

# Capstone Project-1

## Global Terrorism Analysis

By

Konda Vidyasagar

## Points to be discussed:

- Data Summary
- Data Cleaning
- Univariate Analysis
- Bivariate Analysis
- Conclusions
- Recommendations
- Questions to be answered

## Data Summary:

- The Global Terrorism Database (GTD) is an open-source database including information on terrorist attacks around the world from 1970 through 2017
- Year: An attack happened in this year
- Country: An attack took place in this country
- Region: An attack took place in this region
- State: An attack took place in this state
- City: An attack took place in this city.
- Attack type: The type of the attack.

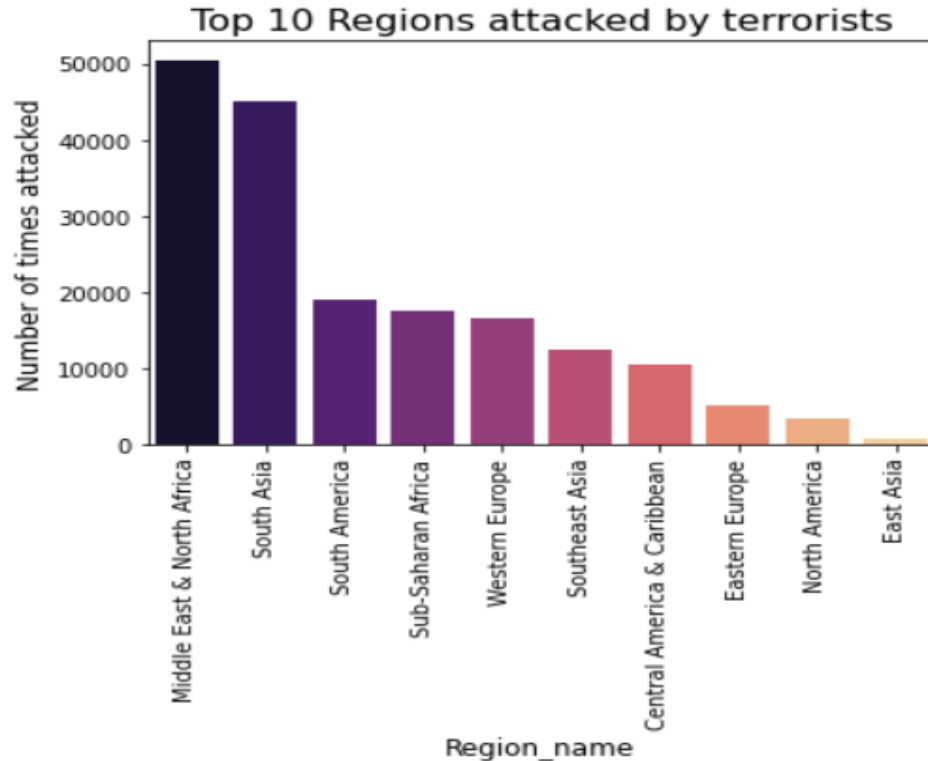
## Data Summary:

- **Target type**: The type of the target.
- **Group**: An attack was carried out by this group.
- **Weapon type**: In an attack, this weapon was used.
- **Killed**: The number of people killed in an attack.
- **Wounded**: The number of people wounded in an attack.
- **Casualties**: The total sum of killed and wounded people.

## Data Cleaning:

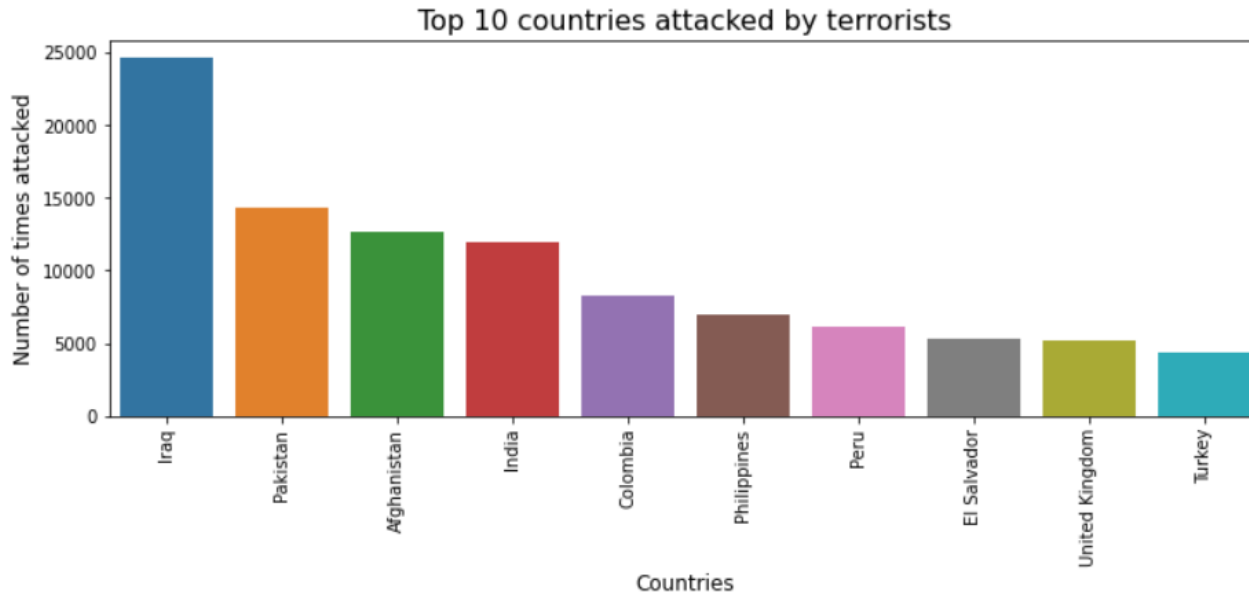
- **Important Features Selection**: The total number of features were 135, but 16 features were selected.
- **Null Values Treatment**: In wounded and killed features, null values were replaced by zero. The features named state and city, null values were replaced by 'unknown'.

# Univariate Analysis:



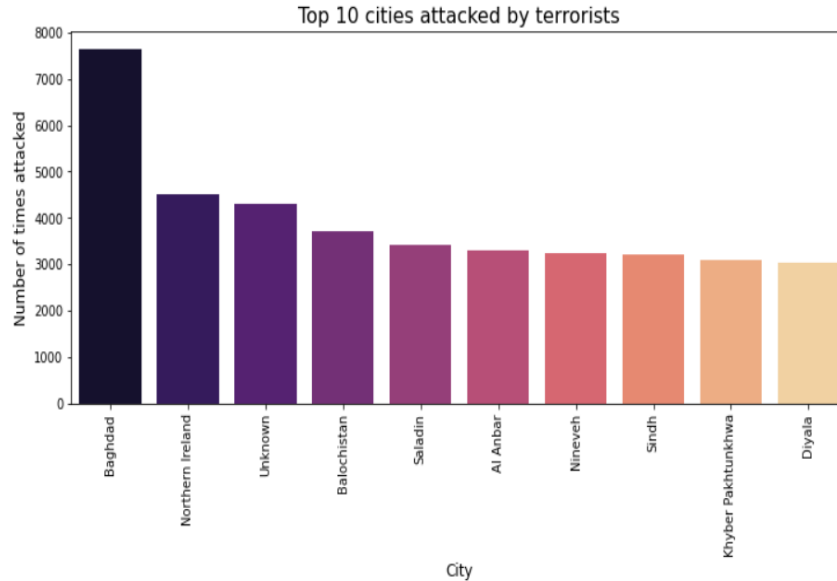
Around 27.8% of total attacks happened in the Middle East & North Africa and 24.8% of total attacks in South Asia.

