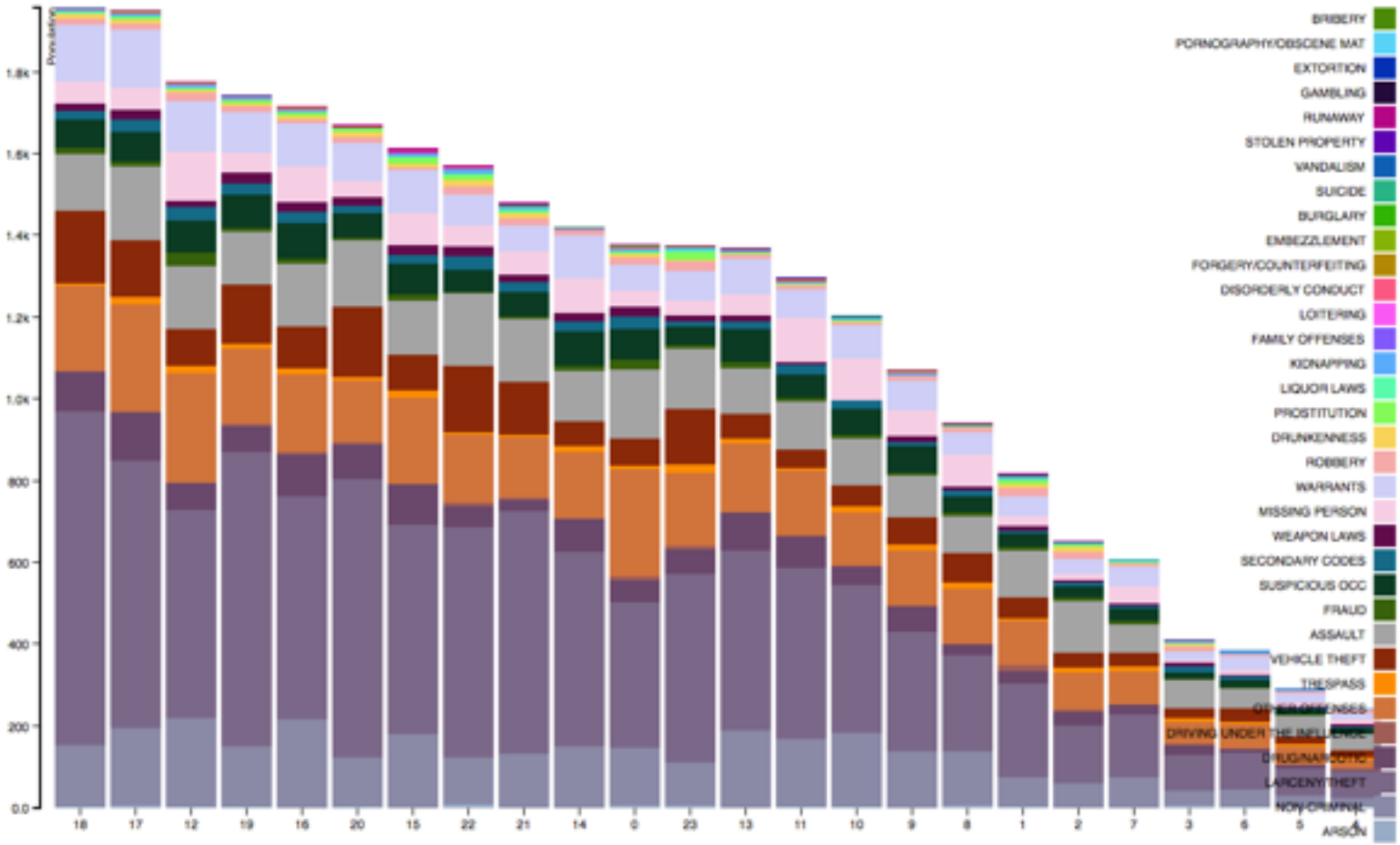
Comparison between visualisation of criminal case in San Francisco with Group Bar chart and Stackable Bar chart

To compare the visualisation of two different bar chart, the data need to shape up to get the scenario of total cases of crime category base on time stamp when it happened over the period.
As the aspect of Data Type and Visual Mapping, the data type, which will contain in the visualisation, are

