



Denver Health Medical Center New Candidates Places to Live Things to Do Near Work

Project Introduction

Goals of the Project:

- ▶ Project for Denver Health Medical Center
- ▶ Map of Denver
- ▶ List of Neighborhoods with lowest crime rates
- ▶ Maps of the neighborhoods with lowest crime rates
- ▶ Provide a list of businesses within 1,000 meters of Denver Health

Additional Uses for Data

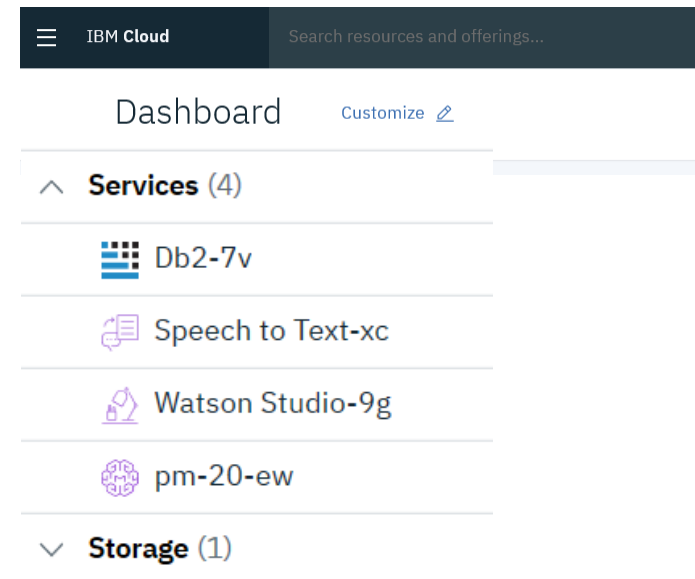
- ▶ Hotels
- ▶ Conference/Convention Centers
- ▶ Real Estate Companies
- ▶ Businesses and organizations who recruit candidates from outside of the Denver Area

Data Acquisition & Platforms

- ▶ 2019 Denver crime data set
- ▶ <https://www.denvergov.org/opendata/dataset/city-and-county-of-denver-crime>
- ▶ Foursquare.com
 - ▶ API Technology



- ▶ Platform
- ▶ IBM Watson Studio via the IBM Cloud



Methodology

- ▶ Pre-processed csv file to filter out crimes
 - ▶ The csv dataset obtained from the Denver.org website includes data from 2015-2019 and contained 460,032 lines of data with 267 types of criminal offenses.
 - ▶ Applied filter for only 2019
 - ▶ Combined similar offense names
 - ▶ Removed many fields, such as counterfeiting, forgery, and traffic incidents
- ▶ The remaining criminal offense categories were reduced from 267 to 20.
- ▶ Uploaded csv file to IBM Watson Studio
- ▶ Deleted 15 columns to obtain relevant 4 columns and renamed to Crime, Longitude, Latitude, and Neighborhood

Preprocessing Continued...

- ▶ Filtered data to obtain the number of crimes per neighborhood
- ▶ Further filtered to show the top and bottom five neighborhoods with the most and least reported crimes, respectively

Most Crime

:		Total
	five-points	9698
	stapleton	7804
	cbd	6624
	capitol-hill	5472
	union-station	5194

Least Crime

]:		Total
	skyland	590
	rosedale	562
	country_club	407
	wellshire	255
	indian_creek	245

