

Housing Complaints in NYC



Analyzed and Presented by Junaid Qaiser

Data Source

Source: NYC OPEN DATA SOCRATA

Data Set: Social Services-Housing Complaints

Housing Complaints are based off service requests from 2010 to Present (December 5th)

Contains: 4,206,778 Records

Possible Uses of this Data

- Comparing housing conditions in NYC
- Potential Market opportunities for select businesses
 - What solutions can we come up with to solve those problems?
- Guidance to new residents for what areas tend to have better living conditions.



What are your thoughts on
NYC Housings conditions?

A Look at the Data Set



Complaint Date & Type

Location & Type

Analysis & Forecasting

A View of the Data Set (Portion)

Agency Name	Complaint Type	Descriptor	Location Type	Incident Zil	Incident Address
Department of Housing Preservation and Development	GENERAL	BELL/BUZZER/INTERCOM	RESIDENTIAL BUILDING	11230	1589 OCEAN AVENUE
Department of Housing Preservation and Development	FLOORING/STAIRS	FLOOR	RESIDENTIAL BUILDING	11230	1589 OCEAN AVENUE
Department of Housing Preservation and Development	HEAT/HOT WATER	ENTIRE BUILDING	RESIDENTIAL BUILDING	10462	2090 EAST TREMONT AVENUE
Department of Housing Preservation and Development	HEAT/HOT WATER	ENTIRE BUILDING	RESIDENTIAL BUILDING	11367	138-28 JEWEL AVENUE
Department of Housing Preservation and Development	HPD Literature Request	The ABCs of Housing			
Department of Housing Preservation and Development	HEAT/HOT WATER	ENTIRE BUILDING	RESIDENTIAL BUILDING	11225	227 SULLIVAN PLACE
Department of Housing Preservation and Development	HEAT/HOT WATER	ENTIRE BUILDING	RESIDENTIAL BUILDING	11238	469 CLINTON AVENUE
Department of Housing Preservation and Development	HPD Literature Request	The ABCs of Housing			
Department of Housing Preservation and Development	UNSANITARY CONDITION	PESTS	RESIDENTIAL BUILDING	11211	124 SOUTH 3 STREET
Department of Housing Preservation and Development	UNSANITARY CONDITION	PESTS	RESIDENTIAL BUILDING	11211	124 SOUTH 3 STREET
Department of Housing Preservation and Development	PAINT/PLASTER	CEILING	RESIDENTIAL BUILDING	10474	889 HUNTS POINT AVENUE
Department of Housing Preservation and Development	WATER LEAK	HEAVY FLOW	RESIDENTIAL BUILDING	10474	889 HUNTS POINT AVENUE
Department of Housing Preservation and Development	HEAT/HOT WATER	ENTIRE BUILDING	RESIDENTIAL BUILDING	10494	2628 3 AVENUE
Department of Housing Preservation and Development	HEAT/HOT WATER	APARTMENT ONLY	RESIDENTIAL BUILDING	10037	436 LENOX AVENUE
Department of Housing Preservation and Development	HEAT/HOT WATER	ENTIRE BUILDING	RESIDENTIAL BUILDING	11212	469 EAST 98 STREET
Department of Housing Preservation and Development	SAFETY	SMOKE DETECTOR	RESIDENTIAL BUILDING	11221	1141 GREENE AVENUE
Department of Housing Preservation and Development	SAFETY	CARBON MONOXIDE DETECTOR	RESIDENTIAL BUILDING	11221	1141 GREENE AVENUE
Department of Housing Preservation and Development	HEAT/HOT WATER	APARTMENT ONLY	RESIDENTIAL BUILDING	11221	1141 GREENE AVENUE
Department of Housing Preservation and Development	HEAT/HOT WATER	ENTIRE BUILDING	RESIDENTIAL BUILDING	10462	2090 EAST TREMONT AVENUE
Department of Housing Preservation and Development	HEAT/HOT WATER	ENTIRE BUILDING	RESIDENTIAL BUILDING	11226	22 MARTENSE STREET
Department of Housing Preservation and Development	HEAT/HOT WATER	ENTIRE BUILDING	RESIDENTIAL BUILDING	11226	600 EAST 18 STREET
Department of Housing Preservation and Development	HEAT/HOT WATER	ENTIRE BUILDING	RESIDENTIAL BUILDING	10468	2518 UNIVERSITY AVENUE
Department of Housing Preservation and Development	HEAT/HOT WATER	ENTIRE BUILDING	RESIDENTIAL BUILDING	10458	2308 HUGHES AVENUE
Department of Housing Preservation and Development	HEAT/HOT WATER	APARTMENT ONLY	RESIDENTIAL BUILDING	11203	282 EAST 35 STREET
Department of Housing Preservation and Development	HEAT/HOT WATER	ENTIRE BUILDING	RESIDENTIAL BUILDING	10033	129 WEST 74 STREET
Department of Housing Preservation and Development	ELECTRIC	POWER OUTAGE	RESIDENTIAL BUILDING	10310	177 CAMPBELL AVENUE
Department of Housing Preservation and Development	HEAT/HOT WATER	ENTIRE BUILDING	RESIDENTIAL BUILDING	10467	201 EAST MOSHOLU PARKWAY NORTH
Department of Housing Preservation and Development	HEAT/HOT WATER	ENTIRE BUILDING	RESIDENTIAL BUILDING	10462	2090 EAST TREMONT AVENUE
Department of Housing Preservation and Development	HEAT/HOT WATER	APARTMENT ONLY	RESIDENTIAL BUILDING	10040	4455 BROADWAY
Department of Housing Preservation and Development	HEAT/HOT WATER	ENTIRE BUILDING	RESIDENTIAL BUILDING	11233	545 HOWARD AVENUE
Department of Housing Preservation and Development	WATER LEAK	DAMP SPOT	RESIDENTIAL BUILDING	10027	320 ST NICHOLAS AVENUE

