



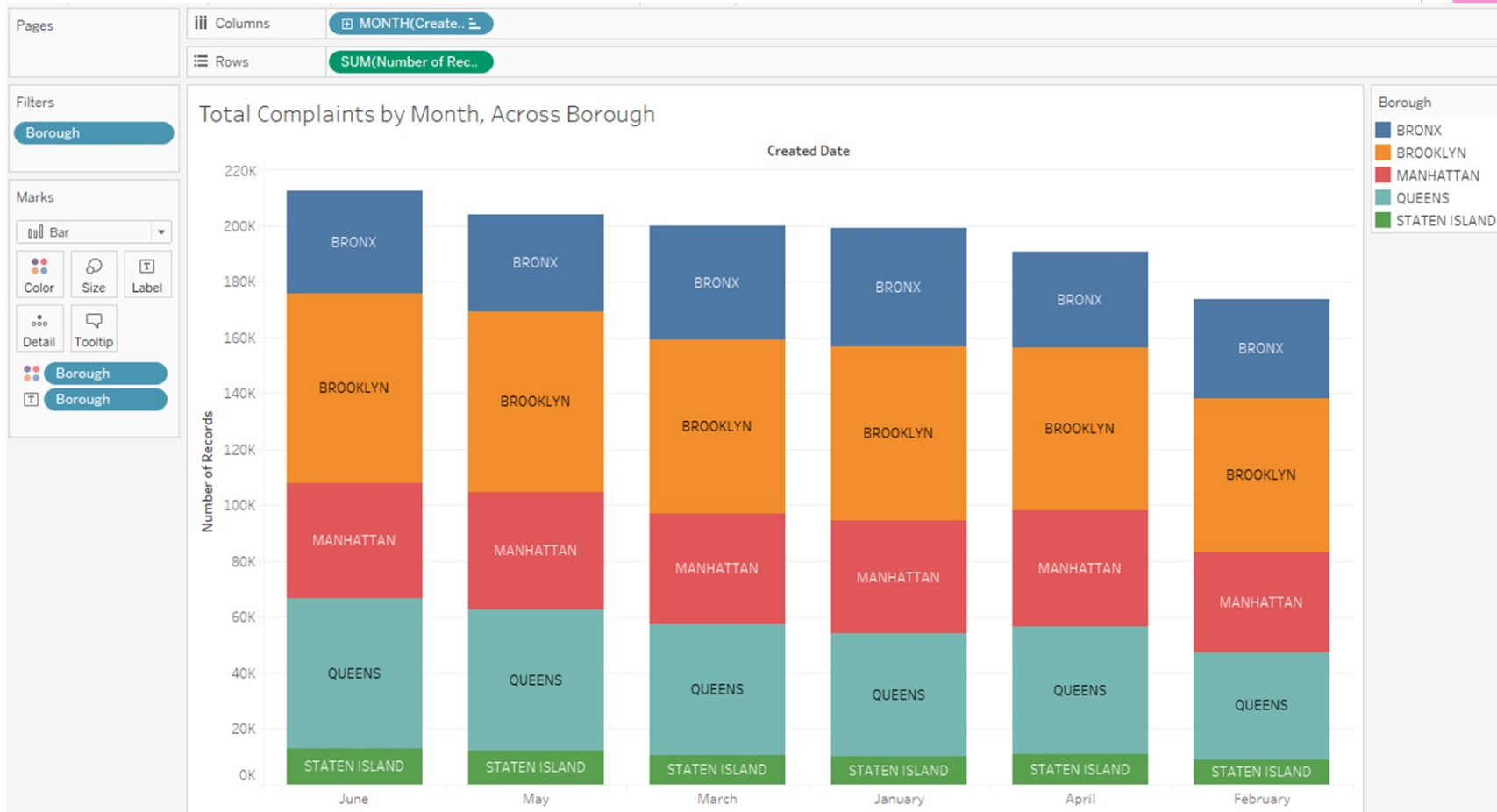
Data Analysis Project

NYC 311 Service (Jan - Jun17)

CIS 9655 - Fall 2018

Gina Moreno
Yifan Yang
Shobhit Ratan

Question 1: Which month had the greatest total number of complaints, for the first half of 2017?

