

# NYPD Complaints and Crime Statistics

## 2018 04 01

Haihui Cao  
Kenneth Chen  
Benjamin Silk

5.6 million crimes

24 features

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	CMPLNT_NUM	CMPLNT_FR	CMPLNT_FR	CMPLNT_TO	CMPLNT_TO	RPT_DT	KY_CD	OFNS_DESC	PD_CD	PD_DESC	CRM_ATPT_CD	LAW_CAT_CD	JURIS_DESC
2	101109527	12/31/15	23:45:00			12/31/15	113	FORGERY	729	FORGERY,ETC	COMPLETED	FELONY	N.Y. POLICE
3	153401121	12/31/15	23:36:00			12/31/15	101	MURDER & NON-NEGL. MANSLAUGHTER			COMPLETED	FELONY	N.Y. POLICE
4	569369778	12/31/15	23:30:00			12/31/15	117	DANGEROUS DRUGS	503	CONTROLLED	COMPLETED	FELONY	N.Y. POLICE
5	968417082	12/31/15	23:30:00			12/31/15	344	ASSAULT 3 & RELATED OFFENSES	101	ASSAULT 3	COMPLETED	MISDEMEAN	N.Y. POLICE
6	641637920	12/31/15	23:25:00	12/31/15	23:30:00	12/31/15	344	ASSAULT 3 & RELATED OFFENSES	101	ASSAULT 3	COMPLETED	MISDEMEAN	N.Y. POLICE
7	365661343	12/31/15	23:18:00	12/31/15	23:25:00	12/31/15	106	FELONY ASSAULT	109	ASSAULT 2,1	ATTEMPTED	FELONY	N.Y. POLICE
8	608231454	12/31/15	23:15:00			12/31/15	235	DANGEROUS DRUGS	511	CONTROLLED	COMPLETED	MISDEMEAN	N.Y. POLICE
9	265023856	12/31/15	23:15:00	12/31/15	23:15:00	12/31/15	118	DANGEROUS WEAPONS	792	WEAPONS P	COMPLETED	FELONY	N.Y. POLICE
10	989238731	12/31/15	23:15:00	12/31/15	23:30:00	12/31/15	344	ASSAULT 3 & RELATED OFFENSES	101	ASSAULT 3	COMPLETED	MISDEMEAN	N.Y. POLICE
11	415095955	12/31/15	23:10:00	12/31/15	23:10:00	12/31/15	341	PETIT LARCENY	338	LARCENY,PET	COMPLETED	MISDEMEAN	N.Y. POLICE
12	731283092	12/31/15	23:05:00	12/31/15	23:15:00	12/31/15	341	PETIT LARCENY	343	LARCENY,PET	COMPLETED	MISDEMEAN	N.Y. POLICE
13	178090167	12/31/15	23:00:00	12/31/15	23:05:00	12/31/15	341	PETIT LARCENY	338	LARCENY,PET	COMPLETED	MISDEMEAN	N.Y. POLICE
14	898496564	12/31/15	23:00:00			12/31/15	109	GRAND LARCENY	406	LARCENY,GR	COMPLETED	FELONY	N.Y. POLICE
15	566081066	12/31/15	23:00:00			12/31/15	109	GRAND LARCENY	415	LARCENY,GR	COMPLETED	FELONY	N.Y. POLICE
16	584555879	12/31/15	23:00:00			12/31/15	113	FORGERY	729	FORGERY,ETC	COMPLETED	FELONY	N.Y. POLICE
17	715942154	12/31/15	23:00:00	12/31/15	23:05:00	12/31/15	105	ROBBERY	386	ROBBERY,PEI	COMPLETED	FELONY	N.Y. POLICE
18	338440707	12/31/15	23:00:00	12/31/15	23:10:00	12/31/15	109	GRAND LARCENY	411	LARCENY,GR	COMPLETED	FELONY	N.Y. POLICE
19	433257334	12/31/15	23:00:00	12/31/15	23:05:00	12/31/15	359	OFFENSES AGAINST PUBLIC ADMINI	748	CONTEMPT,C	COMPLETED	MISDEMEAN	N.Y. POLICE
20	761004485	12/31/15	23:00:00	12/31/15	23:05:00	12/31/15	344	ASSAULT 3 & RELATED OFFENSES	101	ASSAULT 3	COMPLETED	MISDEMEAN	N.Y. POLICE
21	234892198	12/31/15	22:55:00	12/31/15	23:10:00	12/31/15	351	CRIMINAL MISCHIEF & RELATED OF	259	CRIMINAL M	COMPLETED	MISDEMEAN	N.Y. POLICE
22	231688534	12/31/15	22:53:00	12/31/15	22:55:00	12/31/15	235	DANGEROUS DRUGS	511	CONTROLLED	COMPLETED	MISDEMEAN	N.Y. POLICE
23	340513307	4/6/15	12:00:00	4/10/15	18:00:00	12/21/15	104	RAPE	155	RAPE 2	COMPLETED	FELONY	N.Y. POLICE
24	704037588	12/31/15	22:50:00	12/31/15	22:57:00	12/31/15	235	DANGEROUS DRUGS	511	CONTROLLED	COMPLETED	MISDEMEAN	N.Y. POLICE