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[1] "Unique.Key"
[3] "Closed.Date"
[5] "Agency.Name"
[7] "Descriptor"
[9] "Incident.Zip"
[11] "Street.Name"
[13] "Cross.Street.2"
[15] "Intersection.Street.2"
[17] "City"
[19] "Facility.Type"
[21] "Due.Date"
[23] "Community.Board"
[25] "X.Coordinate..State.Plane."
[27] "Park.Facility.Name"
[29] "School.Name"
[31] "School.Region"
[33] "School.Phone.Number"
[35] "School.City"
[37] "School.Zip"
[39] "School.or.Citywide.Complaint"
[41] "Taxi.Company.Borough"
[43] "Bridge.Highway.Name"
[45] "Road.Ramp"
[47] "Garage.Lot.Name"
[49] "Ferry.Terminal.Name"
[51] "Longitude"

"Created.Date"
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"Incident.Address"
"Cross.Street.1"
"Intersection.Street.1"
"Address.Type"
"Landmark"
"Status"
"Resolution.Action.Updated.Date"
"Borough"
"Y.Coordinate..State.Plane."
"Park.Borough"
"School.Number"
"School.Code"
"School.Address"
"School.State"
"School.Not.Found"
"Vehicle.Type"
"Taxi.Pick.Up.Location"
"Bridge.Highway.Direction"
"Bridge.Highway.Segment"
"Ferry.Direction"
"Latitude"
"Location"

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Using R to Read the data (CSV)

