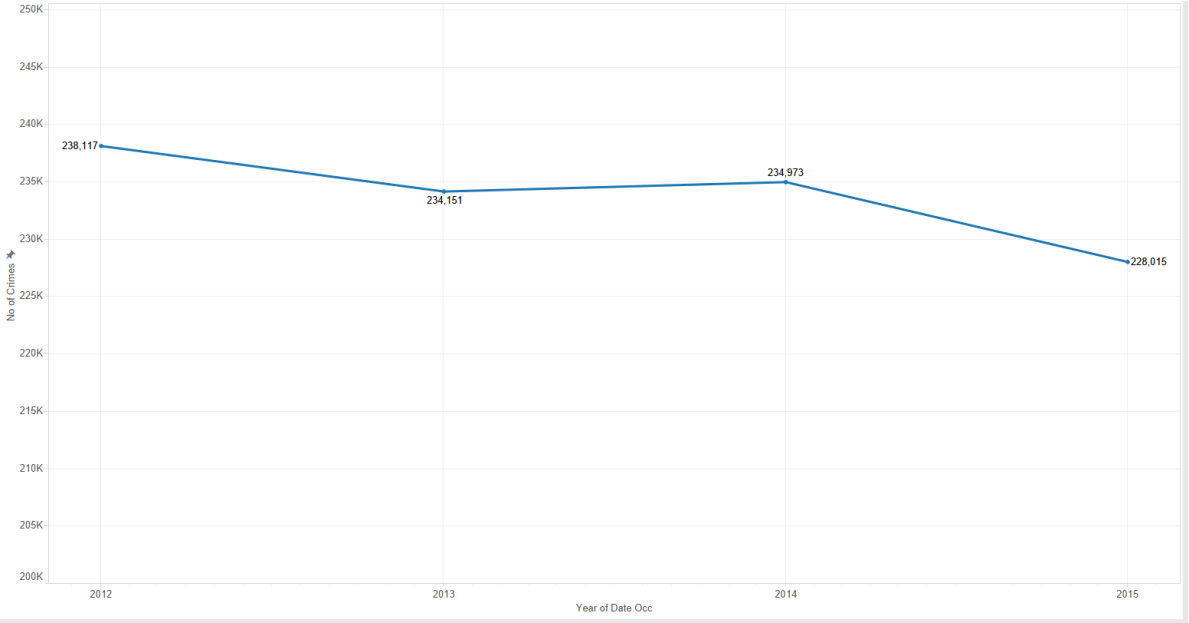
DATA VISUALISATION

The dataset has been analyses in such a manner that we get to know the total no of crimes committed in each year, under each bureau, the types of crimes committed and finally the status of these crimes that have been reported. These analysis helps us to understand how the LAPD have functioned over the years in order to create a safe environment for us.

