CRIME HOTSPOTS IN TORONTO

AGENDA

- Overview
- Steps Involved
  - Table Creation
  - Querying
- Visualization & Analysis
- Conclusion

OVERVIEW

- **Motive**:

  The increase in crime rates has raised concerns and emphasizes the urgency for addressing this issue.

- **Data & Process:**

  Collecting and analyzing large volumes of historical crime data, identifying patterns and trends, and help in deploying real-time crime prevention measures.

- **Result Intended:**

  A proactive crime prevention system that can identify potential crime hotspots, predict criminal behavior, and take preventive measures to reduce crime rates and improve public safety.
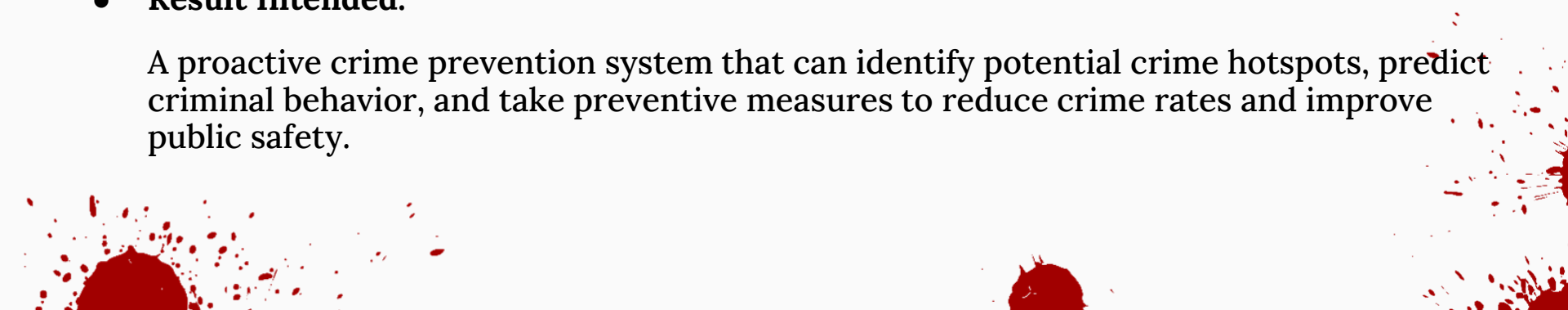
TABLE CREATION

- Extracted data from the Toronto Police Open Database and generated two main files: one containing Major Crime Indicators and the other containing Neighbourhood Crime Rates.
- To organize the data more efficiently, we have created two tables in Hive based on the files.

QUERYING

- Manipulate the data using SQL queries to show crime hotspots based on the number and frequency of crime occurrence.

# Top 10 most common offences that occurred from the year 2018-2022

OFFENCE	COUNT_OF_OFFENCE
Assault	67070
Theft Of Motor Vehicle	32090
B&E	29745
Assault With Weapon	17136
B&E W'Intent	4018
Assault Bodily Harm	3931
Robbery - Mugging	3626
Theft Over	3368
Assault Peace Officer	3289
Robbery - Business	3050
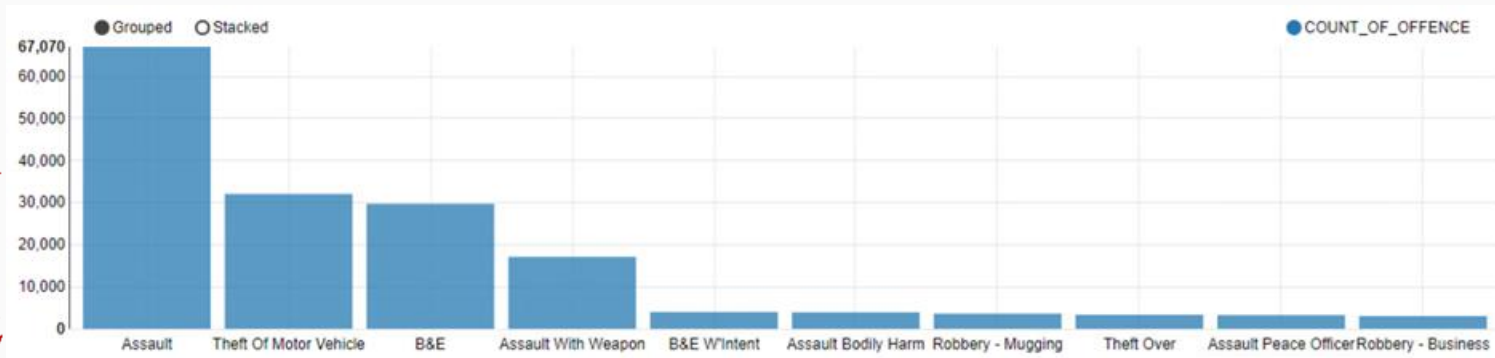
Top crime categories from the year 2018 onwards.