Dimensions: 4,206,778 x 52



After removing some columns that are not being used in the analysis

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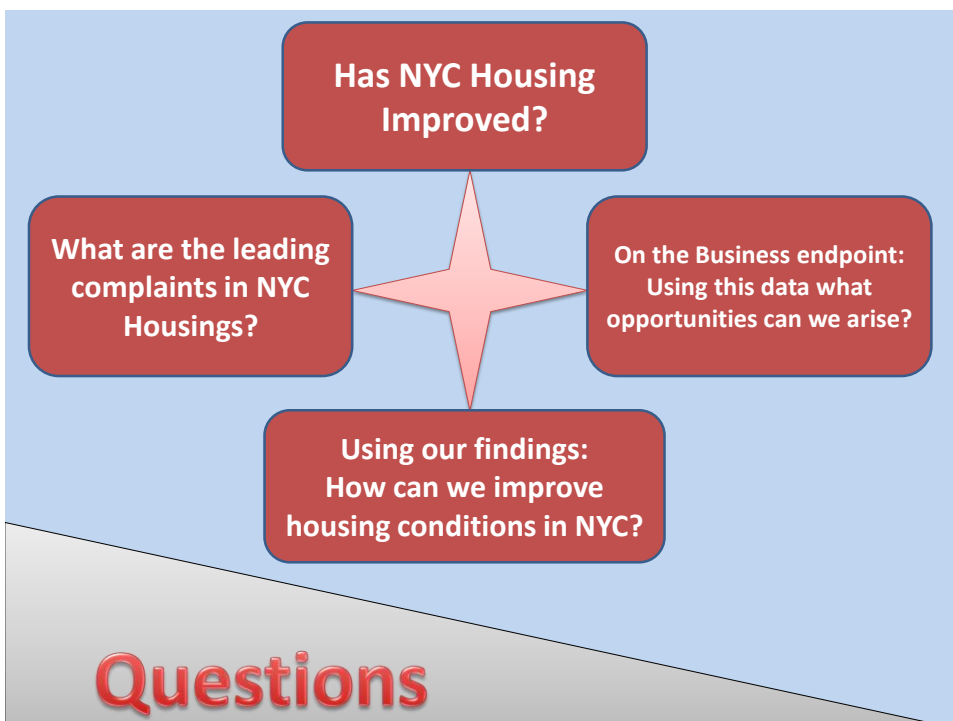
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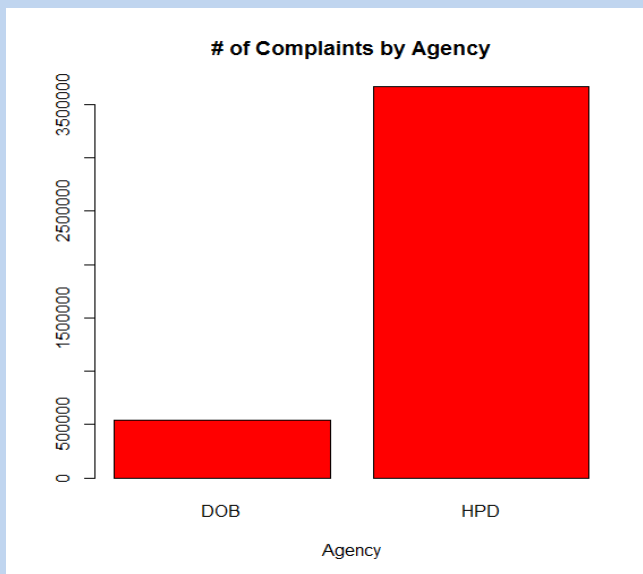
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Complaint Date & Type

- ❑ # of Complaints by Date (Per Month).
- ❑ What are the types of Complaints.
- ❑ Analysis of the # of Complaints.

```
plot(~complaints$Agency,length(complaints~Complaint.Type),main="# of Complaints by Agency",col="red",xlab="Agency")
```



DOB:
Department of
Buildings

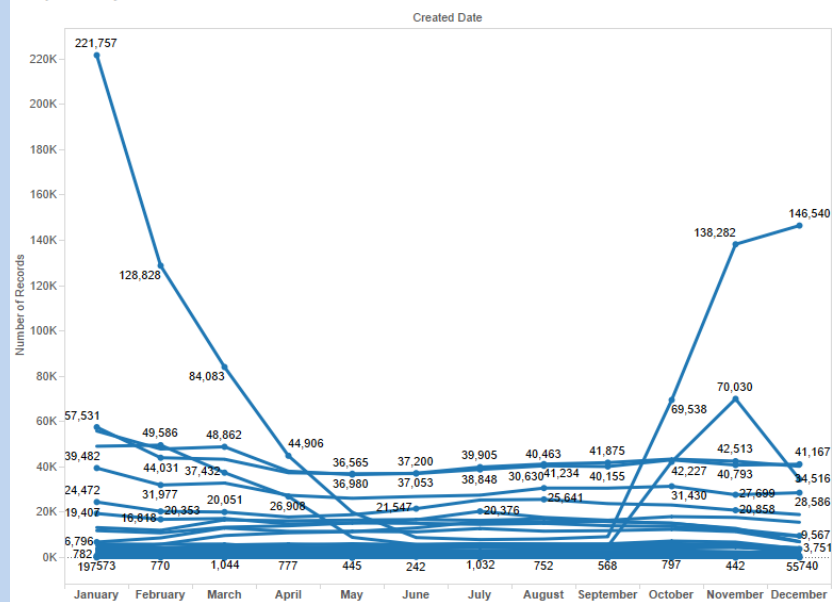
HPD:
Department of
Housing
Presentation
and
Development

