1) Alternative design for Priority Issue Visualization:

I have compared the selected data against their overall averages. The Priority Visualization will be a grouped bar chart with two bars for a particular issue with different color. First Bar will show the aggregate of the votes casted for the given priority during the period selected by the Brush in the count Visualization. Every priority will have different color according the color scale given to us. Second bar for a given priority will display the average number of vote casted on that priority. Average bar for a priority will be coloured as gray. This bar displays the average votes casted per no of days selected by the brush) as for each priority for the entire year. It becomes really easy for the viewer to make the comparison in the below visualization.

yScale domain = [0, Max(number of Votes Casted during the selected period, average number of Votes casted per no of days selected by the brush]

Formulae for the Average bar = (total number of votes casted for a priority x   No of days selected by the Brush) / (Total number of Days)
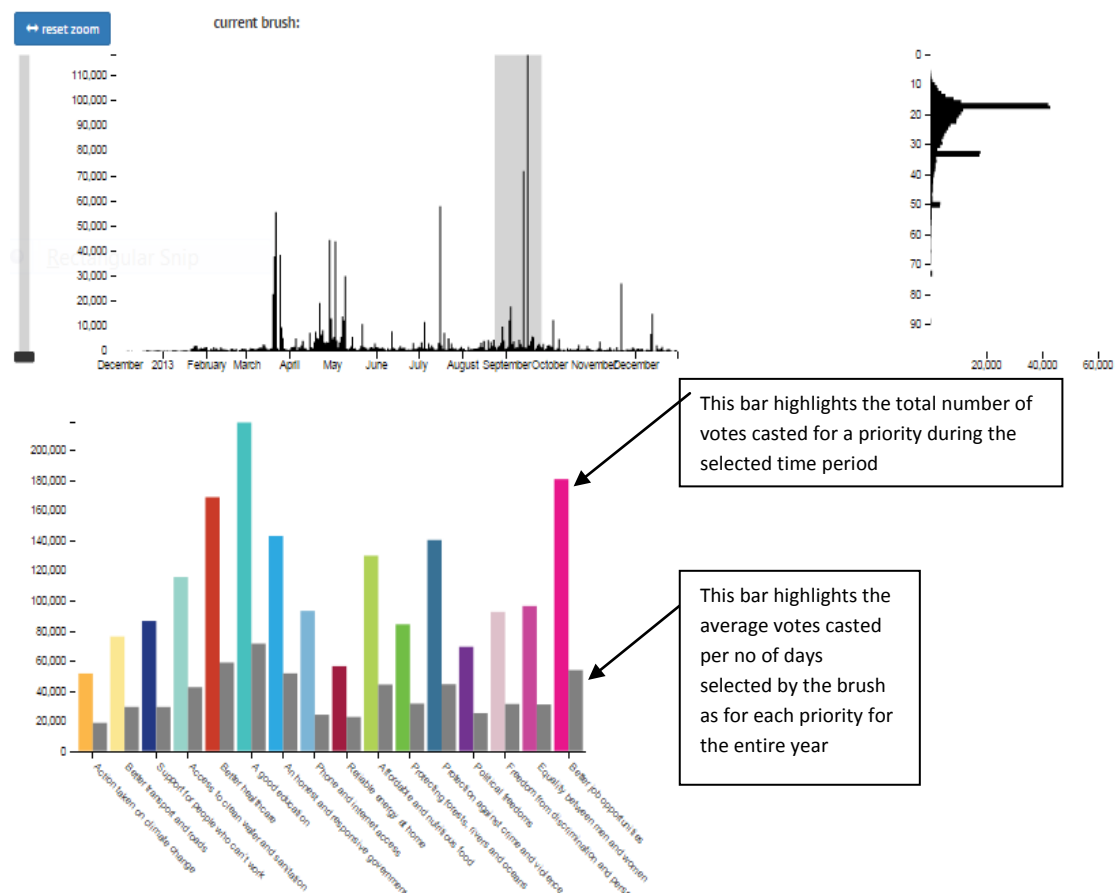
2) Instead of showing the average bar and aggregate bar side by side, we can display the average votes casted for a priority by using a **line chart.** Total number of votes casted for a priority will be shown by the bars and average will be shown by the line.