MCI_CATEGORY	COUNT_OF_OFFENCE
Assault	98462
Break and Enter	34925
Auto Theft	32090
Robbery	15531
Theft Over	6328
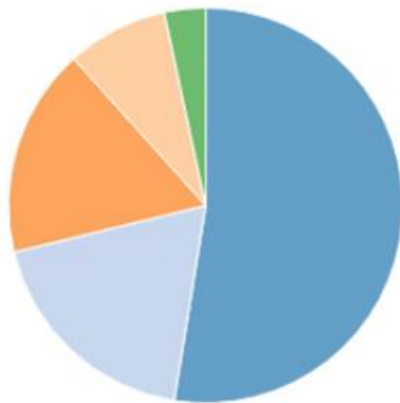
Peak hours of crime occurrences

TIME_OF_CRIME_OCCURANCE	COUNT_OF_OFFENCE
0	12672
21	10347
18	10271
20	10261
22	10261
23	10105
19	9958
12	9909
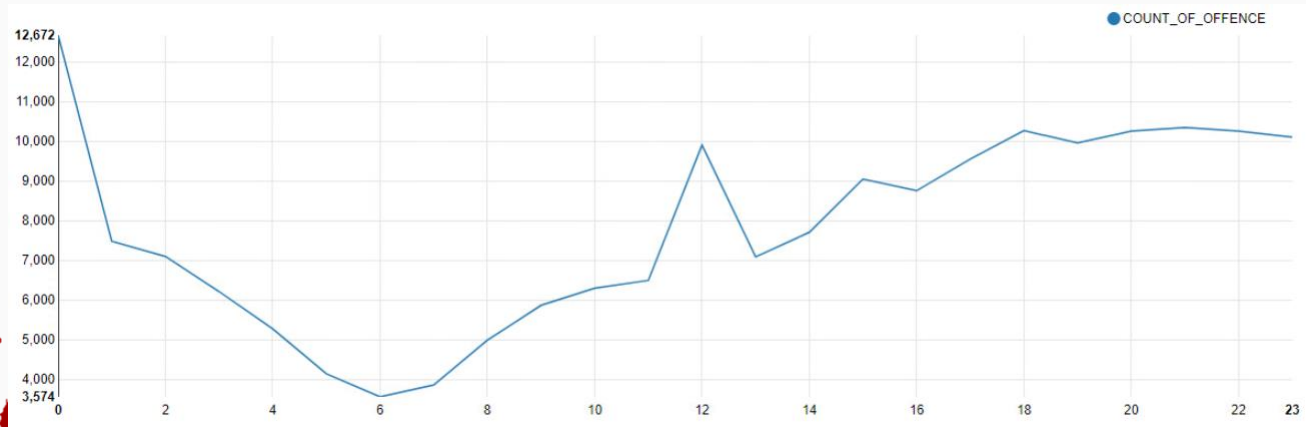
Top 10 locations based on the count of offences.