Complaints by Month

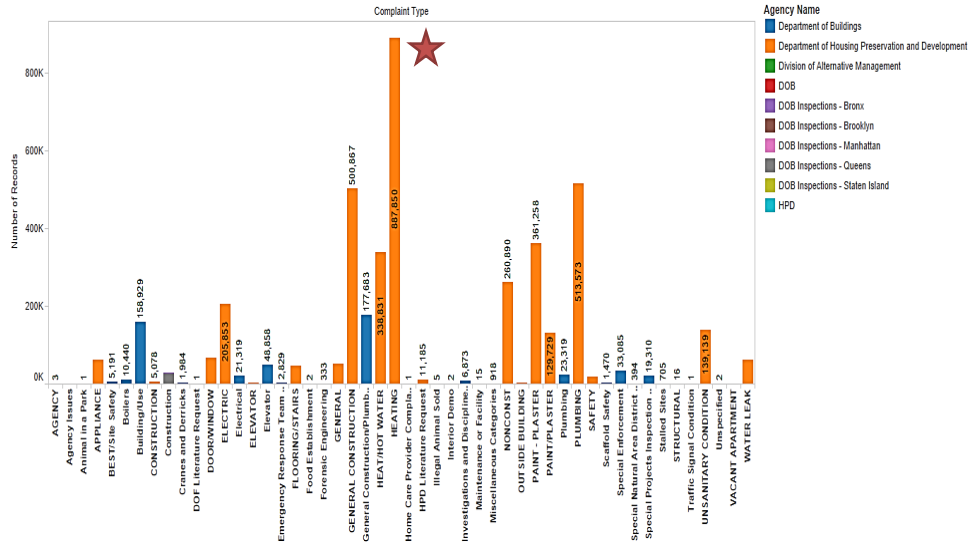
Complaint Type	January	February	March	April	May	June	July	August	Septemb..	October	Novemb..	Decemb..
AGENCY								1		2		
Agency Issues			1								1	
Animal in a Park					1							
APPLIANCE	5,068	4,352	4,778	4,465	4,431	5,107	6,048	5,841	5,178	5,683	5,636	4,275
BEST/Site Safety	377	433	540	404	410	449	411	482	419	503	391	372
Boilers	1,866	1,394	1,044	777	445	419	323	327	378	797	1,374	1,296
Building/Use	11,841	10,857	13,350	13,987	15,223	15,072	14,621	15,067	14,000	13,690	11,937	9,284
CONSTRUCTION	507	449	412	368	362	408	396	442	420	426	422	466
Construction	1,933	1,866	1,954	2,007	2,106	2,613	2,864	2,746	2,696	2,907	2,544	2,071
Cranes and Derricks	154	137	202	213	211	194	154	149	125	181	139	125
DOF Literature Request			1									
DOOR/WINDOW	3,841	3,844	5,502	5,984	5,472	5,737	6,075	5,981	6,010	7,260	6,793	3,751
ELECTRIC	19,407	16,818	17,202	14,800	15,242	16,641	20,376	17,679	16,435	18,040	17,689	15,547
Electrical	1,701	1,655	2,123	1,833	1,869	2,066	2,324	1,802	1,569	1,628	1,359	1,390
ELEVATOR	70	69	133	133	124	181	187	179	173	230	183	65
Elevator	3,998	3,355	3,836	3,609	4,219	4,646	5,182	4,088	3,925	4,074	4,409	3,517
Emergency Response Team..	364	299	331	239	245	242	202	227	267	252	43	118
FLOORING/STAIRS	2,040	2,147	3,916	4,440	4,376	4,287	4,842	4,521	4,588	4,918	4,700	2,384
Food Establishment					2							
Forensic Engineering		2			177		131		2	1	4	16
GENERAL	3,553	5,844	5,926	3,967	3,983	4,069	4,325	4,077	4,116	4,814	4,797	2,861
GENERAL CONSTRUCTION	57,531	44,031	43,365	37,400	36,980	37,053	38,848	40,463	40,155	43,081	40,793	41,167
General Construction/Plum..	13,208	11,991	16,594	16,174	16,526	16,749	16,378	17,049	15,832	15,192	12,423	9,567
HEAT/HOT WATER	49,106	49,586	37,432	26,908	8,883	5,734	5,018	4,525	4,958	42,227	70,030	34,516
HEATING	221,757	128,828	84,083	44,906	19,930	8,794	7,881	8,160	9,170	69,538	138,282	146,540
Home Care Provider Compl..												1

More on Tableau...

