# Project

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ERP: 19684

Data set: https://www.kaggle.com/datasets/zusmani/pakistansuicideattacks

**Domain Knowledge:** Suicide bombing is an operational method in which the very act of the attack is dependent upon the death of the perpetrator. Though only 3% of all terrorist attacks around the world can be classified as suicide bombing attacks these account for 48% of the casualties. This data set tells us about the locations, target types, types of blasts, and the number of casualties that occurred because of the suicide attacks.

**Problem Statement:** Analyze the trends of suicide bombing in Pakistan from 1995 to 2016.

1. Analyze the potential dimensions that can be used to predict the occurrence of blasts?

2. What types of blasts caused major casualties from 1995 to 2016?

**Data Transformation:**

The detailed steps of data wrangling are present in the Data.info sheet of Background.Data.Knowledge file. I performed most of the wrangling steps in Power BI. However, I have used Tableau as my tool for analysis as there are many interactive charts present in it.

**Questions:**

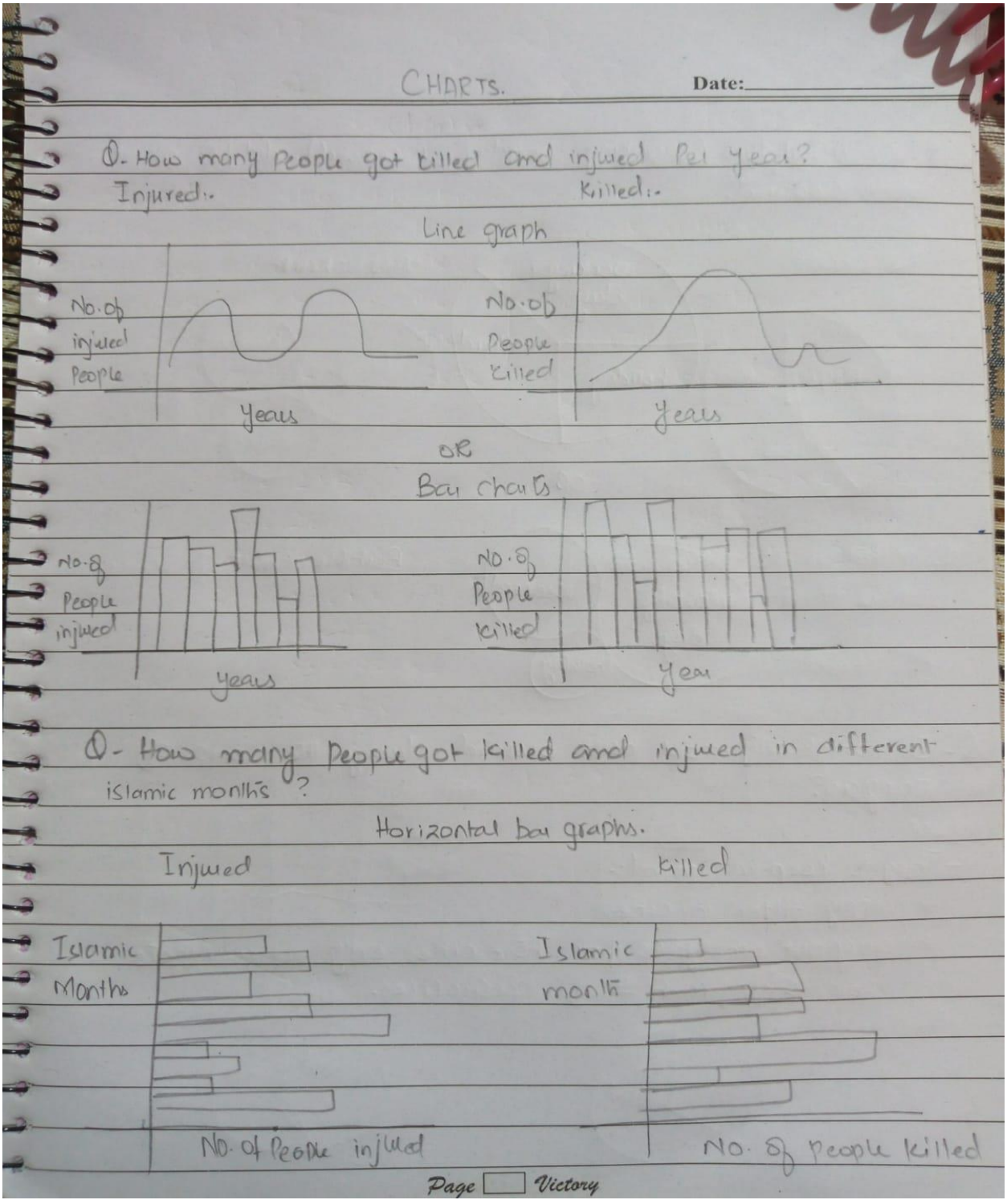
1. How many people got killed and injured per year?
2. How many people got killed and injured in different Islamic months?
3. On what type of day (working day, holiday, or weekend), did the most blasts occur?
4. In which city, did most blasts occur during analysis?
5. In which province does the highest number of blasts occur?
6. Which location type is more prone to having blasts?
7. Does highly sensitive locations faces more blast than the medium and low?
8. What is the correlation between casualties and the nature of the space where the blast occurred?
9. What type of people have been continuous targets of these blasts from 1995 to 2016?

10. Which sect has been the target of suicide blasts during the analysis?
11. Describe the relationship between the number of casualties and the number of blasts.

**Step 1: Done in Background.Data.Knowledge excel sheet.**

**Step 2: Hand Drawn Charts**

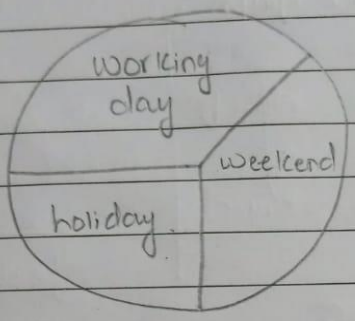
**For Question 1 and Question 2.**



**For Question 3 and Question 4.**

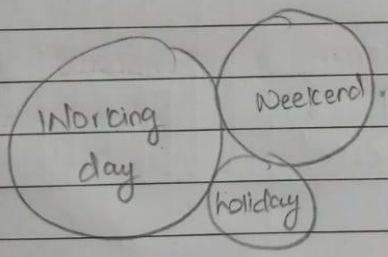
Date:

Q. On what type (working, holiday, weekend), did the most blasts occured?




Pie chart

OR

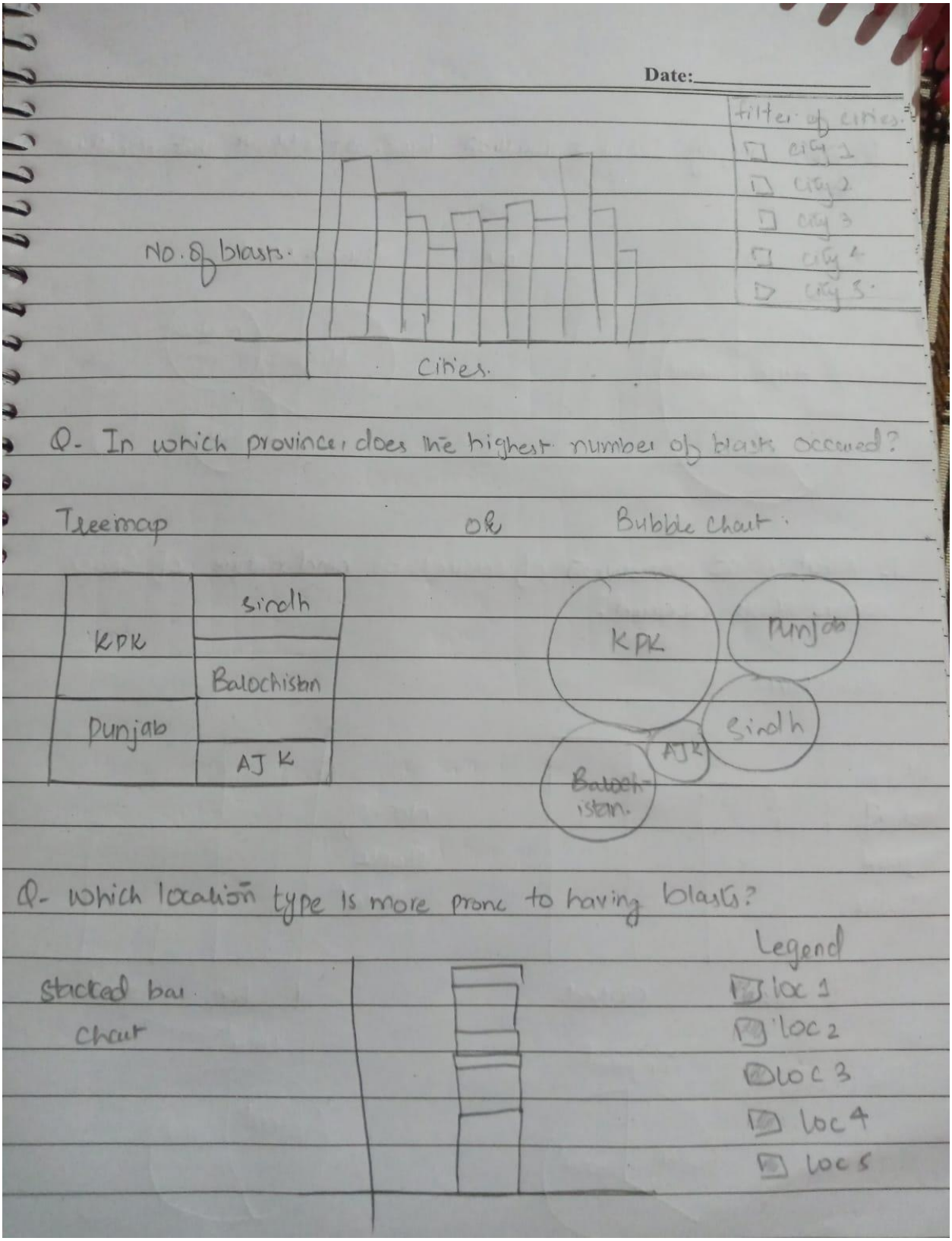



Bubble Chart

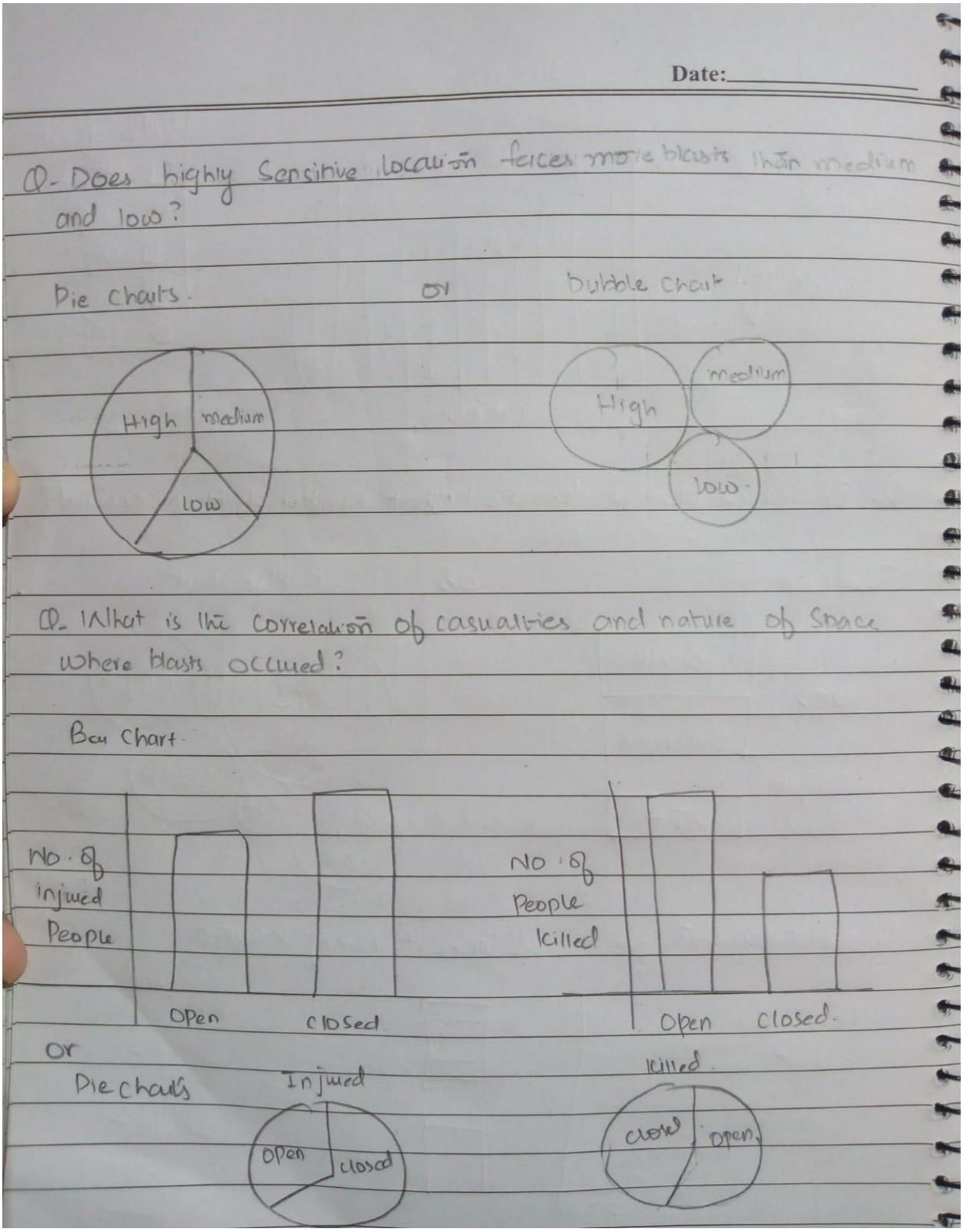
Q. In which city, most blasts occured during the cause of analysis?

- Thing to keep in mind:-
  * apply filter in cities.
  * carry out analysis for those cities only where, there were significant # of casualties.

**For Question 5 and Question 6.**



**For Question 7 and Question 8.**

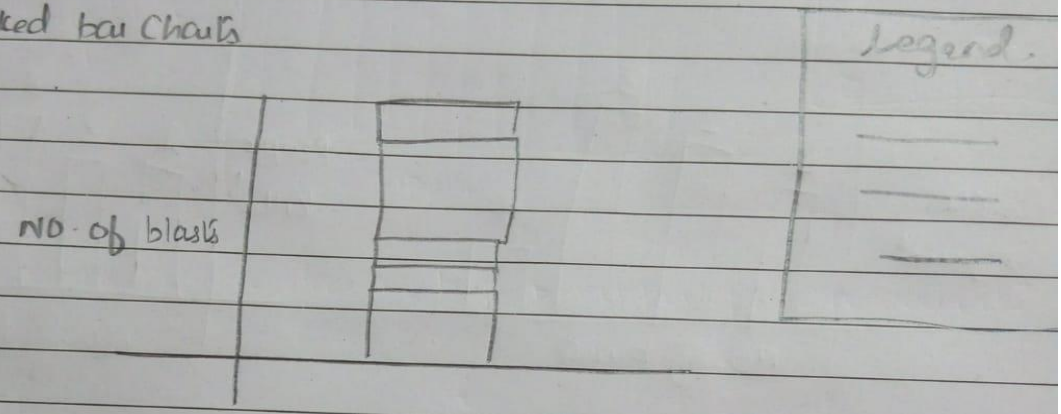


**For Question 9 and Question 10.**

Date:

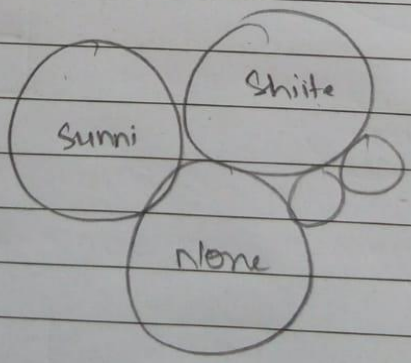
Q- What type of people have been a continuous target of their blasts from 1995 to 2016?

Stacked bar Charts

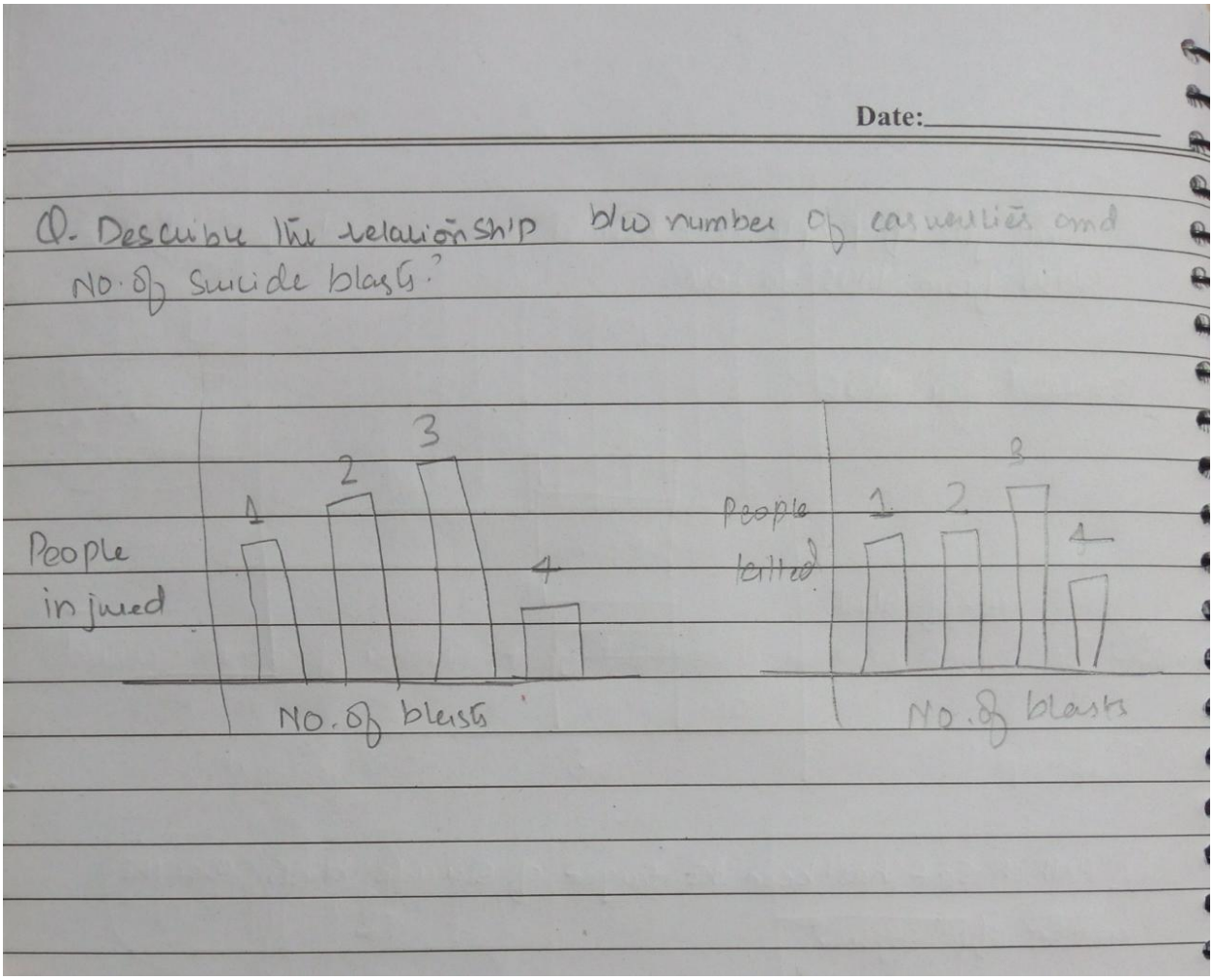



Q- Which sect has been the target of suicide blasts over the course of analysis?

