

Report

You

April 16, 2017

1 Introduction

Introduction goes here.

2 Daily Complaints of Each Agency per Month

Figure 1, 2, and 3 show three agencies that receive the daily complaints for each month in a year. Different years use lines with different colors and styles to make easy to read.

For *DCA*, the main trend for each year is the daily complaints for each month is decreasing. In early years like 2010 and 2011, the total complaints are more than recent years, for example, 2016. Besides, from the month's perspective, the complaints in summer are more than those in winter. And one abnormality is that in year 2012, complaints in November is much more than other years and months. This is an interesting point that needs more investigation.

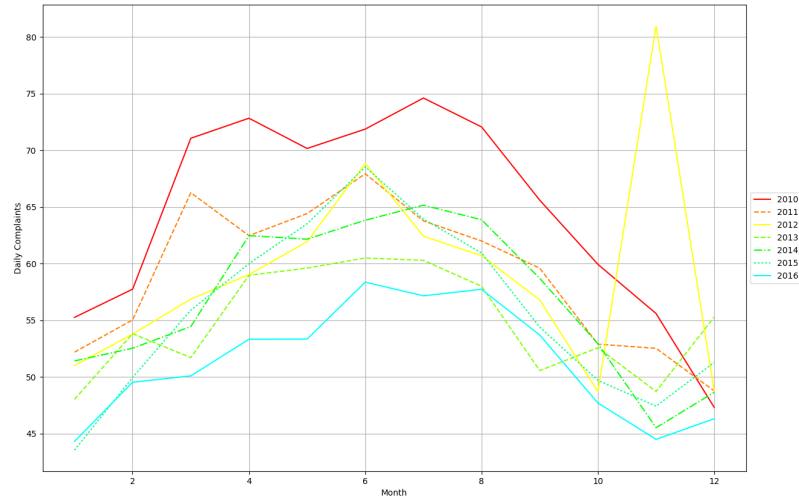


Figure 1: The number of daily complaints agency *DCA* receives in each month.

In agency *DFTA*, there is no apparent pattern in month or year level. But we still can notice in recent years, complaints in November and December are much less than previous years. Typically, there are less complaints in winter. And if we link the end of previous year and the beginning of the next year, we can image that years after years, *DFTA* receives fewer complaints.

Finally, let's look at *DOE*. It is curious that for each year, the number of complaints reaches its minimum in August. And in every fall and early winter, the numbers of complaints are more stable than the first half of the year. And it is worth noticing that from September 2010 to June 2011, the number of complaints in this year are nearly three times as the other periods. Maybe there are some interesting reason that causes the unusual phenomenon.

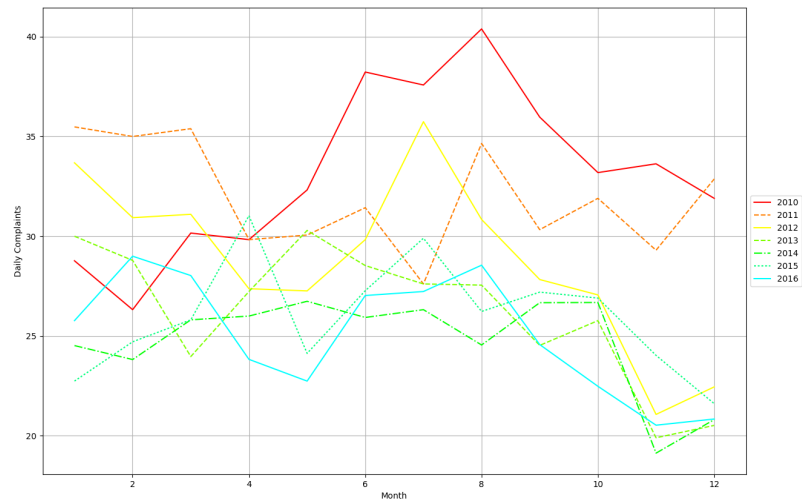


Figure 2: The number of daily complaints agency *DFTA* receives in each month.