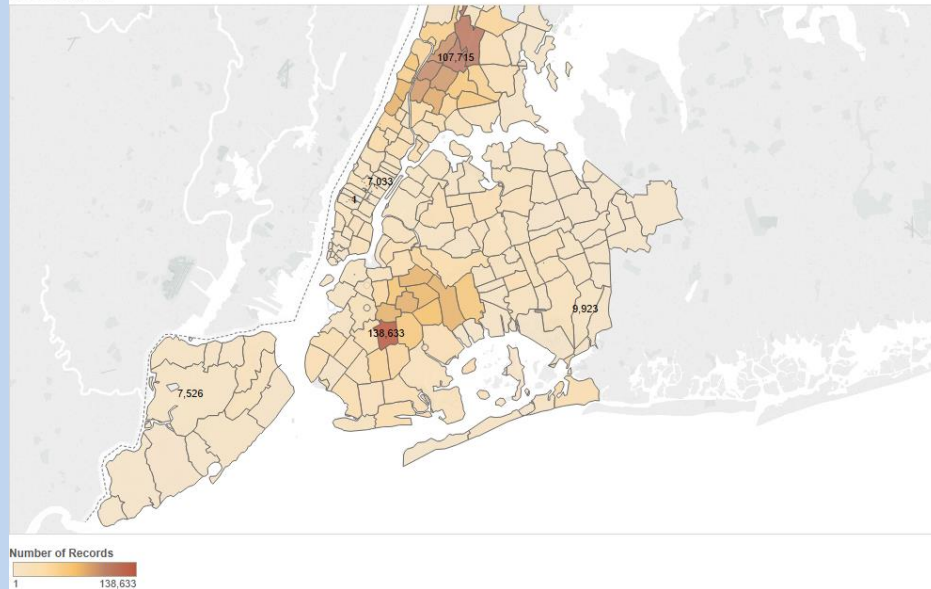
Complaints by Month



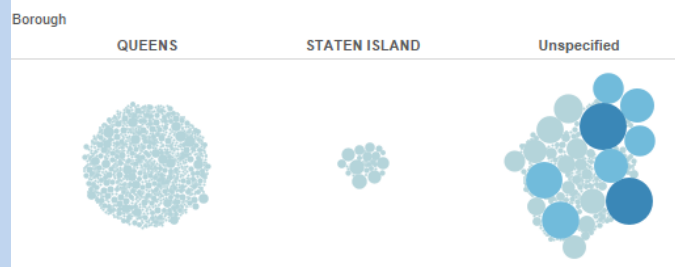
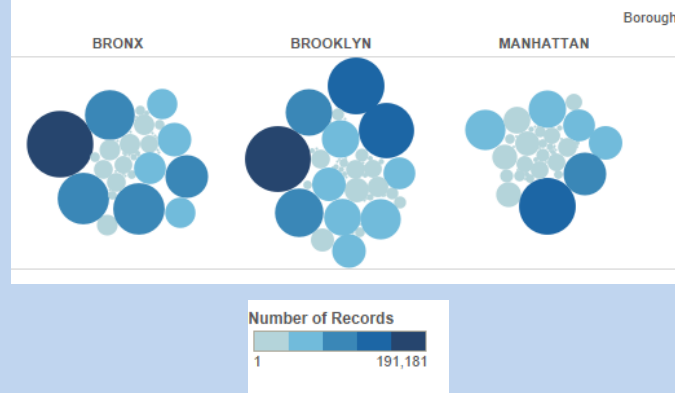
Complaint by Agency



Records by Zip

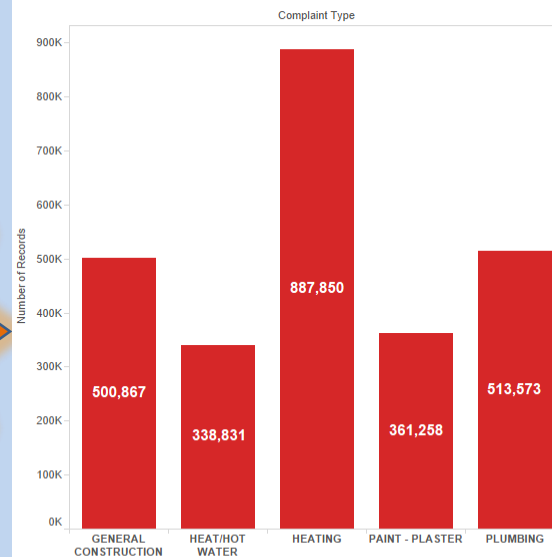


By Borough



What are
the leading
complaints
in NYC
Housings?