| LOCATION	COUNT_OF_OFFENCE
West Humber-Clairville	5262
Moss Park	4913
Downtown Yonge East	4312
York University Heights	3621
Yonge-Bay Corridor	3619
Wellington Place	3422
Kensington-Chinatown	3406
NSA	3271
Annex	2927
West Hill	2778
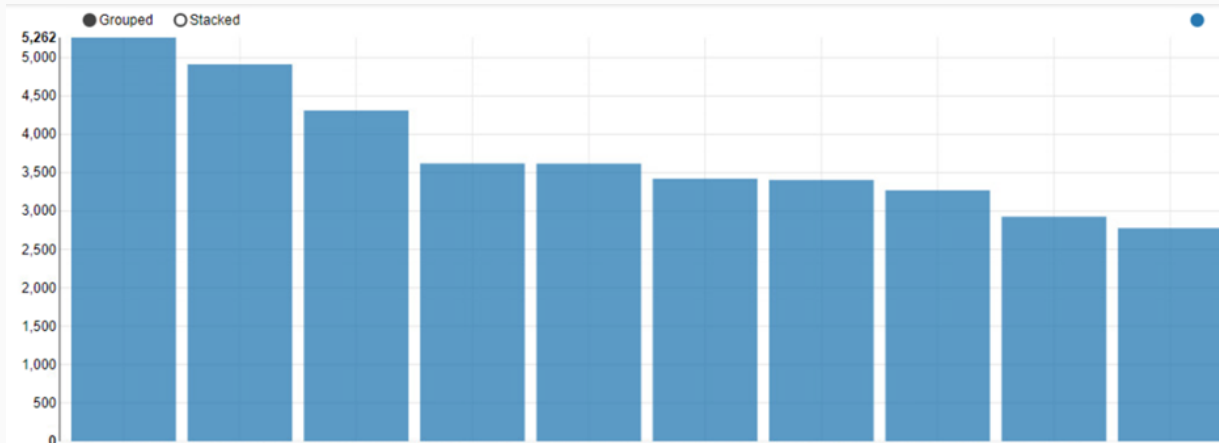
Top 10 neighbourhood and their crime rates for year 2022.