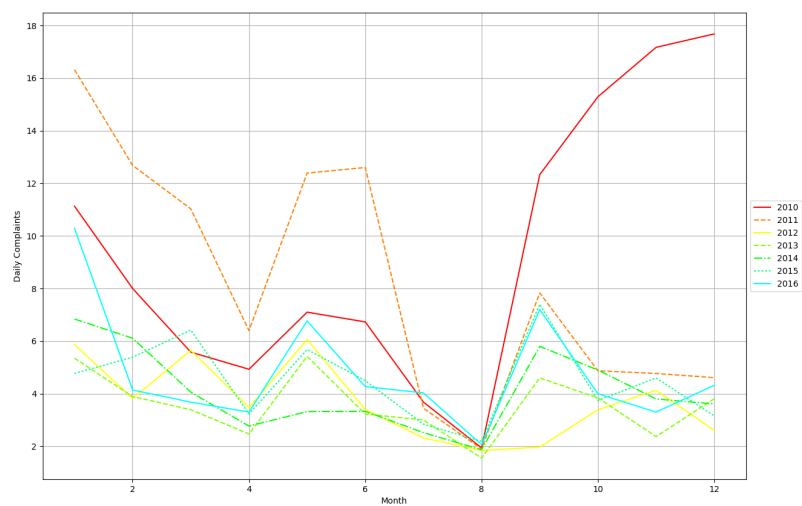


Figure 3: The number of daily complaints agency *DOE* receives in each month.

3 Type Time Distribution

In this section, we will examine the number of different types of complaints in a single day. Due to the large volume of complaint types, we first filter out 10 types that has the most records. Then we select some of them and show which time period has more complaints in each month.

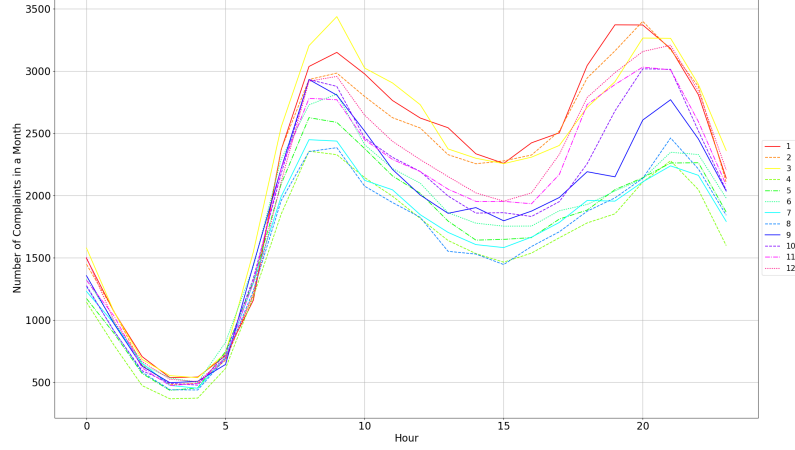


Figure 4: The number of hourly complaints about blocked driveway in different month.

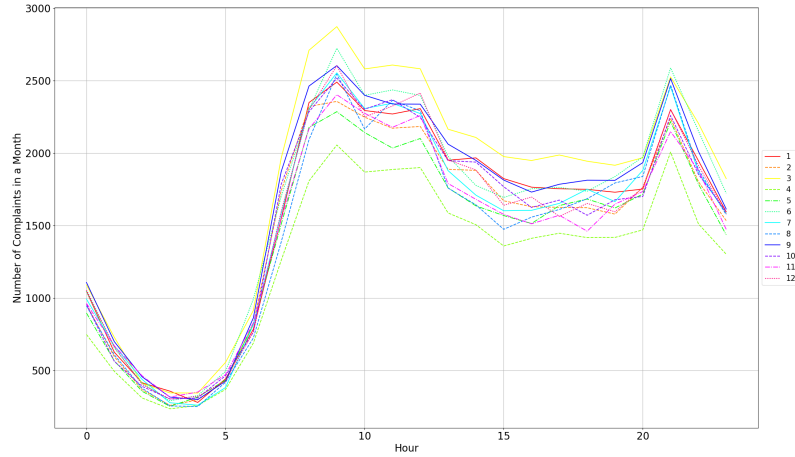


Figure 5: The number of hourly complaints about illegal parking in different month.

Figure 4 shows the number of blocked driveway complaints. Despite some differences, the shapes in every month have the same pattern that there are two peaks in each day – nine to ten o'clock in the morning and seven to eight o'clock in the evening. Probably because these two time periods correspond to rush hour. Many people commute to work or home so that traffic congestion is inevitable. Another noticeable point is there are more complaints in winter than in summer.

Illegal parking has the same distribution as blocked driveway, as shown in Figure 5. The only difference is that the number of records at around nine at night sharp. And there is no obvious change among different month.

Figure 6 plots the number of complaints about residential noise. As people go to work at daytime, there are fewer complaints than at night. Typically, after 8 pm, many residents begin to have a rest, they need a quite environment. on average, there are six times more complaints at night than daytime.