bubble chart

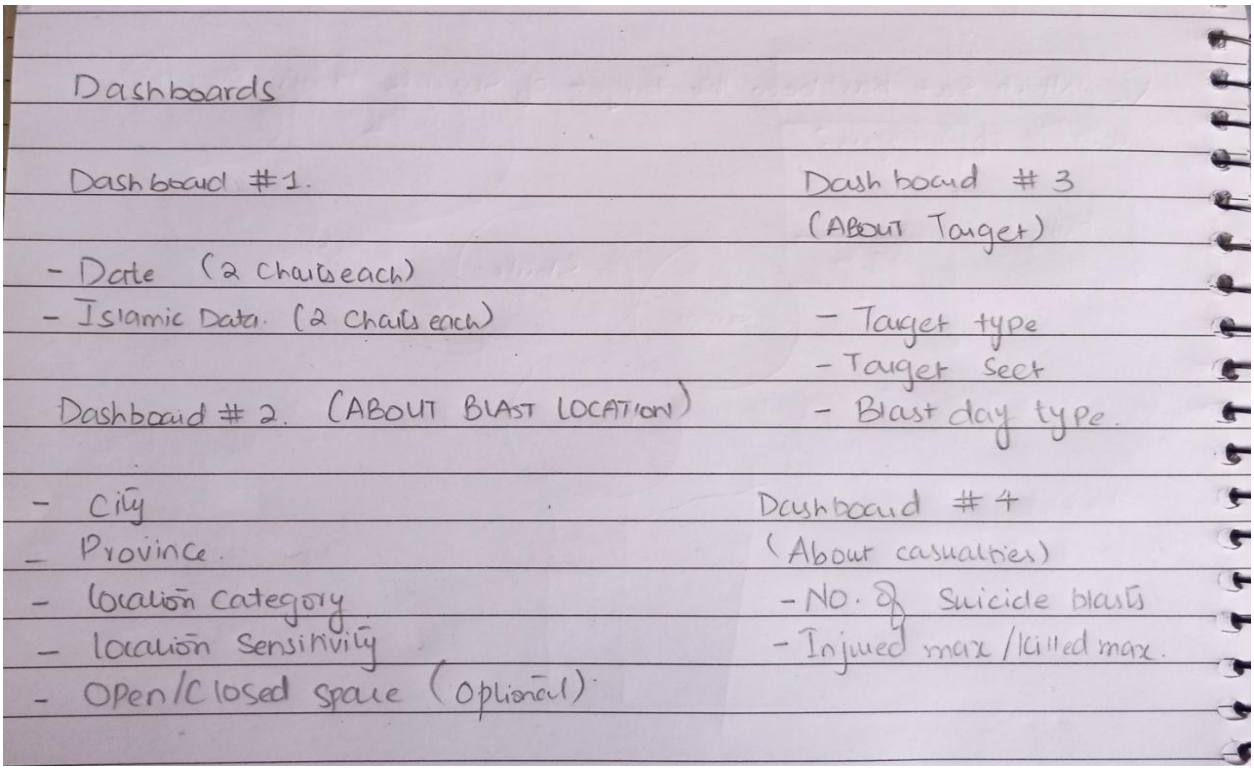


**For Question 11.**

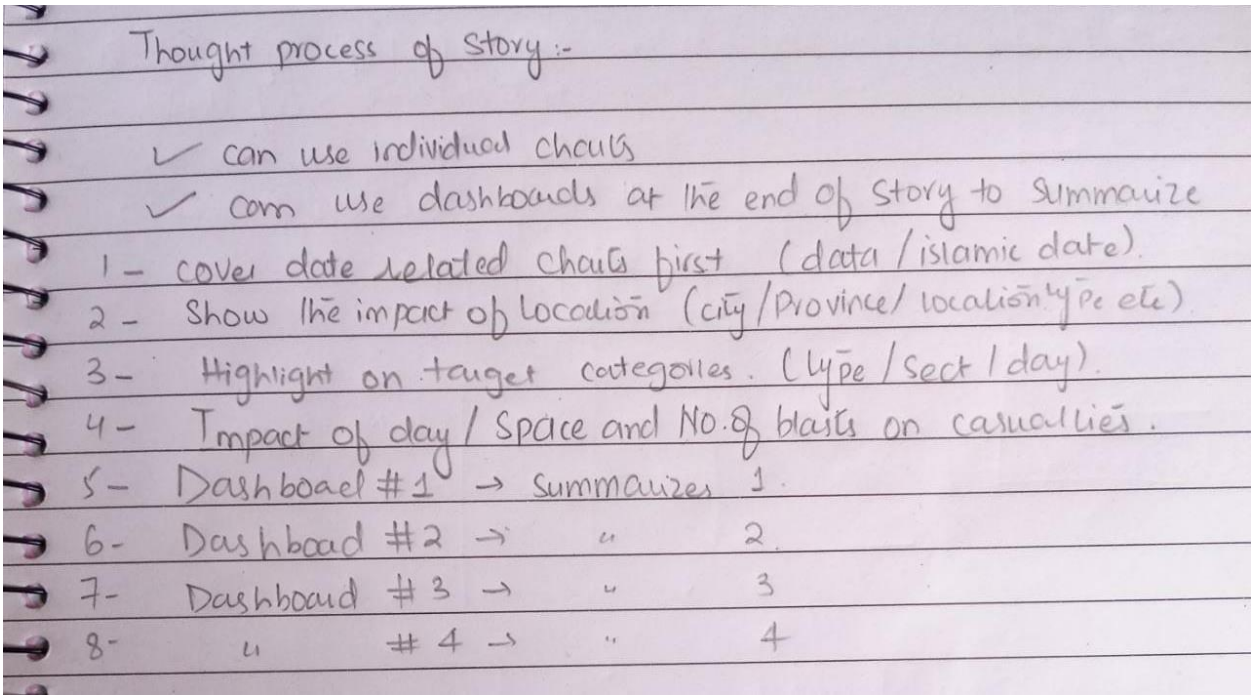


**Step 3:**

**Planning of dashboards:**

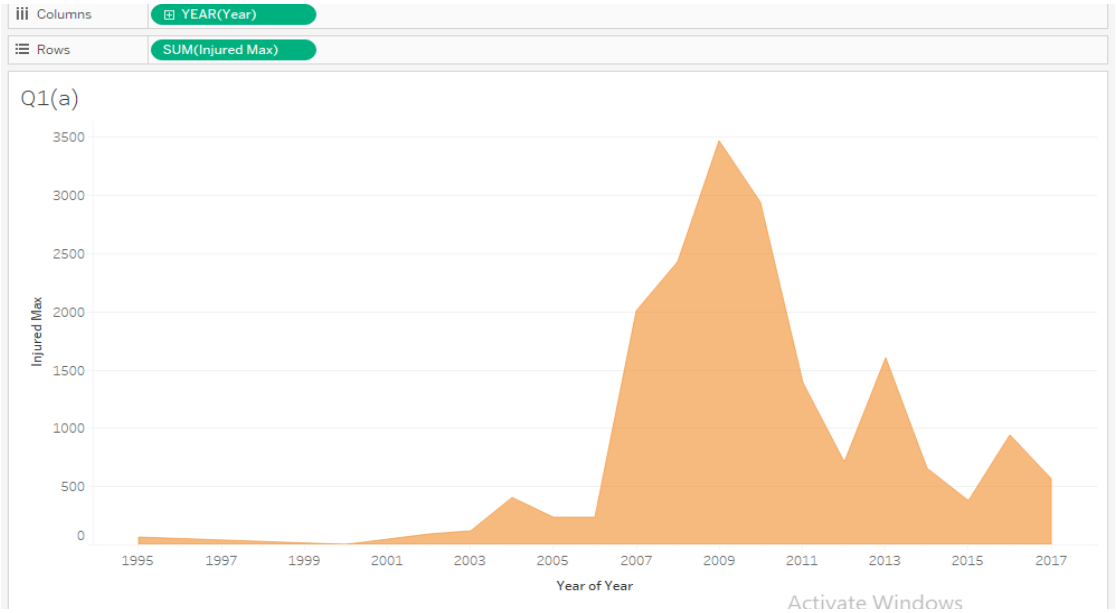



**Planning of story**

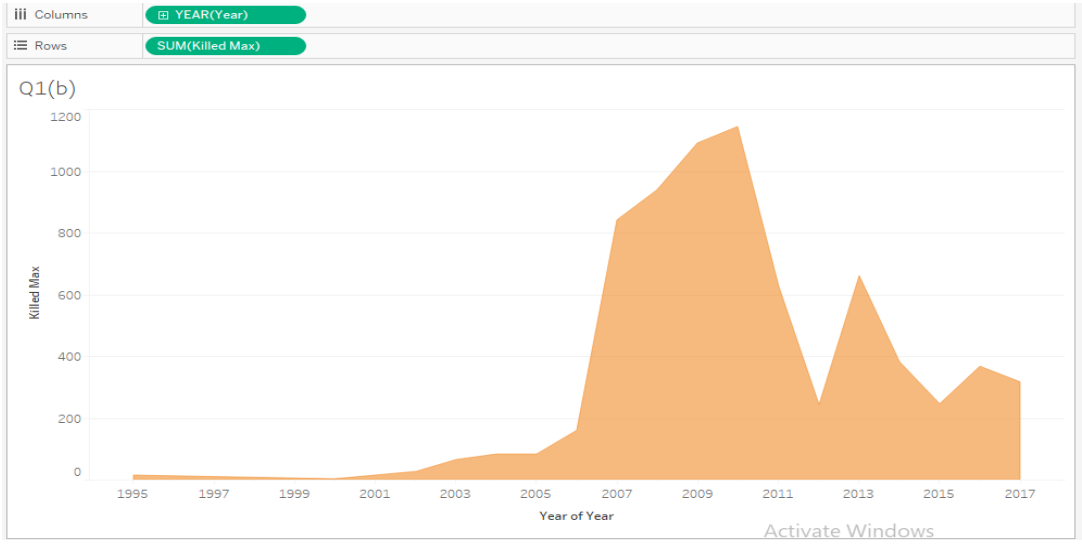


**Analysis:**

1. How many people got killed and injured per year?




We can observe from the graph that 2009 was the most dreadful year for Pakistan as more than 3000 were the prey of these suicide bombings. The rate of injuries started to rise from 2006 and was at its peak in 2009. This implies that the number of blasts also increased from 2006 to 2009 and then declined from 2010 to 2011. Since 2013, ups and downs are observed in these blasts.



From this graph, we can observe that suicide bombing started to rise in 2006 and because of these blasts, the death rate increased. More than 1000 people were killed in 2009 and 2010. Since 2013, ups and downs are observed in these blasts.

2. How many people got killed and injured in different Islamic months?

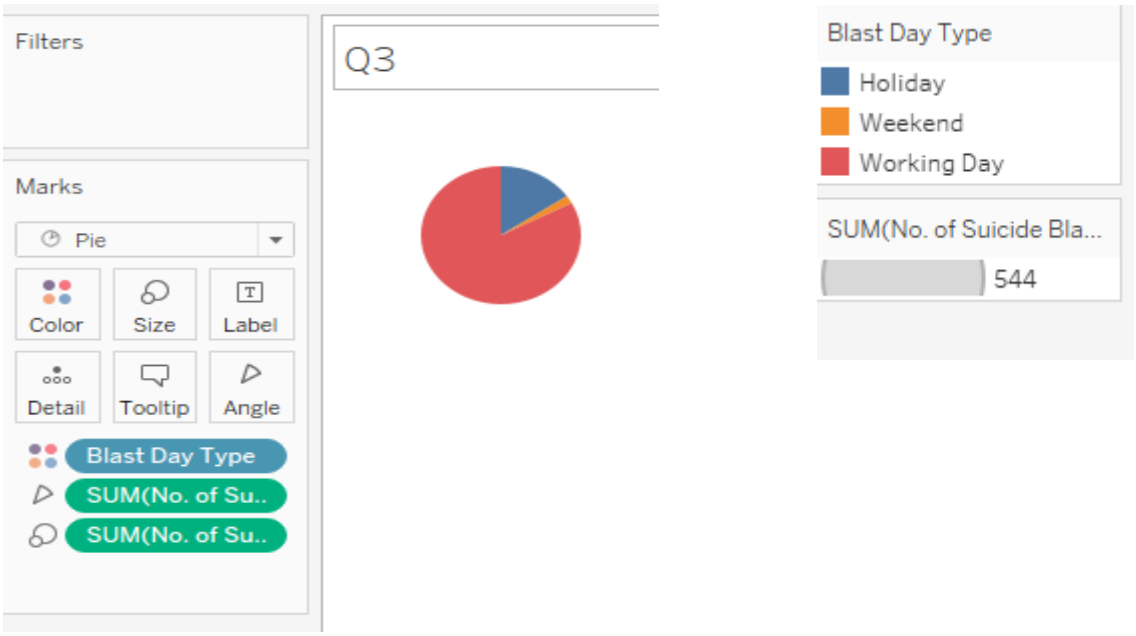

Injured


Killed

From the above graphs, we can see that most people were injured and killed in the holy month of Shawwal. This is one of the festive months of the year. A high number of blasts occurred during this month. This might be because people all over Pakistan celebrate this month with high zeal and zest and thus go to amusement places as well to meet people. Hence, this is an opportunity for suicide bombers to plan and target these innocent people.

