

GUN VIOLENCE REPORT ANALYSIS OF "USA"(2013-2018) **USING TABLEAU VISUALIZATION TOOL**

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Link to My Public Workbook :

https://public.tableau.com/profile/karthik.s1766#!/vizhome/GUNVIOLENCEREPORTANALYSISOFUSAFROM2013-2018FORECASTED-2019/1_YEARSVSNKILLEDDUALAXIS

Summary

Every day, 100 Americans are killed with guns and hundreds more are shot and injured. The effects of gun violence extend far beyond these casualties—gun violence shapes the lives of millions of Americans who witness it, know someone who was shot, or live in fear of the next shooting. The author for this dataset Mr. James Ko (<https://www.kaggle.com/jameslko/gun-violence-data>), collected the total gun violence incidents happened in USA from the period 2013 to 2018 collected from various media reports with respective source URL's, he provides the detail datas of the incidents by classifying in various factors such as Number of Injured, Number of Killed, respective dates, cities, address, types of gun used, latitude and longitudes of respective locations etc., I used this dataset as source of my visualization project using Tableau BI software tool.

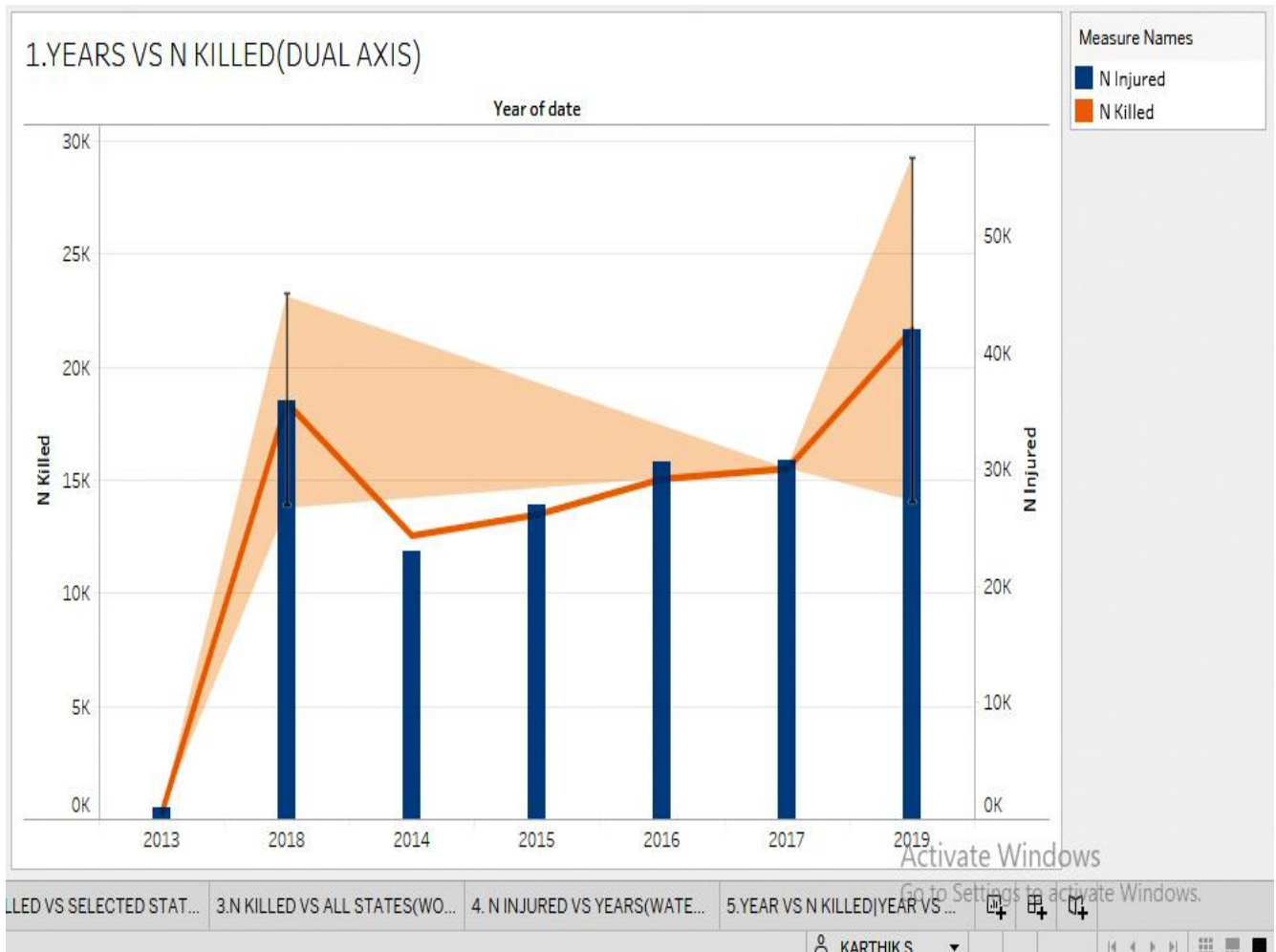
Queries

In this project I found the solutions in the form of visualizations for the following questions,

1. Compare number of persons who are killed in the gun violence incidents with respective period 2013-2018 and find the highest range of persons killed and highest range of persons injured in which year ? also forecast the respective factors range for the year 2019?
2. Find the total number of persons killed throughout the taken period and also find the total number of persons killed in state wise (for any 10 states) ?
3. Find the total number of persons killed for the state wise(all states) in USA ?
4. Find the number of persons who are injured for each and every year on the period of 2013-2018, and represent it on highest range to lowest range manner ?