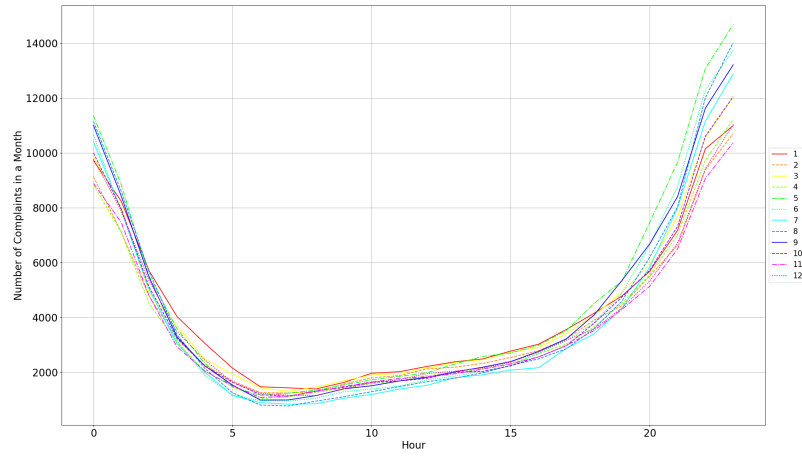


Figure 6: The number of hourly complaints about residential noise in different month.

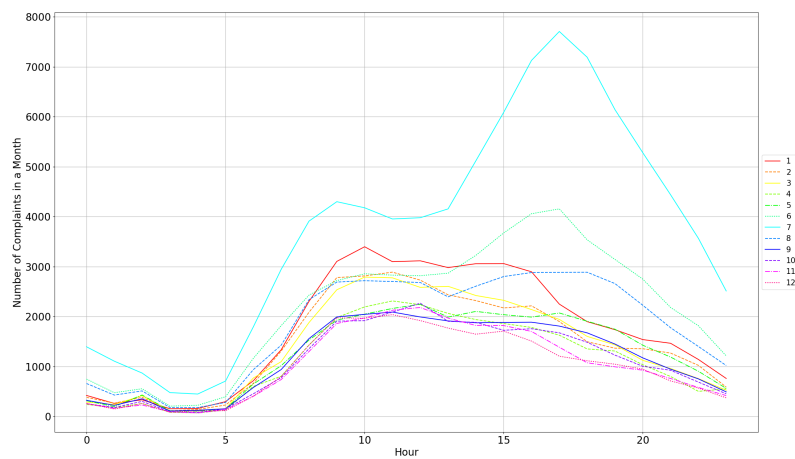


Figure 7: The number of hourly complaints about water system in different month.

Finally, water system complaint is shown in Figure 7. Most complaints are concentrated at daytime. All the months have the similar value, except July. In July, the complaints reach a peak, unlike other months whose number of complaints begin to decrease. And its amount is twice as the normal ones.

4 Broadway Noise Complaints

Among all the streets, Broadway reports the most complaints. And among these complaints, the most frequent type is noise - commercial. Figure 8 plots how the number of complaints varies throughout the whole week. And we separate every year so that we can see the change. From the figure, the first conclusion we can make is more complaints are made in recent years. In the first three years, complaints are less than 200 times a day, but as time goes on, more than 400 complaints are recorded. Secondly, it is interesting that residents complain at weekends more often in weekdays. More specifically, Sunday reports the most complaints, while Wednesday the least.

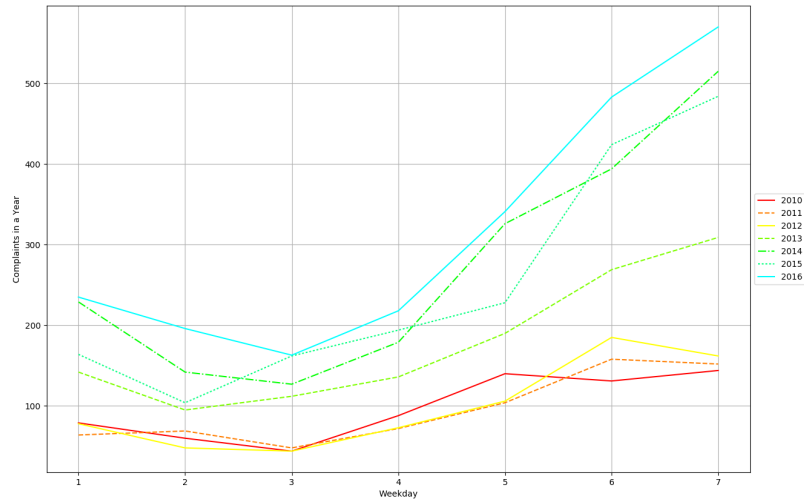


Figure 8: Broadway reports the most complaints, among which commercial noise is the most. The figure plots the number of commercial noise complaints in each weekday in different year.