**Kenneth's approach**

**rows engineering**

5.6 million crimes  
after removing empty data (NaN in start and closed dates, city, crimes, lat and long)  
4 million crimes

**features engineering**

24 features  
deleted 2 features ['PARKS\_NM', 'HADEVELOPT']  
22 features remaining

**NYPD columns**

0	CMPLNT_NUM
1	CMPLNT_FR_DT
2	CMPLNT_FR_TM
3	CMPLNT_TO_DT
4	CMPLNT_TO_TM
5	RPT_DT
6	KY_CD
7	OFNS_DESC
8	PD_CD
9	PD_DESC
10	CRM_ATPT_CPTD_CD
11	LAW_CAT_CD
12	JURIS_DESC
13	BORO_NM
14	ADDR_PCT_CD
15	LOC_OF_OCCUR_DESC
16	PREM_TYP_DESC
17	X_COORD_CD
18	Y_COORD_CD
19	Latitude
20	Longitude
21	Lat_Lon

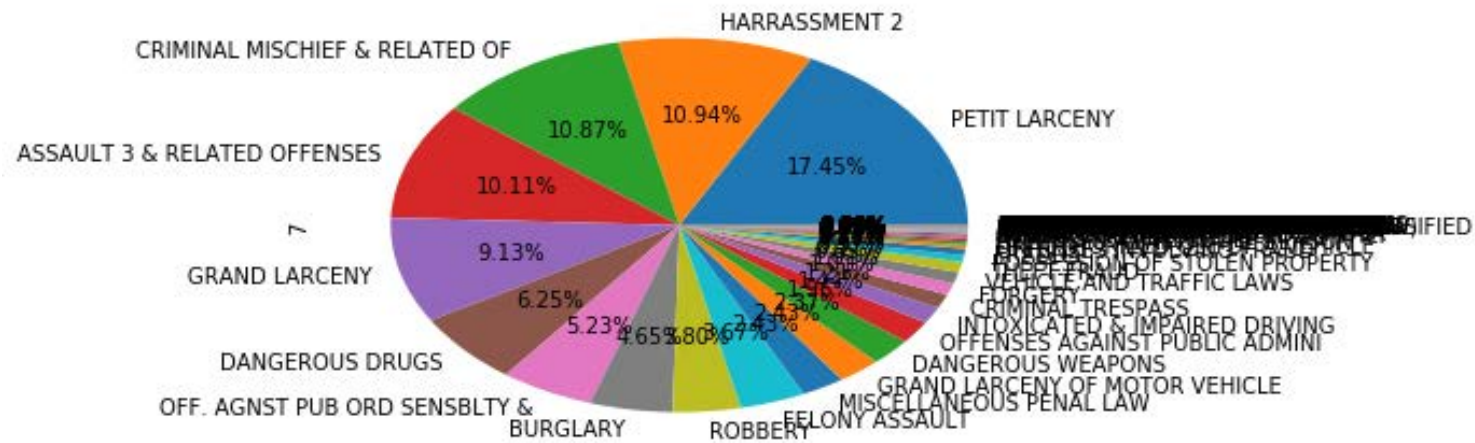
crime statistics over the years

number of complaints by year