Other months, in which these blasts were high are Muharam, Ramadhan, Safar, and zilhaj. These are the holy months for Muslims and many Muslims gather in mosques and public places to perform religious activities. Thus this serves as the opportunity to suicide bombers to target these people.

3. On what type of day (working day, holiday, or weekend), did the most blasts occur?



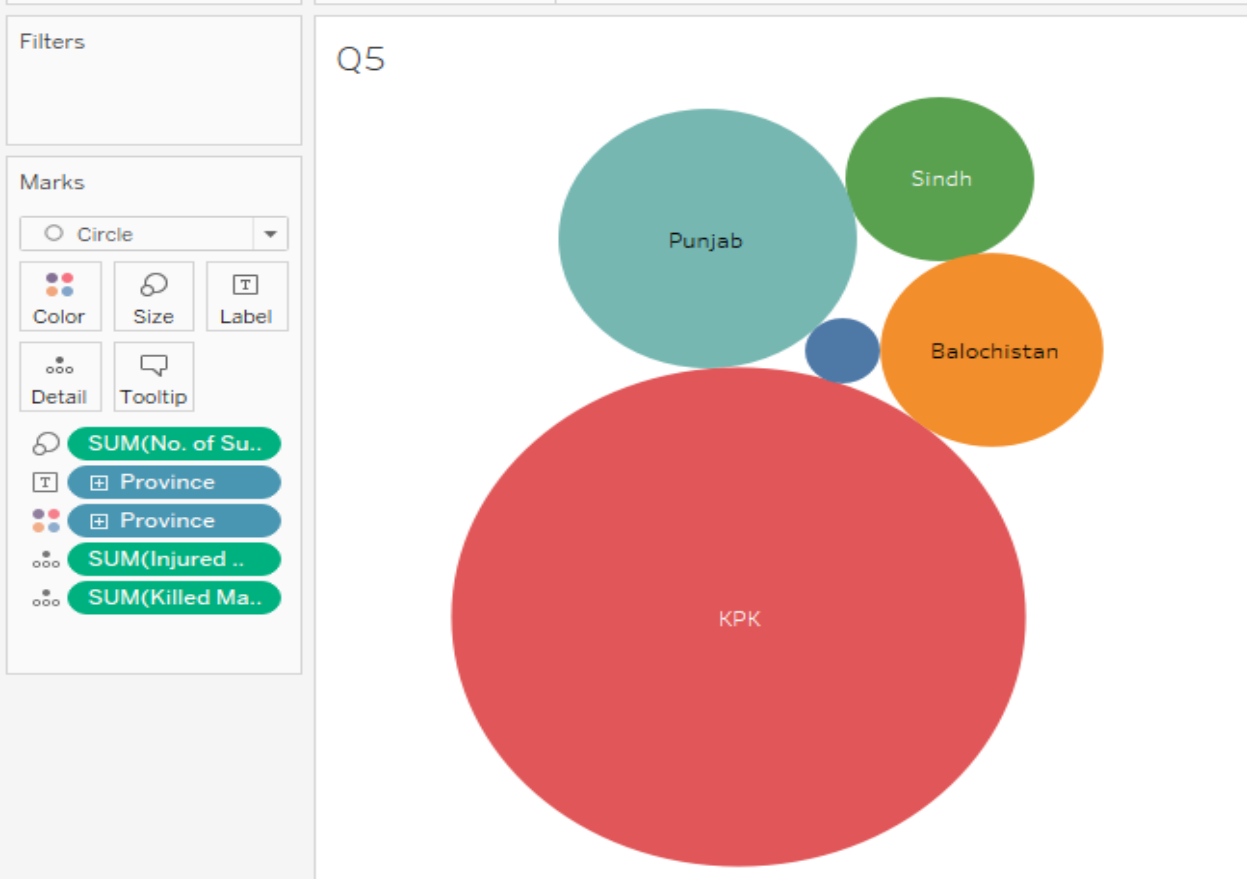

This graph shows that during the working days, most of the blasts occurred from 1995 to 2016. People leave their houses to go to their workplaces. Suicide bombers can easily target these people while they are on their way to work or home or when they are at their workplaces.

From the legend shown on the top right of this page, we can see that there have been 544 suicide blasts in these 21 years (1995 – 2016) which is alarming for us.

4. In which city, did most blasts occur during analysis?

In the chosen dataset, there is data from over 30 cities. During analysis, I applied a filter in cities to get those cities only where there are a significant number of suicide blasts. The filtered cities are shown in the graph. The number of suicide blasts in Peshawar is highly alarming. During the last 21 years, there have been more than 70 which is disastrous. This is followed by Quetta, Lahore, Karachi, Swat, and Bannu.

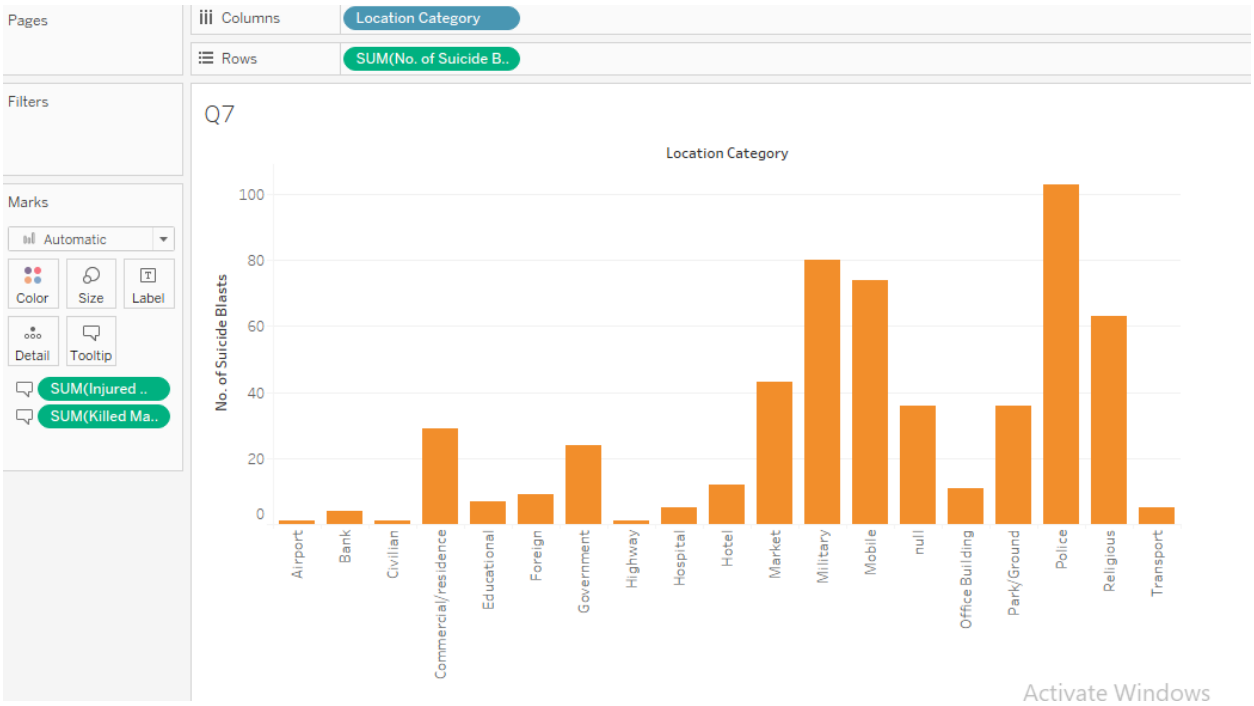
5. In which province does the highest number of blasts occur?




This chart shows that in KPK, the largest number of blasts occurred from 1995 to 2016. From the previous question's graph, it is clear that Peshawar is the most suffering city which is present in KPK. Hence, it is one of the main contributors to an increased number of blasts in KPK. This rate is followed by Punjab, Balochistan, Sindh, and, Azad Jammu Kashmir.