Complaint by Agency



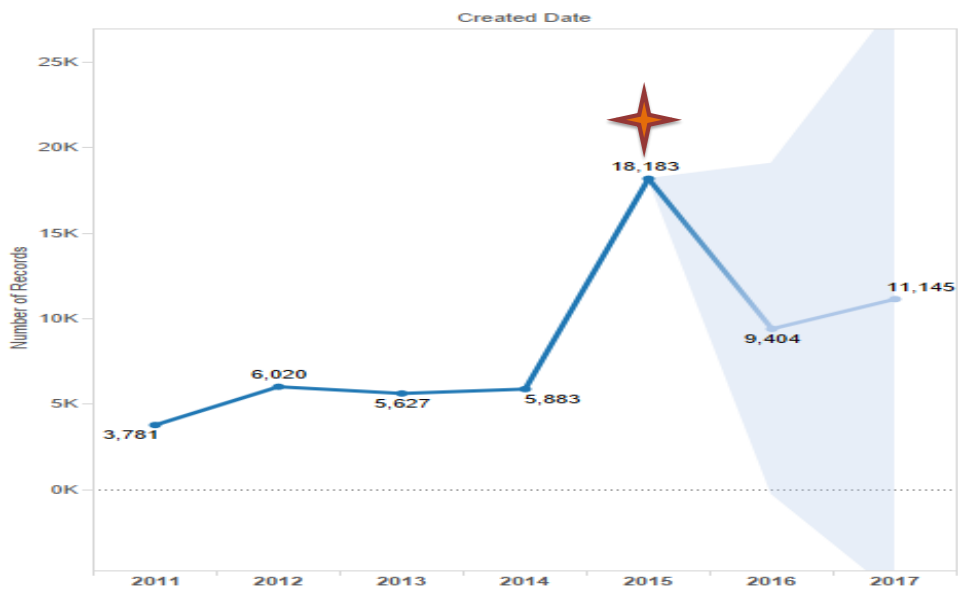
Sum of Number of Records for each Complaint Type. Color shows details about Agency Name. The view is filtered on Complaint Type, which keeps GENERAL CONSTRUCTION, HEAT/HOT WATER, HEATING, PAINT - PLASTER and PLUMBING.

Agency Name

Department of Housing Preservation and Development

Analysis & Forecasting

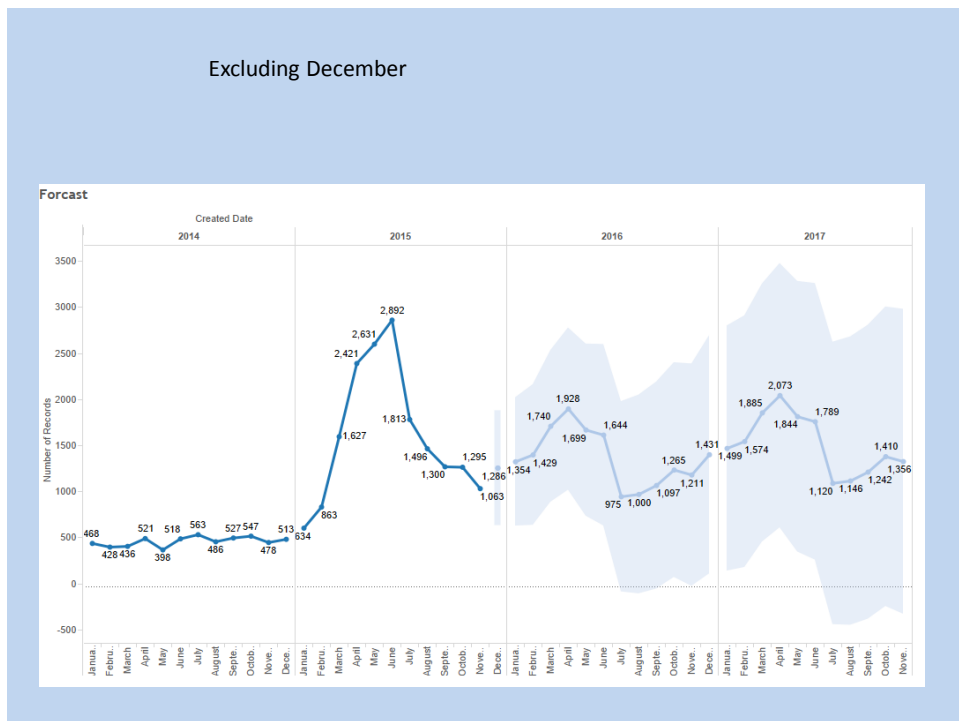
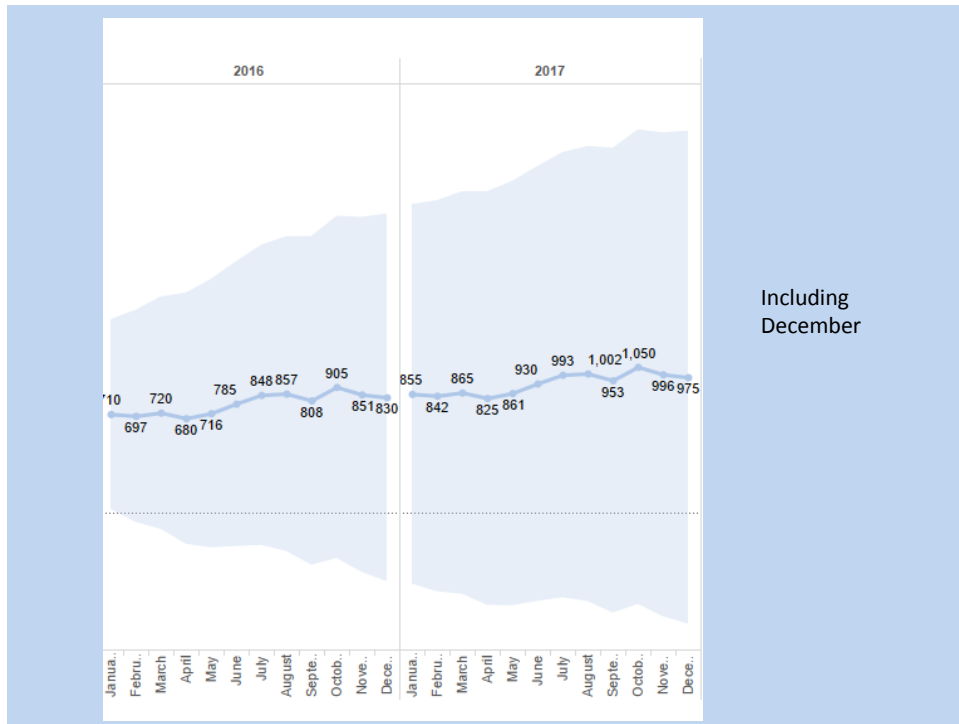
- Complaint Forecasts (by Year & Months)
- Analysis of Year 2015
- Findings