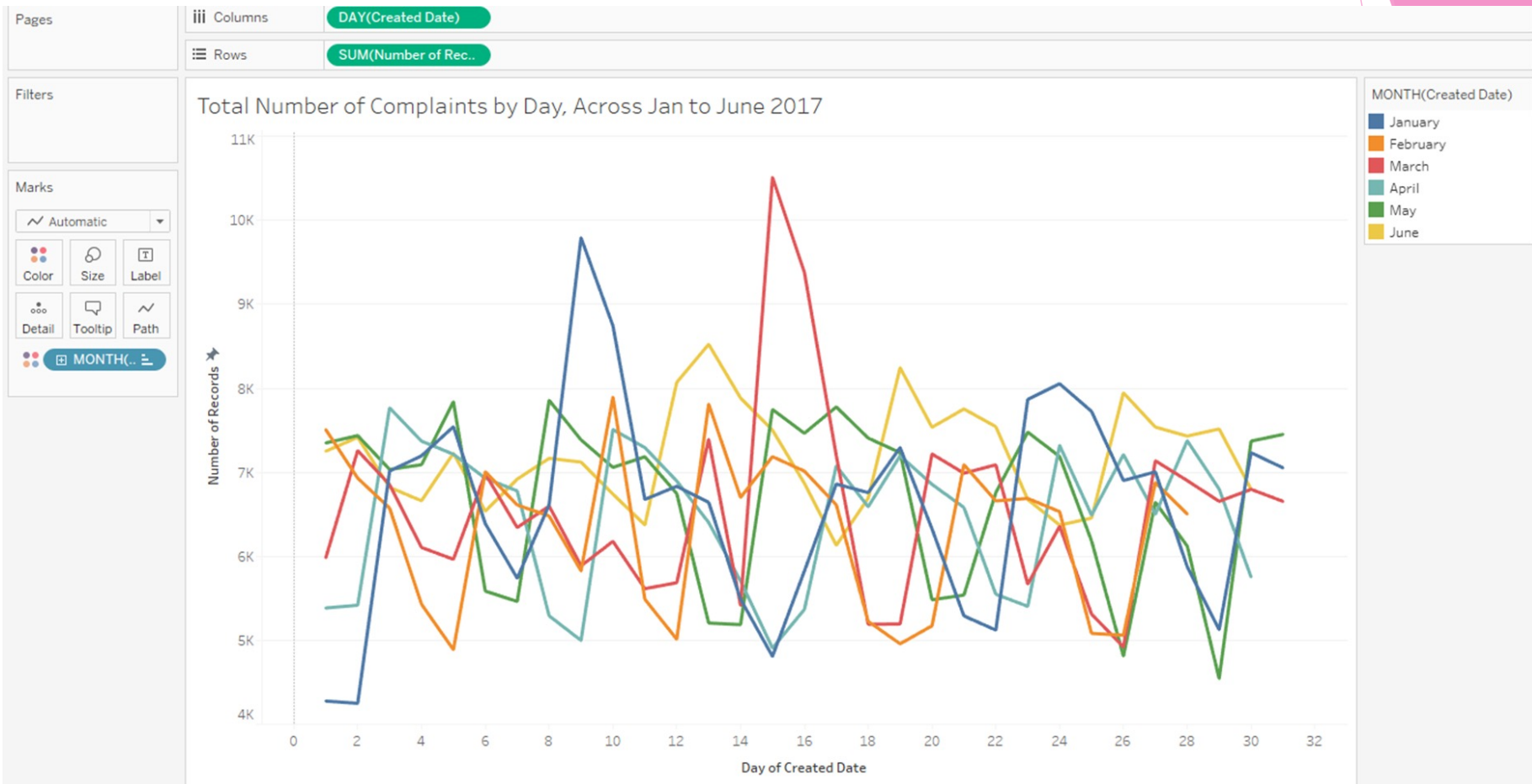


Question 1: Which month had the greatest total number of complaints, for the first half of 2017?

Key Insights

- June had the greatest number of complaints followed by May
- February had the fewest complaints
- We can speculate as to why this might be - seasonal variation
- Visually encoding borough with color we can see quite easily that Brooklyn had the greatest number of complaints overall for the time period we looked at

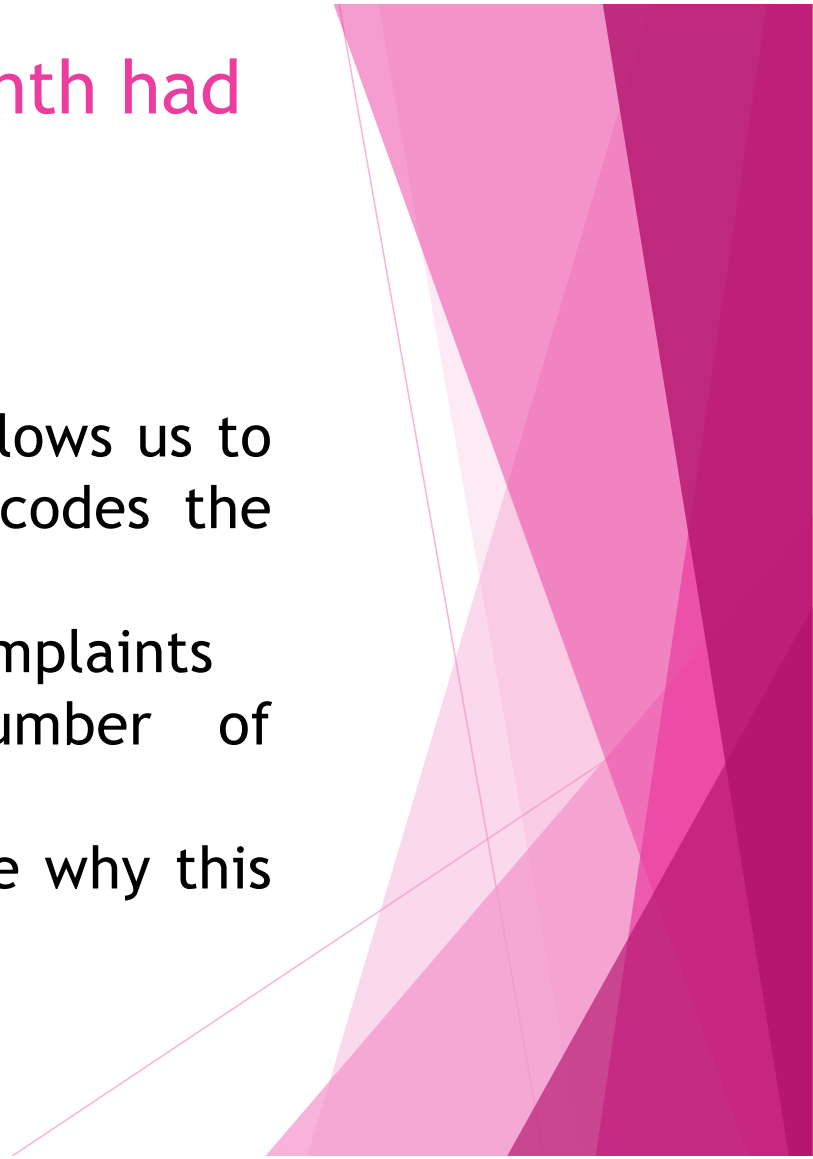
Question 2: Which day of which month had the greatest number of complaints?



