Toronto Crime and Neighborhood Data Analysis Report

1. Project Overview

This project analyzes crime incidents in relation to neighbourhood characteristics. Two datasets were used: Crime_Data and Neighbourhood. SQL queries were developed to explore crime patterns, frequency, seasonal trends, and relationships across neighborhoods.

2. Datasets Used

CRIME_DATA Columns:

ID ---> Unique row identifier for Open Data database

EVENT_UNIQUE_ID ---> Offence Number

REPORT_DATE ---> Date Offence was Reported

OCC_DATE ---> Date of Offence

REPORT_YEAR ---> Year Offence was Reported

REPORT_MONTH ---> Month Offence was Reported

REPORT_DAY ---> Day of the Month Offence was Reported

REPORT_DOY ---> Day of the Year Offence was Reported

REPORT_DOW ---> Day of the Week Offence was Reported

OCC_YEAR --->Year Offence Occurred

OCC_MONTH ---> Month Offence Occurred

OCC_DAY ---> Day of the Month Offence Occurred

OCC_DOY ---> Day of the Year Offence Occurred

OCC_DOW ---> Day of the Week Offence Occurred

DIVISION ---> Police Division where Offence Occurred

LOCATION_TYPE ---> Location Type of Offence

PREMISES_TYPE ---> Premises Type of Offence

UCR_CODE ---> UCR Code for Offence

UCR_EXT ---> UCR Extension for Offence

OFFENCE ---> Title of Offence

HOOD_158 ---> Identifier of Neighbourhood using City of Toronto's new 158 neighbourhood structure

NEIGHBOURHOOD Columns:

HOOD_158 ---> Identifier of Neighbourhood using City of Toronto's new 158 neighbourhood structure

NEIGHBOURHOOD_158 ---> Name of Neighbourhood using City of Toronto's new 158 neighbourhood structure

3. Key Questions Answered Using SQL

1. Total crime counts by neighborhood

```
24  -- 4. Crimes per neighbourhood
25
26  SELECT C.HOOD_158, N.NEIGHBOURHOOD_158,  COUNT(*) AS Total_Crimes FROM CRIME_DATA C
27  JOIN NEIGHBOURHOOD_158 N
28  ON C.HOOD_158 = N.HOOD_158
29  GROUP BY C.HOOD_158, N.NEIGHBOURHOOD_158
30  ORDER BY C.HOOD_158;
31
```

% No issues found

Results Messages

HOOD_158	NEIGHBOURHOOD_158	Total_Crimes
1	West Humber-Clairville (1)	12484
2	Mount Olive-Silverstone-Jamestown (2)	5195
3	Thistletown-Beaumond Heights (3)	1549
4	Rexdale-Kipling (4)	1737
5	Elms-Old Rexdale (5)	1468
6	Kingsview Village-The Westway (6)	2814
7	Willowridge-Martingrove-Richview (7)	2585
8	Humber Heights-Westmount (8)	1038
9	Edenbridge-Humber Valley (9)	1533
10	Princess-Rosethorn (10)	1233
11	Eringate-Centennial-West Deane (11)	1814
12	Markland Wood (12)	989
13	Etobicoke West Mall (13)	1170
15	Kingsway South (15)	1238

2. Top 5 neighbourhoods with the highest crime rates

```
32  SELECT TOP 5 N.NEIGHBOURHOOD_158,  COUNT(*) AS Total_Crimes FROM CRIME_DATA C
33  JOIN NEIGHBOURHOOD_158 N
34  ON C.HOOD_158 = N.HOOD_158
35  GROUP BY N.NEIGHBOURHOOD_158
36  ORDER BY Total_Crimes DESC;
37
```

00 % No issues found

Results Messages

	NEIGHBOURHOOD_158	Total_Crimes
1	West Humber-Clairville (1)	12484
2	Moss Park (73)	10017
3	Downtown Yonge East (168)	9174
4	York University Heights (27)	8881
5	Yonge-Bay Corridor (170)	8667

3. Most common crime types

```sql
-- 2. Top 10 most frequent crime types

SELECT TOP 10 OFFENCE, COUNT(*) AS Total FROM CRIME_DATA
GROUP BY OFFENCE
ORDER BY Total DESC;
```

100 % No issues found

Results Messages

	OFFENCE	Total
1	Assault	163414
2	Theft Of Motor Vehicle	72878
3	B&E	67837
4	Assault With Weapon	41044
5	B&E W'Intent	10300
6	Assault Bodily Harm	10271
7	Robbery - Mugging	9501
8	Theft Over	8773
9	Assault Peace Officer	7748
10	Robbery With Weapon	7395

4. Top 10 neighbourhoods with the most Assault crimes

```sql
-- 20. Top 10 neighbourhoods with the most Assault crimes

SELECT TOP 10 N.NEIGHBOURHOOD_158, COUNT(*) AS Total_Crimes FROM CRIME_DATA C
JOIN NEIGHBOURHOOD_158 N
ON C.HOOD_158 = N.HOOD_158
WHERE C.OFFENCE = 'Assault'
GROUP BY N.NEIGHBOURHOOD_158
ORDER BY Total_Crimes DESC;
```

100 % No issues found

Results Messages

	NEIGHBOURHOOD_158	Total_Crimes
1	Downtown Yonge East (168)	3980
2	Yonge-Bay Corridor (170)	3795
3	Moss Park (73)	3772
4	Wellington Place (164)	3303
5	Kensington-Chinatown (78)	3242
6	West Hill (136)	3023
7	York University Heights (27)	2828
8	Mimico-Queensway (160)	2725
9	St Lawrence-East Bayfront-The Islands (166)	2617
10	Annex (95)	2594

5. Crime distribution by premises type

```
196
197   -- 19. Crime count per Premises types
198
199   SELECT PREMISES_TYPE, COUNT(*) AS Total_Crimes FROM CRIME_DATA
200   GROUP BY PREMISES_TYPE
201   ORDER BY PREMISES_TYPE;
202
203
204
```

100 % — No issues found

Results | Messages

	PREMISES_TYPE	Total_Crimes
1	Apartment	105047
2	Commercial	87388
3	Educational	11051
4	House	80392
5	Other	27366
6	Outside	120648
7	Transit	13892

6. Yearly Reported crime comparison

```
93
94    -- 15. Crimes reported each year
95
96    SELECT REPORT_YEAR, COUNT(*) AS Total_Crimes FROM CRIME_DATA
97    GROUP BY REPORT_YEAR
98    ORDER BY REPORT_YEAR DESC;
99
```

100 % — No issues found

Results | Messages

	REPORT_YEAR	Total_Crimes
1	2025	31943
2	2024	46726
3	2023	49104
4	2022	41042
5	2021	34558
6	2020	34587
7	2019	39165
8	2018	36713
9	2017	34523
10	2016	32996
11	2015	32519
12	2014	31908

4. Summary of Findings

- Certain neighbourhoods showed consistently high crime activity.

  (West Humber – Clairville with highest crimes followed by Moss Park, Downtown Yonge East,

  York University Heights, and Yonge-Bay Corridor.)

- Assault and Theft of Motor vehicles categories were among the most common offenses.
- Crime frequency was highest in year 2023.
- Downtown Yonge East followed by Yonge-Bay Corridor, and Moss Park were the most common areas with most frequent Assault type offenses.
- Apartments and commercial locations were common premises for incidents.

5. Conclusion

The SQL analysis provides valuable insights into crime patterns across neighbourhoods. Further analysis can involve predictive modeling, clustering, or integration with demographic datasets.