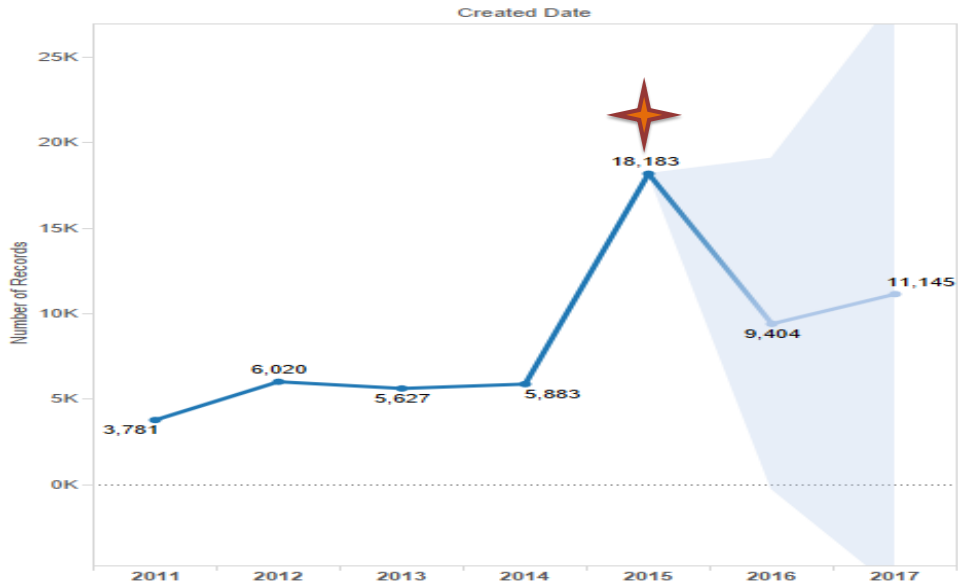


The trend of Number of Records for Created Date Year. Color shows details about ATTR(Forecast Indicator). Details are shown for Number of Records. The data is filtered on Due Date Year, which keeps 2011, 2012, 2013, 2014 and 2015.

ATTR(Forecast Indicator)