5. Compare number of persons killed, number of persons injured for the selected period from 01.01.2014 to 01.01.2015 and find the highest range for the same ?

Solutions

1. Compare number of persons who are killed in the gun violence incidents with respective period 2013-2018 and find the highest range of persons killed and highest range of persons injured in which year ? also forecast the respective factors range for the year 2019?



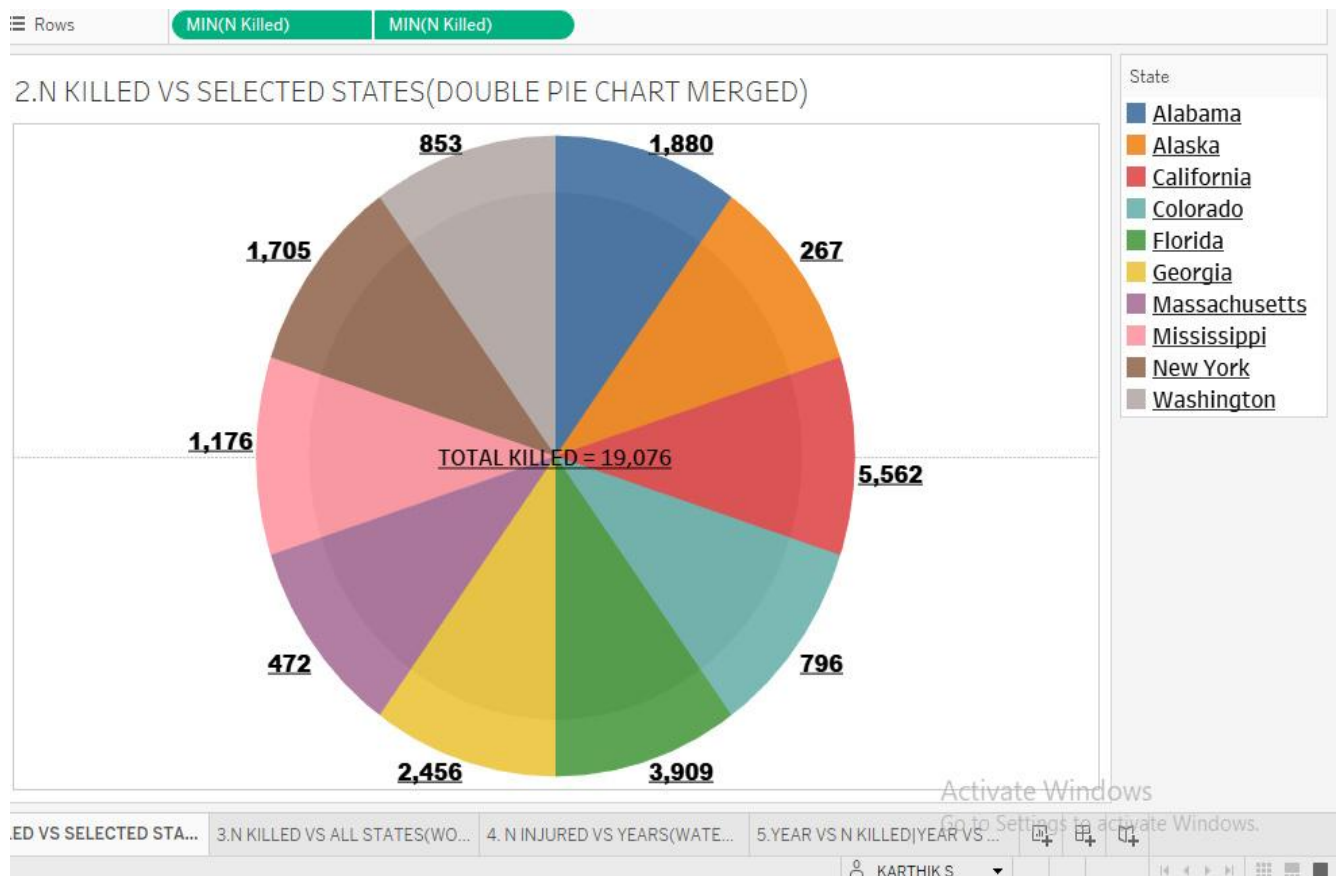
I created dual axis chart for this solution, at first I chose line chart for the comparison of Number of persons killed(N Killed) with Years and then I chose bar chart for the comparison of Number of persons injured(N Injured) with Years at last I fused the both comparisons in a single chart by Dual Axis option. At next I used simply "Forecast" option from Analysis Tab to predict the range for the year 2019.