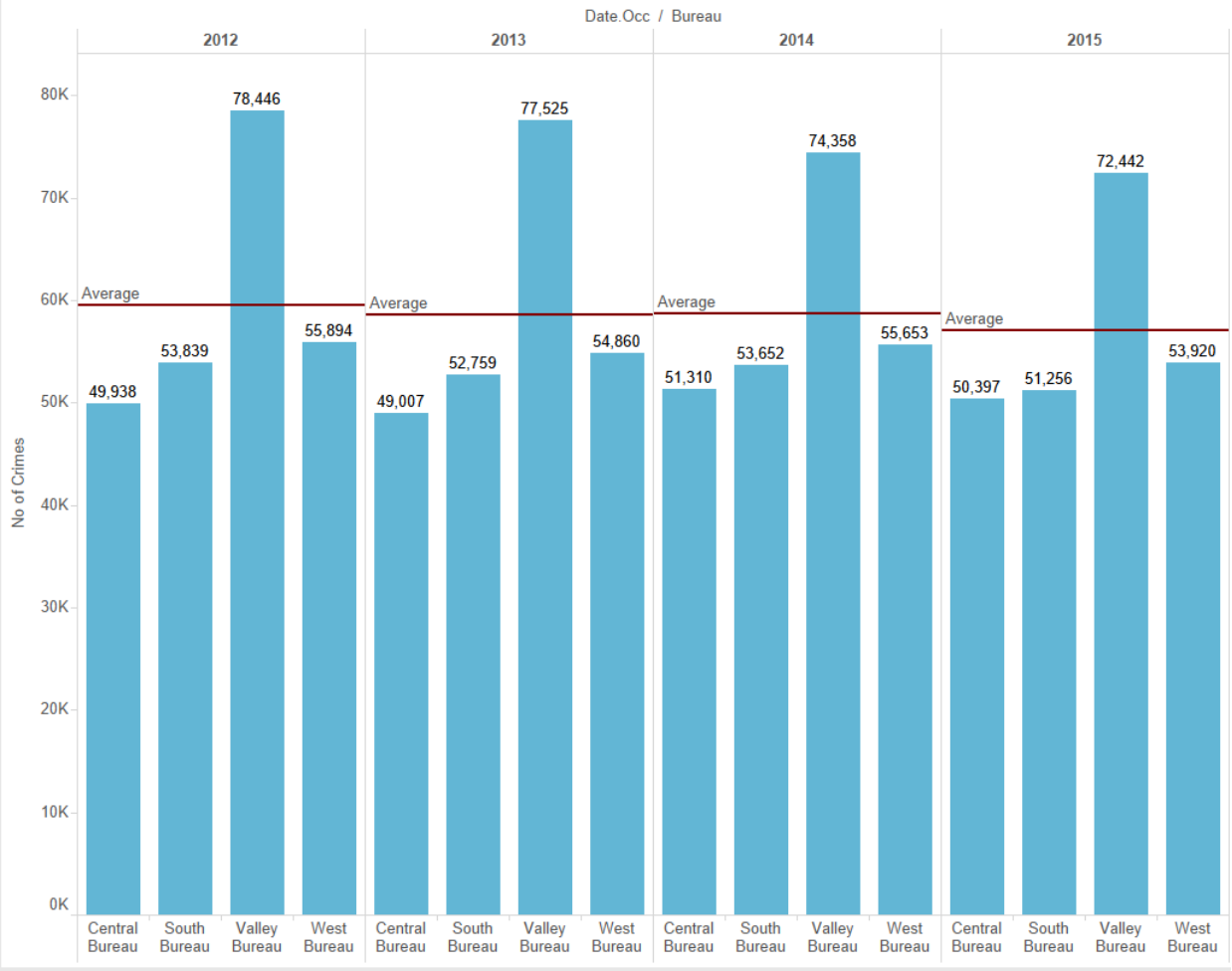
An analysis made on the no of crime of rimes over the years shows us whether the crimes have increased or decreased in number. A line graph has been used for the visual representation and it shows us the variation in crimes from 2012 to 2015. The total no of crimes was the highest in the year 2012 around 238K, though it reduced in 2013 there was an increase in 2014 and in 2015 it was the lowest around 228K.



