Vancouver Crime Map

CPSC 547

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December 15, 2015

Introduction

VPD Report 2013

- From 2009 – 2013:
  - The Violent crime rate has decreased an average of 4.3% each year.
  - The Property crime rate has decreased an average of 2.9% each year.

- *Source: "Key Performance Indicators, 2013." Vancouver Police Department. http://vancouver.ca/police/assets/pdf/reports-policies/2013-year-end-kpi-report.pdf*

Raw Crime Count Data

VANCOUVER POLICE DEPARTMENT - NEIGHBOURHOOD STATISTICS
October 2015

Neighbourhood	Sex Offences	Assaults	Robbery	B&E	Theft of MV	Theft from Auto	Theft<>$5K	Arson	Mischief	Offensive Weapons
Arbutus Ridge	0	1	0	18	2	6	8	0	4	0
Central Business District	9	107	13	84	20	256	429	4	77	15
Dunbar - Southlands	0	1	1	14	0	12	9	0	1	0
Fairview	1	7	2	28	7	51	83	0	19	0
Grandview - Woodlands	0	18	4	23	8	38	51	2	15	1
Hastings - Sunrise	0	7	1	14	6	26	25	0	14	0
Kensington - Cedar Cottage	2	11	3	21	11	34	24	1	12	2
Kerrisdale	1	1	0	16	1	10	13	0	3	0
Killarney	2	3	2	8	4	11	9	0	1	0
Kitsilano	2	5	2	35	7	41	55	1	8	0
Marpole	0	5	0	13	6	21	16	0	6	0
Mount Pleasant	0	13	2	39	18	71	90	1	18	2
Musqueam	1	0	0	1	0	1	2	0	1	0
Oakridge	0	5	0	13	2	7	12	0	6	1
Renfrew - Collingwood	1	13	3	12	8	36	45	0	8	0
Riley Park	0	2	0	12	3	15	25	0	9	1
Shaughnessy	0	1	0	9	1	4	6	0	1	0
South Cambie	0	3	1	5	3	9	12	1	1	0
Stanley Park	0	1	0	0	0	11	12	0	1	0
Strathcona	1	45	5	23	8	27	49	2	38	6
Sunset	1	6	3	9	9	21	23	2	9	0
Victoria - Fraserview	0	3	0	10	2	16	12	0	7	0
West End	3	25	4	18	12	71	123	1	14	1
West Point Grey	0	0	0	6	2	20	11	0	4	0
GRAND TOTAL	**24**	**283**	**46**	**431**	**140**	**815**	**1144**	**15**	**277**	**29**

What?

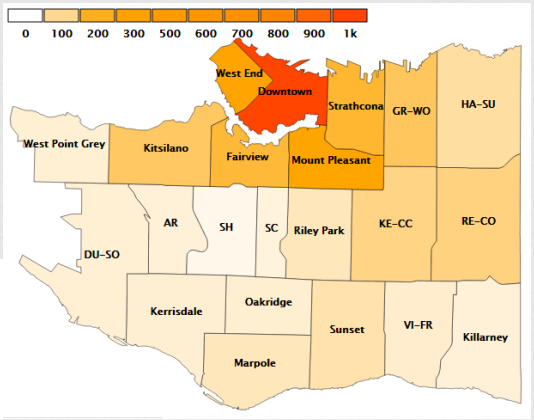
- Data Values: Crime Counts ► Quantitative
- Data Attributes
  - Year-Month range ► Time
    - Single, Multiple (2002-01 ~ 2015-10)
  - Crime Type ►Categorical
    - Single, Multiple (10 total)
  - Neighbourhoods ► Categorical
    - Single, Multiple (22 total)

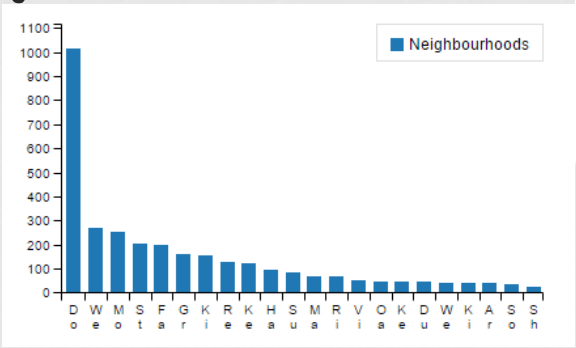
Why?