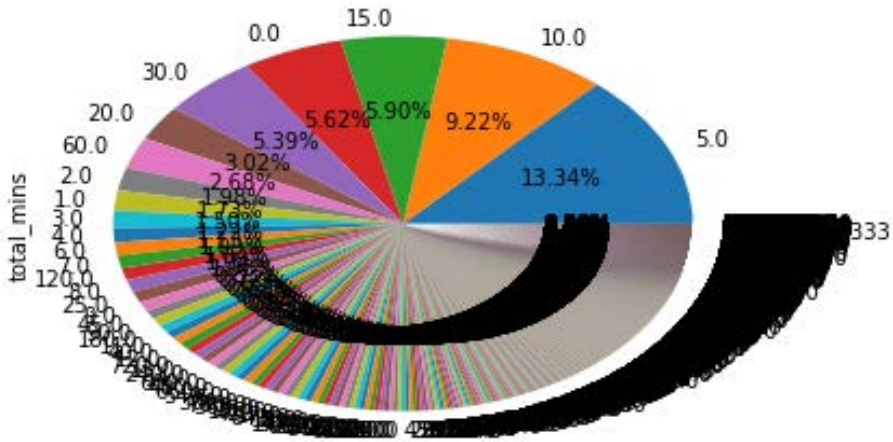
2006.0	331754
2007.0	343727
2008.0	349474
2009.0	345874
2010.0	350686
2011.0	349737
2012.0	362387
2013.0	370114
2014.0	377513
2015.0	377502
2016.0	383539

The most frequent crimes between 2006 – 2016

PETIT LARCENY	688005
HARRASSMENT 2	431275
CRIMINAL MISCHIEF & RELATED OF	428688
ASSAULT 3 & RELATED OFFENSES	398708
GRAND LARCENY	359811
DANGEROUS DRUGS	246411
OFF. AGNST PUB ORD SENSBLTY &	206066
BURGLARY	183337
ROBBERY	149707
FELONY ASSAULT	144699

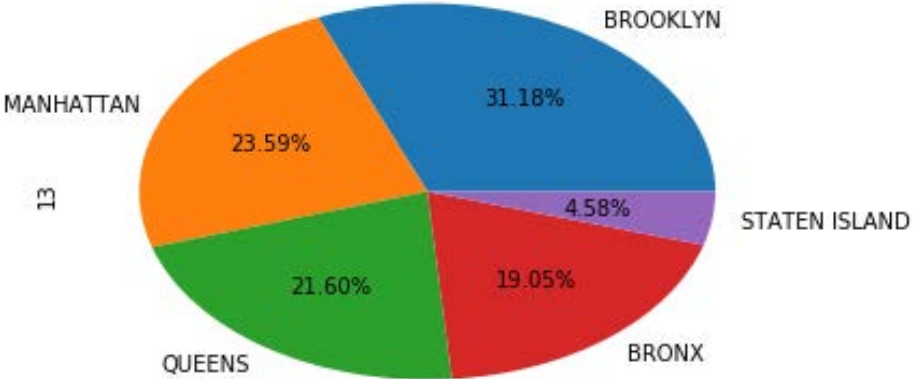


Total minutes taken	
5.0	527289
10.0	364559
15.0	233072
0.0	222278
30.0	213119
20.0	119527
60.0	105768
2.0	78363
1.0	68354
3.0	59321
4.0	48384
6.0	44470
7.0	43223
120.0	41029