LOCATION	ASSAULT	AUTOTHEFT	BIKETHEFT	BREAKENTER	HOMICIDE	ROBBERY	SHOOTING	THEFTROMMV	THEFTOVER	TOTAL_RATE
Downtown Yonge East	3163.116	272.9754	1000.91	671.1409	0.0	768.1193	17.50802	1126.35	110.8842	7131.004
Yonge-Bay Corridor	3102.793	123.3493	1226.237	865.4049	7.035812	475.2765	7.035812	851.3333	351.7906	7010.256
Kensington-Chinatown	1845.108	123.6277	529.1267	504.9769	4.855547	294.6312	24.27774	2621.996	101.9665	6050.566
Moss Park	2516.532	233.951	444.5068	615.3564	13.77664	744.6343	45.92212	840.3747	73.47539	5528.529
University	1476.708	81.08108	824.3243	510.1356	0.0	342.7592	0.0	1060.545	161.0954	4456.6484
West Humber-Clairville	747.5753	1375.697	33.62192	377.9563	2.77909	222.2872	13.89545	1031.042	169.5245	3974.3787
Wellington Place	1691.574	174.772	402.7356	458.732	7.167688	240.7753	28.67075	759.775	78.84457	3843.0466
Church-Wellesley	1730.726	152.2983	452.2798	328.1636	4.495392	209.6436	8.990785	445.0438	94.40324	3426.0444
Humber Summit	959.3594	1009.105	15.17451	415.4706	0.0	171.6336	52.87808	536.3348	173.7423	3333.6982