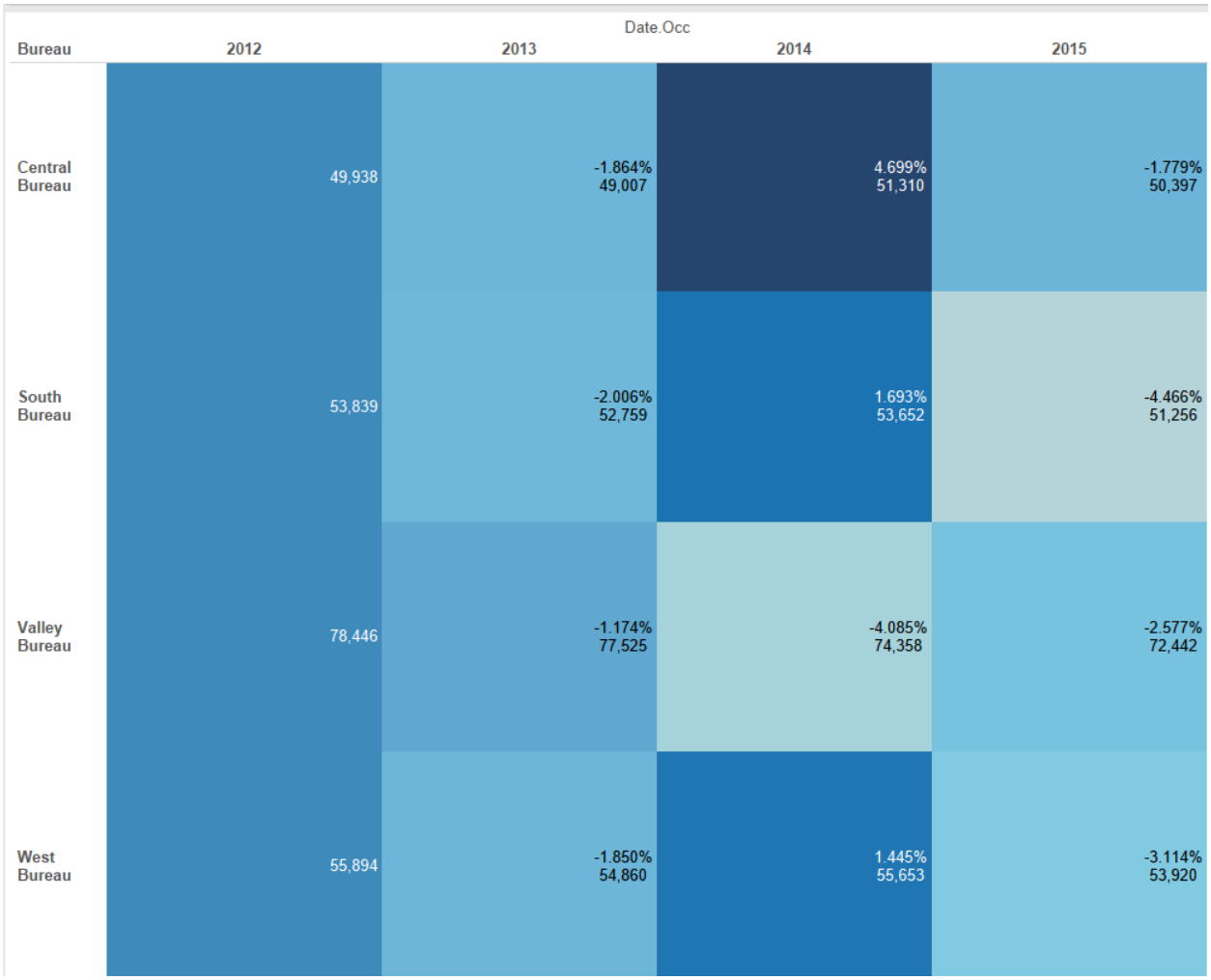
The above graph provides us with the basic idea about the crimes in LA. Hence another graph was plotted using bar graphs which shows us the crimes over the years under each bureau. This

graph helps us to understand which bureau has the maximum crime rates and which has the minimum crime rates. A reference line has been plotted for each year. The reference line is the average of total crimes over the year. It shows us which bureaus have crimes more than the average value. The 21 areas names are grouped under the 4 bureaus using the create group option in tableau.