The results depict that the highest range of persons killed in the year 2018 in the range of 18,435 persons and the highest range of persons injured in the same year 2018 involves 35,912 persons. On forecasting for the year 2019 results give Number of injured persons is 41,912 and Number of persons killed in the range of 21,665.

Visit the same visualization in my Tableau Public Space,

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- Find the total number of persons killed throughout the taken period and also find the total number of persons killed in state wise (for any 10 states) ?



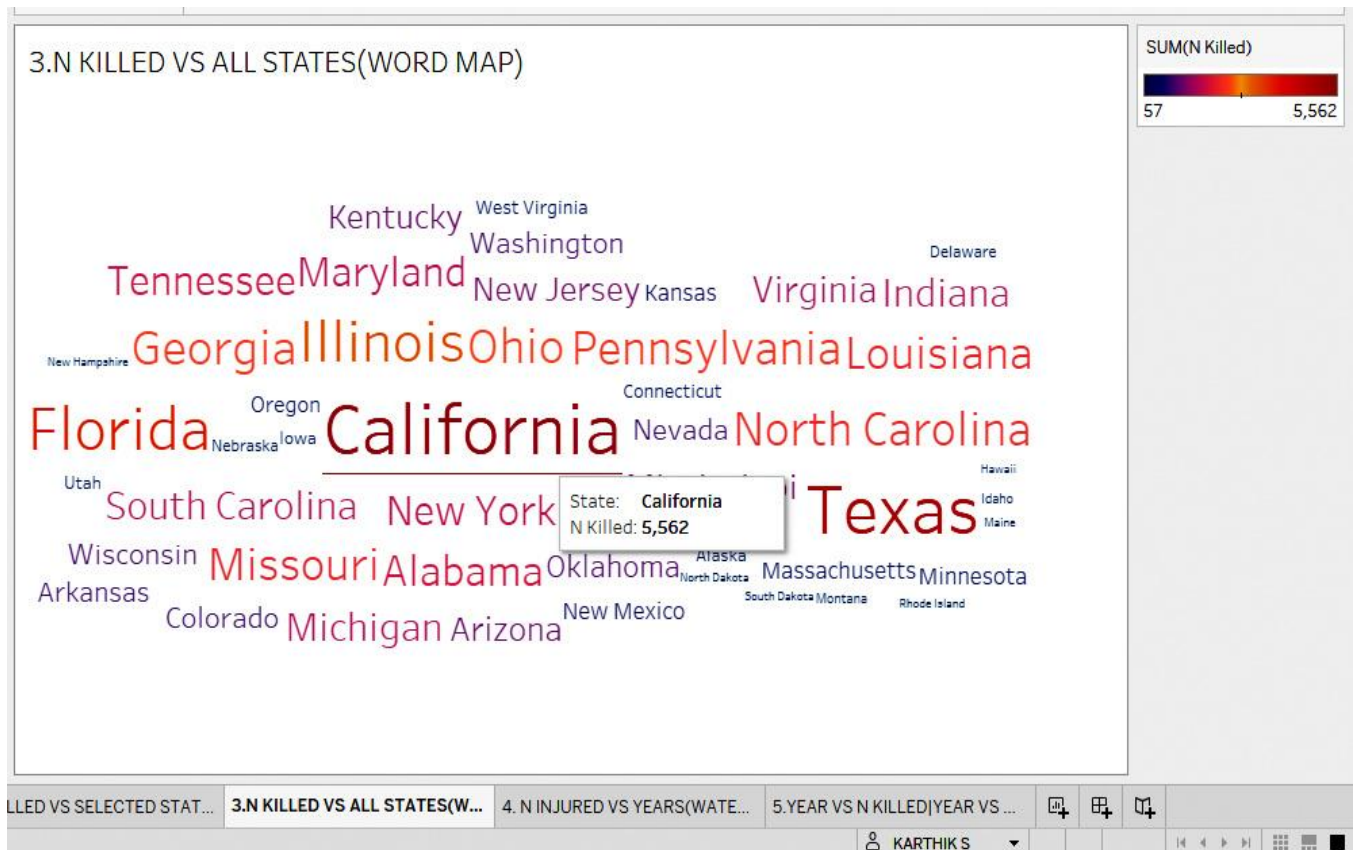
For this query actually I aimed for “Doughnut” shaped chart by fusing two pie charts, but I didn’t got the doughnut shape, Please suggest where I missed the step to achieve the respective aimed shape. At first I plotted “States” in colours chart and I selected only 10 states randomly, then I changed chart type automatic to pie type. At next I picked the N Killed pill to rows shelf and I modified its measures to “Minimum” then I copied the respective pill by pressing Ctrl key and dragging method in rows shelf and then selected the “Dual Axis” option from the copied pill. At next I removed the headers from the both sides, and then I removed the “states” from the one of the chart and changed its color to Black and by adjusting the size of the another piechart,I achieved the fused view of two charts. At next I picked the same N Killed pill to the label and then I edited the label text as “TOTAL KILLED” and again I picked the same N Killed pill to the label of the second pie chart for visualising the ranges for the depicted states.