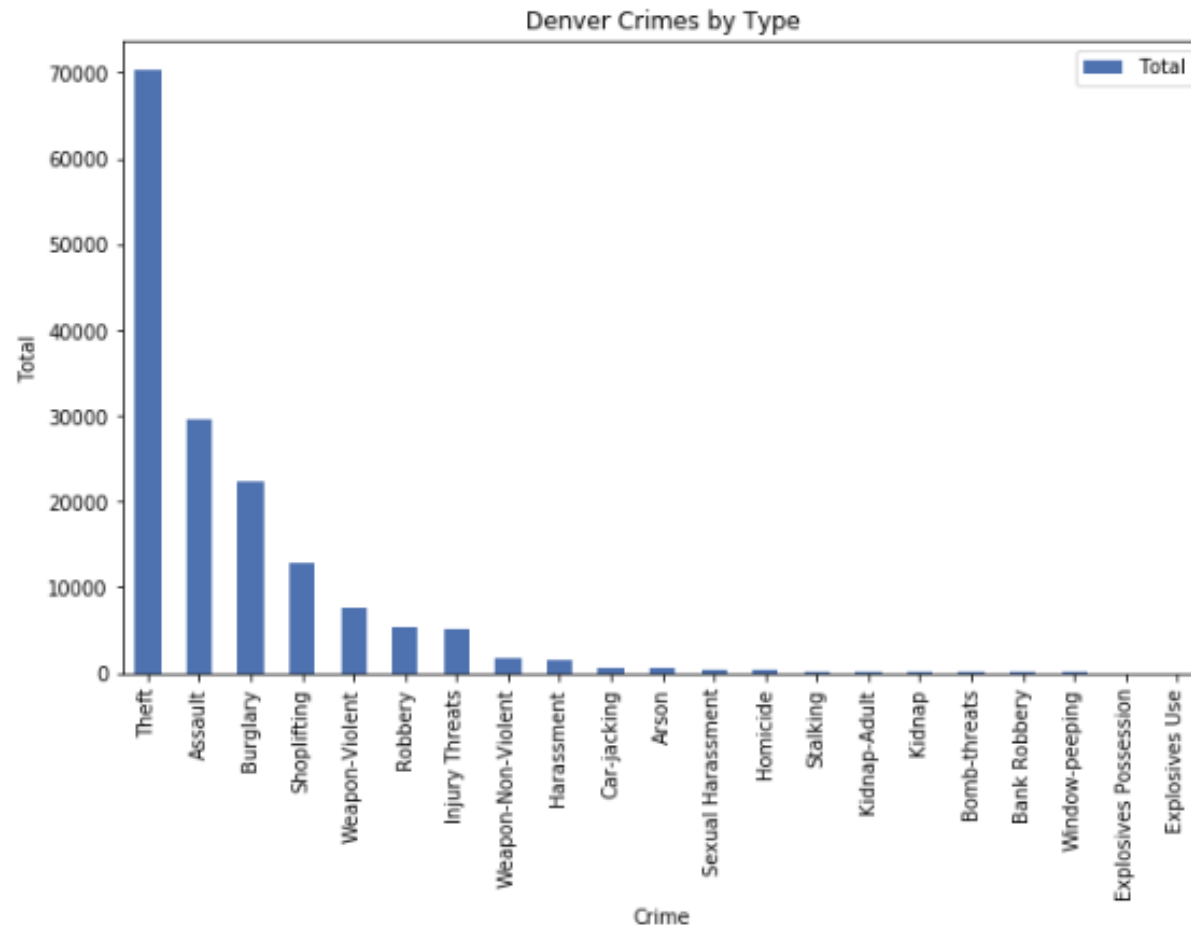
Additional Processing

- Filtered Data to obtain the total crime offenses by type and their total:

	Total
Theft	70288
Assault	29456
Burglary	22386
Shoplifting	12845
Weapon-Violent	7540
Robbery	5272
Injury Threats	5018
Weapon-Non-Violent	1841
Harassment	1572
Car-jacking	621
Arson	545

	Total
Sexual Harassment	341
Homicide	272
Stalking	237
Kidnap-Adult	199
Kidnap	165
Bomb-threats	156
Bank Robbery	135
Window-peeping	98
Explosives Possession	35
Explosives Use	15

Data Processed:



Neighborhood	Crime	
skyland	Arson	4
	Assault	93
	Burglary	129
	Car-jacking	4
	Harassment	5
	Homicide	4
	Injury Threats	16
	Kidnap-Adult	1
	Robbery	24
	Sexual Harassment	2
	Shoplifting	1
	Theft	223
	Weapon-Non-Violent	4
	Weapon-Violent	80

Neighborhood	Crime	
rosedale	Assault	82
	Bomb-threats	1
	Burglary	156
	Car-jacking	1
	Harassment	3
	Injury Threats	13
	Robbery	15
	Sexual Harassment	3
	Shoplifting	5
	Theft	278
	Weapon-Non-Violent	2
	Weapon-Violent	3

Neighborhood	Crime	
country_club	Assault	13
	Burglary	150
	Car-jacking	1
	Harassment	1
	Injury Threats	9
	Robbery	7
	Shoplifting	12
	Stalking	2
	Theft	208
	Weapon-Non-Violent	1
	Weapon-Violent	3