■ Actual
■ Estimate



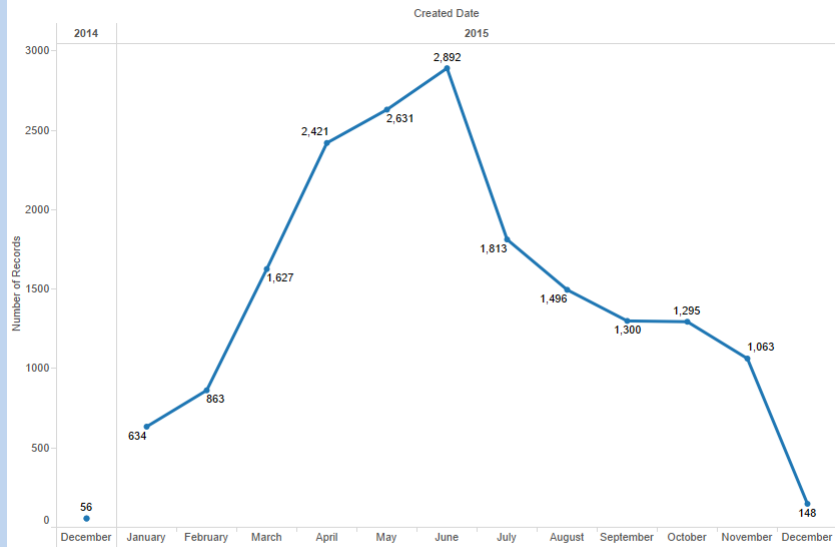


The trend of Number of Records for Created Date Year. Color shows details about ATTR(Forecast Indicator). Details are shown for Number of Records. The data is filtered on Due Date Year, which keeps 2011, 2012, 2013, 2014 and 2015.

ATTR(Forecast Indicator)

Actual
Estimate

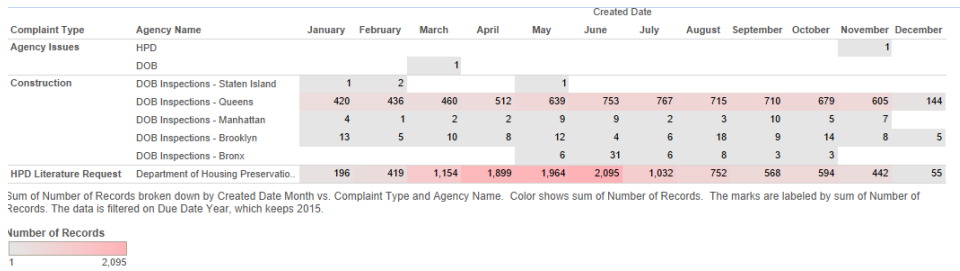
Forecast



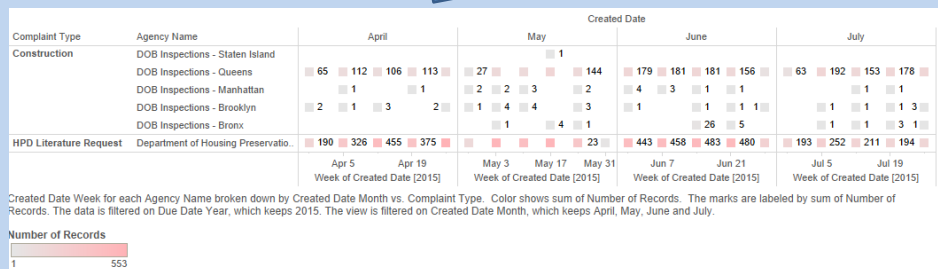
The trend of sum of Number of Records (actual & forecast) for Created Date Month broken down by Created Date Year. Color shows details about Forecast Indicator. The data is filtered on Due Date Year, which keeps 2015.

Forecast Indicator

Actual



A Closer Look



According to the current data trend: Housings in NYC no not seem to be improving.

The forecast predicts the number of complaints for the next two years will gradually rise in a cyclical flow.

Has NYC Housing Improved?

One thing that we can note from our analysis is the increase in construction inspection complaints

Using our findings:
How can we improve housing conditions in NYC?

Complaint Type	Agency Name	Created Date											
		April			May			June			July		
Construction	DOB Inspections - Staten Island					1							
	DOB Inspections - Queens	65	112	106	113	27	144	179	181	181	156	63	192
	DOB Inspections - Manhattan		1		1	2	2	4	3	1	1		1
	DOB Inspections - Brooklyn	2	1	3	2	1	4	1		1	1	1	3
	DOB Inspections - Bronx					1	4		26	5		1	1
HPD Literature Request	Department of Housing Preservation and Development	190	326	455	375		23	443	458	483	480	193	252

- One solution might be to conduct inspections more often (Con: Costly)
 - Possibly have smaller inspections leading up to a bigger one.
- A large number of complaints to the Department of Housing Preservation and development indicate that NYC housing is getting worse
 The Department of Housing Preservation and Development (HPD) is the department of the government of New York City responsible for developing and maintaining the city's stock of affordable housing.
 HPD can find what areas are having large influxes of complaints and along with the possible violations fees maybe come up with a point system holding the building owners more accountable.

Lets take a Look from a Business End:



