Crime Analysis

Action

1a.

For personnel and resource management, the department needs to understand the count and types of crimes reported across the city.

- Crime Count by Type (Bar Chart)

Steps:

1. Open **New Worksheet**
2. Drag **Primary Type** → **Rows**
3. Drag **Case Number** → **Columns**
4. Aggregation → measure → **COUNT**
5. Marks (show me) → **Bar**
6. Sort bars **Descending**

Result:

- Shows which crime types occur most frequently
- Helps identify high-priority crime categories

Mark the locations on a geo-map highlighting the locations with recent criminal history.

Steps:

1. New **Worksheet**
2. Drag **Longitude** → **Columns**
3. Drag **Latitude**→ **Rows**
    - Tableau automatically creates a map
4. Drag **Primary Type** → **Colour**
5. Drag **Case Number** → **Detail**
6. Marks (show me) → **Map** or **Circle**

1b.

Identify the most common criminal incidents reported

Steps:

1. New **Worksheet**

2. Drag **Description** → **Rows**
3. Drag **Description**→ **Text**
4. Aggregation → measure → **COUNT**
5. Drag **Description**→ **Filters**
6. Edit filter → Top → by field → **Top 10**
7. Marks → **Text Table**

Result:

- Most common criminal incidents identified

1c.

In this introductory dashboard, include a live crime feed to exhibit the total number of crimes reported to date for the current year and the most recently reported crimes with their time and locations

Steps:

1. New **Worksheet**
2. Drag **Date** → **Rows**
3. Drag **Primary type** → Rows
4. Drag **Location Description** → Rows
5. Drag **Id** → **Text**
6. Aggregation → measure → **COUNT**
7. Drag **Date** → **Filters** → show filter
8. Marks → **Text Table**

Result:

- Current-year crime counter
- Recent incidents with time & location

2a.

Study distribution count of crime incidents across different time periods, such as day of the week or hour

Steps:

I choose weekdays

1. New **Worksheet**
2. Drag **Date** → **Columns**
3. Aggregation → weekday
4. Drag **Id** → Rows
5. Aggregation → measure → **COUNT**
6. Drag **Date** → **Filters** → show filter
7. Marks → **Line**

Result:

- Best for identifying peak crime hours
- Help interpret crime patterns

2b.

Further, explore the percentage of incident reporting for several time blocks (morning, afternoon, evening, and night)

Steps: A

1. New **Worksheet**
2. Create Time Block (Calculated Field)
    - In the **Data pane (left)** → right-click
    - Click **Create → Calculated Field**
    - Name it: Crime_DateTime

    Formula

```
IF DATEPART('hour', [Date]) >= 5
AND DATEPART('hour', [Date]) < 12 THEN "Morning"

ELSEIF DATEPART('hour', [Date]) >= 12
AND DATEPART('hour', [Date]) < 17 THEN "Afternoon"

ELSEIF DATEPART('hour', [Date]) >= 17
AND DATEPART('hour', [Date]) < 21 THEN "Evening"

ELSE "Night"
END
```

- Click **OK**

Steps: B

3. Drag Crime_DateTime → **Columns**
4. Drag **Id** → Rows
5. Aggregation → measure → **COUNT**
6. Marks → **Bar**

Result:

- % of incidents by Morning / Afternoon / Evening / Night

3a.

Create a dashboard to study the change in crime rate over different years

Steps:

1. New **Worksheet**
2. Drag **Year** → **Columns**
3. Drag **Id** → Rows
4. Aggregation → measure → **COUNT**
5. Drag **Primary type** → **Colour** → show filter
6. Marks → **Line**

Result:

- crime incidents change year-by-year and identify trends, increases, or decreases.

3b.

Compare the change in the incident reporting over the years for the same date and time

Steps:

1. New **Worksheet**
2. Drag **Year** → **Columns**
3. Drag **Id** → Rows
4. Aggregation → measure → **COUNT**

5. Drag **Date** → **filters** → more → hour → show filter
6. Marks → **Line**

Result:

- Same date, same hour fixed
- Year-wise comparison
- crime incidents change year-by-year and identify trends, increases or decreases.

4a.

Study the distribution of incidents reported where an arrest was made vs. not

Steps:

1. New **Worksheet**
2. Drag **Arrest** → **Columns**
3. Drag **Id** → Rows
4. Aggregation → measure → **COUNT**

4b.

Identify what percentage of the reported incidents under each incident category are severe

Steps: A

1. New **Worksheet**
2. Create Severity Block (Calculated Field)
    - In the **Data pane (left)** → right-click
    - Click **Create → Calculated Field**
    - Name it: Severity

    Formula

IF [Primary Type] = "Homicide" THEN "Severe"

ELSEIF [Primary Type] = "Assault" THEN "Severe"

ELSEIF [Primary Type] = "Kidnapping" THEN "Severe"

ELSE "Non-Severe"

END

- Click **OK**

Steps: B

3. Drag Severity → **Columns**
4. Drag **Id** → Rows
5. Aggregation → measure → **COUNT**
6. Quick Table Calculation → Choose **Percent of Total**
7. Marks → **Bar**

Result:

- Percentage of severe incidents per category

4c.

To make the dashboard interactive, provide filters for incident type and location in these dashboards for a granular study

1. Drag Primary Type → **Filters** → show filter → Apply to Worksheets → All Using This Data Source
2. Drag Location Description → **Filters** → show filter → Apply to Worksheets → All Using This Data Source

Tableau public link

https://public.tableau.com/app/profile/darshan.vaghasiya4274/viz/Book1_17697890412800/Dashboard1?publish=yes