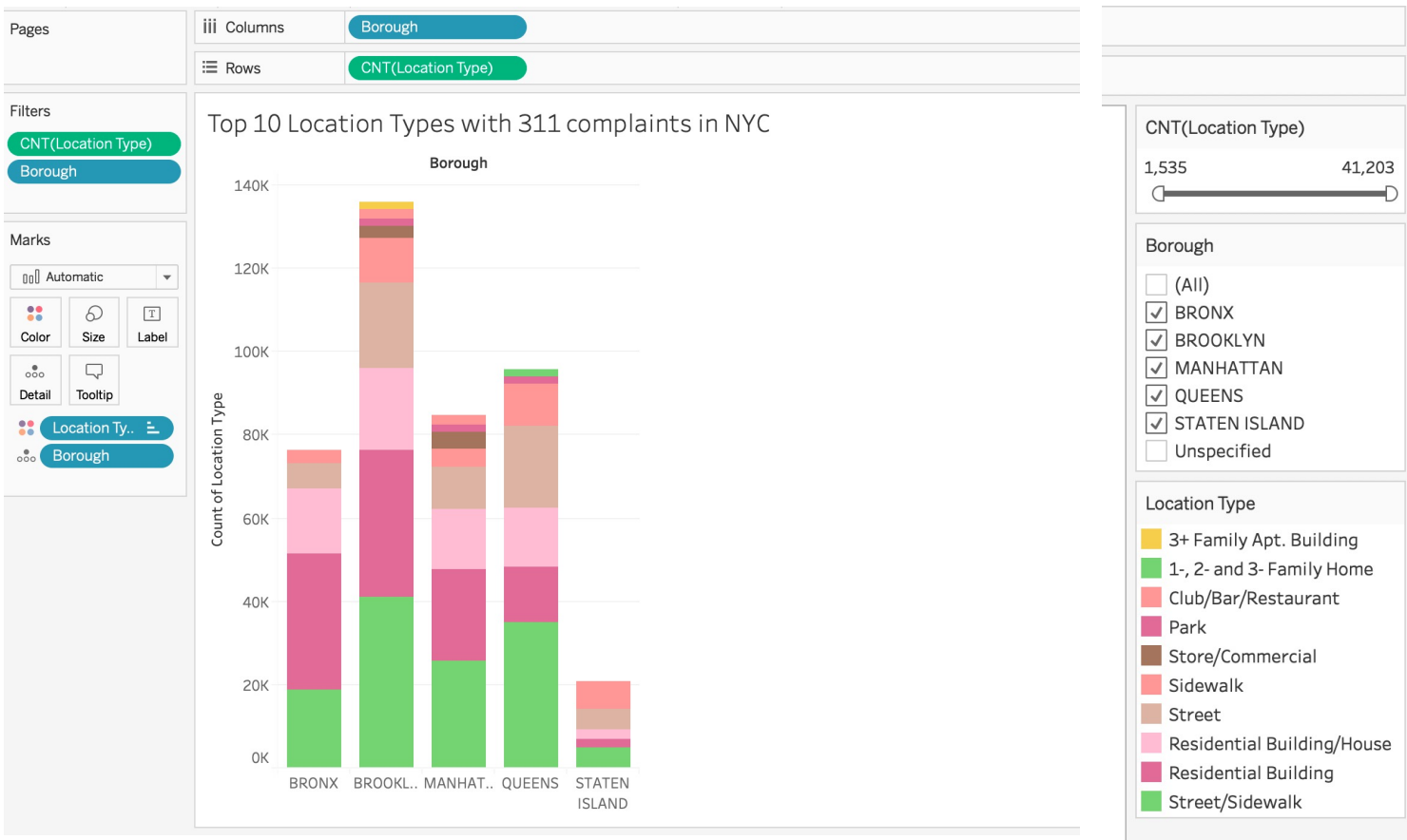
Question 2: Which day of which month had the greatest number of complaints?

Key Insights

- Visually encoding month using color allows us to see this while the horizontal axis encodes the ordered variable of day
- March 15th had the most number of complaints
- January 2nd had the fewest number of complaints
- Again, we are encouraged to speculate why this might be the case



Question 4: What are the top 10 location types where 311 complaints occurred across the 5 boroughs?