- "What's happening in the city/neighbourhood?"
  - Analyze ► Discover crime trends, features, distributions
  - Search ► Lookup, Browse, Locate, Explore
- "What's the crime rate difference…"
  - "Over time?" ► Compare Time Ranges
  - "Among Crime Types?" ►Compare
  - "Among Neighbourhoods?" ► Compare

How?

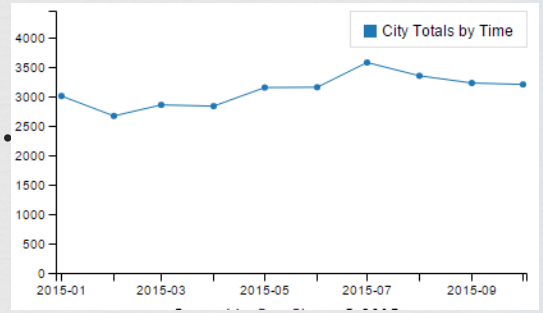
- Overview first, then drill down
  - Whole City → Individual Neighbourhood
  - Geographical Data
  - ►Thematic Map (Choropleth)
  - ►Bar Chart

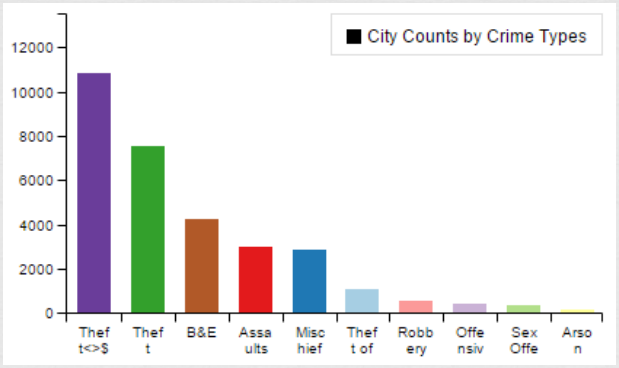




How?

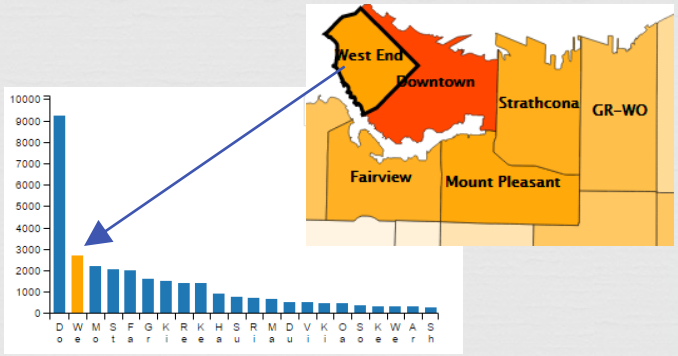
- City/Neighbourhood
  - Compare different Time Ranges…
    - ► Time-Series Line Chart
  - Compare different Crime Types…
    - ► Bar Chart