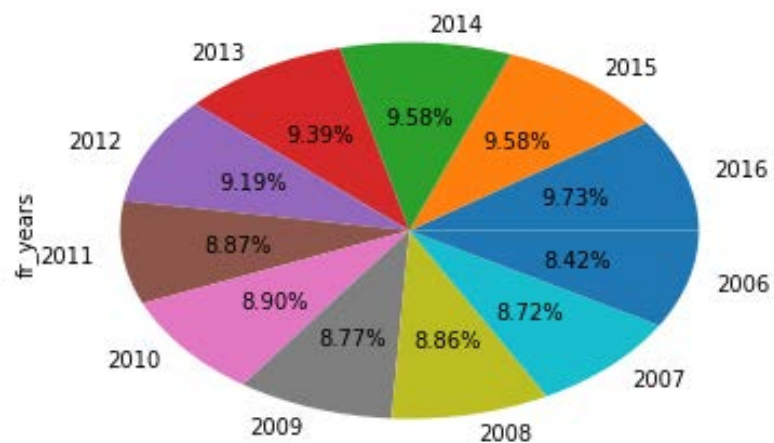
minutes

City	
BROOKLYN	1233120
MANHATTAN	932681
QUEENS	854064
BRONX	753175
STATEN ISLAND	181219



city

2016	383539
2015	377502
2014	377513
2013	370114
2012	362387
2011	349737
2010	350686
2009	345874
2008	349474
2007	343727
2006	331754



~ 11,000 cases were removed due to years mismatch and typo before 2006.

eg, 1906, 1956 was keyed in instead of 2006, and 1948 for 2008, so on and so forth



## Taking the crimes statistics by year

	A	B	C	D	E	F	G	H	I	J	K	L
1		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
2	ABORTION		1								2	
3	ADMINISTRATIVE CODE	724	678	746	907	775	812	827	853	860	830	814
4	ADMINISTRATIVE CODES	1	2	4		1	1	3	1		2	1
5	AGRICULTURE & MRKTS LAW-UNCLASSIFIED										65	108
6	ALCOHOLIC BEVERAGE CONTROL LAW	36	45	36	31	58	57	66	49	47	64	84
7	ANTICIPATORY OFFENSES	10	9	9	5	9	9	6	7	2	2	2
8	ARSON	357	435	779	679	566	499	557	705	804	769	590
9	ASSAULT 3 & RELATED OFFENSES	29561	30661	31492	32764	35119	34889	38620	39655	41330	41481	43136
10	BURGLAR'S TOOLS	120	144	120	166	174	206	229	229	305	233	231
11	BURGLARY	19624	18728	18184	17398	16840	17053	17575	15931	15620	14177	12207
12	CHILD ABANDONMENT/NON SUPPORT	39	44	28	14	26	26	21	31	18	29	15
13	CRIMINAL MISCHIEF & RELATED OF	38696	41414	42670	39857	38990	37337	36658	34737	38211	39787	40331
14	CRIMINAL TRESPASS	3735	4677	5013	5363	5230	4836	4065	3784	4159	3609	3398
15	DANGEROUS DRUGS	19242	22629	22351	24319	25565	26315	24725	21820	22021	18761	18663
16	DANGEROUS WEAPONS	6671	7792	8228	9400	9645	9608	8686	8627	8035	8225	8449
17	DISORDERLY CONDUCT			58	128	109	71	74	66	37	46	61
18	DISRUPTION OF A RELIGIOUS SERV	4	4		5	2	3	3	4	5	7	2
19	ENDAN WELFARE INCOMP	8	4	6	11	7	7	10	15	19	18	24
20	ESCAPE 3	12	20	14	15	5	8	9	9	6	13	7
21	FELONY ASSAULT	9743	10544	10306	11064	11619	12962	14091	15318	15572	16257	17223
22	FORGERY	4131	3899	3389	3207	3496	2974	2827	3191	3615	4175	4884
23	FORTUNE TELLING	2	2			2		2				
24	FRAUDS	1537	1527	1670	1764	1893	1956	2249	2266	2689	2523	2320
25	FRAUDULENT ACCOSTING	162	148	190	230	229	222	217	133	196	138	144
26	GAMBLING	122	165	136	143	130	109	151	108	135	270	221
27	GRAND LARCENY	31082	30935	31350	28869	28687	29492	33451	36627	36260	36857	36201

Result, majority of crimes appear consistently in numbers.