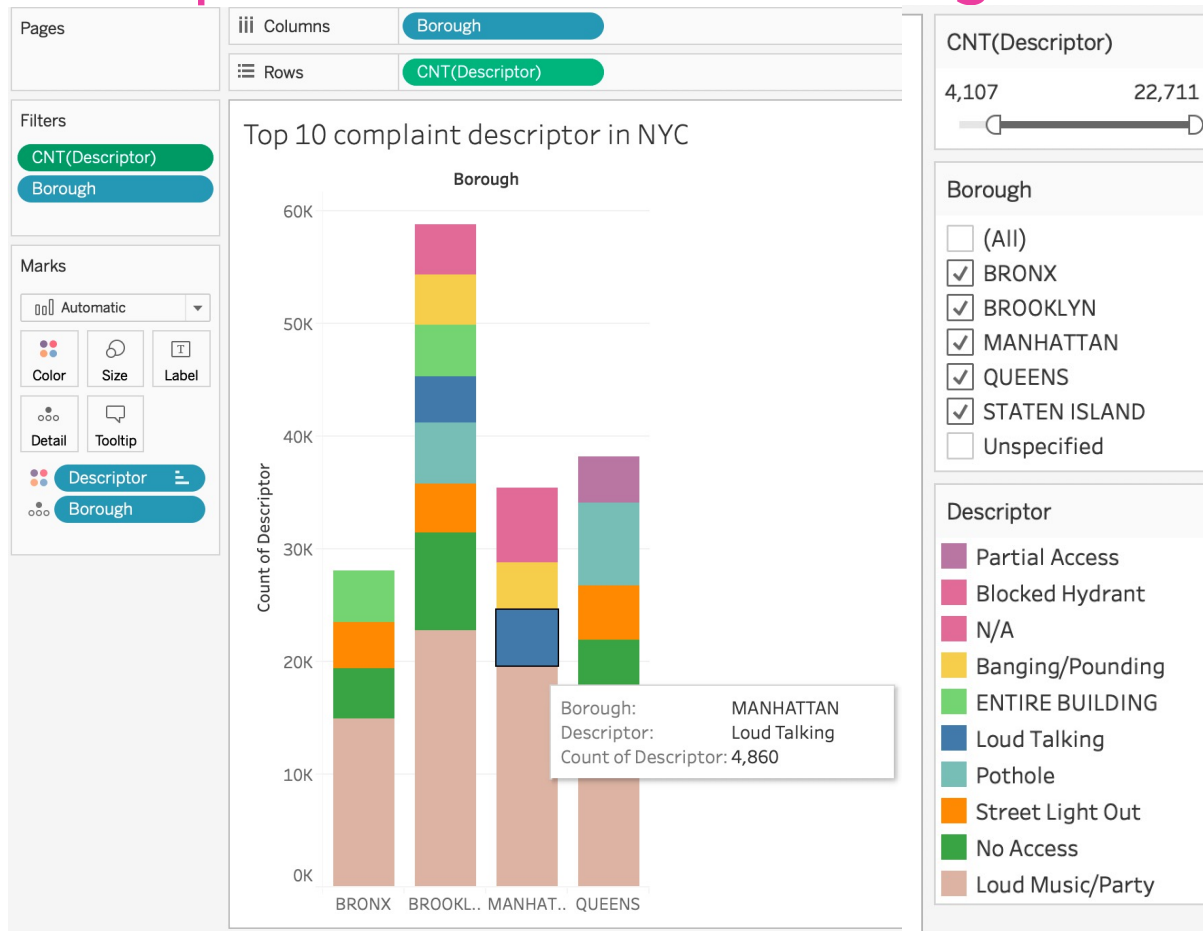


Question 4: What are the top 10 location types where 311 complaints occurred across the 5 boroughs?

Key Insights

- Street/sidewalk is the location type which had most 311 complaints.
- Residential buildings are the second top location with most 311 complaints.
- In terms of variety of location types, Brooklyn and Queens have more different location types than other boroughs.
- Brooklyn has more location types than other 4 boroughs.

Question 5: What are the top 10 noise complaint descriptors across the 5 boroughs?



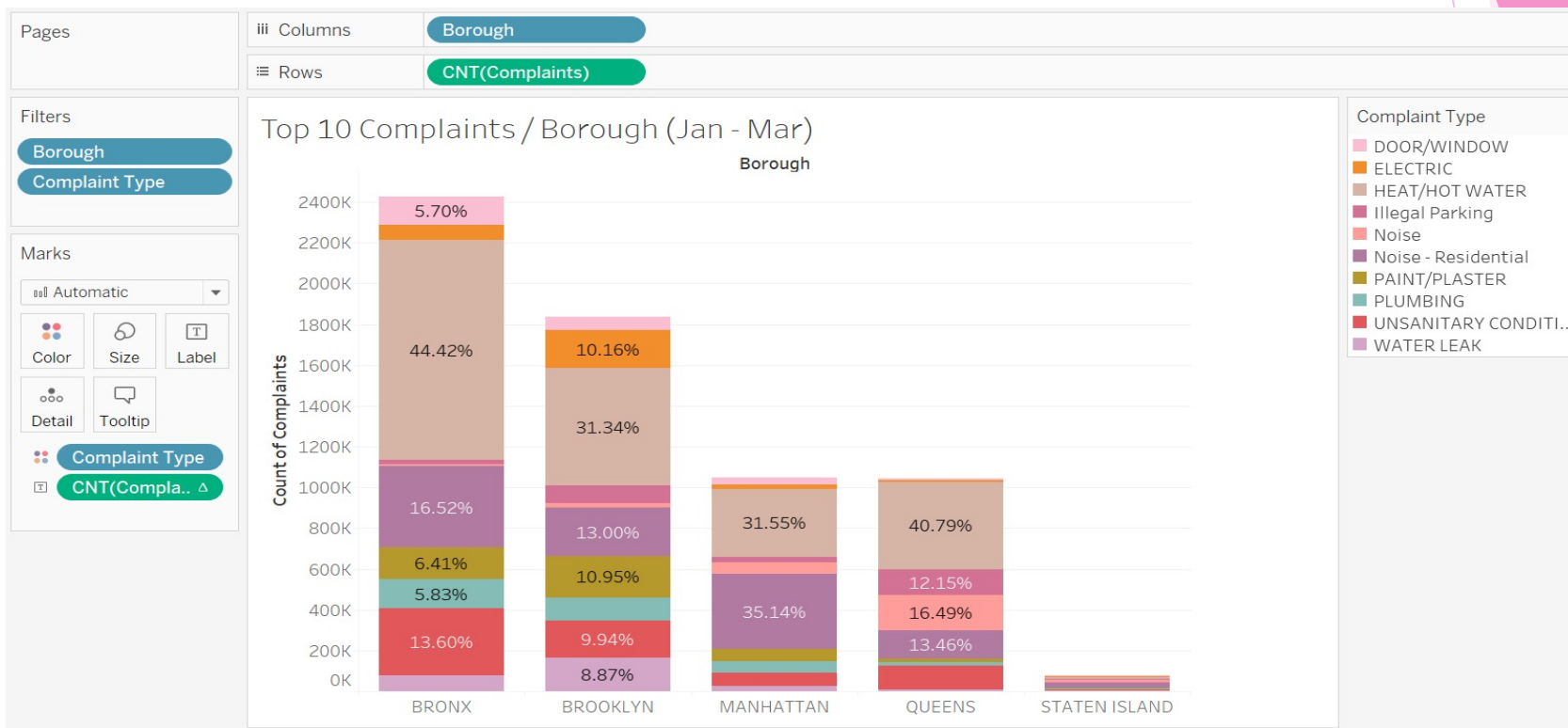
Question 5: What are the top 10 noise complaint descriptors across the 5 Boroughs?

Key Insights

- Loud music is the top complaint descriptor.
- No access is the second top complaint descriptor.
- In terms of variety of complaint descriptors, Brooklyn and Queens have more different complaint descriptors than other boroughs.
- Brooklyn has most complaint descriptors than other 4 boroughs.