Line chart highlights the average votes per no of days selected by the brush as for each priority for the entire year
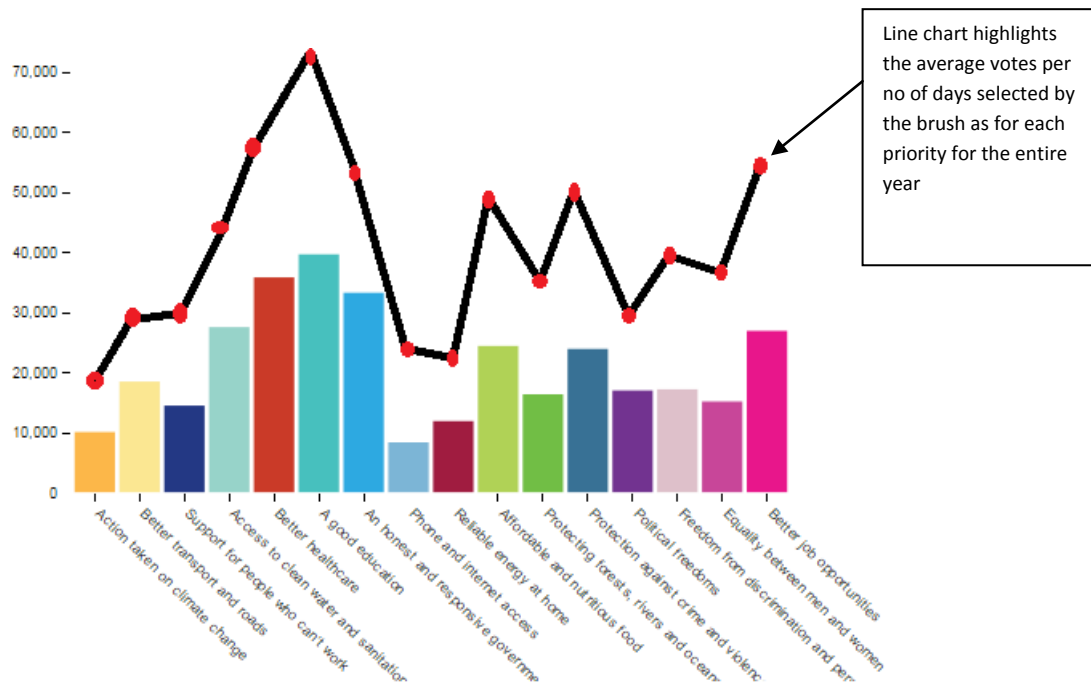
We will also store the number of votes casted for a priority daily per month. When a user will click any priority in the above chart, in a new chart (days chart) we will display the votes casted for that priority day wise. User will have option to compare the data with the daily data of the any month from the drop down box. With this design we will be able to serve two purposes:

i)   Priority Visualization chart will give the difference between average number of votes casted for a priority with the selected period.

ii)   Day charts will allow the user to compare the number of votes casted for a priority daily wise with any of the month selected from the drop-down box. Day chart will change if the selection is changed in the count-vis.
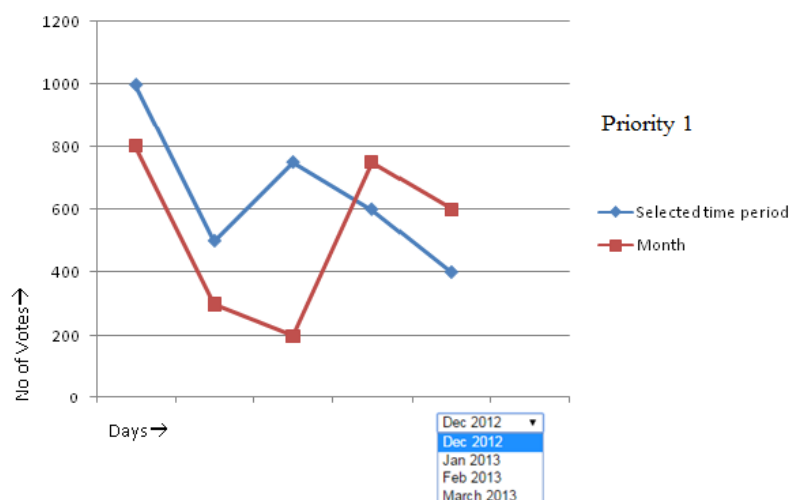
3) Some interesting Patterns:

i) I found that the difference between the total numbers of votes casted for a priority during the period from August to September is closest with the average number of Votes. As we can see in the graph that for the selected period, the average bar and the total bar is very close.
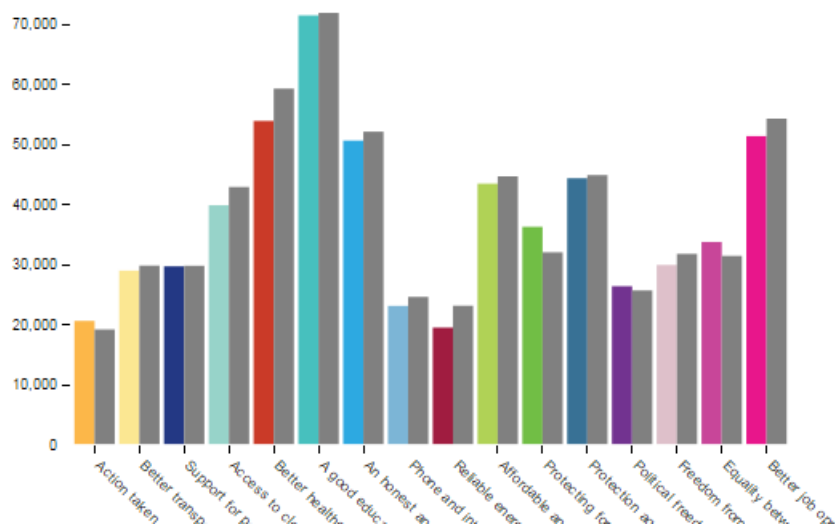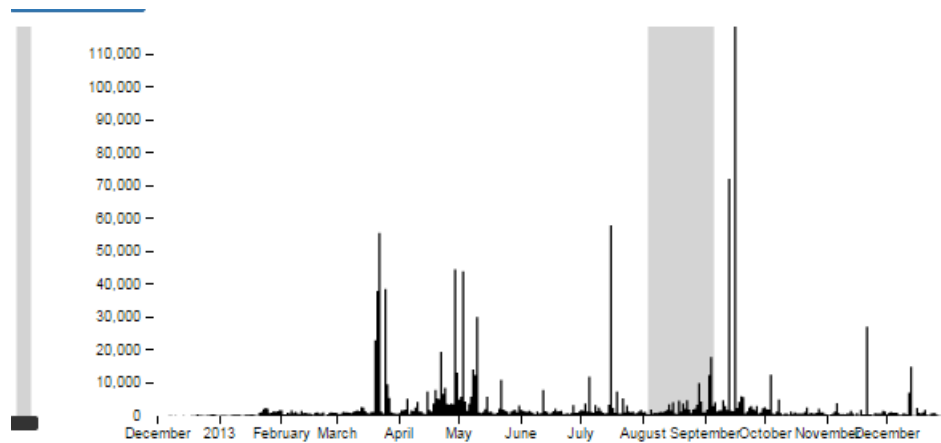
ii) For the selection period from September to October the difference between the total numbers of votes casted for a priority and the average Votes is the highest. As we can see that for Priority "Good Education" difference between number of votes casted during selected period and average Votes is approximately 150,000 Votes.