# Univariate Analysis:



**Iraq (13.6% of total attacks), Pakistan (7.9% of total attacks) and Afghanistan (7%)**

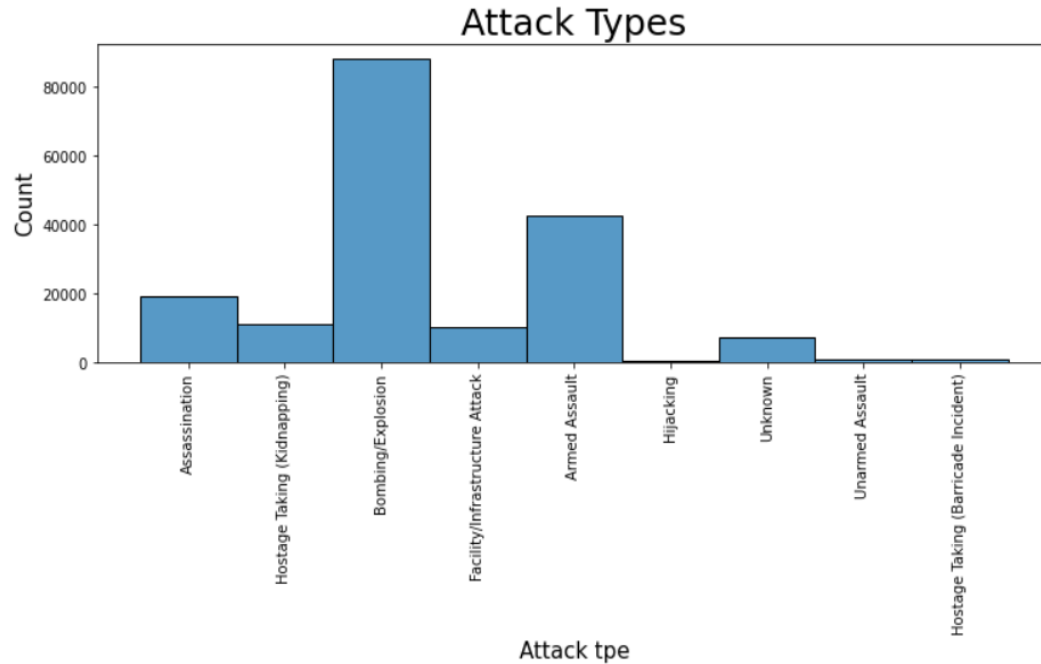
# Univariate Analysis:



**The most attacked (more than 7,400 attacks) city is Baghdad, which is the capital of Iraq, followed by Northern Ireland (more than 4,300 attacks).**

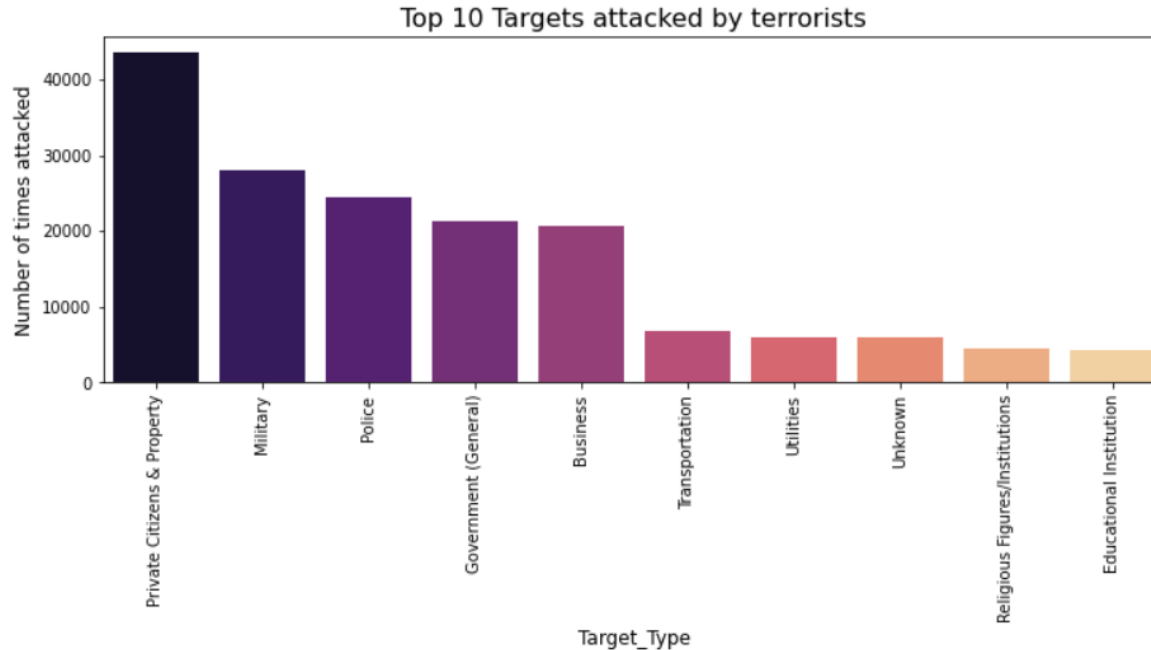


# Univariate Analysis:



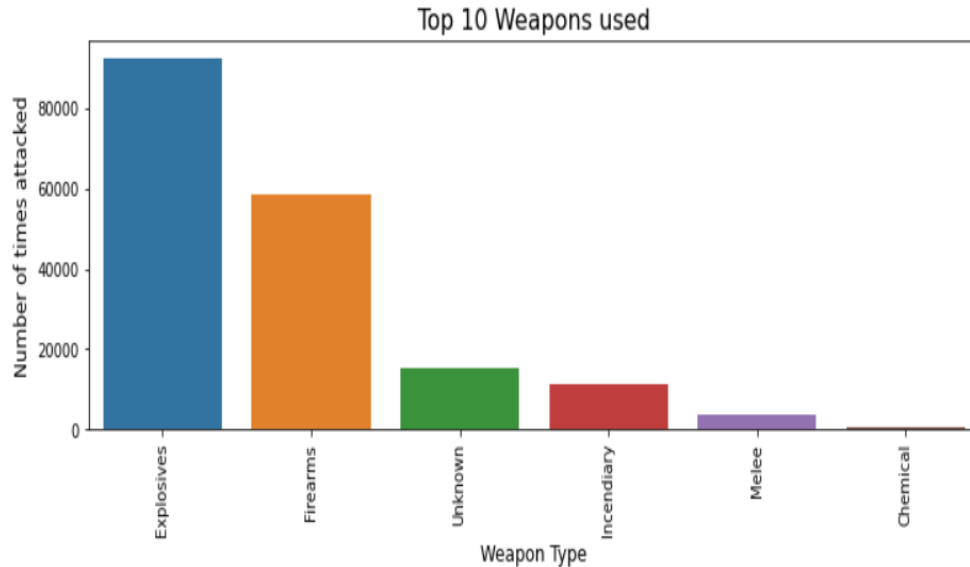
The "Bombing/Explosion" (48.6% of total attacks), armed assault (23.5% of total attacks), and assassination (10.6% of total attacks)

# Univariate Analysis:



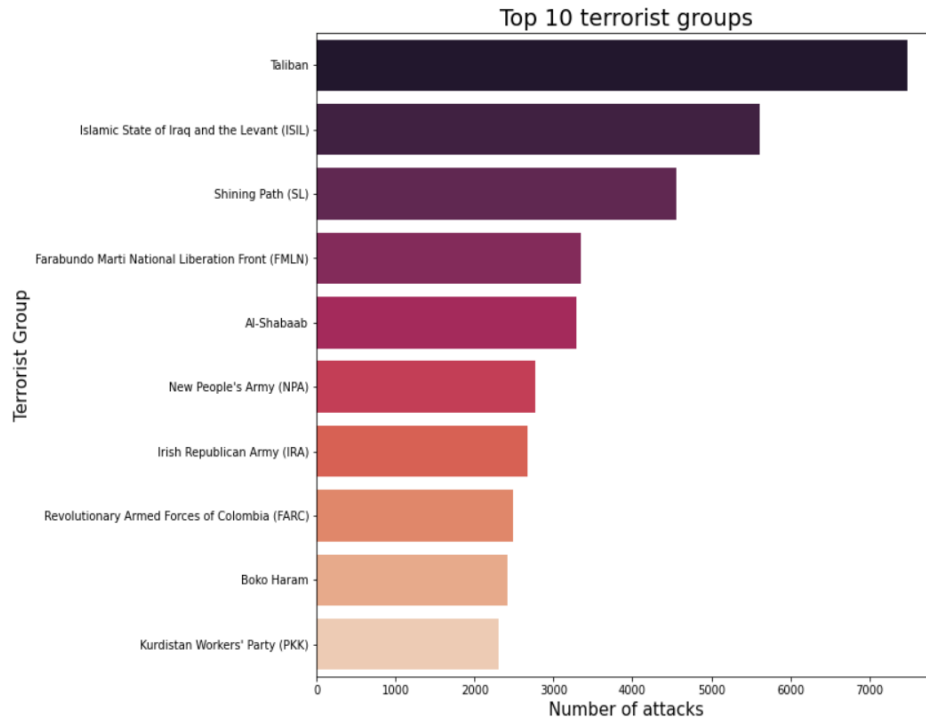
**'Private Citizens & Property'**, which is around 24% of the total number of attacks, followed by **'Military'** (15.4%), **'Police'** (13.5%), and **'Government (General)'** (11.7%)

# Univariate Analysis:



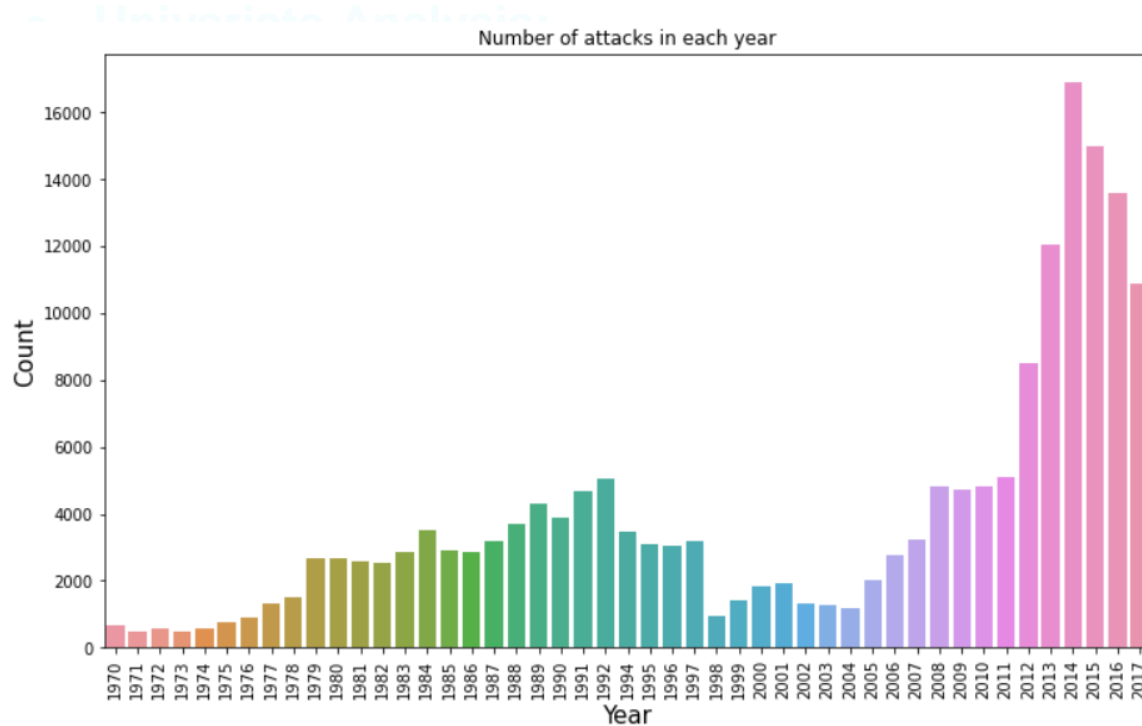
**The most likely weapon types used are explosives (around 50%) and firearms (around 32%)**

# Univariate Analysis:



**The highest number of attacks were carried out by the Taliban (7478), followed by ISIL (5613) and Shining Path (4555)**