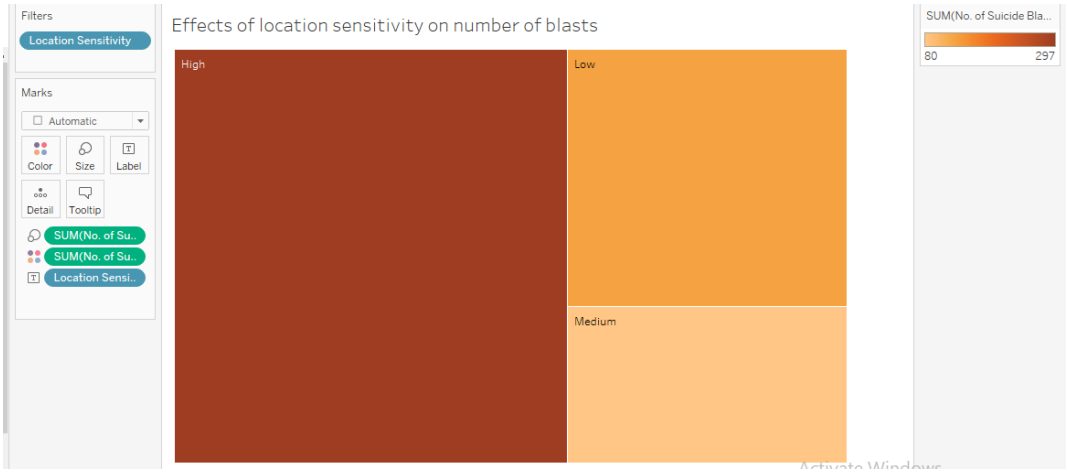
*KPK > PUNJAB > BALOCHISTAN > SINDH > AZAD JAMMUM AND KASHMIR*

6. Which location type is more prone to having blasts?



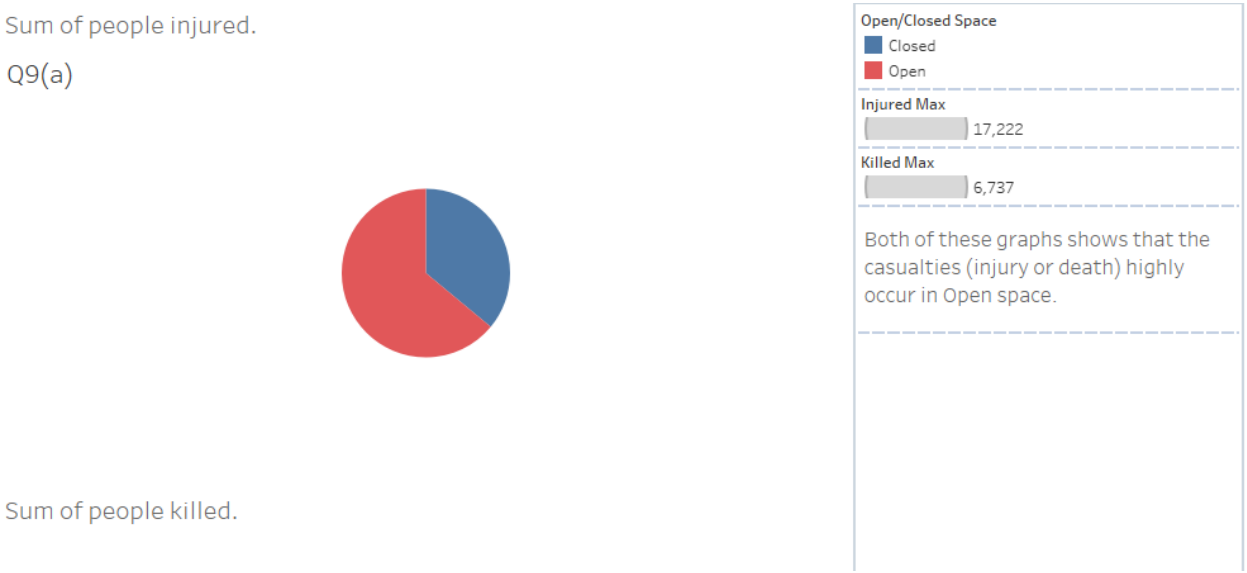

The above graph is plotted between the location category and the number of blasts. The highly targeted location has been the place where police are present. The second target place is the place of the military followed by Mobile and Religious places. We can see that the Airports, Civilians, and Highways have not been highly targeted by these bombers.

7. Does highly sensitive locations faces more blast than the medium and low?



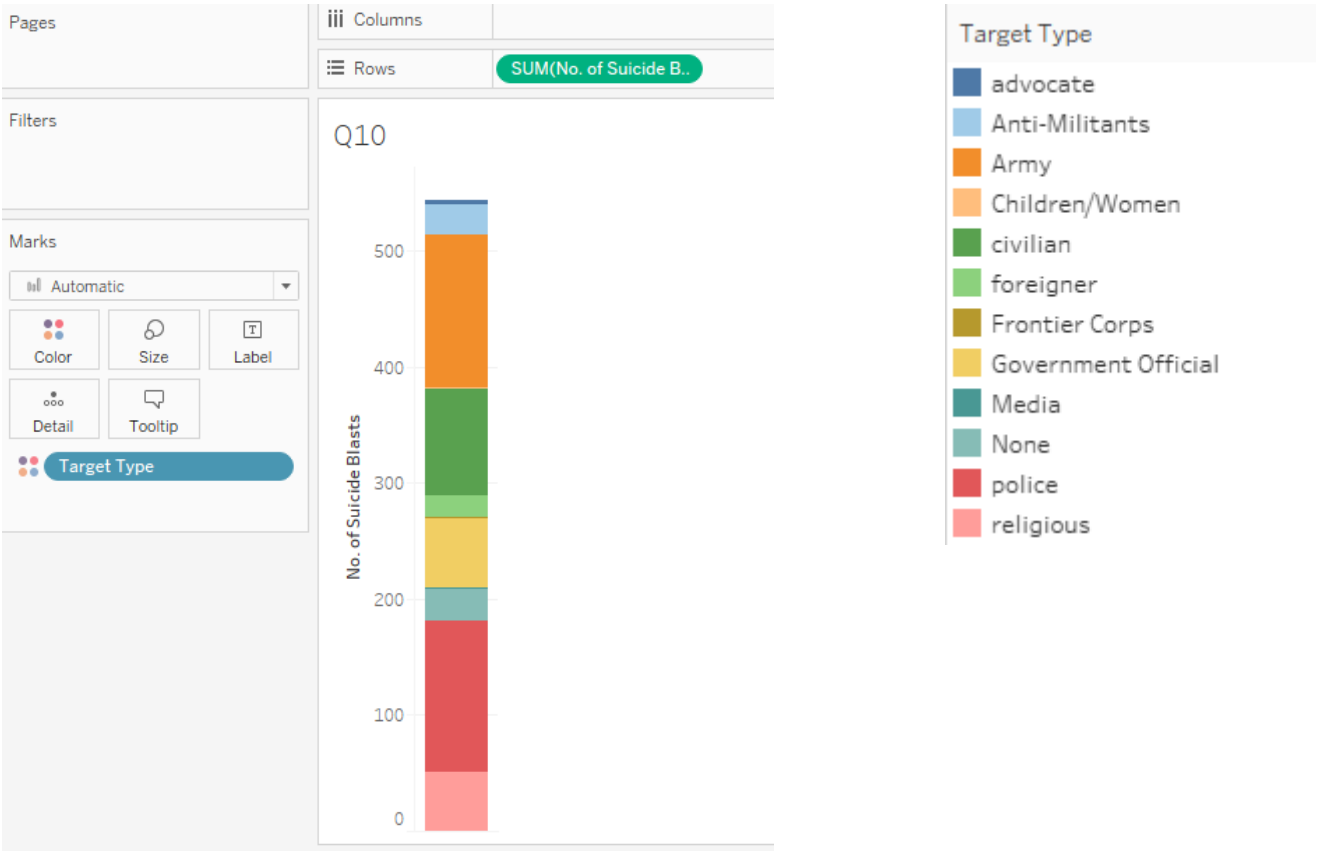
High-sensitive areas are mostly targeted by suicide bombers followed by low sensitivity areas. This implies that low-sensitive areas which are sometimes misunderstood as safe can be used by suicide bombers to safely plan out their missions.

8. What is the relation between casualties and the nature of the space where the blast occurred?



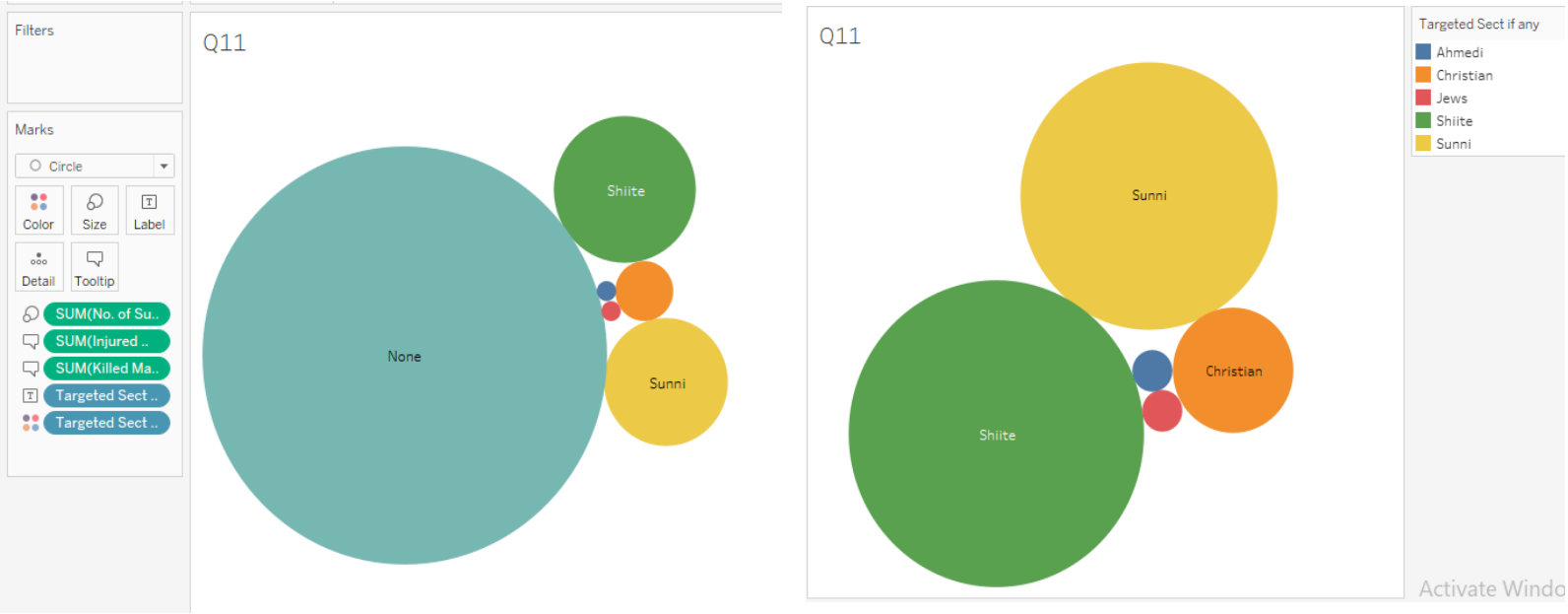

As the number of people killed is directly proportional to the number of people getting injured, both charts show almost similar results. These graphs show that the number of casualties was extremely high when the blast occurred in open spaces as compared to the casualties when the blast occurred in closed spaces.

9. What type of people have been continuous targets of these blasts from 1995 to 2016?



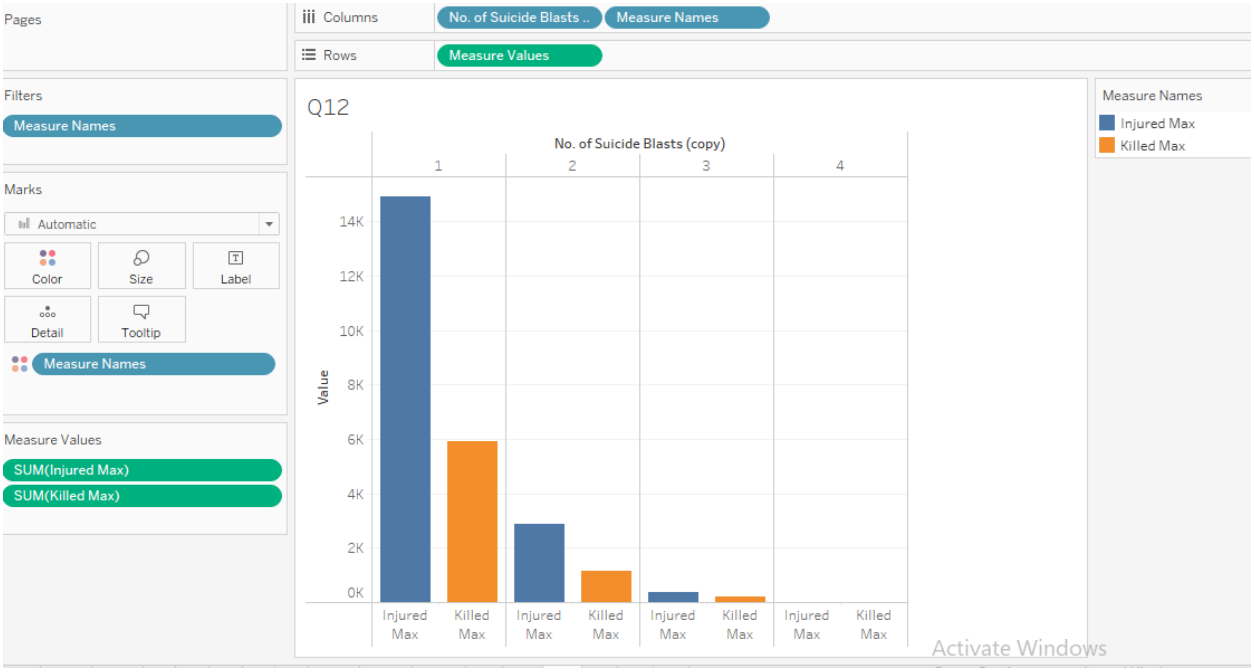

This graph supports the insights we gained from the analysis of the graph of question 6 in which I plotted the location category against the number of suicidal blasts. From this graph, we can see that the top target of suicide blasts was the police and army from 1995 to 2016. This is followed by civilians, religious people, and government officials.

10. Which sect has been the target of suicide blasts during the analysis?




The first chart shows that most of the blasts did not target any sect as the bubble of "None" is much larger than the other bubbles of different sects. When a filter is applied to this graph, the second graph is formed. We can use this graph to get knowledge about the most targeted sect when there was a blast to harm a particular people. So this graph shows that Shiites were the highly targeted people followed by Sunnis. However, both of these bubbles are almost the same in size which implies that overall the main target of suicide bombers has been Muslims of Pakistan. Other religious minorities were not targeted as often as Muslims were.

11. Describe the relationship between the number of casualties and the number of blasts.




The number of suicide blasts means the number of blasts that occurred on the same day, in the same location, and after a short time after the first blast. When there is a blast, people start to move away from the affected location because they anticipate more blasts followed by the previous ones. If people gather at the place of the blast, the suicide bomber finds an opportunity to target more people.

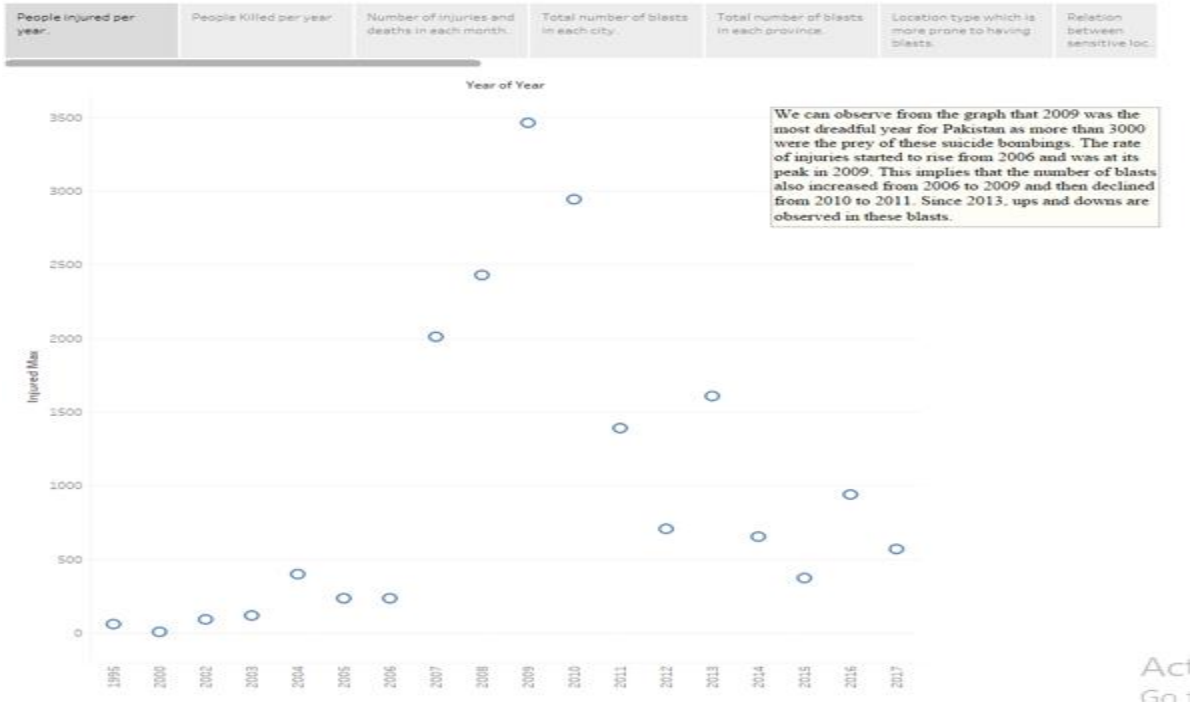
This graph shows that the maximum number of casualties occurred when the number of blasts was 1. This supports the above fact that people move away from the affected places hence fewer casualties occur in the following blasts.

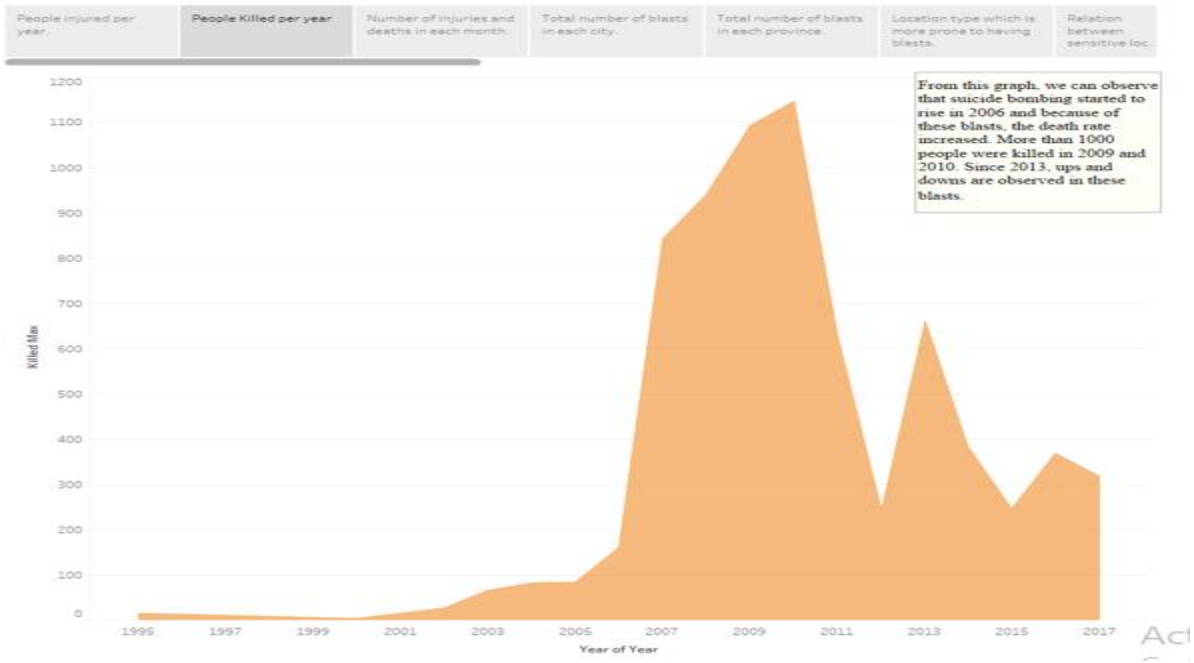
**Conclusion:**

The number of blasts started to rise in 2006. They mostly targeted police and military bases. Most of the blasts did not target any sect but when targeted, the Muslims were the most affected ones. KPK is found to be the most targeted province for this disastrous act but in KPK, Peshawar is the highly targeted city with over 70 blasts in 21 years. The Islamic months in which the highest number of blasts occurred are Shawwal, Ramadhan, Muharram, and Safar. In a nutshell,

these years (especially 2006 onwards) have been dark for our nation. May Allah protect our nation and its people from these disastrous events (Ameen).

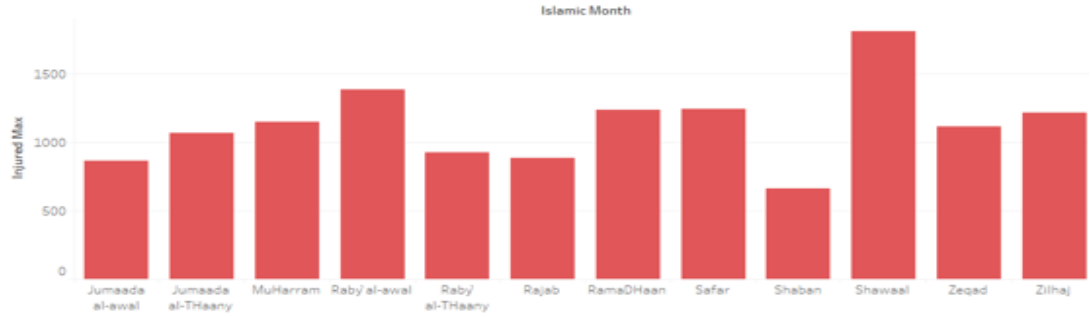
**Stories and dashboards:**



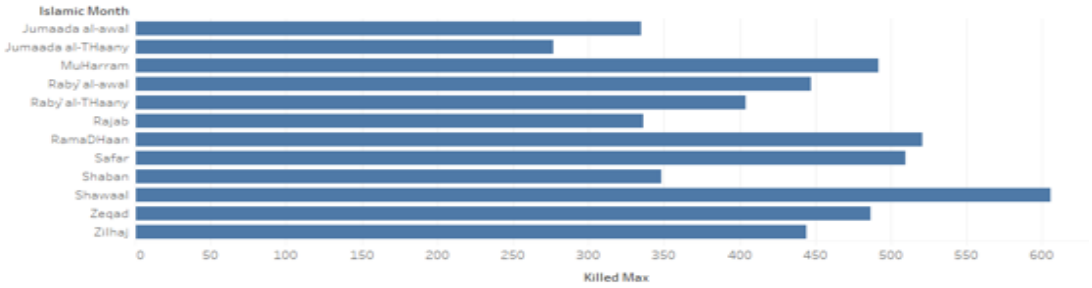



People injured per year. | People Killed per year | **Number of injuries and deaths in each month.** | Total number of blasts in each city. | Total number of blasts in each province. | Location type which is more prone to having blasts. | Relation between sensitive l