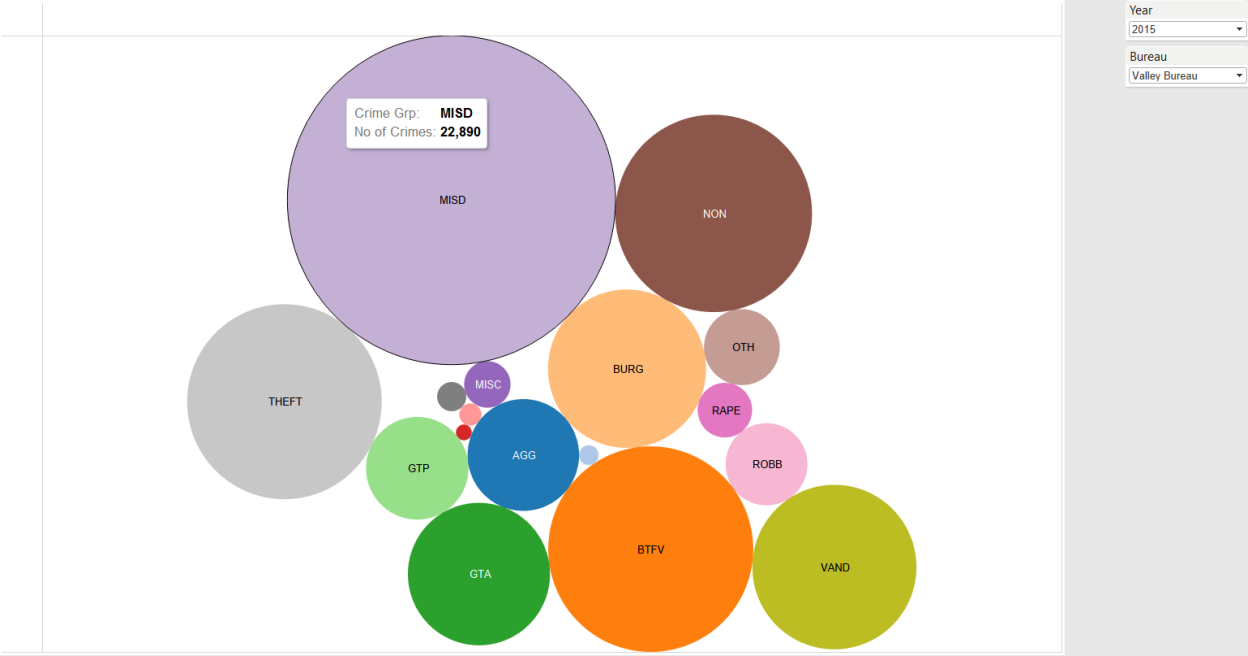
Bureau	Area/Division Name
Central	Central
	Hollenbeck
	Newton
	Northeast
	Rampart
Valley	Devonshire
	Foothill
	Mission
	North
	Topanga
	Van Nuys
	West Valley
South	77th Street
	Harbor
	Southwest
	Southeast
West	Hollywood
	Pacific
	West LA
	Wilshire
	Olympic