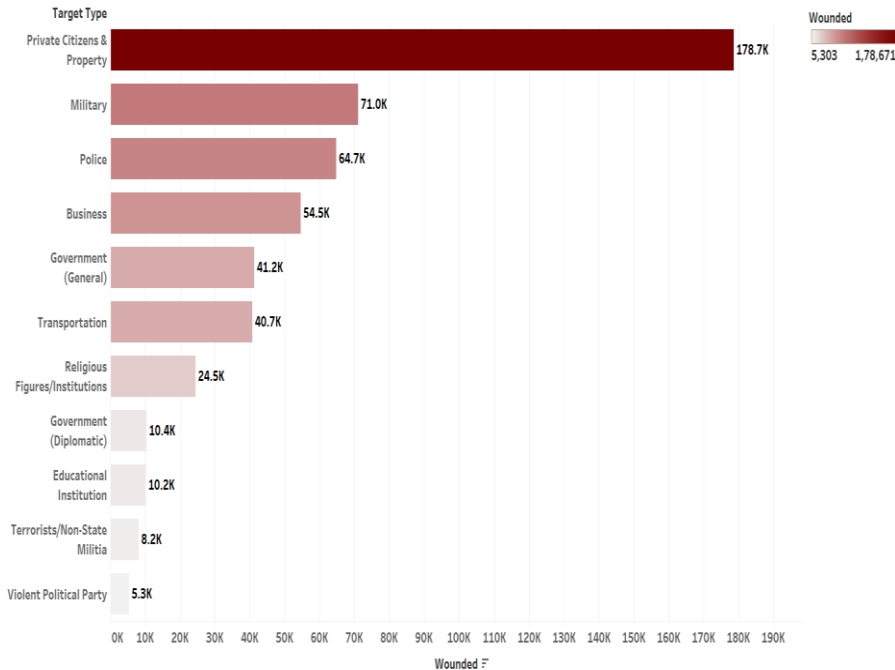
# Univariate Analysis:



The attacks in our dataset happened from 1970 to 2017. In the year of 2014, a greater number of attacks (16903 attacks) carried out.

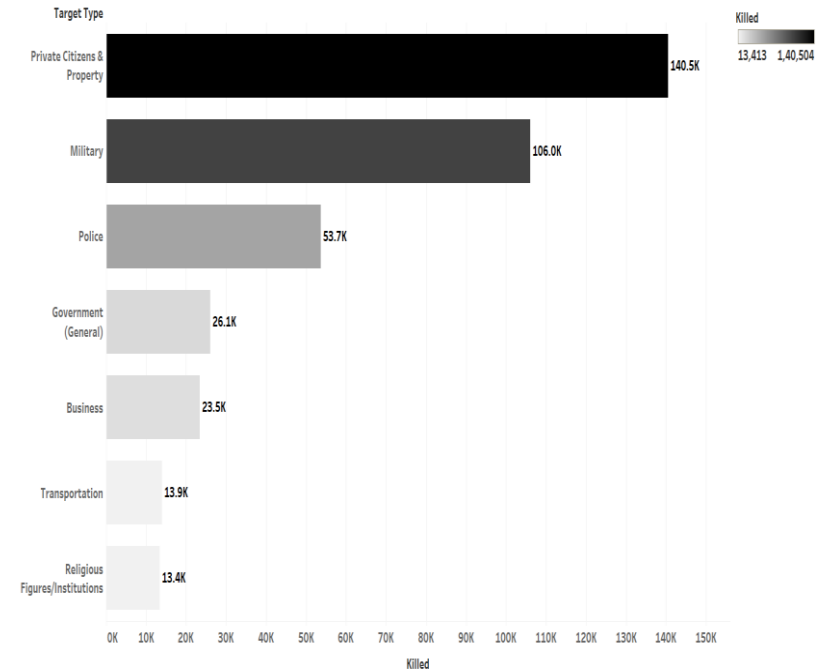
# Bivariate Analysis:

## Target Type Vs Wounded



Sum of Wounded for each Target Type. Color shows sum of Wounded. The marks are labeled by sum of Wounded. The view is filtered on sum of Wounded, which ranges from 5,000 to 1,78,671.

## Target Type Vs Deaths

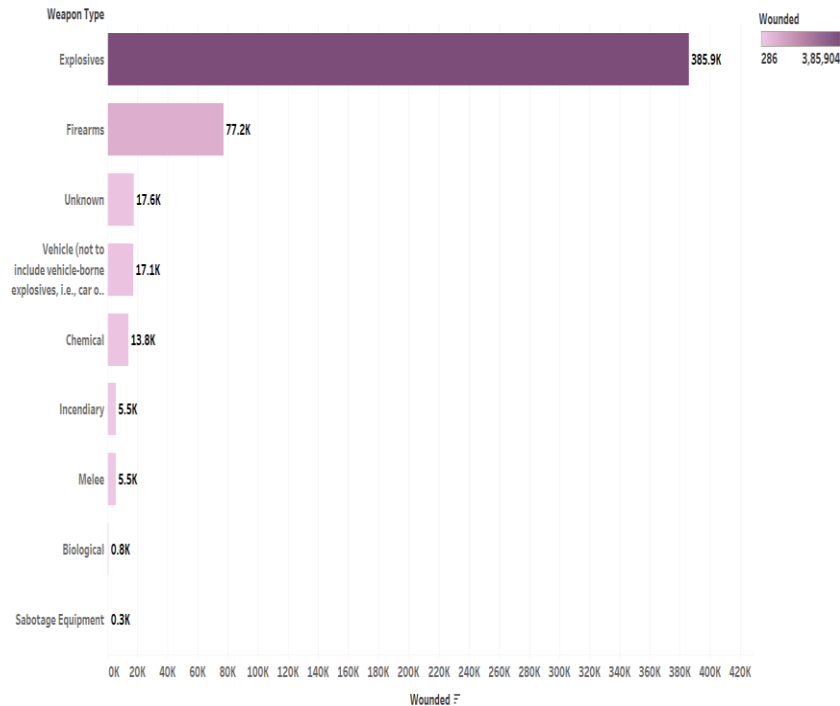


Sum of Killed for each Target Type. Color shows sum of Killed. The marks are labeled by sum of Killed. The view is filtered on sum of Killed, which ranges from 12,000 to 1,40,504.

# Bivariate Analysis:

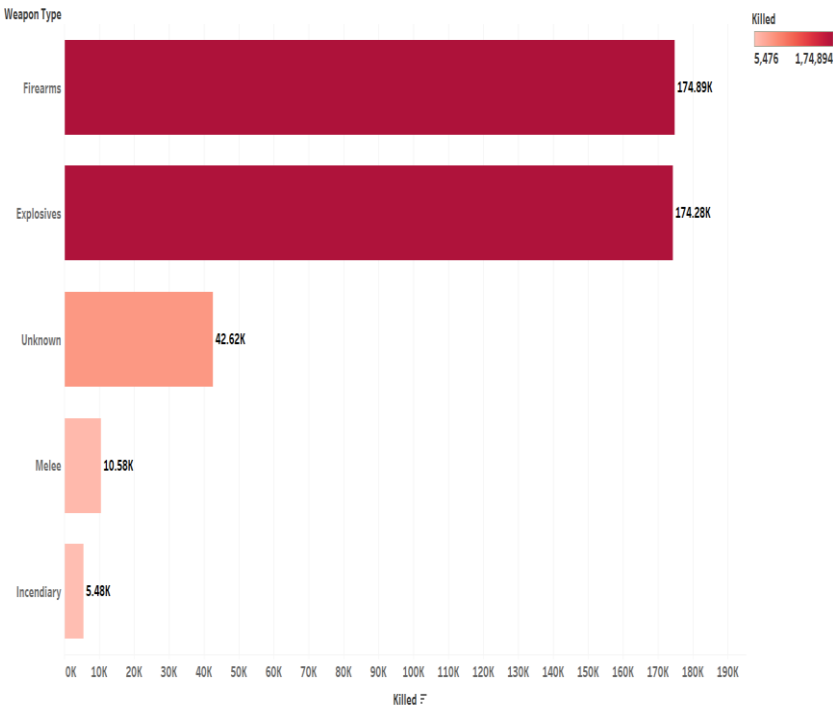


Weapon Type Vs Wounded



Sum of Wounded for each Weapon Type. Color shows sum of Wounded. The marks are labeled by sum of Wounded. The view is filtered on sum of Wounded, which ranges from 200 to 3,85,904.

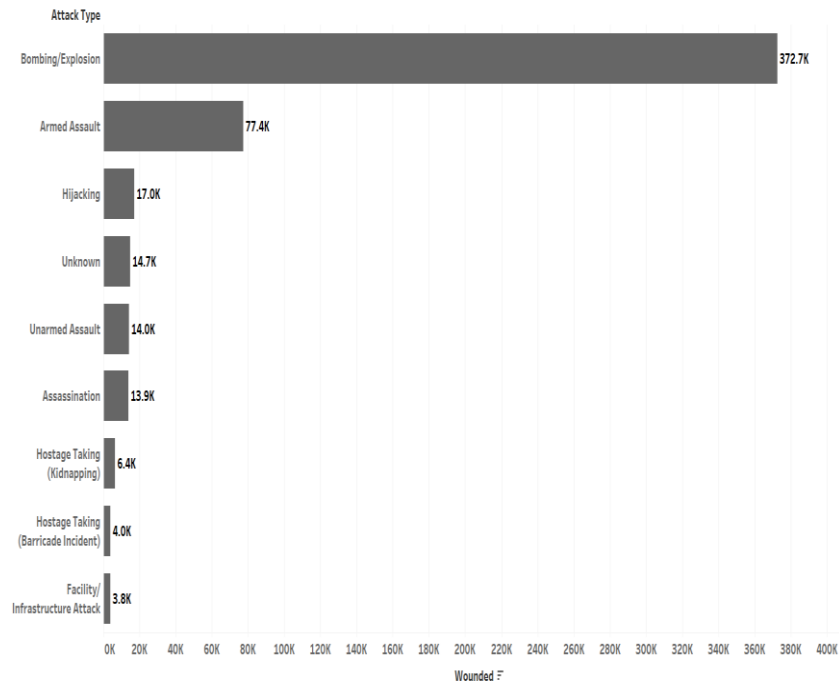
Weapon Type Vs Deaths



Sum of Killed for each Weapon Type. Color shows sum of Killed. The marks are labeled by sum of Killed. The view is filtered on sum of Killed, which includes values greater than or equal to 5,000.

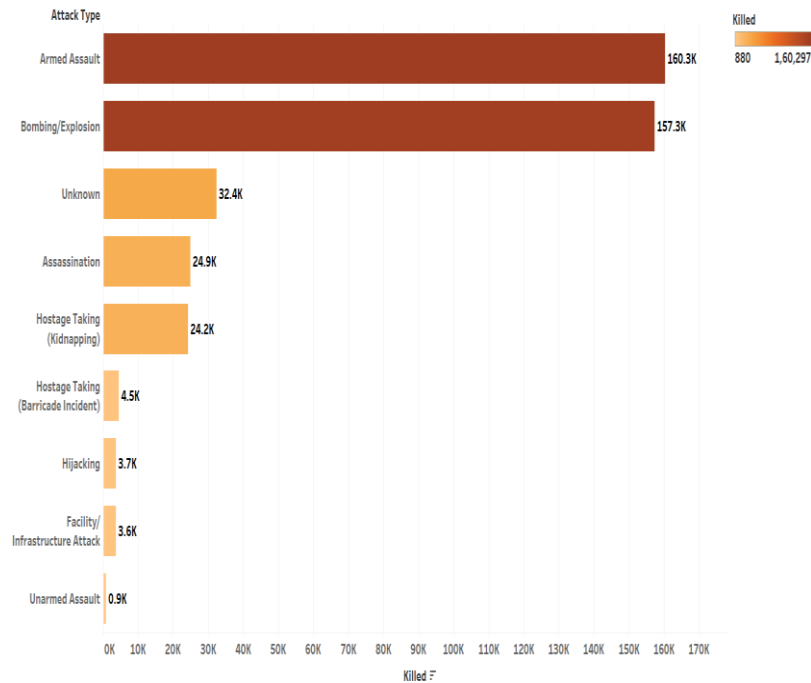
# Bivariate Analysis:

Attack Type Vs Wounded



Sum of Wounded for each Attack Type. The marks are labeled by sum of Wounded.