Complaint Type

- DOOR/WINDOW
- ELECTRIC
- HEAT/HOT WATER
- Illegal Parking
- Noise
- Noise - Residential
- PAINT/PLASTER
- PLUMBING
- UNSANITARY CONDITI..
- WATER LEAK



Question 6: What are the top 10 complaint types in Q1 (2017) across the 5 Boroughs?

Pages

Columns: Borough

Rows: Complaint Type Measure Names

Filters: Borough, Complaint Type, Measure Names

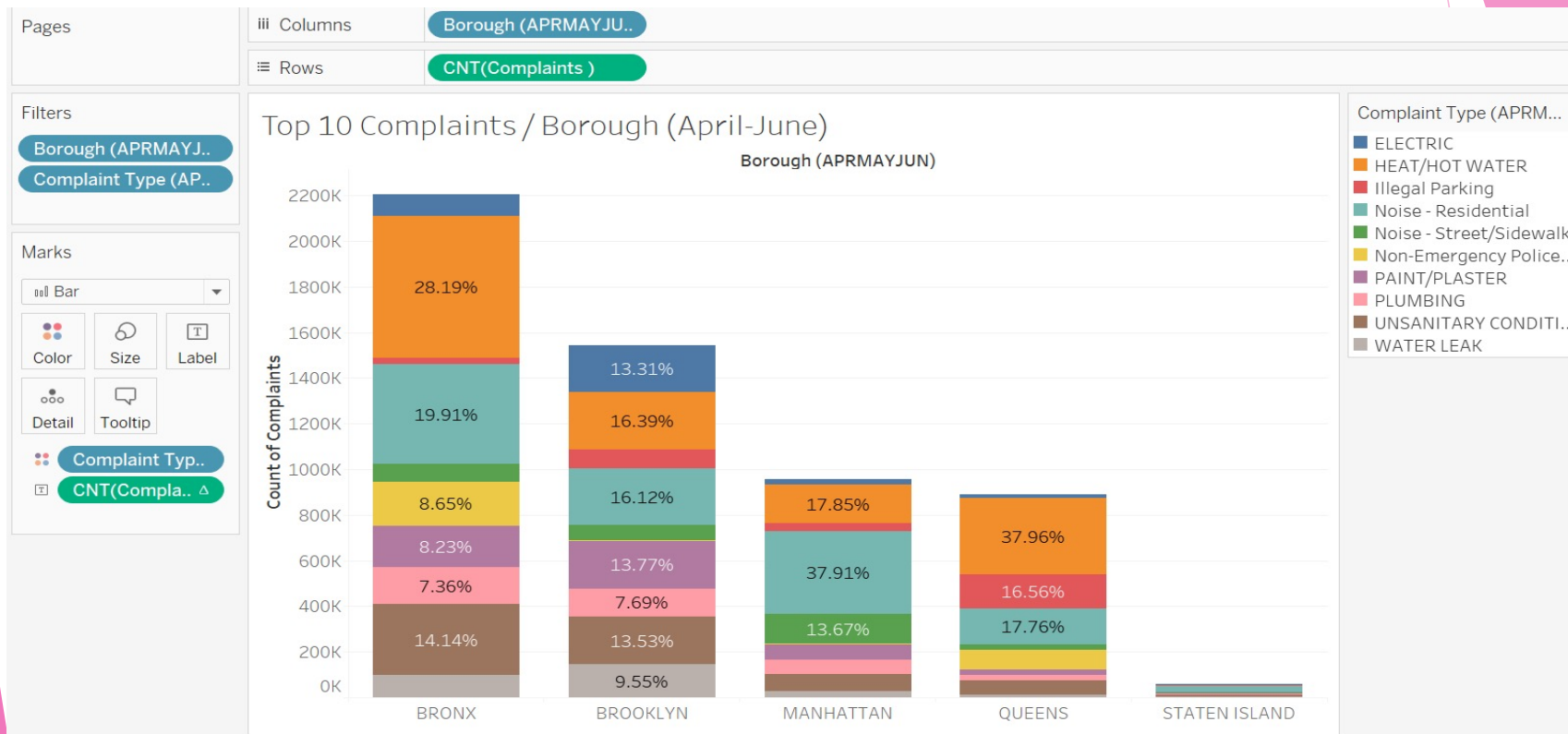
Marks: Automatic, Color, Size, Text, Detail, Tooltip, Measure Values

Measure Values: CNT(Complaints), CNT(Complaints)

Top 10 Complaints / Borough (Jan - Mar) Crosstab

		Borough				
Complaint Type		BRONX	BROOKLYN	MANHATTAN	QUEENS	STATEN ISLAND
DOOR/WINDOW	% of Total Count ..	5.70%	3.53%	3.45%	0.93%	4.41%
	Count of Complai..	138,347	64,865	36,186	9,693	3,440
ELECTRIC	% of Total Count ..	3.13%	10.16%	2.03%	0.84%	1.75%
	Count of Complai..	76,002	186,805	21,286	8,763	1,363
HEAT/HOT WATER	% of Total Count ..	44.42%	31.34%	31.55%	40.79%	15.72%
	Count of Complai..	1,077,689	576,186	330,984	425,924	12,270
Illegal Parking	% of Total Count ..	0.86%	4.75%	2.84%	12.15%	5.30%
	Count of Complai..	20,939	87,293	29,772	126,824	4,138
Noise	% of Total Count ..	0.32%	1.20%	5.08%	16.49%	16.18%
	Count of Complai..	7,678	22,028	53,315	172,182	12,627
Noise - Residential	% of Total Count ..	16.52%	13.00%	35.14%	13.46%	34.88%
	Count of Complai..	400,864	238,932	368,689	140,591	27,222
PAINT/PLASTER	% of Total Count ..	6.41%	10.95%	5.79%	1.55%	6.76%
	Count of Complai..	155,519	201,243	60,777	16,142	5,276
PLUMBING	% of Total Count ..	5.83%	6.27%	5.44%	1.68%	4.43%
	Count of Complai..	141,392	115,188	57,054	17,573	3,456
UNSANITARY CONDITION	% of Total Count ..	13.60%	9.94%	6.12%	11.11%	7.03%
	Count of Complai..	330,011	182,772	64,251	116,038	5,484
WATER LEAK	% of Total Count ..	3.21%	8.87%	2.55%	1.00%	3.54%
	Count of Complai..	77,860	163,161	26,786	10,484	2,766

Question 6: What are the top 10 complaint types in Q2(2017) across the 5 Boroughs?