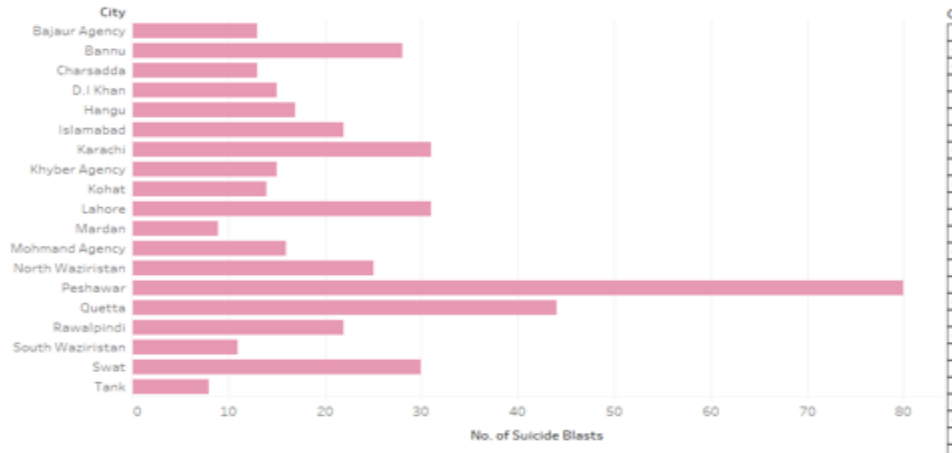
## Number of injuries in each islamic month




## Number of killings in each islamic month



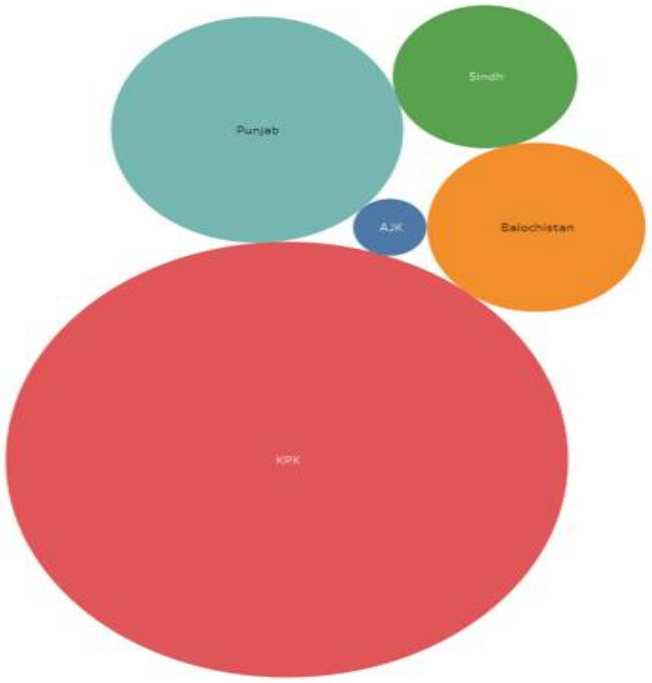

People injured per year. | People Killed per year | Number of injuries and deaths in each month. | **Total number of blasts in each city.** | Total number of blasts in each province. | Location type which is more prone to having blasts. | Relation between sensitive locations and number of blas..





In the chosen dataset, there is data from over 30 cities. During analysis, I applied a filter in cities to get those cities only where there are a significant number of suicide blasts. The filtered cities are shown in the graph. The number of suicide blasts in Peshawar is highly alarming. During the last 21 years, there have been more than 70 which is disastrous. This is followed by Quetta, Lahore, Karachi, Swat, and Bannu.

People Killed per year | Number of injuries and deaths in each month | Total number of blasts in each city | **Total number of blasts in each province.** | Location type which is more prone to having blasts. | Relation between sensitive locations and number of blasts. | People who were the continuous targets of these blasts.





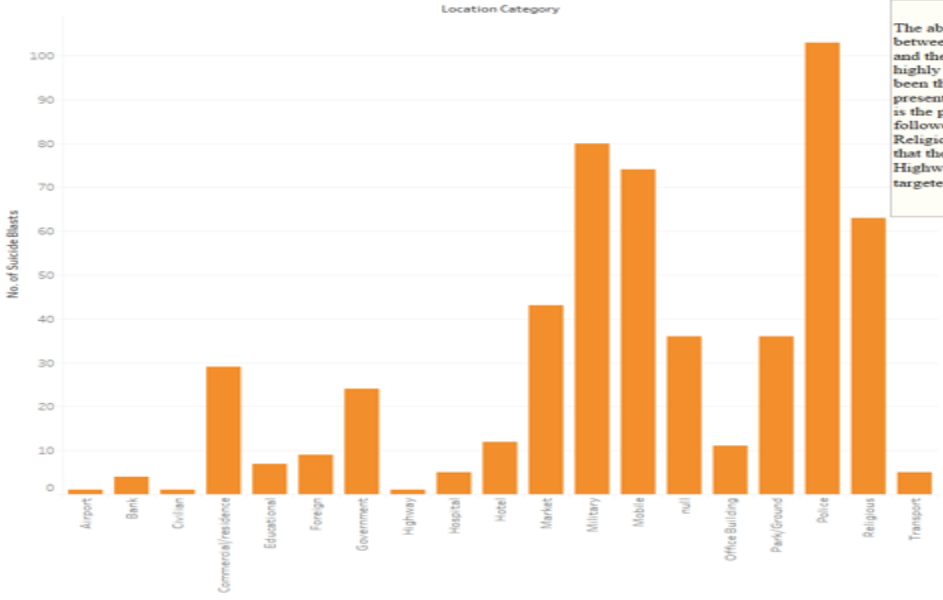


This chart shows that in KPK, the largest number of blasts occurred from 1995 to 2016. From the previous question's graph, it is clear that Peshawar is the most suffering city which is present in KPK. Hence, it is one of the main contributors to an increased number of blasts in KPK. This rate is followed by Punjab, Balochistan, Sindh, and, Azad Jammu Kashmir.

*KPK > PUNJAB > BALOCHISTAN > SINDH > AZAD JAMMUM AND KASHMIR*

Ac
Go

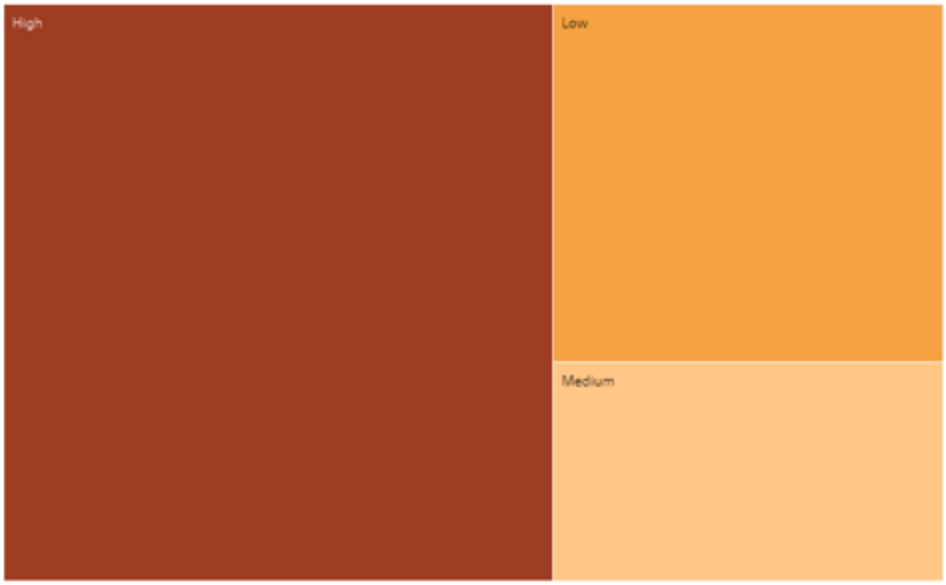
Number of injuries and deaths in each m... | Total number of blasts in each city | Total number of blasts in each province. | **Location type which is more prone to having blasts.** | Relation between sensitive locations and number of blasts. | People who were the continuous targets of these blasts. | Most targeted sect of suicide blasts.




The above graph is plotted between the location category and the number of blasts. The highly targeted location has been the place where police are present. The second target place is the place of the military followed by Mobile and Religious places. We can see that the Airports, Civilians, and Highways have not been highly targeted by these bombers.

Ac
Go

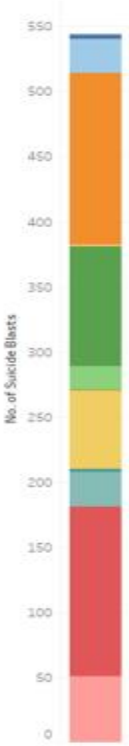
Total number of blasts in each city. | Total number of blasts in each province. | Location type which is more prone to having blasts. | **Relation between sensitive locations and number of blasts.** | People who were the continuous targets of these blasts. | Most targeted sect of suicide blasts. | Type of day when most of the blasts accured.




No. of Suicide Blasts
80 297

High-sensitive areas are mostly targeted by suicide bombers followed by low sensitivity areas. This implies that low-sensitive areas which are sometimes misunderstood as safe can be used by suicide bombers to safely plan out their missions.

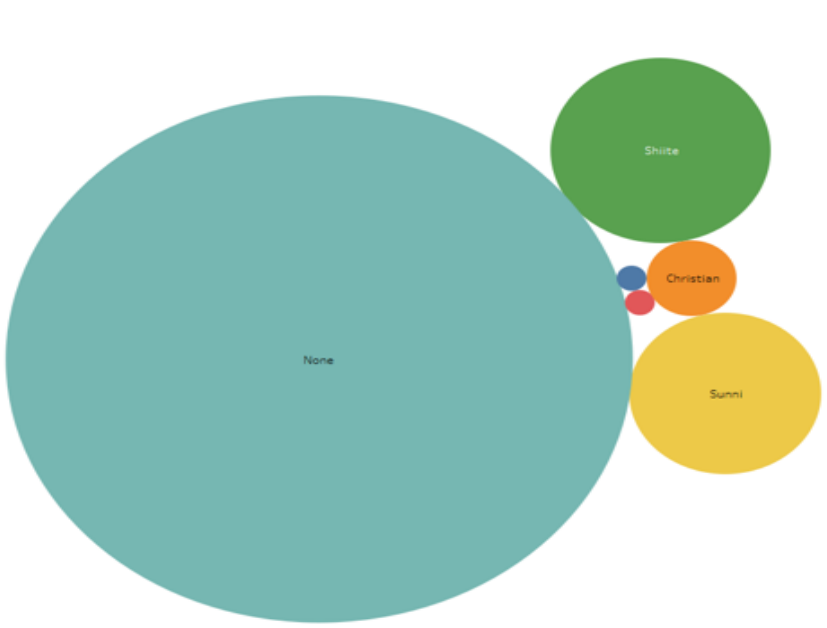
Total number of blasts in each province. | Location type which is more prone to having blasts. | Relation between sensitive locations and number of blasts. | **People who were the continuous targets of these blasts.** | Most targeted sect of suicide blasts. | Type of day when most of the blasts accured. | Relation of open/closed space on casualties.




This graph supports the insights we gained from the analysis of the graph of question 6 in which I plotted the location category against the number of suicidal blasts. From this graph, we can see that the top target of suicide blasts was the police and army from 1995 to 2016. This is followed by civilians, religious people, and government officials.