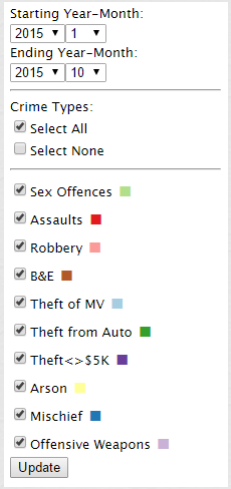


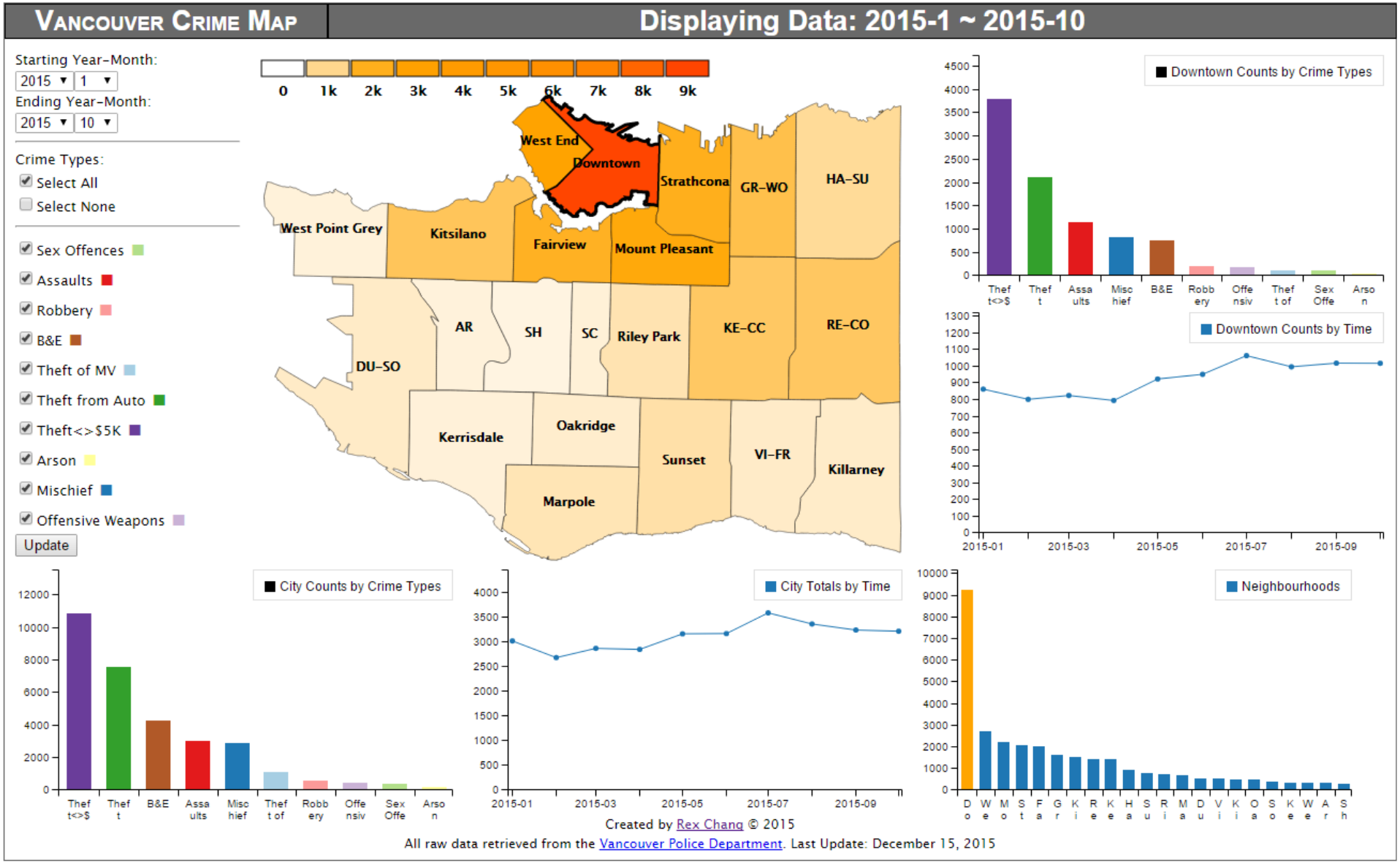


How?

- Manipulate
  - ► Select Neighbourhood
    - ► Linked Highlighting
- Filtering
  - ► Change Time Range selections
  - ► Change Crime Type selections
- ► Juxtapose views






Vancouver Crime Map
Displaying Data: 2015-1 ~ 2015-10
Starting Year-Month:
2015 1
Ending Year-Month:
2015 10
Crime Types:
Select All
Select None
Sex Offences
Assaults
Robbery
B&E
Theft of MV
Theft from Auto
Theft<>$5K
Arson
Mischief
Offensive Weapons
Update
0 1k 2k 3k 4k 5k 6k 7k 8k 9k
West End
Downtown
Strathcona
GR-WO
HA-SU
West Point Grey
Kitsilano
Fairview
Mount Pleasant
AR
SH
SC
Riley Park
KE-CC
RE-CO
DU-SO
Kerrisdale
Oakridge
Sunset
VI-FR
Killarney
Marpole
Downtown Counts by Crime Types
Thef t<>$
Thef t
Assa ults
Misc hief
B&E
Robb ery
Offe nsiv
Thef t of
Sex Offe
Arso n
Downtown Counts by Time
2015-01
2015-03
2015-05
2015-07
2015-09
City Counts by Crime Types
City Totals by Time
Neighbourhoods
Created by Rex Chang © 2015
All raw data retrieved from the Vancouver Police Department. Last Update: December 15, 2015

Demo

- http://rexchang.com/vancouver-crimemap

Feedback/Future Work

- An interesting way to explore crime statistics
- Mostly Raw Data ► Additional Derived Data
- Vis for Masses ► More intuitive visual cues
- Drill down further ► Sub-Neighbourhood Areas
- Extension ► Other Areas

Thank You!

Questions?

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http://rexchang.com/vancouver-crimemap
Comments/Feedback: rexchang@cs.ubc.ca