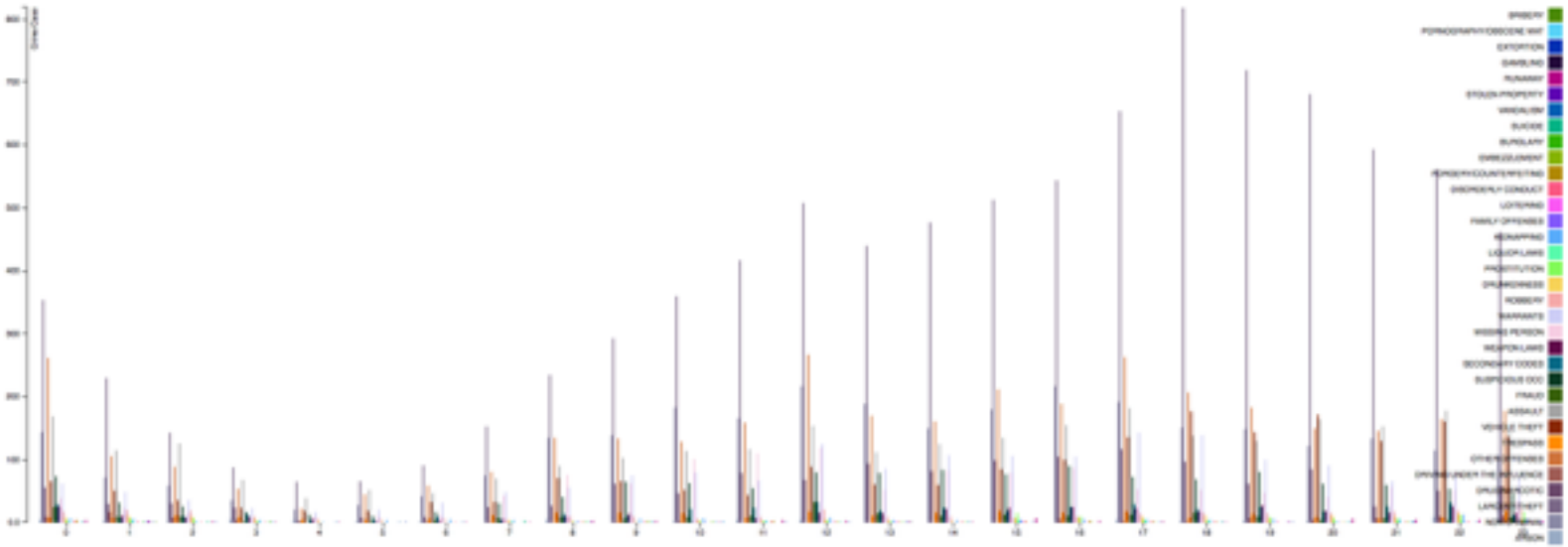
1. Crime Category (Nominal data type) which will present with various colour,
2. Time Stamp (Ordered data type) on X-axis
3. Total cases of crime category (Quantitive - Ratio) on Y-axis

As the pre-process stage of visualisation, the crime data need to shape into splitting category over time stamp and get the count per crime category.
There is total 34 crime category in san francisco crime data set.
You can refer the finalise data set into data.csv.
I used d3.js as a visualisation tool.