Yorkdale-Glen Park	1073.409	566.486	176.6462	351.8397	5.963385	145.51	41.74369	626.1554	238.5354	3226.2888
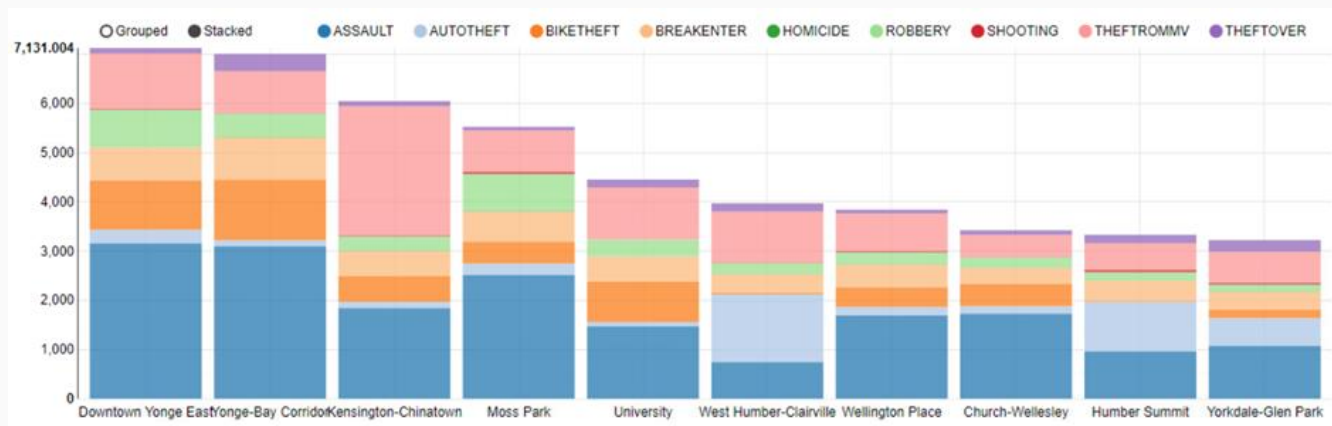
VISUALIZATION & ANALYSIS
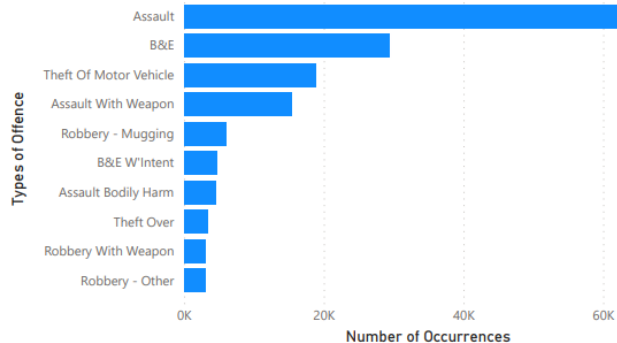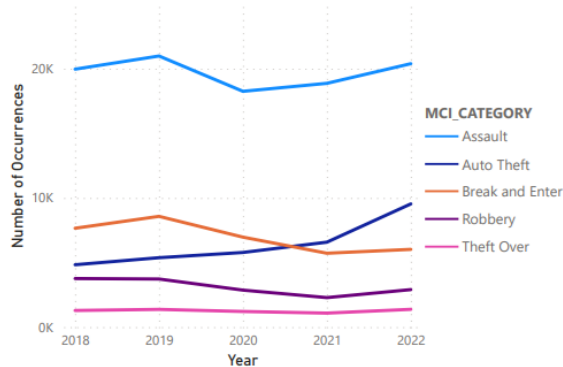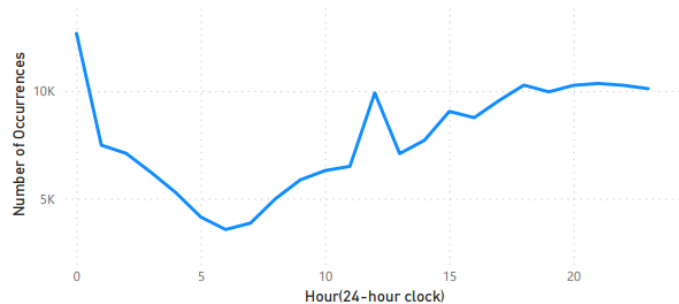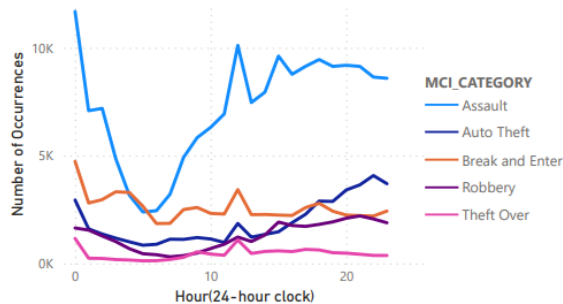
VISUALIZATION & ANALYSIS
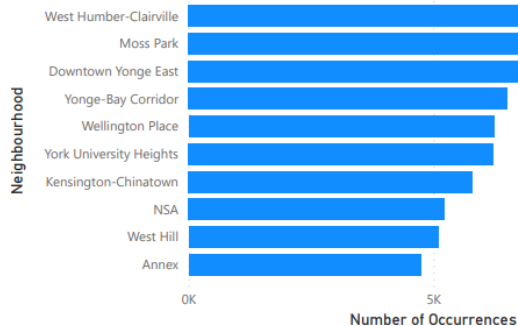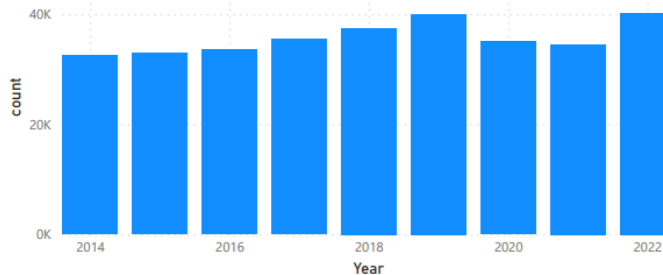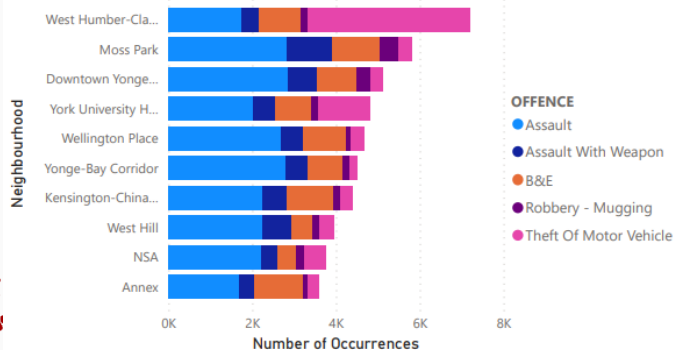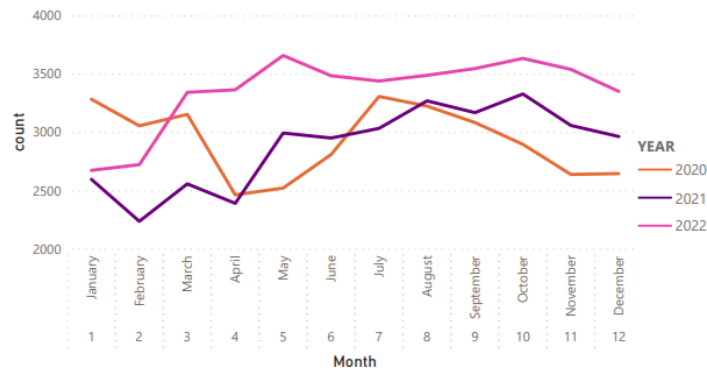
CONCLUSION

- Identified top 10 neighbourhoods in Toronto with highest number of reported offences
- Determined the peak hours and categories where crime rates are higher
- Utilizing this data analysis, it is possible to create effective strategies and allocate resources to combat crime and enhance public safety.
- A comprehensive approach can be developed to identify and decrease criminal activity in areas with high crime rates
- Law enforcement efforts can be strengthened in these hotspots through resource deployment.

THANKS!