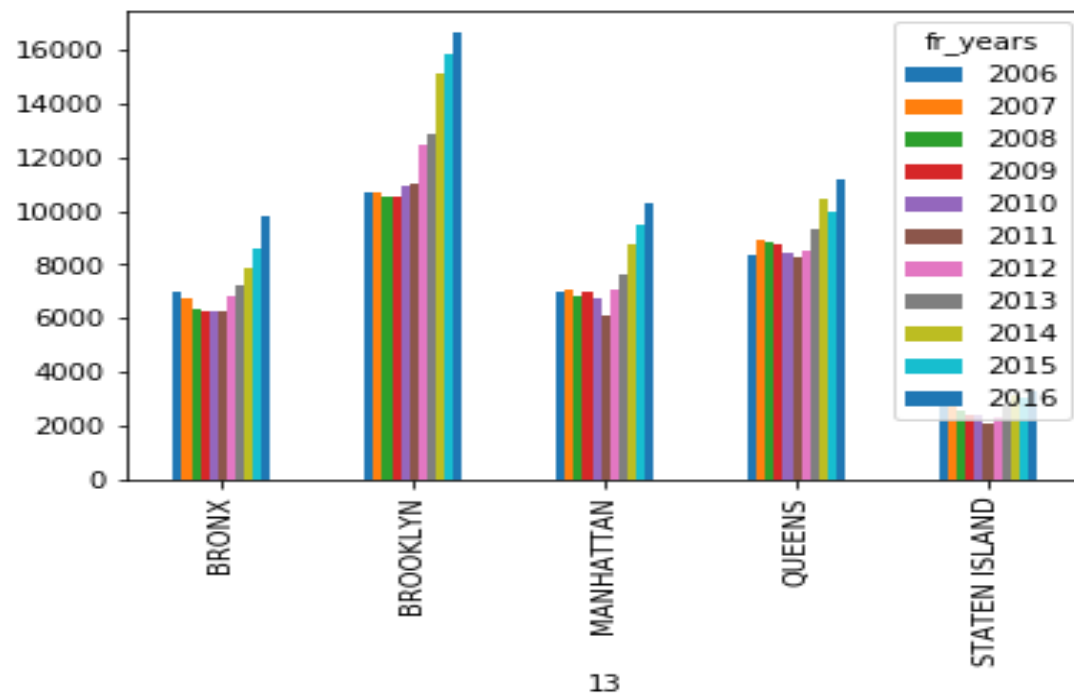
Eg, 'Dangerous drugs' crimes appeared within the range of 18,000 to 26,000 whereas Fortune telling crimes only stood at within a single digit.