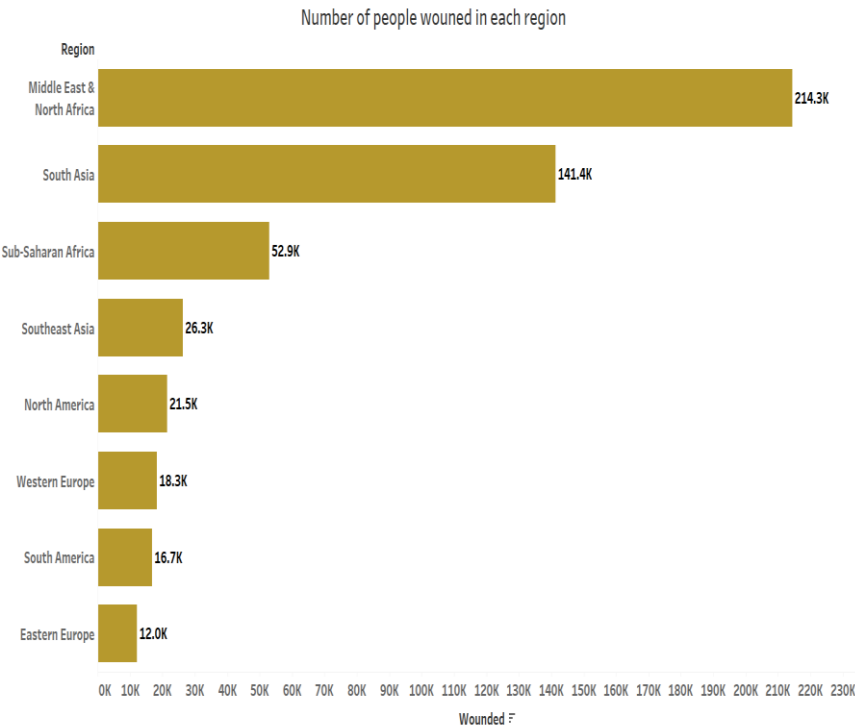
Attack Type Vs Killed



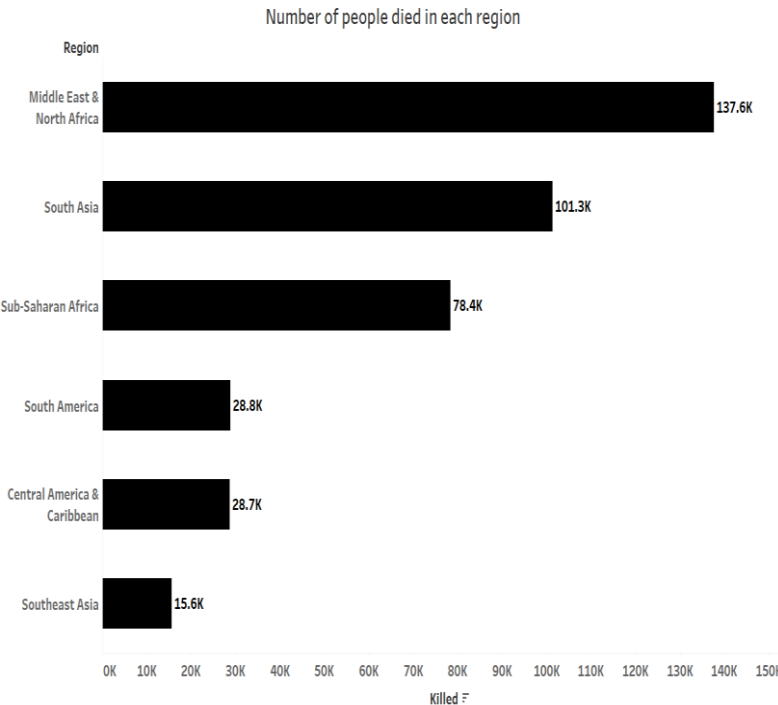
Sum of Killed for each Attack Type. Color shows sum of Killed. The marks are labeled by sum of Killed.



# Bivariate Analysis:

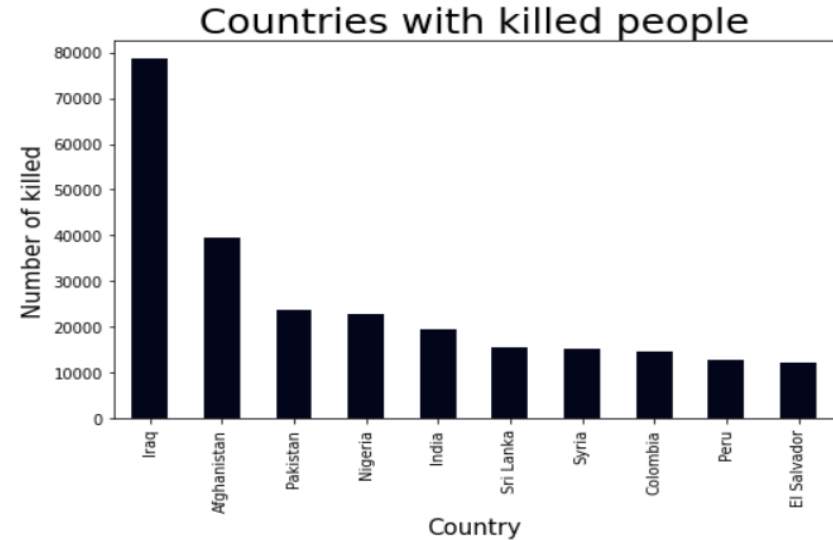
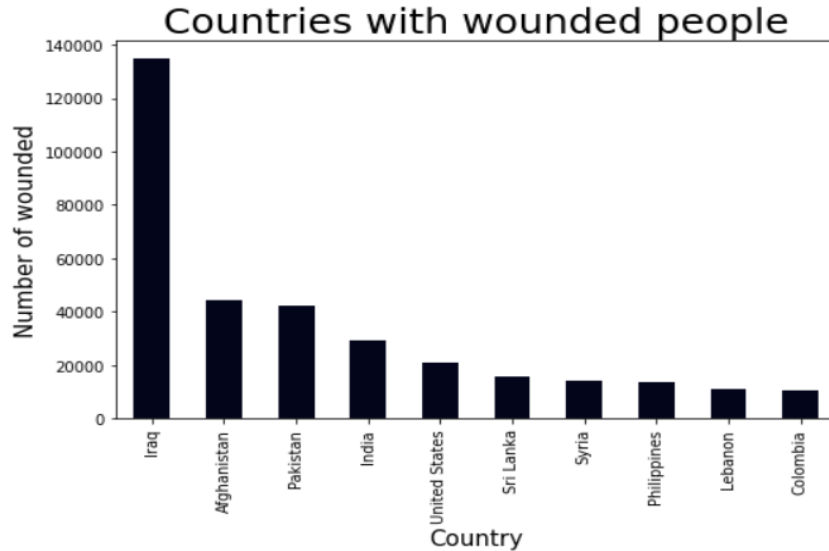


Sum of Wounded for each Region. The marks are labeled by sum of Wounded. The view is filtered on sum of Wounded, which includes values greater than or equal to 10,000.



Sum of Killed for each Region. The marks are labeled by sum of Killed. The view is filtered on sum of Killed, which includes values greater than or equal to 15,000.