Question 6: What are the top 10 complaint types in Q2(2017) across the 5 Boroughs?

Pages	iii Columns	Borough (APRMAYJU..)				
	Rows	Complaint Type (APR..	Measure Names			

Filters

Borough (APRMAYJU..)

Complaint Type (APR..)

Measure Names

Marks

Automatic

Color Size Text

Detail Tooltip

Measure Values

Measure Values

CNT(Complaints) ▲

CNT(Complaints)

Top 10 Complaints / Borough (April-June) Crosstab

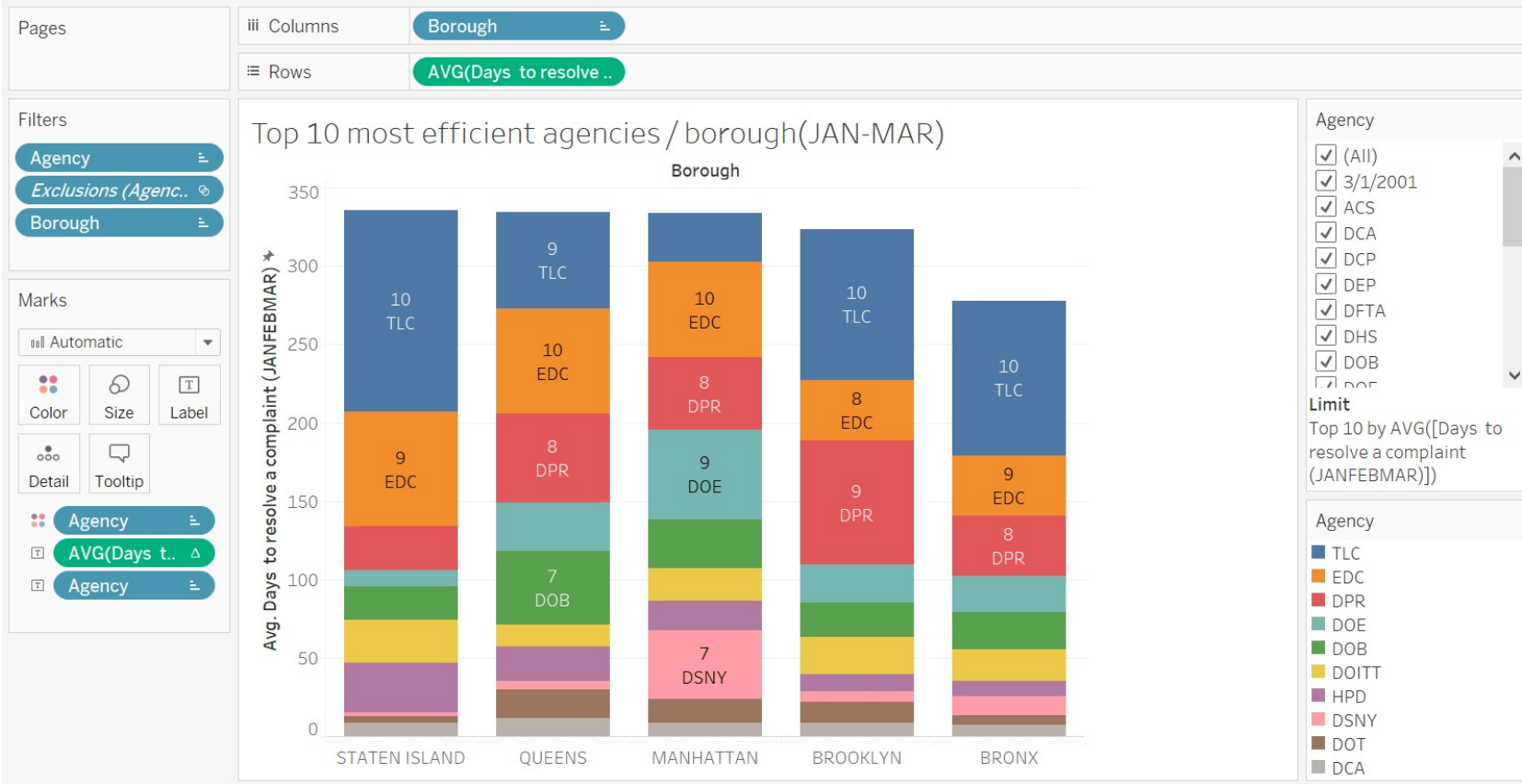
Complaint Type (..		Borough (APRMAYJUN)				
		BRONX	BROOKLYN	MANHATTAN	QUEENS	STATEN ISLAND
ELECTRIC	% of Total Count ..	4.33%	13.31%	2.50%	1.55%	4.99%
	Count of Complai..	95,451	205,517	23,888	13,787	3,025
HEAT/HOT WATER	% of Total Count ..	28.19%	16.39%	17.85%	37.96%	4.86%
	Count of Complai..	621,497	253,078	170,816	337,476	2,951
Illegal Parking	% of Total Count ..	1.16%	5.34%	3.48%	16.56%	6.86%
	Count of Complai..	25,650	82,384	33,285	147,248	4,163
Noise - Residential	% of Total Count ..	19.91%	16.12%	37.91%	17.76%	43.83%
	Count of Complai..	439,101	248,901	362,676	157,905	26,594
Noise - Street/Sidewalk	% of Total Count ..	3.63%	4.13%	13.67%	2.84%	2.16%
	Count of Complai..	80,013	63,800	130,751	25,247	1,311
Non-Emergency Police Matter	% of Total Count ..	8.65%	0.17%	0.25%	9.69%	0.74%
	Count of Complai..	190,715	2,678	2,427	86,146	451
PAINT/PLASTER	% of Total Count ..	8.23%	13.77%	7.09%	2.74%	10.74%
	Count of Complai..	181,566	212,668	67,834	24,330	6,515
Plumbing	% of Total Count ..	7.36%	7.69%	6.52%	2.51%	6.06%
	Count of Complai..	162,281	118,798	62,420	22,282	3,678
UNSANITARY CONDITION	% of Total Count ..	14.14%	13.53%	8.04%	6.90%	15.64%
	Count of Complai..	311,689	208,887	76,911	61,372	9,488
WATER LEAK	% of Total Count ..	4.40%	9.55%	2.69%	1.49%	4.12%
	Count of Complai..	96,963	147,386	25,778	13,204	2,501