'HARRASSMENT 2' statistics by city from 2006 to 2016

BROOKLYN	137079
QUEENS	100964
MANHATTAN	84029
BRONX	79179
STATEN ISLAND	30024

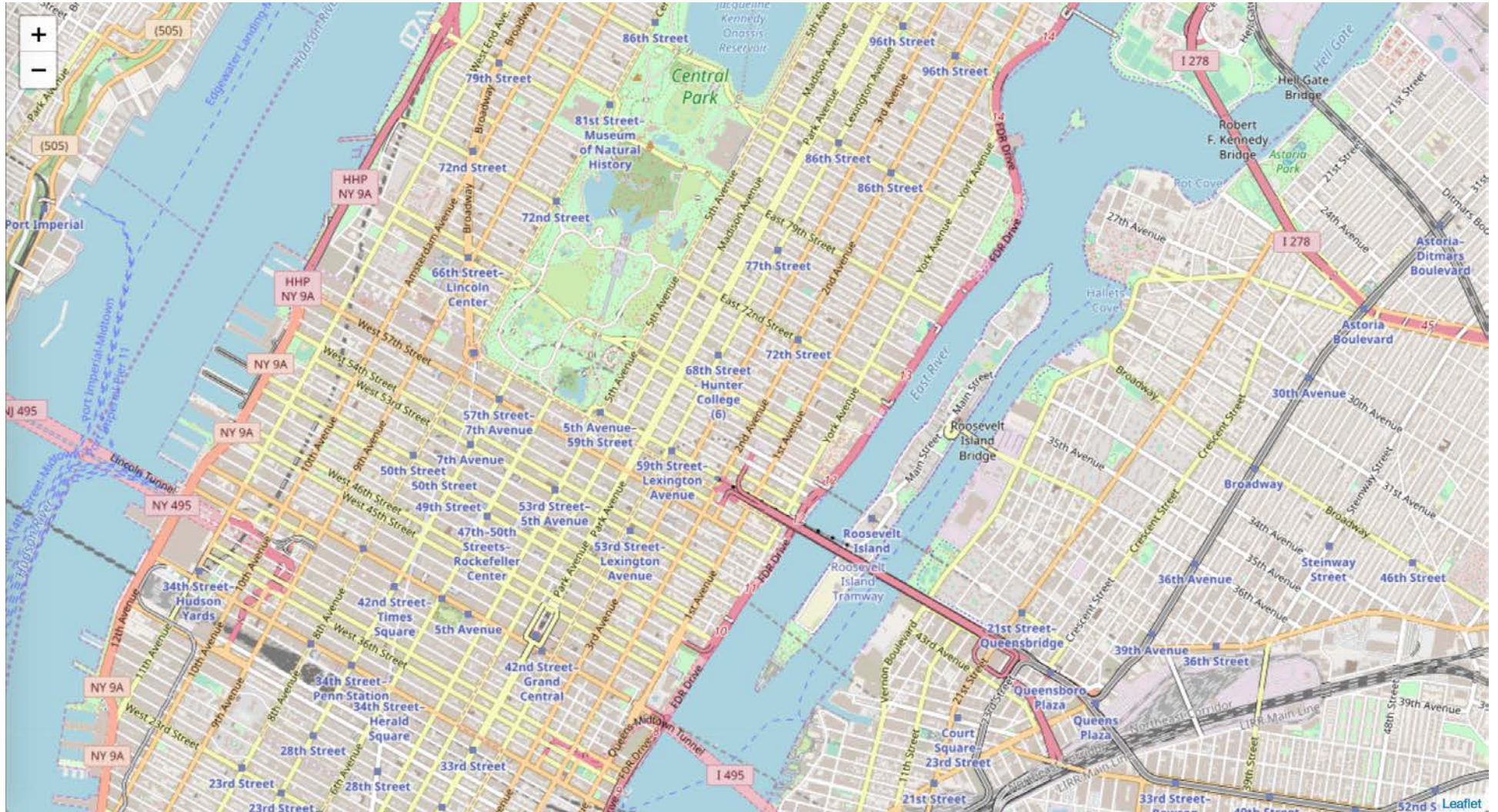
'HARRASSMENT 2' crimes in each city with respective year