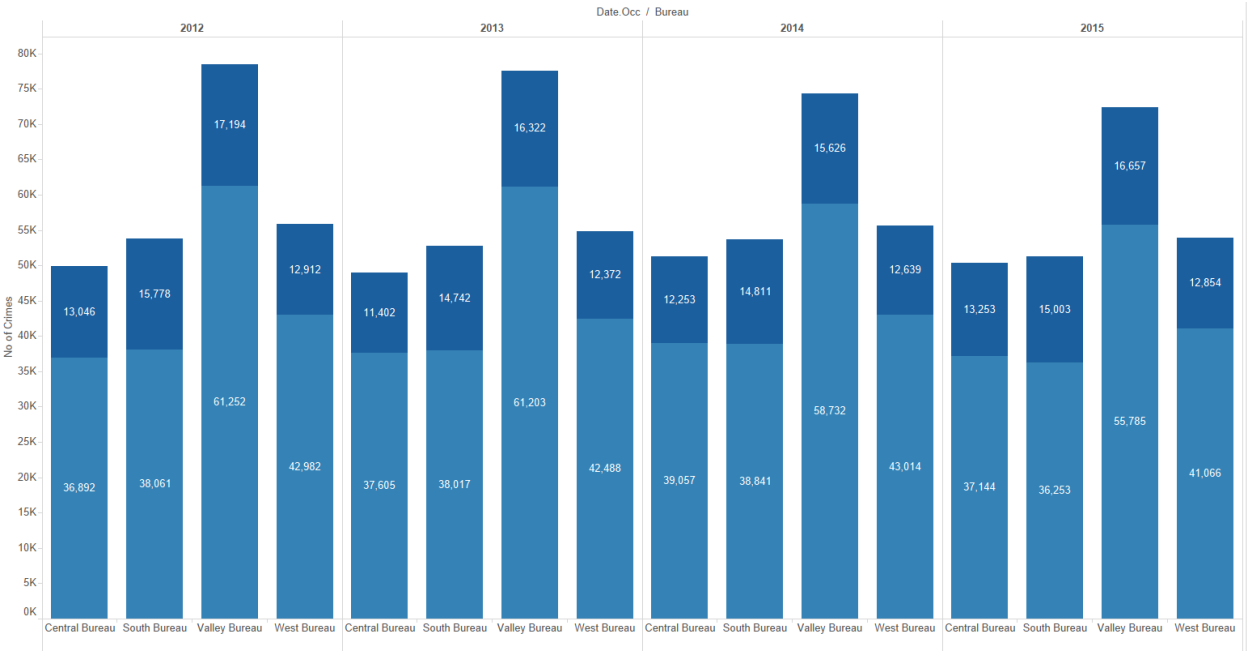
In order to get the exact increase and decrease over the years under each bureau we can perform difference in percentage calculation. Where the value of one year is percentage difference relative to the previous year. Different color shades have been provided and hence this helps us to determine at a single glance which bureau in which year has the reduced the most compared to the previous year. It is evident that south bureau has reduced in 2015 and Central bureau has increased in crimes in 2014. Such visualizations make data analysis easier.



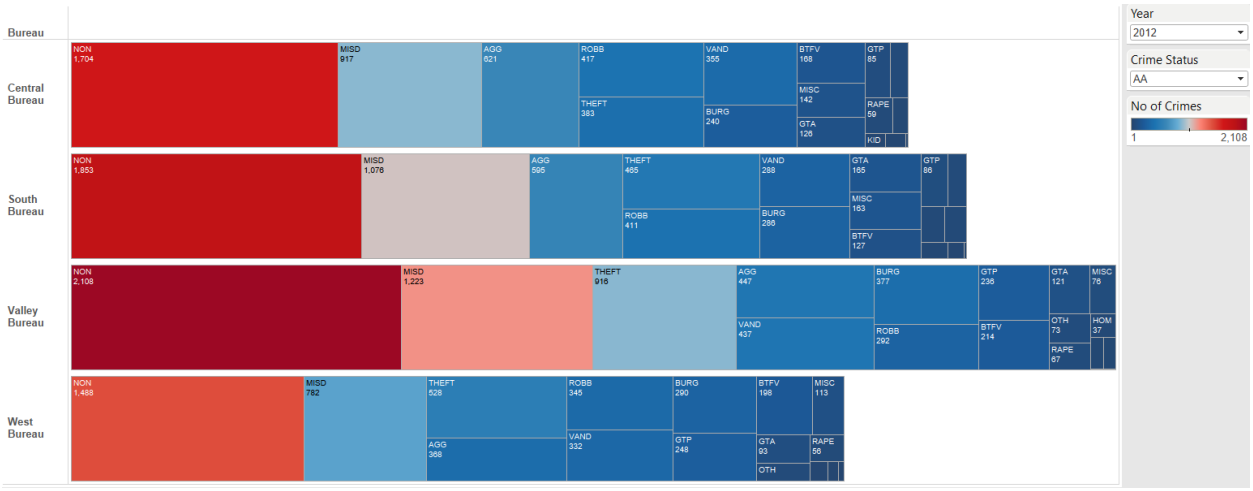
Analysis made between the crime group, bureau and year. A colorful bubble chart has been used for visualization. The chart shows us which type of crime has been committed the most under each bureau in each year. Here the year and the bureau is set as a filter and is made available as a drop down using the show filter option. The below graph depicts the total no of crimes committed under each category for the year 2015 and Valley Bureau. We can choose multiple bureaus and multiple years as it depends on how we would like to represent the data. Here the total no of crimes is provided in the tooltip as it is difficult to represent the count on the bubble chart due to the various size of the bubble.