Target Type
- advocate
- Anti-Militants
- Army
- Children/Women
- civilian
- foreigner
- Frontier Corps
- Government Official
- Media
- None
- police
- religious

Location type which is more prone to having ... | Relation between sensitive locations and number of blasts. | People who were the continuous targets of these blasts. | **Most targeted sect of suicide blasts.** | Type of day when most of the blasts accured. | Relation of open/closed space on casualties. | Relation between casualties and no. of blasts.




The first chart shows that most of the blasts did not target any sect as the bubble of "None" is much larger than the other bubbles of different sects. When a filter is applied to this graph, the second graph is formed. We can use this graph to get knowledge about the most targeted sect when there was a blast to harm a particular people. So this graph shows that Shiites were the highly targeted people followed by Sunnis. However, both of these bubbles are almost the same in size which implies that overall the main target of suicide bombers has been Muslims of Pakistan. Other religious minorities were not targeted as often as Muslims were.

Relation between sensitive locations and nu.. | People who were the continuous targets of these blasts. | Most targeted sect of suicide blasts. | **Type of day when most of the blasts accured.** | Relation of open/closed space on casualties. | Relation between casualties and no. of blasts. | Summary of date/ islamic date related charts.

This graph shows that during the working days, most of the blasts occurred from 1995 to 2016. People leave their houses to go to their workplaces. Suicide bombers can easily target these people while they are on their way to work or home or when they are at their workplaces.
From the legend shown on the top right of this page, we can see that there have been 544 suicide blasts in these 21 years (1995 – 2016) which is alarming for us.

Sum of people injured.

Effect of open/closed space on injuries

Open/Closed Space
Closed
Open

Injured Max
17,222

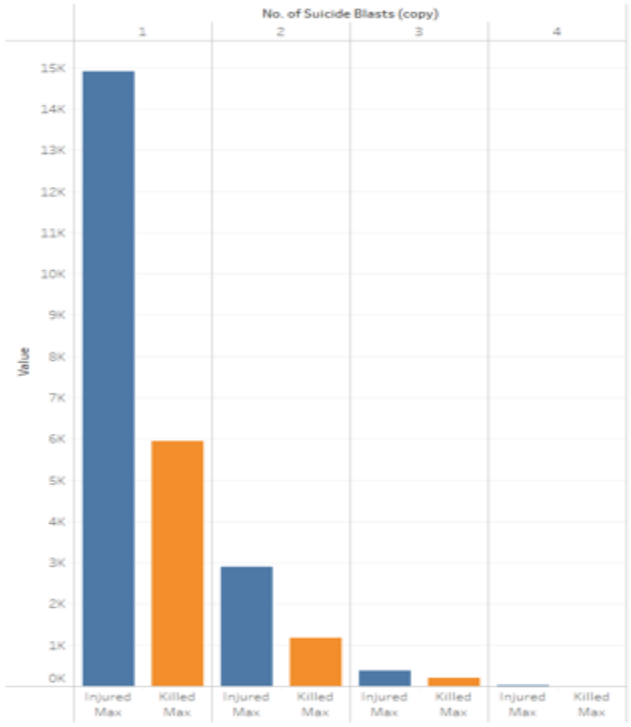
Killed Max
6,737

Both of these graphs shows that the casualties (injury or death) highly occur in Open space.

Sum of people killed.

Effect of open/closed space on killings



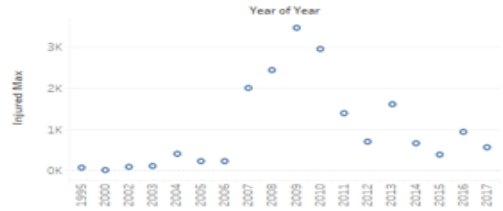



Measure Names
Injured Max
Killed Max

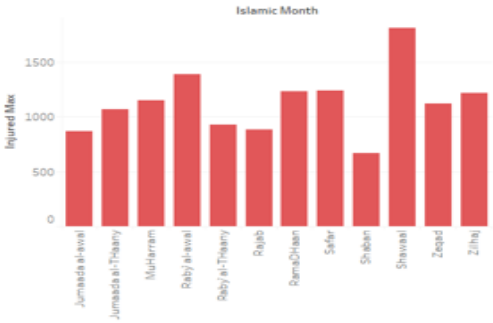
The number of suicide blasts means the number of blasts that occurred on the same day, in the same location, and after a short time after the first blast. When there is a blast, people start to move away from the affected location because they anticipate more blasts followed by the previous ones. If people gather at the place of the blast, the suicide bomber finds an opportunity to target more people. This graph shows that the maximum number of casualties occurred when the number of blasts was 1. This supports the above fact that people move away from the affected places hence fewer casualties occur in the following blasts.

Type of day when most of the blasts accured. | Relation of open/closed space on casualties. | Relation between casualties and no. of blasts. | **Summary of date/ islamic date related charts.** | Summary of location related graphs. | Summary of target related graphs. | Summary of casualties related graphs.

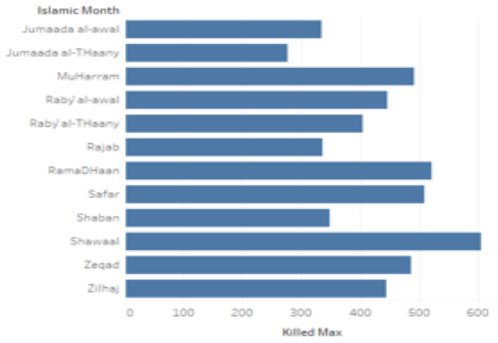
## People injured per year



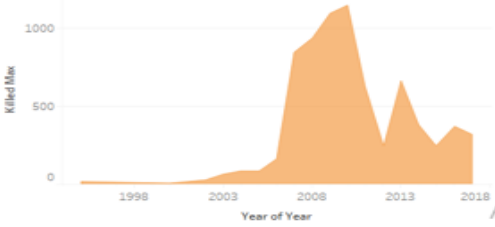

## Number of injuries in each islamic month




## Number of killings in each islamic month

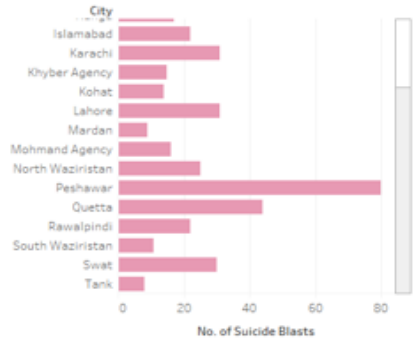



## People killed per year

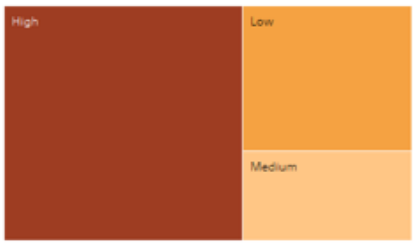



Type of day when most of the blasts ac.. | Relation of open/closed space on casualties. | Relation between casualties and no. of blasts. | Summary of date/ islamic date related charts. | **Summary of location related graphs.** | Summary of target related graphs. | Summary of casualties related graphs.

## Total number of blasts in each city



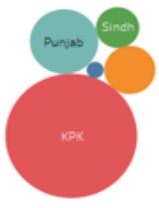

## Effects of location sensitivity on number of blasts





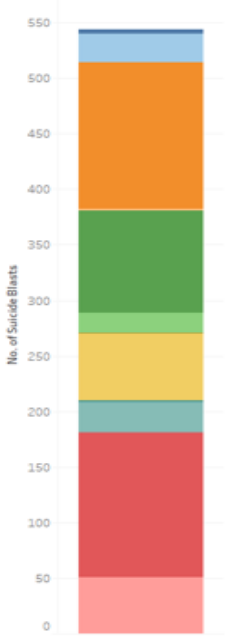
## Locations that are more prone to blasts


## Total number of blasts in each province

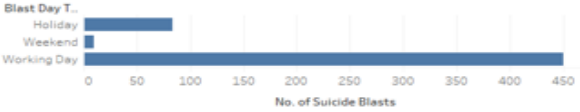


Type of day when most of the blasts ac.. | Relation of open/closed space on casualties. | Relation between casualties and no. of blasts. | Summary of date/ islamic date related charts. | Summary of location related graphs. | **Summary of target related graphs.** | Summary of casualties related graphs.

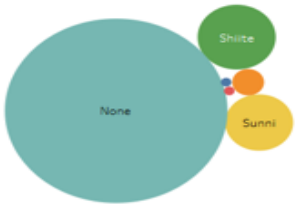
## Targeted people




## Most targeted day




## Targeted Sect




## Targeted day

**Target Type**
- advocate
- Anti-Militants
- Army
- Children/Women
- civilian
- foreigner
- Frontier Corps
- Government Official
- Media
- None
- police
- religious

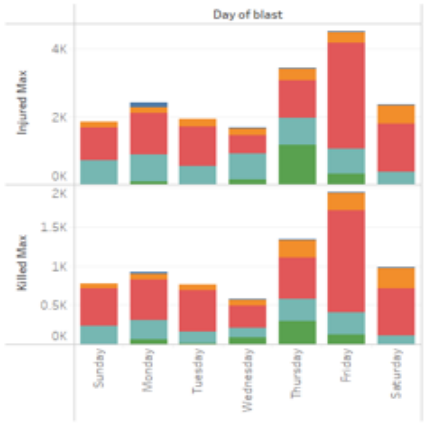
**Targeted Sect if any**
- Ahmedi
- Christian
- Jews
- None
- Shiite
- Sunni

**Blast Day Type**
- Holiday
- Weekend
- Working Day

**No. of Suicide Blasts**
544

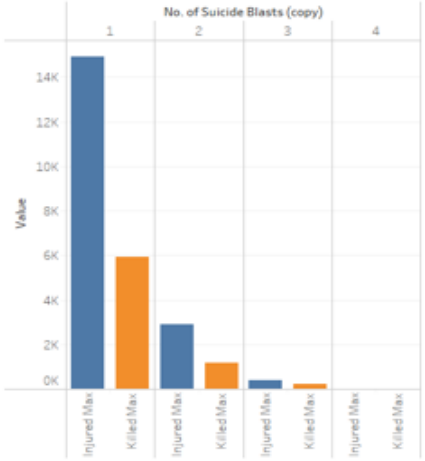
Type of day when most of the blasts ac.. | Relation of open/closed space on casualties. | Relation between casualties and no. of blasts. | Summary of date/ islamic date related charts. | Summary of location related graphs. | Summary of target related graphs. | **Summary of casualties related graphs.**

## People injured and killed in every province (day wise)




## Effect of open/closed space on injuries

## Effect of number of suicide blasts on injury and killings




## Effect of open/closed space on killings

**Measure Names**
- Injured Max
- Killed Max

**Province**
- AJK
- Balochistan
- KPK
- Punjab
- Sindh

**Open/Closed Space**
- Closed
- Open

**Injured Max**
17,222

**Killed Max**
6,737