The results depicts that the total number of persons killed = 19,076. On state-wise Alabama=1880, Alaska = 267, California = 5562, Colorado = 796, Florida = 3909, Georgia = 2456, Massachusetts = 472, Mississippi = 1176, Newyork = 1705, Washington = 853 respectively.

Visit the same visulization in my Tableau Public Space,

https://public.tableau.com/profile/karthik.s1766#!/vizhome/GUNVIOLENCEREPORTANALYSISOFUSAFROM2013-2018FORECASTED-2019/2_NKILLEDVSSELECTEDSTATESDOUBLEPIECHARTMERGED

3. Find the total number of persons killed for the state wise(all states) in USA ?



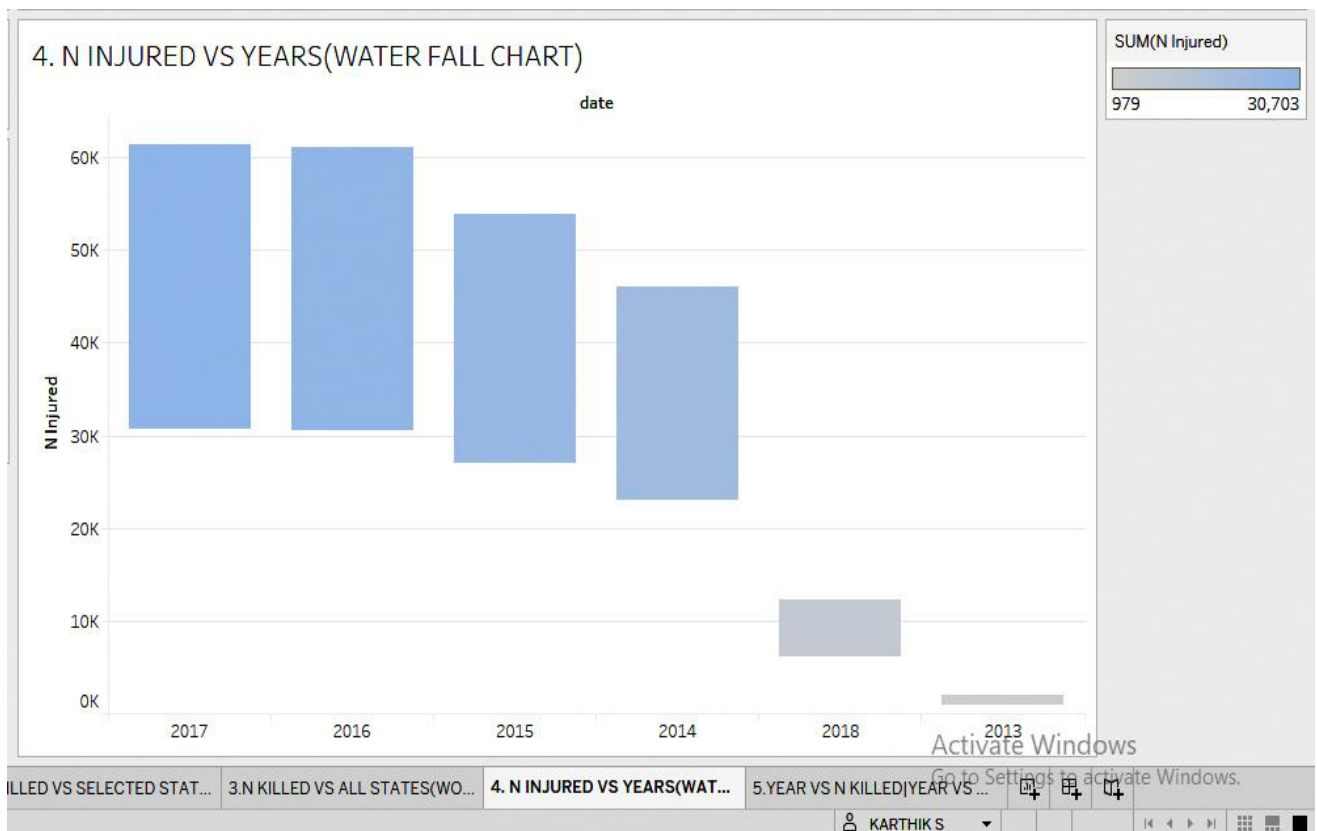
For this query I word map concept to visualize the solution in a very interactive and detailed manner. Hence I picked the “States” from the dimensions and placed in “Text” part of the worksheet. Based on the range of persons killed on state-wise, I need the states names have to be expand and contract for easier visualization, for that I picked “N Killed” from the measures and placed in the “Size” part of the worksheet eventually I chosed the “Text” from the drop down list located on the marks section. Now I need to improvise it much better, by adding interactive colours to the word map, So I picked again N Killed to “Colors” part of the Marks section. For the better visualization, I picked “ Sunrise-Sunset diverging” colour palette from the “Edit-Colors” option in built with Color part in the Marks section. Now I achieved the aimed pattern of visualization for this query.

The total number of persons killed in every state can be found by holding the cursor on respective state, it will hover the respective values on each and every state.(e.g. On hovering on California it depicts the value 5562 persons killed.

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https://public.tableau.com/profile/karthik.s1766#!/vizhome/GUNVIOLENCEREPORTANALYSISOFUSAFROM2013-2018FORECASTED-2019/3_NKILLEDVSALLSTATESWORDMAP

4. Find the number of persons who are injured for each and every year on the period of 2013-2018, and represent it on highest range to lowest range manner ?