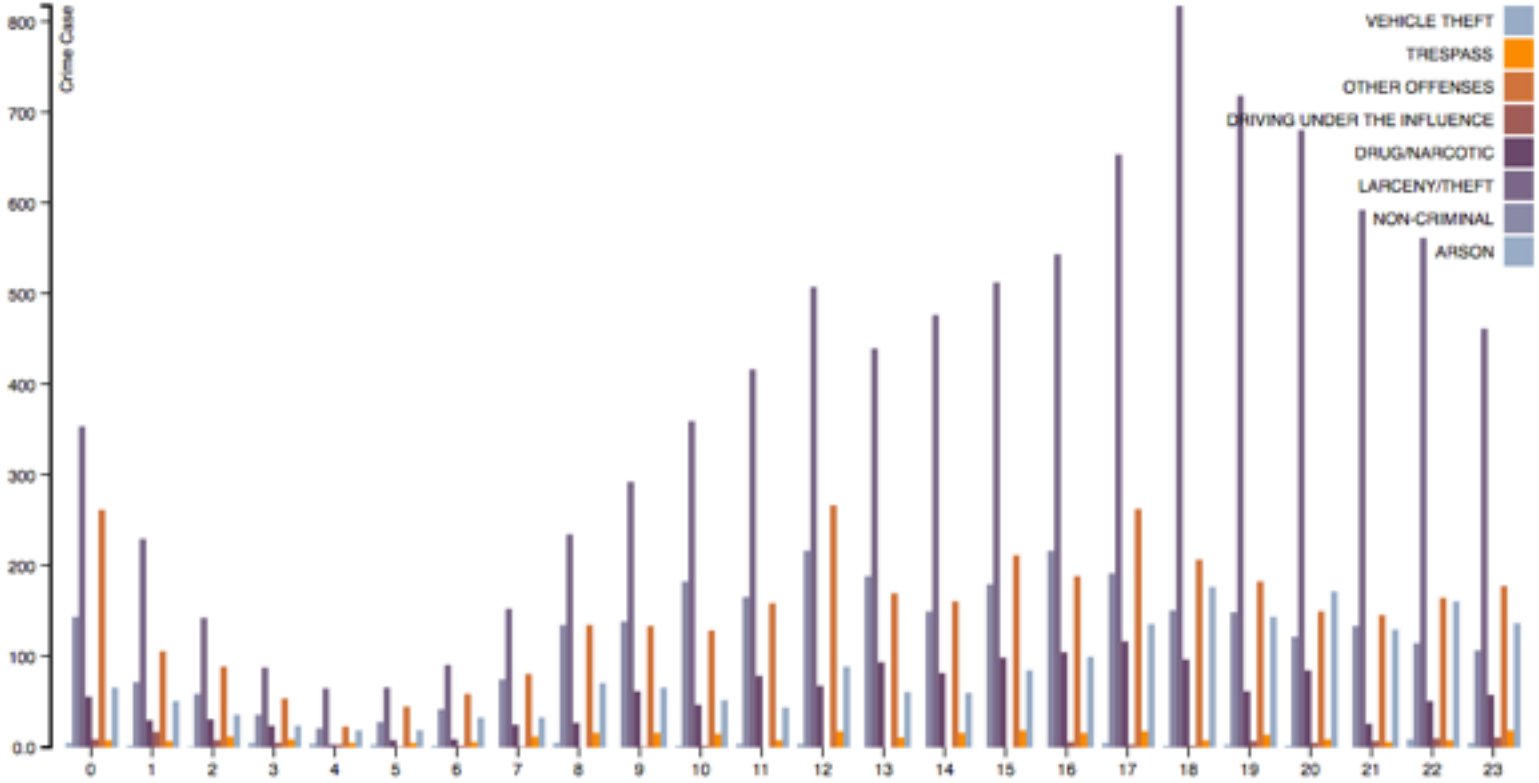
Data Presentation with Stackable Bar Chart