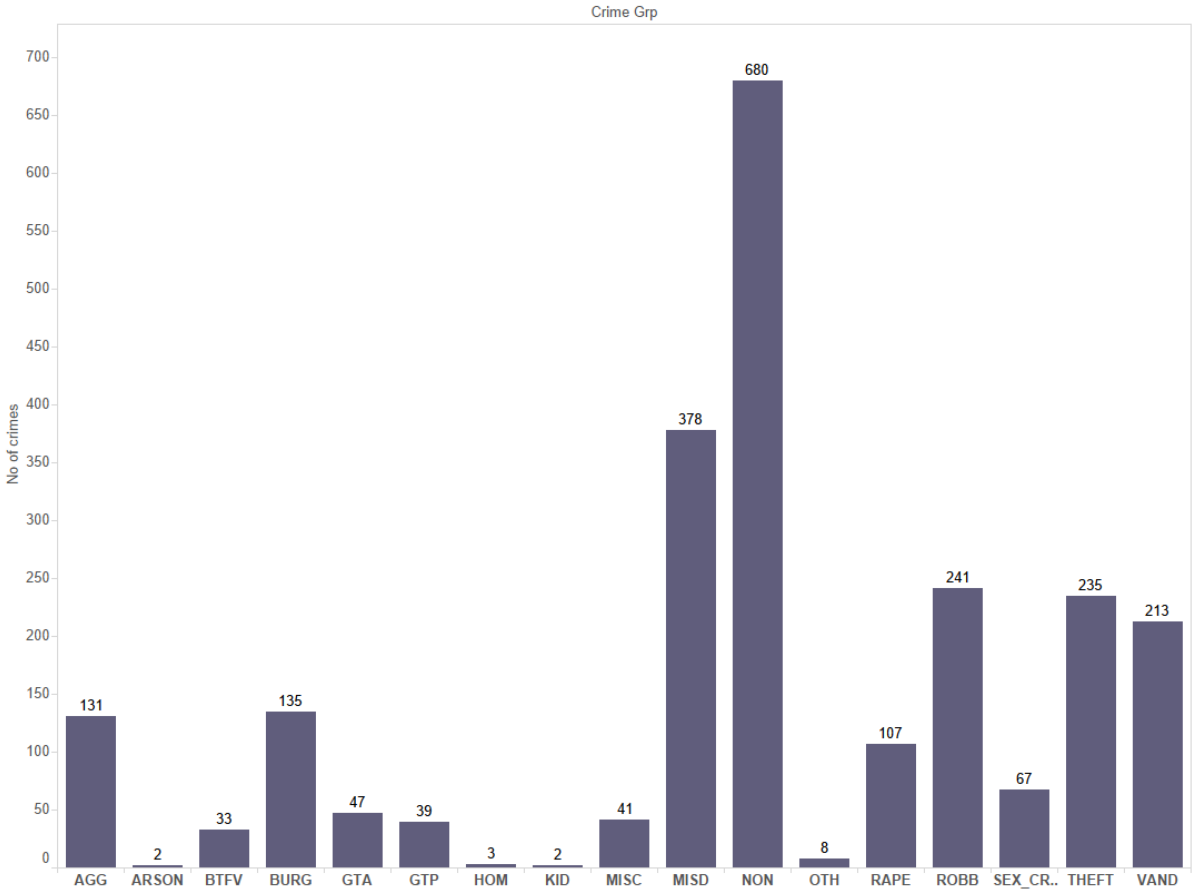
The LAPD segregates the crimes as Part I and Part II crimes based on the degree of offense. An analysis has been made to examine the count of Part I or Part II crimes under each bureau. A stacked bar graph is used to visually represent the above analysis.



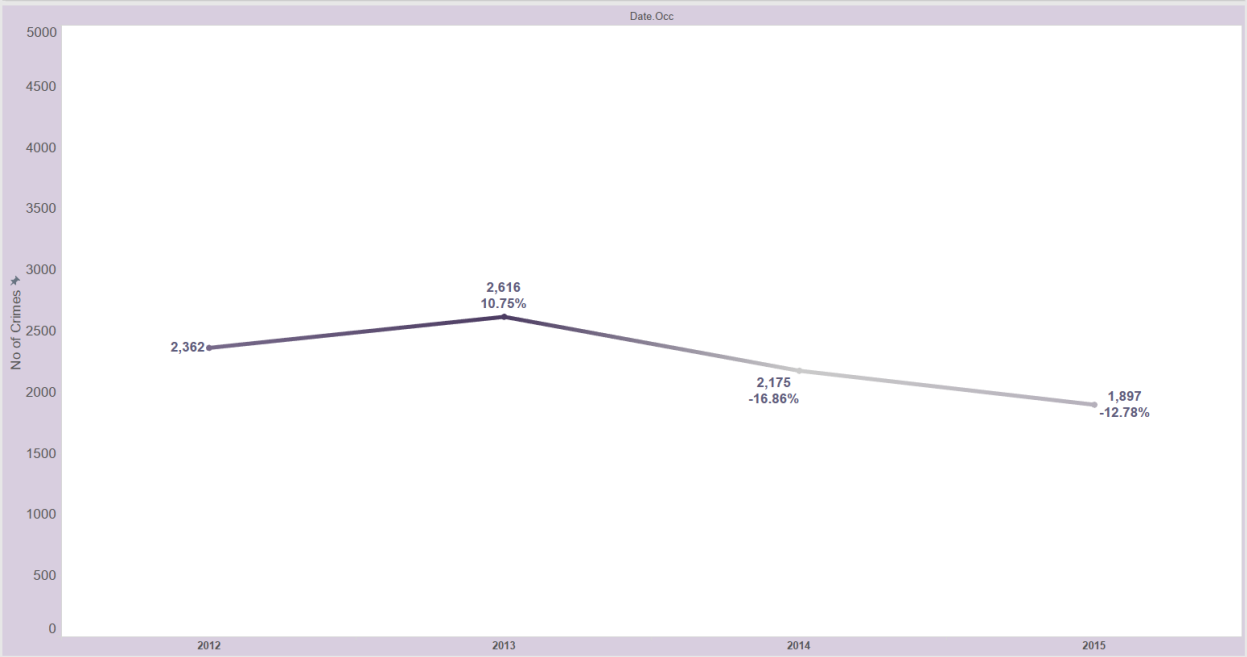
Crime status helps us to determine the status of the crimes recorded. Hence an analysis is made between the crime types, bureau, total no of crimes, the year and the crime status. We have used a tree map in order to display the desired visualization of the analysis. In the tree map we are able to see the distributions of adult arrest made in the year 2012 under each category. The maximum no of adult arrest was made for NON crime category in valley bureau.



An analysis was made to determine the total amount of juvenile crimes in LA city and also in which category is the juvenile crime prevalent. The below graph helps us to analyze it visually.