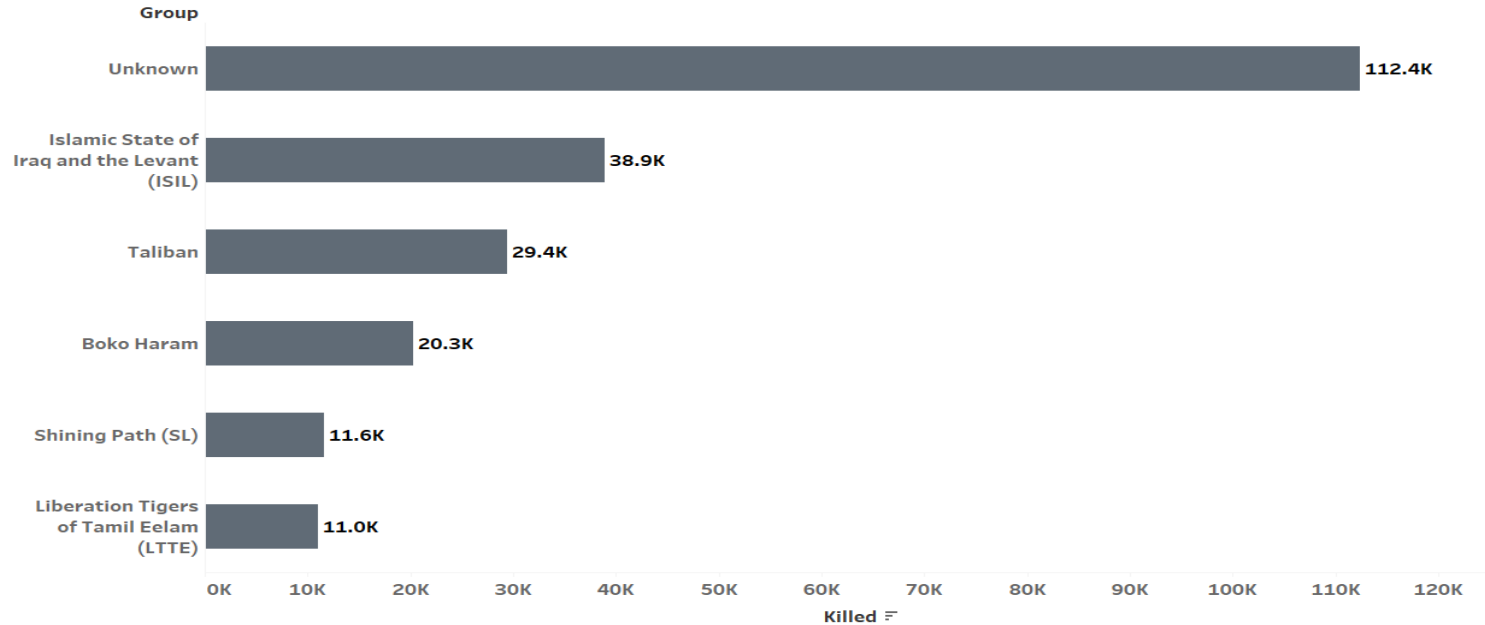
## Bivariate Analysis:



**Iraq has the highest number of people killed and injured (78.6k dead, 134.7k wounded), followed by Afghanistan (39.4k dead, 44.3k wounded) and Pakistan (23.8k dead, 42k wounded).**

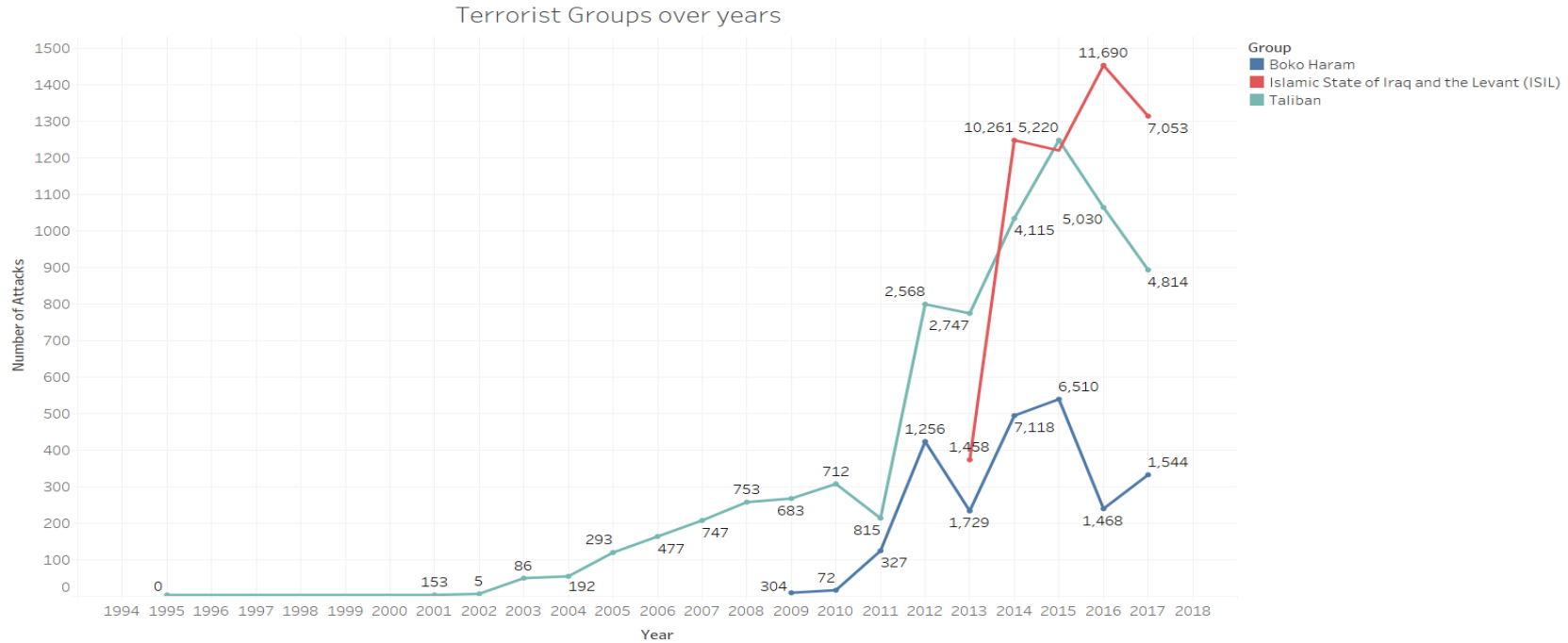
# Bivariate Analysis:

Number of people died due to different terrorist groups



Sum of Killed for each Group. The marks are labeled by sum of Killed. The view is filtered on sum of Killed, which includes values greater than or equal to 10,000.

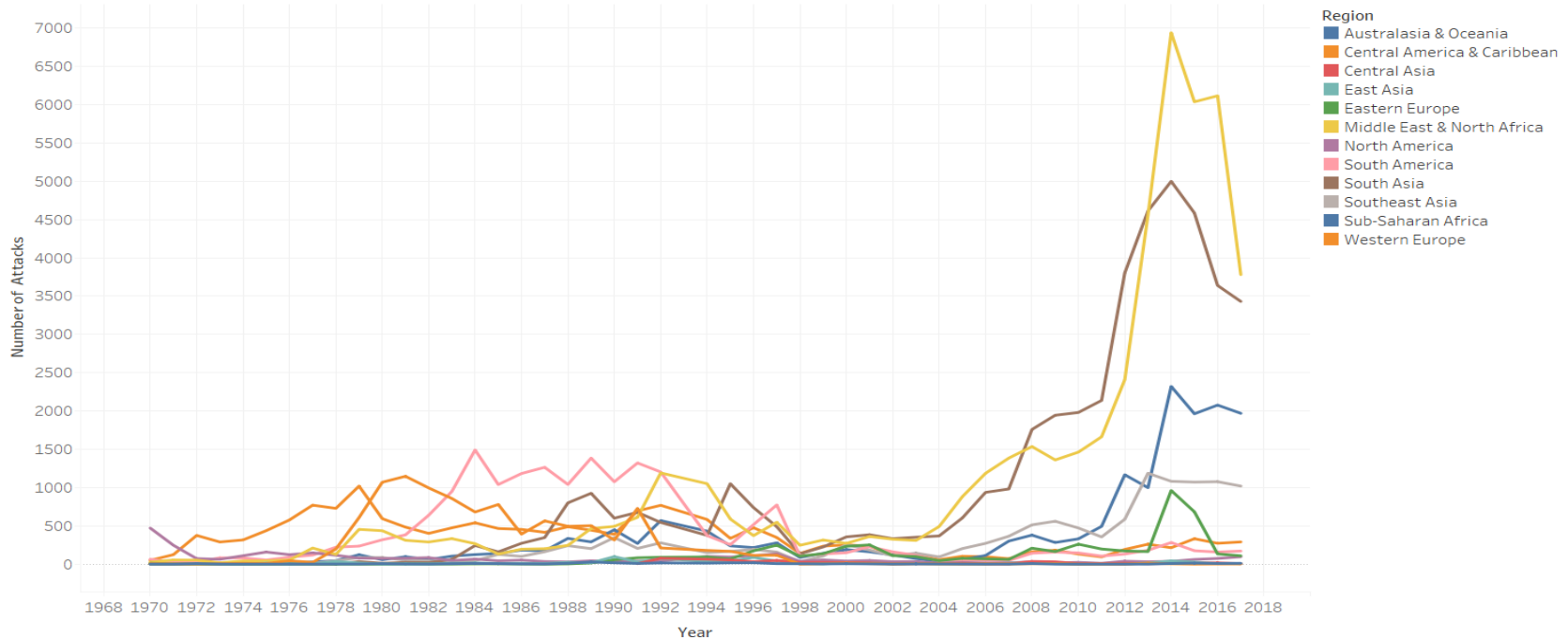
# Bivariate Analysis:



The trend of count of Sheet1 for Year. Color shows details about Group. The marks are labeled by sum of Killed. The view is filtered on Group, which keeps Boko Haram, Islamic State of Iraq and the Levant (ISIL) and Taliban.

# Bivariate Analysis:

The number of attacks in each region over the years

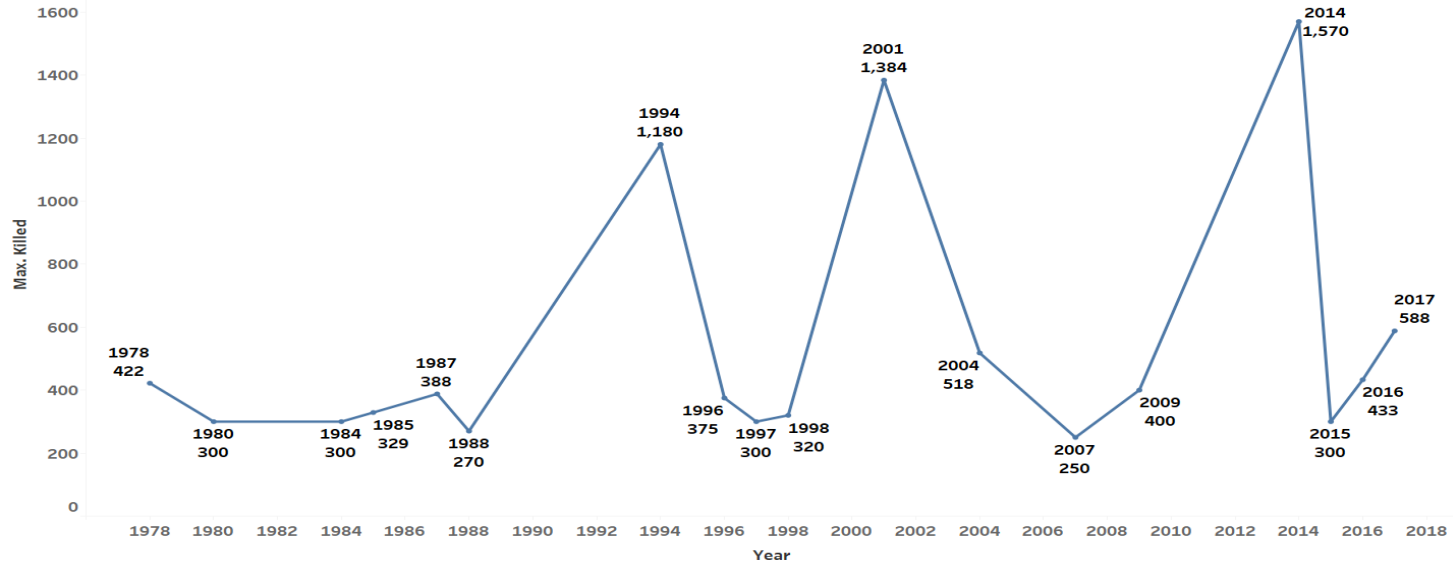


The trend of count of Sheet1 for Year. Color shows details about Region.

# Bivariate Analysis:

## Bivariate Analysis

Maximum number of people died in an attack



The trend of maximum of Killed for Year. The marks are labeled by Year and maximum of Killed. The view is filtered on maximum of Killed, which includes values greater than or equal to 250.

## Conclusions:

- The number of attacks has increased over the years. That means the terrorist groups are getting support for different reasons
- The total number of people killed over the years from 1971 to 2017 due to terrorist attacks is 4,11,868
- The year with the highest number of terrorist attacks is 2014
- Iraq is the country which is most frequently attacked by terrorist groups, followed by Pakistan, Afghanistan, and so on.
- Most of the time, the attacked target type is 'Private Citizens & Property'
- The most attacked region is "Middle East & North Africa", followed by "South Asia"
- The most attacked city is "Baghdad"
- The most likely weapon type used is "explosives" (around 50%) and then "firearms" (around 32%)

## Conclusions:

- Terrorist activities steeply increased from 2000 to 2014
- The "Middle East & North Africa" region has the highest number of wounded people (more than 214.3k)
- The "Middle East & North Africa" region has the highest number of killed people (more than 136.7k)
- The highest number of attacks were carried out by the Taliban group (more than 7000)
- Taliban group attacks increased drastically after 2011. A high number of attacks were carried out in the year of 2015 (more than 1200)
- ISIL group is not old as Taliban, but fatalities due to this group is more compared to Taliban.
- Boko Haram also same ISIL group, even though number of attacks are less but fatalities are high.



## Recommendations:

- The government should have some policies over production, usage, and tracking of explosives.
- The government should allocate security forces for tightly dense 'Private Citizens' and 'Property' areas.
- Counter terrorism agencies, must focus on the "Middle East & North Africa" region and Iraq.

**Thank You!**