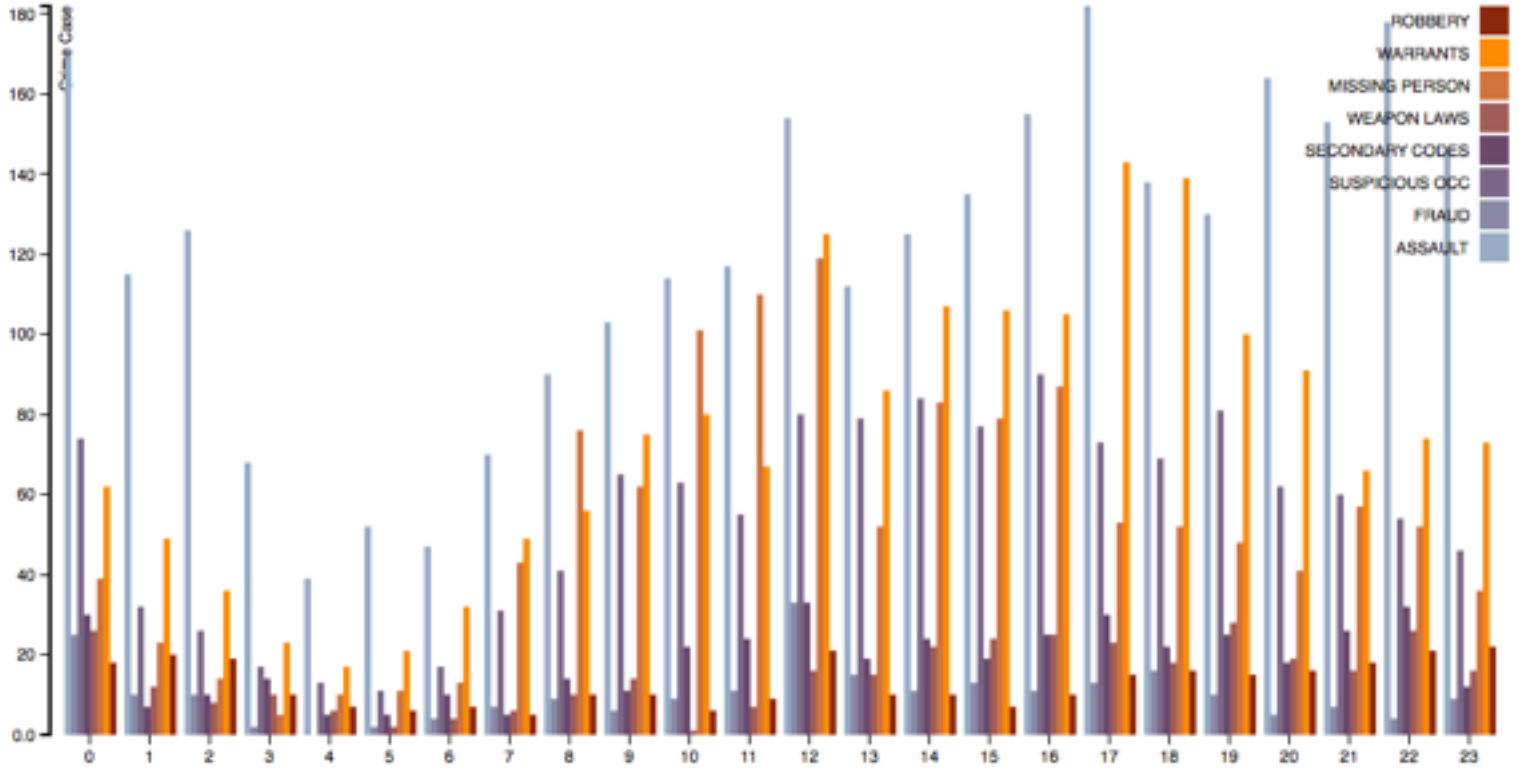


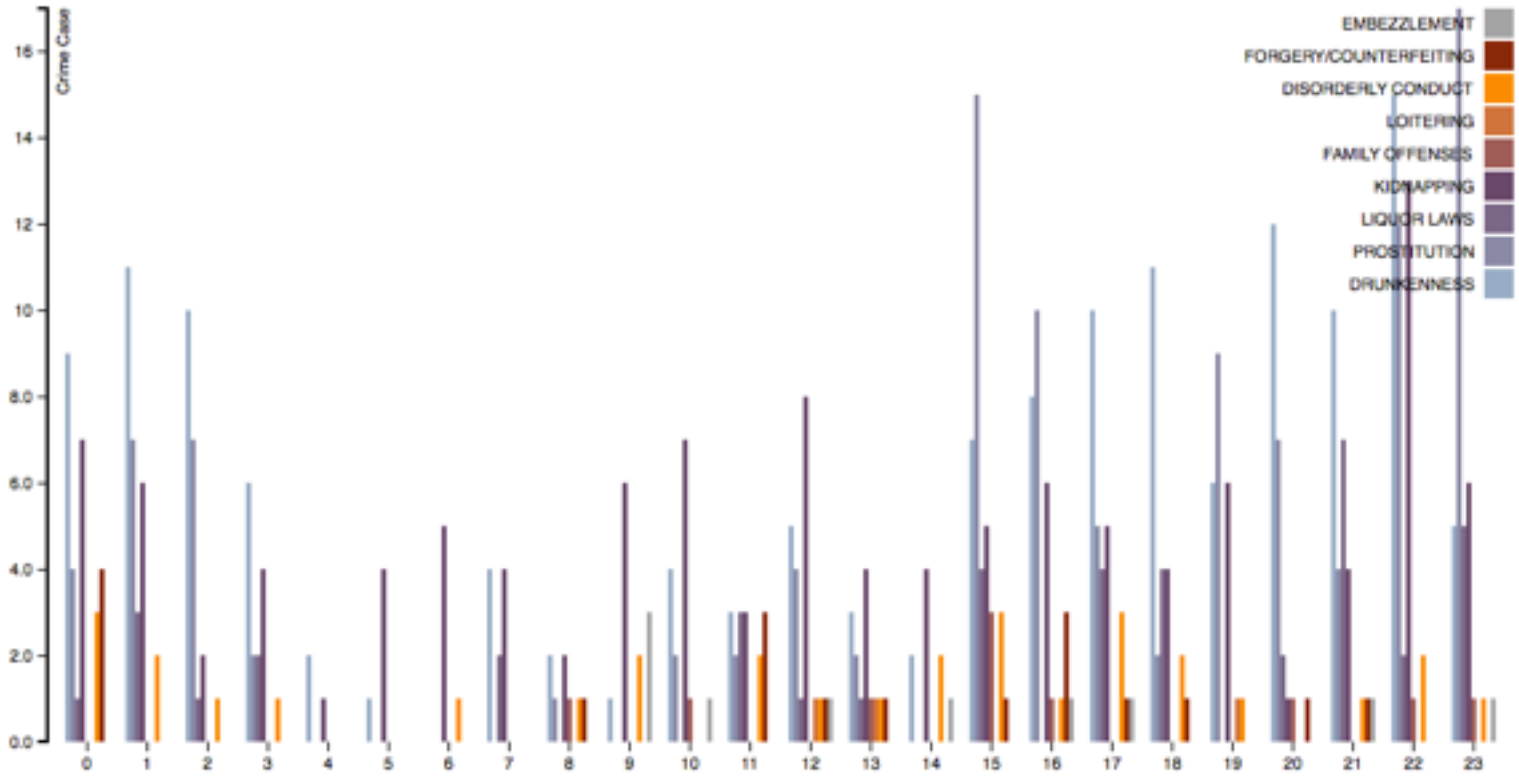
Data Presentation with Group Bar Chart



The original copy of enlarge graph can refer into main folder.
Plotting of 34 category over 24 hours is taking a huge space on X axis.
You can also refer to break down category (average 8 category) per graph as below.


Crime Case
800
700
600
500
400
300
200
100
0.0
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
VEHICLE THEFT
TRESPASS
OTHER OFFENSES
DRIVING UNDER THE INFLUENCE
DRUG/NARCOTIC
LARCENY/THEFT
NON-CRIMINAL
ARSON


Crime Case
180
160
140
120
100
80
60
40
20
0.0
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
ROBBERY
WARRANTS
MISSING PERSON
WEAPON LAWS
SECONDARY CODES
SUSPICIOUS OCC
FRAUD
ASSAULT