**Crimes that takes 547 days to close**

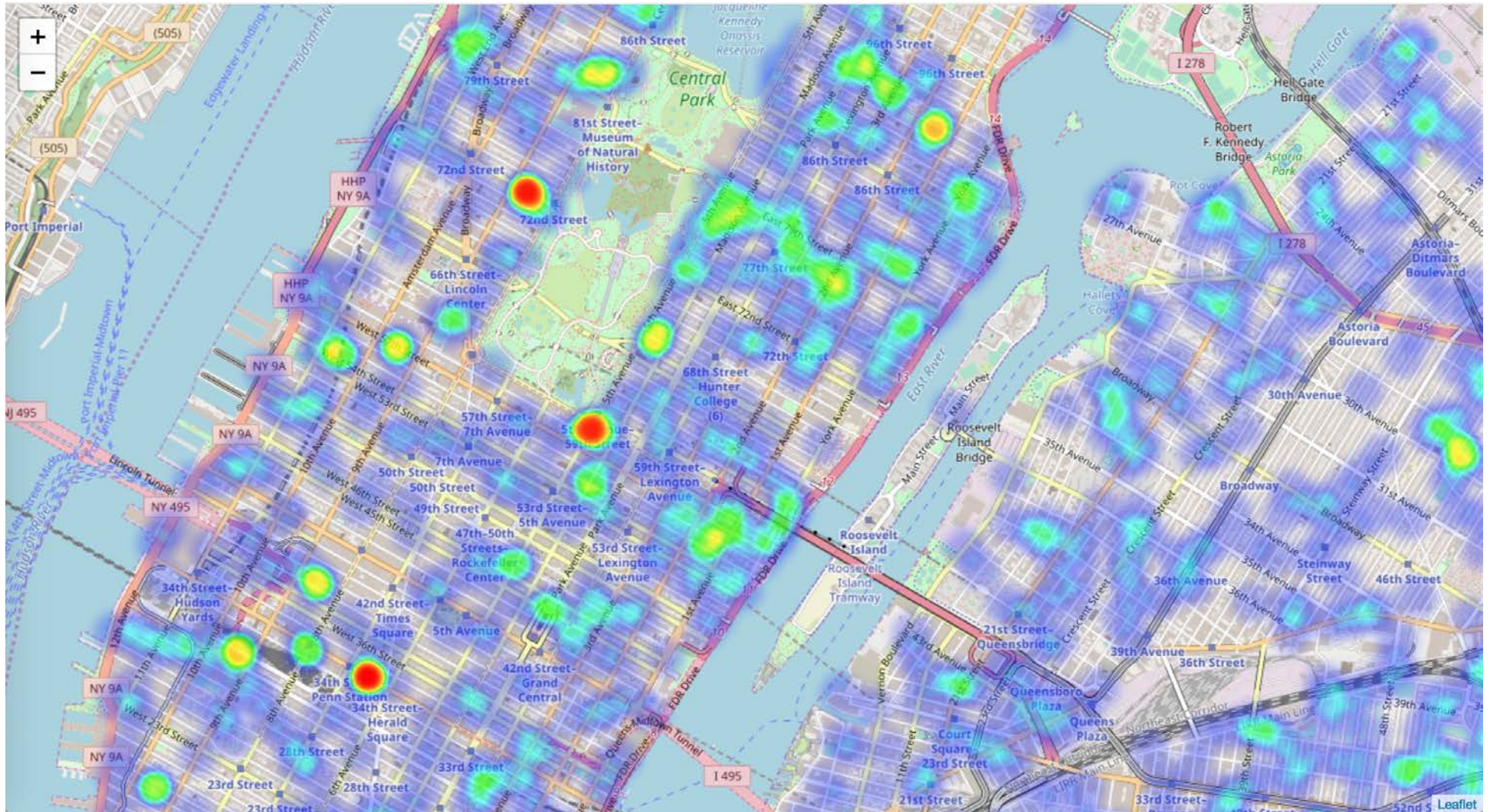
27435	BURGLARY
143061	HARRASSMENT 2
224522	OFF. AGNST PUB ORD SENSBLTY &
244856	THEFT-FRAUD
933785	GRAND LARCENY
1806860	GRAND LARCENY
1932161	HARRASSMENT 2
2027358	GRAND LARCENY
2334642	GRAND LARCENY
2635346	THEFT-FRAUD
2970653	GRAND LARCENY
3684636	OTHER OFFENSES RELATED TO THEF
3954257	OFF. AGNST PUB ORD SENSBLTY &

## New York (Manhattan) Crimes that take more than 546 days to close





## New York (Manhattan) Crimes that take more than 546 days to close



**Haihui's approach**

**Benjamin's approach**