Question 6: What are the top 10 complaint types per quarter (Q1 & Q2) across the 5 Boroughs?

Key Insights

- In both quarters (Q1 & Q2), *heat/hot water* is the biggest complaint type for 3 of the 5 Boroughs (Brooklyn, Bronx and Queens). However, for all boroughs the percentage of this complaint type reduces in Q2(Apr - Jun).
- In Manhattan and Staten Island, *Residential Noise* complaint type tops for both quarters. However, for all Boroughs, the percentage of this complaint type increased in Q2 compared to Q1.
- Data visualization encodings may be used by service providers / agencies to "what are the major complaints" and then further investigate; "why these complaints are dominant in specific Boroughs?"

Question 7: Which agency is the most efficient (in Q1) to resolve a complaint across the 5 Boroughs?



1

VG([Days to
complaint
R]))

Pages

Filters

Agency

Exclusions (Agency..)

Borough

Measure Names

Marks

Automatic

Color

Size

Text

Detail

Tooltip

Measure Values

AVG(Days to resolve..)

AVG(Days to resolve..)

Columns

Borough

Rows

Agency

Measure Names

Top 10 most efficient agencies / borough(JAN-MAR) Crosstab

		Borough				
Agency		STATEN IS..	QUEENS	MANHATT..	BROOKLYN	BRONX
TLC	Avg. Days to res..	128.4	61.5	30.8	95.8	98.2
	Rank of Avg. Day..	10.0	9.0	5.0	10.0	10.0
EDC	Avg. Days to res..	73.4	67.1	61.1	38.4	38.4
	Rank of Avg. Day..	9.0	10.0	10.0	8.0	9.0
DPR	Avg. Days to res..	28.1	56.4	46.4	79.0	38.1
	Rank of Avg. Day..	7.0	8.0	8.0	9.0	8.0
DOE	Avg. Days to res..	9.8	31.2	56.9	24.6	23.4
	Rank of Avg. Day..	4.0	6.0	9.0	7.0	6.0
DOB	Avg. Days to res..	21.8	47.0	31.0	21.9	23.6
	Rank of Avg. Day..	5.0	7.0	6.0	5.0	7.0
DOITT	Avg. Days to res..	27.0	13.7	20.9	23.5	20.2
	Rank of Avg. Day..	6.0	3.0	4.0	6.0	5.0
HPD	Avg. Days to res..	31.6	22.1	18.9	11.3	9.8
	Rank of Avg. Day..	8.0	5.0	3.0	3.0	3.0
DSNY	Avg. Days to res..	2.7	5.3	43.6	6.8	12.1
	Rank of Avg. Day..	1.0	1.0	7.0	1.0	4.0
DOT	Avg. Days to res..	4.3	18.3	15.4	13.2	6.5
	Rank of Avg. Day..	2.0	4.0	2.0	4.0	1.0
DCA	Avg. Days to res..	8.5	11.7	8.5	8.5	7.1
	Rank of Avg. Day..	3.0	2.0	1.0	2.0	2.0