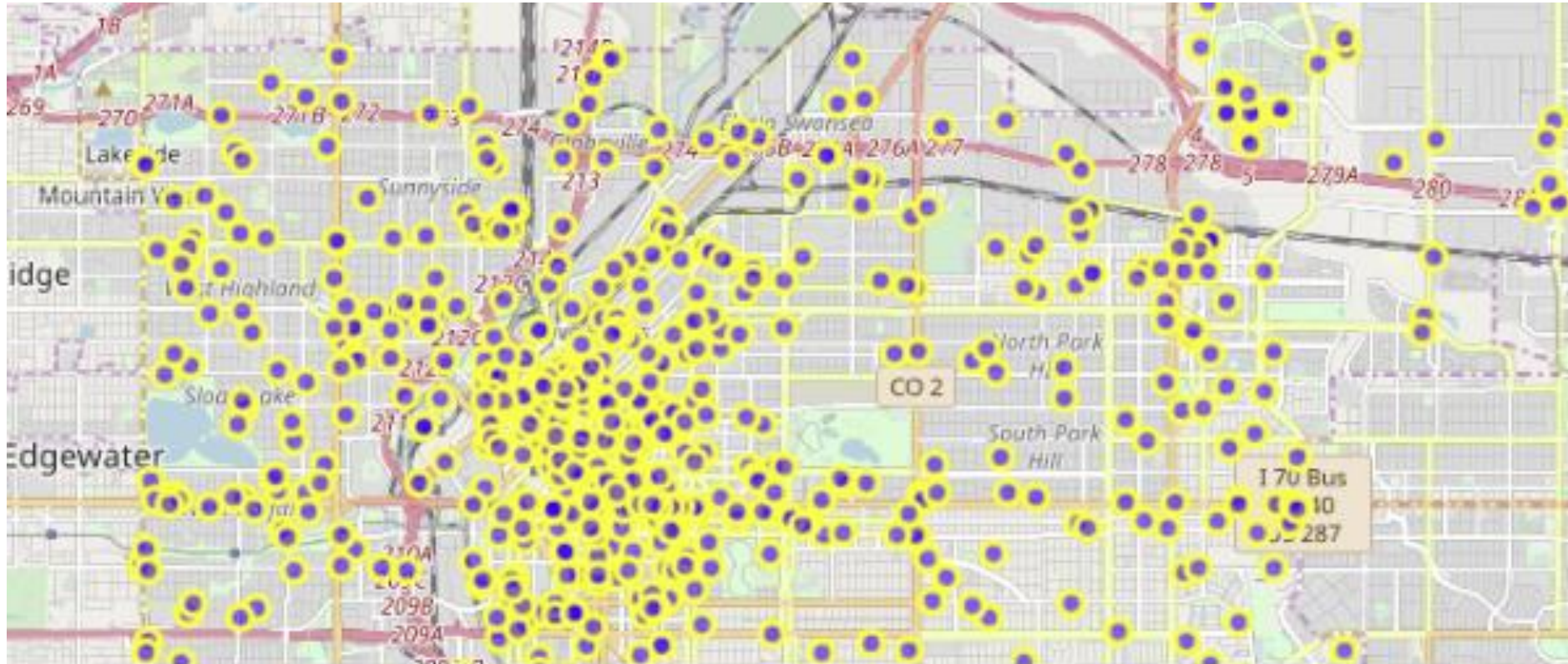
Neighborhood	Crime	
wellshire	Assault	17
	Burglary	72
	Car-jacking	1
	Harassment	3
	Injury Threats	5
	Robbery	1
	Sexual Harassment	1
	Shoplifting	1
	Stalking	1
	Theft	149
	Weapon-Violent	3
	Window-peeping	1

Neighborhood	Crime	
indian_creek	Assault	25
	Burglary	44
	Harassment	6
	Homicide	1
	Injury Threats	2
	Robbery	5
	Sexual Harassment	1
	Theft	155
	Weapon-Non-Violent	1
	Weapon-Violent	5