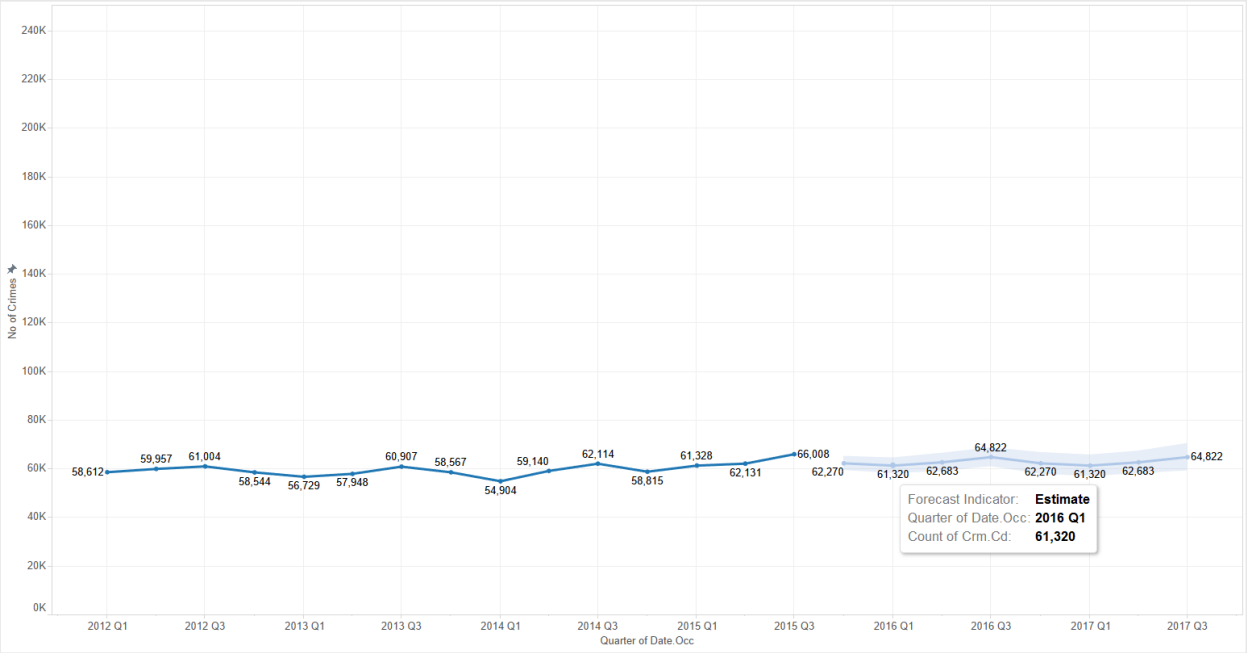
Compare the rate of juvenile crimes over the years and to find out if there was a increase or decrease in juvenile crimes over the years. We have used a line graph to display the analysis visually. The graph shows that after 2013 there has been a gradual decrease in the juvenile crimes in LA city. We have also determined the percentage difference relative to the previous year. This helps us to see that in 2014 the percentage decrease in crime was more.



In order to understand which bureau ranks in the maximum juvenile crime a simple text graph is utilized to display the rank based on no of juvenile crimes over the years with respect to each bureau.

Date.Occ	No of Crimes				Rank based on Maximum Juvenile Crimes			
Bureau	2012	2013	2014	2015	2012	2013	2014	2015
Central Bureau	352.0	458.0	364.0	300.0	4.0	3.0	3.0	3.0
South Bureau	867.0	911.0	689.0	693.0	1.0	1.0	2.0	1.0
Valley Bureau	774.0	904.0	799.0	619.0	2.0	2.0	1.0	2.0
West Bureau	369.0	343.0	323.0	285.0	3.0	4.0	4.0	4.0

Finally, no analysis is complete without a prentice analysis of the dataset. Hence a forecast of the crimes is made based on the quarters (QI to Q3) of the years 2012 to 2015. Since year wise there was only 4 values of total crimes available, it was insufficient to make a predictive analysis. Hence predictive analysis was done based on quarters than years.


240K
220K
200K
180K
160K
140K
120K
100K
80K
60K
40K
20K
0K
No of Crimes
58,612
59,957
61,004
58,544
56,729
57,948
60,907
58,567
54,904
59,140
62,114
58,815
61,328
62,131
66,008
62,270
61,320
62,683
64,822
62,270
61,320
62,683
64,822
2012 Q1
2012 Q3
2013 Q1
2013 Q3
2014 Q1
2014 Q3
2015 Q1
2015 Q3
2016 Q1
2016 Q3
2017 Q1
2017 Q3
Quarter of Date.Occ
Forecast Indicator: Estimate
Quarter of Date.Occ: 2016 Q1
Count of Crm.Cd: 61,320