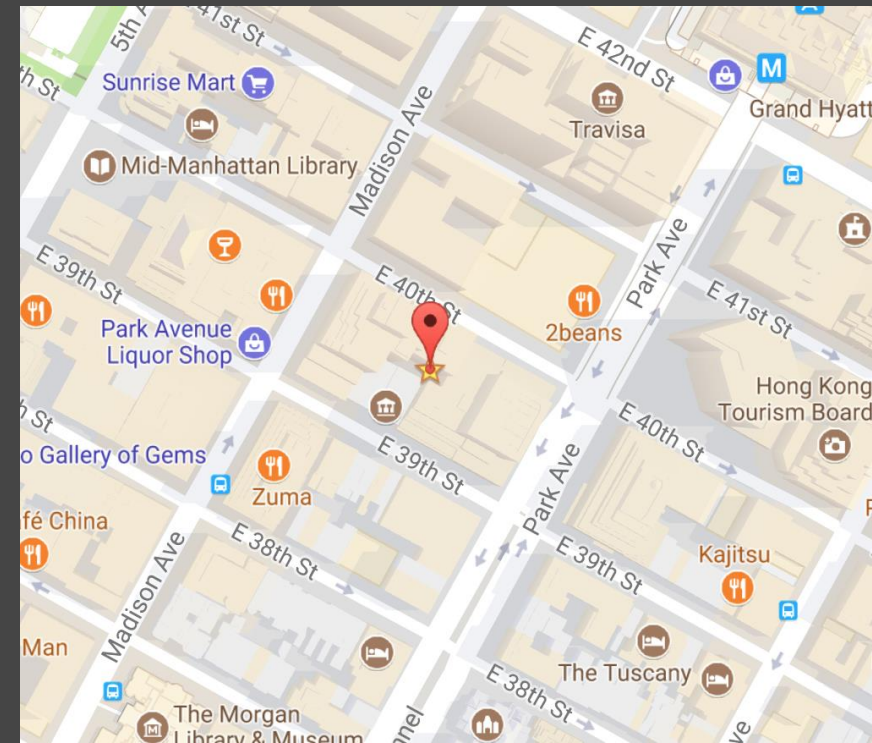
Question:

What is the ideal location to open a retail store based on traffic patterns?

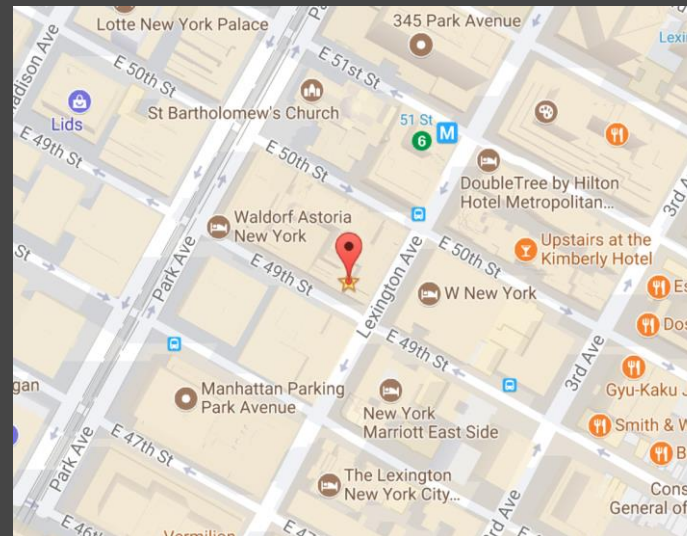
Answer:

Based on clustering analysis, Top 3 street addresses are shown here →

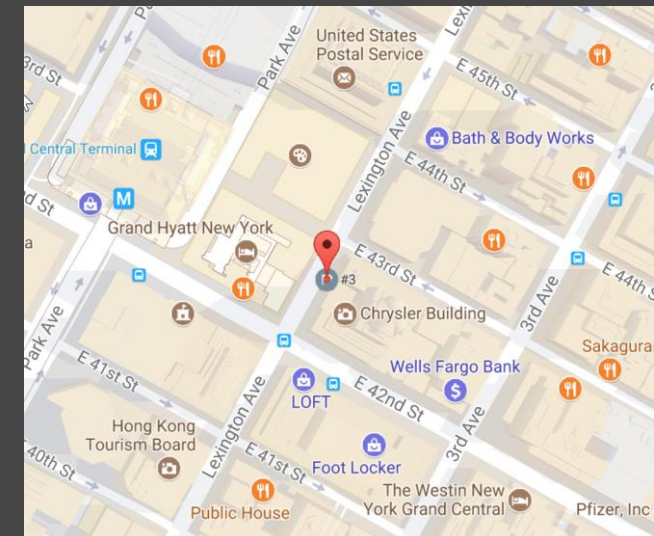
#1 40th Street, Between Madison Ave and Park Ave



#2 49th Street and Lexington Ave



#3 43rd Street and Lexington Ave



THAT'S ALL, FOLKS!

Links:

[Main Article](#)

Jupyter Notebooks

1. [Prepare Data](#)
2. [Analyze from Tourist/Resident Perspective](#)
3. [Analyze from Cab Driver Perspective](#)
4. [Analyze from Business Owner Perspective](#)

[Github Repository](#)