Crime Case
0.0
2.0
4.0
6.0
8.0
10
12
14
16
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
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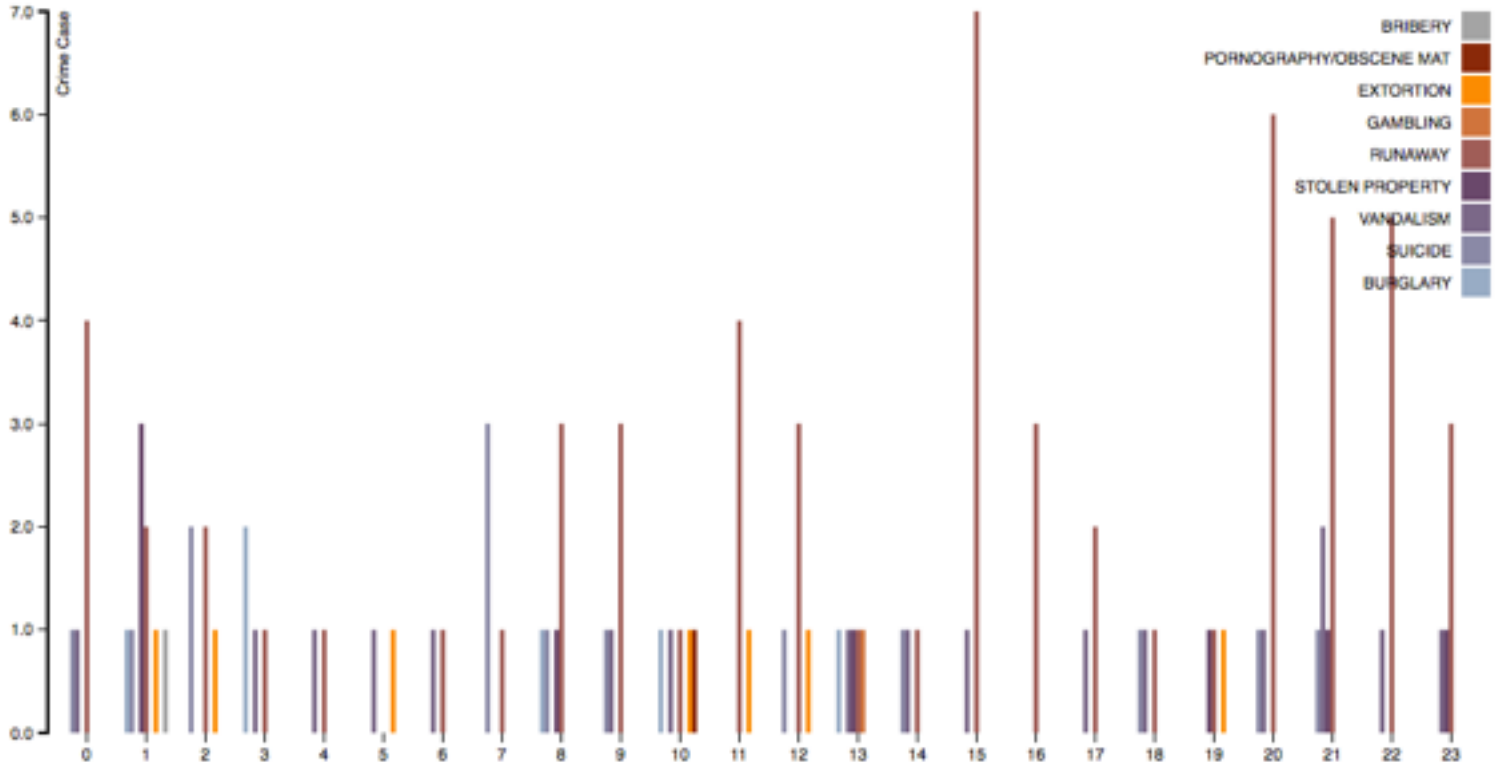
16
17
18
19
20
21
22
23
EMBEZZLEMENT
FORGERY/COUNTERFEITING
DISORDERLY CONDUCT
LOITERING
FAMILY OFFENSES
KIDNAPPING
LIQUOR LAWS
PROSTITUTION
DRUNKENNESS


Crime Case
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
0
1
2
3
4
5
6
7
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16
17
18
19
20
21
22
23
BRIBERY
PORNOGRAPHY/OBSCENE MAT
EXTORTION
GAMBLING
RUNAWAY
STOLEN PROPERTY
VANDALISM
SUICIDE
BURGLARY

Summary

Two type of above visualisation follow the Bertin's Visual Attribute. Both visualisation use same scenario different color for each category, size of bar graph show the value of total crime case per category. As per visualise result :
In stackable bar chart,the value of total crime case can clearly see at the first glance looking on the graph. In the second choice of group bar chart, over all presentation is good but we cannot know the series of crime category over timestamp in first glance.
So after comparison of two type of chart on same dataset, I conclude that Stackable Bar chart is more suitable for presentation.
Beside form stackable bar chart, Multi-series line chart will be the another best choice for presentation.