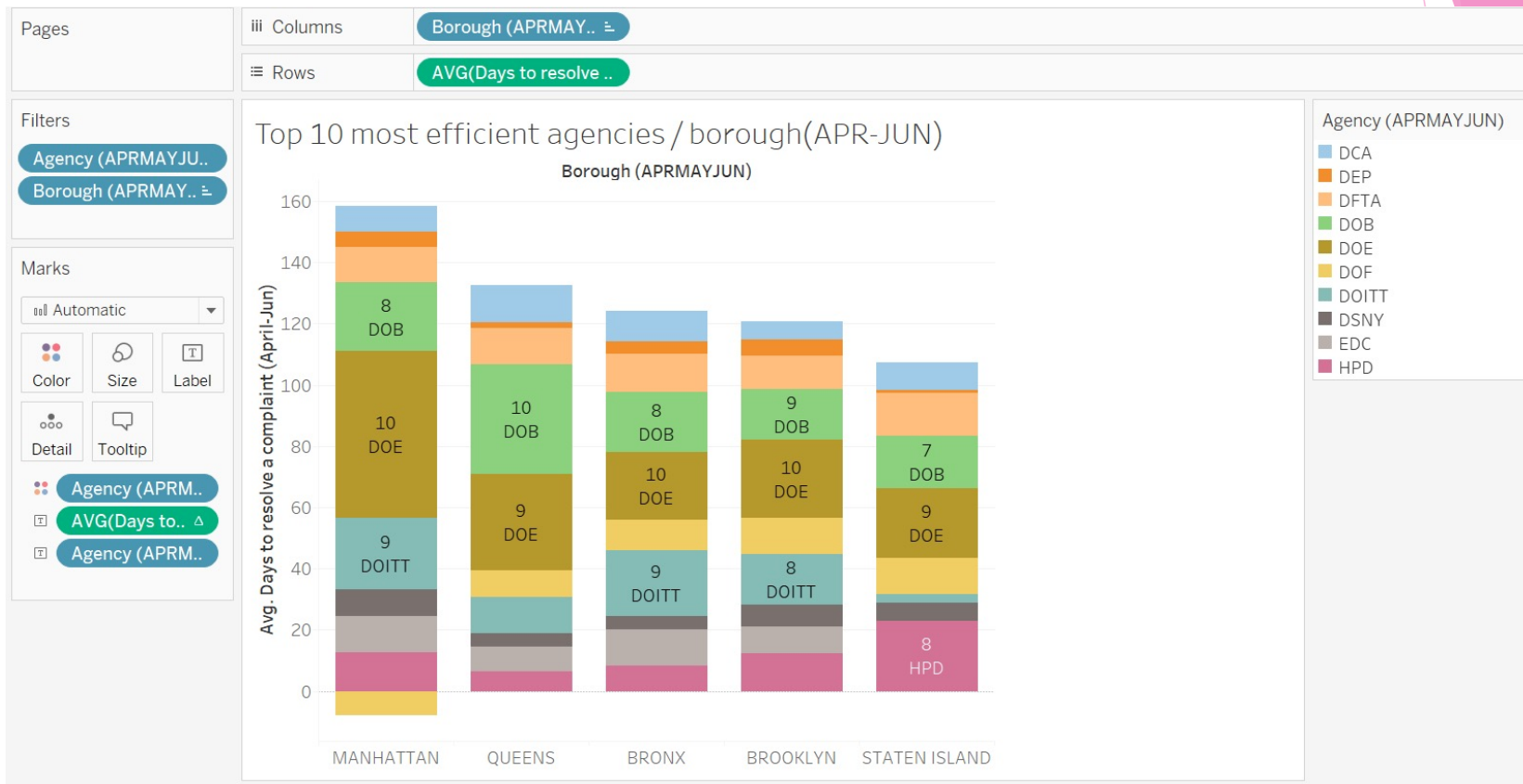
Agency

☒ (All)
 ☒ 3/1/2001
 ☒ ACS
 ☒ DCA
 ☒ DCP
 ☒ DEP
 ☒ DFTA
 ☒ DHS
 ☒ DOB
 ☒ DOE
 ☒ DOF
 ☒ DOHMH
 ☒ DOITT
 ☒ DOT
 ☒ DPR
 ☒ DSNY
 ☒ EDC
 ☒ HPD
 ☒ HRA
 ☒ NYCEM
 ☒ NYPD

Limit

Top 10 by AVG([Days to resolve a complaint (JANFEBMAR)])

Question 7: Which agency is the most efficient (in Q2) to resolve a complaint across the 5 Boroughs?



Question 7: Which agency is the most efficient (in Q2) to resolve a complaint across the 5 Boroughs?

Pages

Columns: Borough (APRMAYJUN)

Rows: Agency (APRMAYJUN), Measure Names

Filters: Agency (APRMAYJUN), Borough (APRMAYJUN), Measure Names

Marks: Automatic, Color, Size, Text, Detail, Tooltip, Measure Values

Measure Values: AVG(Days to resolve ..), AVG(Days to resol..)

Top 10 most efficient agencies / borough(APR-JUN) Crosstab

Agency..		Borough (APRMAYJUN)				
		MANHATTAN	QUEENS	BRONX	BROOKLYN	STATEN ISLAND
DCA	Avg. Days to res..	8.41	11.97	10.00	5.86	8.91
	Rank of Avg. Day..	3.00	8.00	5.00	2.00	4.00
DEP	Avg. Days to res..	5.21	1.82	4.03	5.53	1.11
	Rank of Avg. Day..	2.00	1.00	1.00	1.00	1.00
DFTA	Avg. Days to res..	11.36	11.78	12.53	10.95	13.96
	Rank of Avg. Day..	5.00	6.00	7.00	5.00	6.00
DOB	Avg. Days to res..	22.56	35.94	19.50	16.38	17.17
	Rank of Avg. Day..	8.00	10.00	8.00	9.00	7.00
DOE	Avg. Days to res..	54.30	31.49	22.10	25.39	22.82
	Rank of Avg. Day..	10.00	9.00	10.00	10.00	9.00
DOF	Avg. Days to res..	-7.98	8.56	9.88	12.10	11.84
	Rank of Avg. Day..	1.00	5.00	4.00	6.00	5.00
DOITT	Avg. Days to res..	23.39	11.94	21.62	16.35	2.79
	Rank of Avg. Day..	9.00	7.00	9.00	8.00	2.00
DSNY	Avg. Days to res..	8.80	4.37	4.39	7.15	5.95
	Rank of Avg. Day..	4.00	2.00	2.00	3.00	3.00
EDC	Avg. Days to res..	11.69	7.96	11.93	8.80	
	Rank of Avg. Day..	6.00	4.00	6.00	4.00	
HPD	Avg. Days to res..	12.76	6.56	8.17	12.30	22.79
	Rank of Avg. Day..	7.00	3.00	3.00	7.00	8.00

Question 7: Which agency is the most efficient per quarter (Q1 & Q2) to resolve a complaint across the 5 Boroughs?

Key Insights

- In Q1 (Jan - Mar), *Department of Sanitation (DSNY)* is the most efficient agency in 3 of the 5 Boroughs (Staten Island, Queens & Brooklyn). *DCA* is most efficient in Manhattan and *DOT* in Bronx.
- In Q2 (Apr - Jun), *Department of Environmental Protection (DEP)* is the most efficient agency in all Boroughs except Manhattan. *DOF* is top ranked in Manhattan. *DEP* did not even figure in the top 10 in Q1. Hence, for better insight, this may be further investigated.
- *DSNY* continues to be among top performing agency for all Boroughs in Q2.
- In Q2, Staten Island has missing information for *Economic Development Corporation (EDC)*. May need further investigation.

Thank you for listening. Any questions?