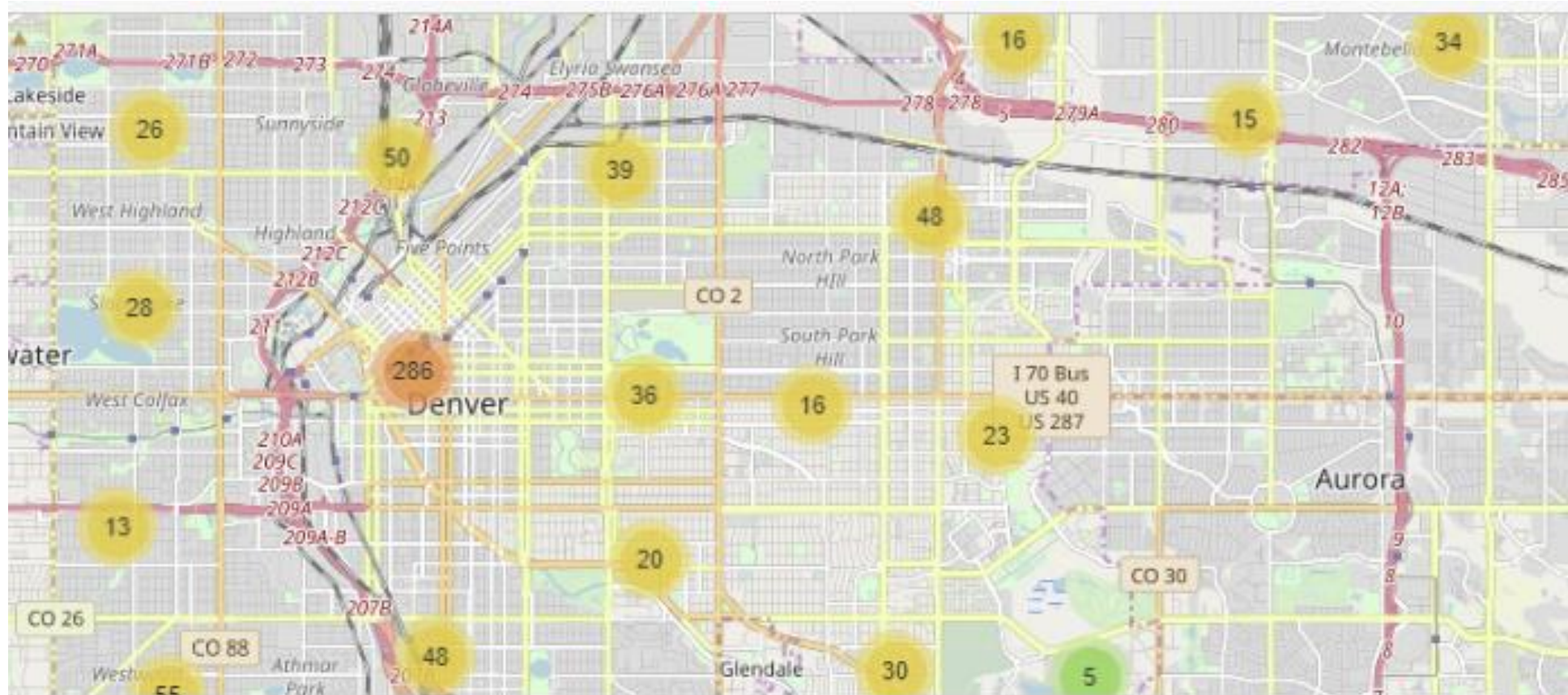
Denver Map: latitude= 39.742043 longitude = -104.991531



1,000 Random Crimes/Neighborhoods Cluttered Version



Uncluttered Version:



100



- While this neighborhood has a relatively low crime rate, the number of assaults and violent weapon crimes do not make this an ideal recommendation.
- When zoomed out a little more, the neighborhood is close to the beautiful Denver Zoo, a golf course, and the city park.

Rosedale Neighborhood



- There are fewer violent weapons crimes than Skyland
- Roseland surrounds a golf course and park with a recreational facility.