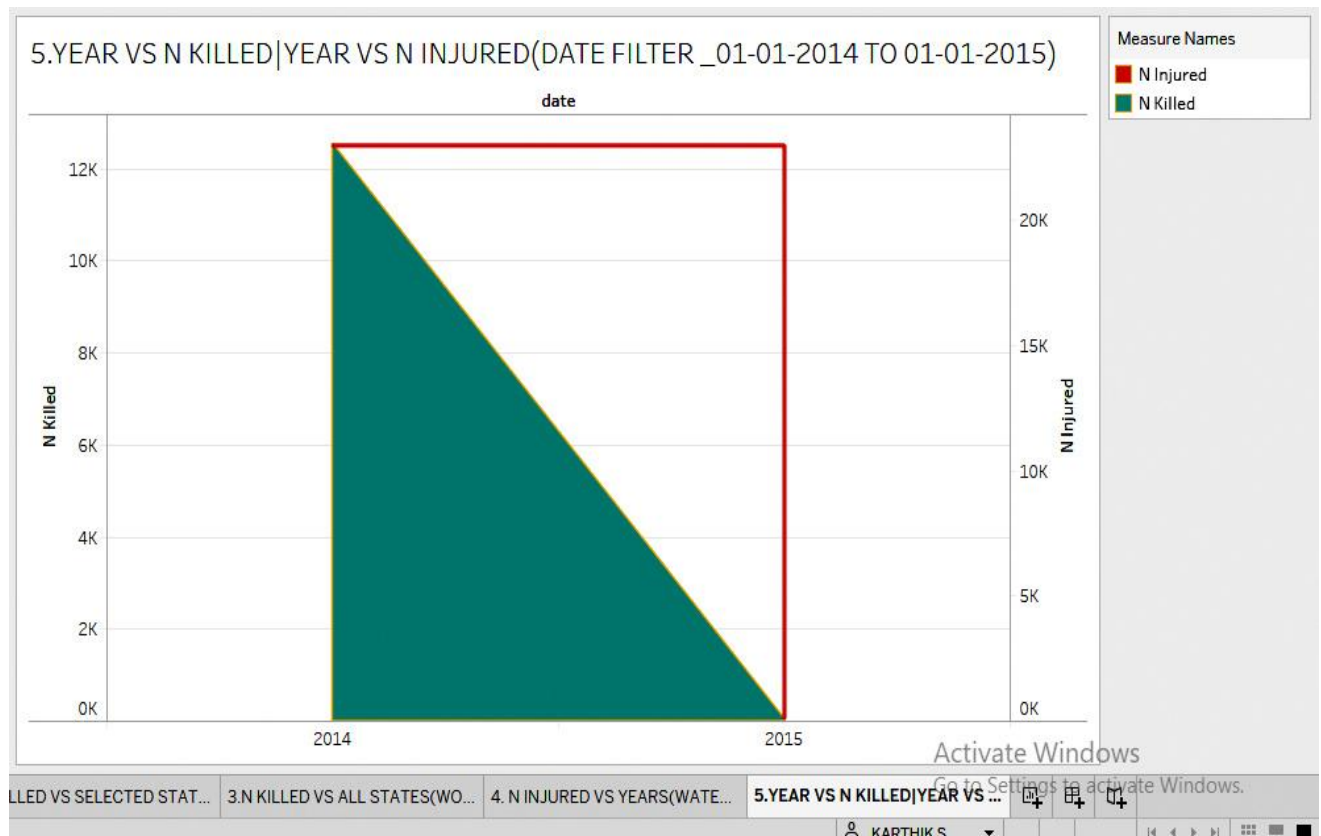
For this query, I chosen waterfall chart visualization for better clearance. At first I picked the dimension “Dates” into rows and “N Injured” to coloumn, and I sorted into descending order, then swapped the fields. To achieve the water fall chart, I need to proceed further by modifying the chart type into “Gantt bar” . For clear visualizations, I need to expand the chart stages sizes further bigger, hence once again I picked the “N Injured” and placed into the “Size” part. Now the chart is seems like water fall flow from its peak value to lower level value. For further clearance I added gradient type colour pattern to the bars in the chart.

The chart illustrates the solution which is highest range of persons injured in the year 2017 respectively 30,703 and the least number of persons injured in the year 2013 respectively 979.

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https://public.tableau.com/profile/karthik.s1766#!/vizhome/GUNVIOLENCEREPORTANALYSISOFUSAFROM2013-2018FORECASTED-2019/4_NINJUREDVSYEARSWATERFALLCHART

6. Compare number of persons killed, number of persons injured for the selected period from 01.01.2014 to 01.01.2015 and find the highest range for the same ?



For this query, I picked the “N Killed” measures into the rows and chosen the “Area” type representation chart and then I picked and placed the “N injured” measures into rows section and chosen the “Line” type chart respectively. At next I picked the “Dates” dimension into the coloumn section, then by clicking the drop down option from “Dates” part, I got a option to select “Show Filter” option, by clicking the respective option I chosen “Range of Dates” option and picked starting date range and ending date range by easily selecting from the drop down calendar facility. Later I fused the two charts into one chart by picking the “Dual Axis” option from the “N injured” part of the rows section.

The visualization depicts the solutions clearly such as highest range of “N Killed” for the period 01.01.2014 to 01.01.2015 is 12557 persons and the highest range of “N Injured” for the same period is 23,002 persons respectively.

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Resources :

1. <https://www.edureka.co/blog/tableau-tutorial/>
2. <https://www.tutorialspoint.com/tableau/>

***** Your Valuable Feedbacks are most WELCOME !! *****