Country-Club Neighborhood



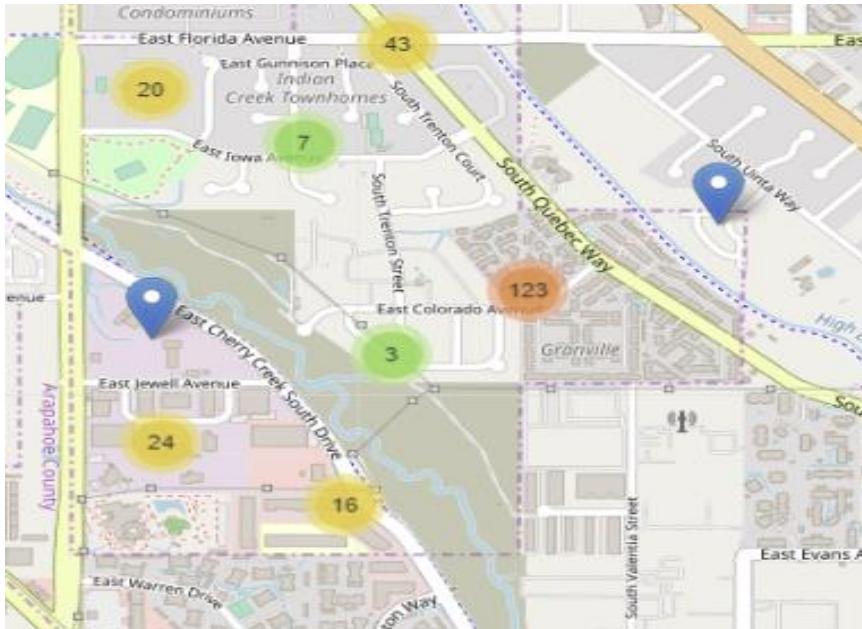
- The assaults are significantly at 13 compared with 82 in Rosedale
- The Country-Club has a large park with a golf course and Cherry Creek running through the park

Wellshire Neighborhood



- Slightly higher rate of assaults than the Country-Club neighborhood
- Two golf courses close by

Indian-Creek Neighborhood



- The Indian-Creek Neighborhood has the lowest crime rate in Denver with 245 crimes reported
- the assault rates are higher in this neighborhood than Wellshire and Country-Club
- Close to the Cherry Creek Country Club & Cherry Creek State Park

Venues close to Denver Health

The River	Yoga Studio	39.735743	-104.992752
CorePower Yoga	Yoga Studio	39.720805	-104.987781
MAX's Wine Dive Denver	Wine Bar	39.727093	-104.984499
Cherry Creek Trail	Trail	39.728968	-104.989567
The Wizard's Chest	Toy / Game Store	39.723668	-104.987847
Su Teatro	Theater	39.727843	-104.998884
Bronzed Denver	Tanning Salon	39.736169	-104.992698
Tacos Tequila Whiskey	Taco Place	39.727476	-104.984587
Torchy's Tacos	Taco Place	39.733490	-104.987822
Red Ginger	Sushi Restaurant	39.725264	-104.986981
Stoney's Bar and Grill	Sports Bar	39.734274	-104.986280
Studio; A Collective Of Stylists	Spa	39.734519	-104.990445
The Station Hair Studio	Spa	39.734216	-104.992604
Eden Day Spa	Spa	39.733642	-104.988458
Illuzion Glass	Smoke Shop	39.720131	-104.987351

evo	Ski Shop	39.730269	-104.987025
ZEPS Epiq Sandwiches	Sandwich Place	39.735006	-104.987839
Jersey Mike's Subs	Sandwich Place	39.725090	-104.988101
Parsley	Sandwich Place	39.733958	-104.991829
City Bakery Cafe	Sandwich Place	39.727803	-104.985999
Proper Barbershop	Salon / Barbershop	39.729119	-104.984858
Namaste An Aveda Concept Salon	Salon / Barbershop	39.718802	-104.987671
Zandi K Denver Central	Salon / Barbershop	39.725550	-104.997440
Adorn Salon Denver	Salon / Barbershop	39.720191	-104.987518
Cap City Tavern	Pub	39.736288	-104.990525
Cosmo's Pizza	Pizza Place	39.725069	-104.983255
Pizzeria Locale	Pizza Place	39.725250	-104.987170
Cow Sculpture at Denver Art Museum	Outdoor Sculpture	39.735930	-104.988719
Noodles & Company	Noodle House	39.725376	-104.987020
The Church	Nightclub	39.735245	-104.985891

Conclusion

- ▶ The report provides robust crime data for the city of Denver for 2019
- ▶ The data and mapping provided the answers requested by the Denver Health Medical Center
- ▶ Recommends five neighborhoods in Denver with the lowest crime rates
- ▶ Provided a list of the 30 different businesses and parks closest to the Denver Health Medical Center
- ▶ Geographical coordinates included for easy searching on mobile platforms such as Google Maps
- ▶ The report is also useful to real estate companies, schools, and other businesses assisting with employee relocation
- ▶ The Foursquare API data can be easily used by any business by inputting their address