Week 4: Lab - Map Data and Visualization–Tampa Crime

[Name]

[Date]

# Instructions

**Warning: Do not copy and paste any code I give out here. You MUST write them up.** **If you copy and paste code from here to your RStudio, you will receive errors.**

In Chapter 13 we explored how to use “mashup” data to create a map and put additional data “on top of” the map. In this assignment, we will do that, but with one additional requirement to “zoom” into the region of the United States where the data is of interest.

First, read in the dataset Police\_calls\_for\_service.csv (in the project’s data folder). The column show the description of crime, the address of the crime, Dispatched time, and the type of Report. As you can guess from the title of the data file, the focus of the dataset is crimes around the Tampa, FL area.

For this assignment, you need to create two different, but related, maps: A map with “points” for each of the crimes, and a “density map” showing the same information.

Install the “ggplot2” and “ggmap” packages as needed, and load the two packages in the setup code chunk below.

# Add your library below.  
library(ggplot2)

## Warning: package 'ggplot2' was built under R version 4.2.2

library(ggmap)

## Warning: package 'ggmap' was built under R version 4.2.2

# Step 1 - A map with “points” for each of the crimes

## Step 1.1 - Read the data

1. Read in Police\_calls\_for\_service.csv and save it as an object.
2. Investigate the data structure.

# Write your code below.  
df <- read.csv("data/Police\_calls\_for\_service.csv")  
str(df)

## 'data.frame': 5446 obs. of 5 variables:  
## $ Dispatched : chr "1/17/2023 15:14" "1/17/2023 15:43" "1/17/2023 15:04" "1/17/2023 15:36" ...  
## $ Description: chr "SUSPICIOUS VEHICLE" "HOLDING PERSON" "VEHICLE STOP/TRAFFIC" "INFORMATION" ...  
## $ Address : chr "2400 BLOCK W AZEELE ST" "5000 BLOCK E BUSCH BLVD" "N 39TH ST / E LAKE AVE" "1000 BLOCK E NORTH BAY ST" ...  
## $ Grid : int 160 24 99 83 222 83 124 53 29 99 ...  
## $ Report : int 24599 24594 24591 24593 24592 24586 24584 24583 24582 24588 ...

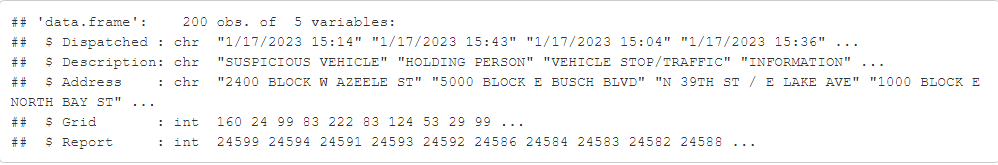
## Step 1.2 - Get your Google API Key

1. You need a Google API key for the next step, which uses the geocode() function. Google API requires you to register your credit card information.
   * To get the API key, follow the directions: <https://developers.google.com/maps/documentation/geocoding/get-api-key>
   * If you already have Google API key, go to <https://console.cloud.google.com/google/maps-apis/api-list?project=uber-kmeans-1549390594743>
     + Then click “Geocoding API” and enable it.
     + Go back a page, click “CREDENTIAL” in the left navigation bar
     + Retrieve your google API key.
     + Enter your API key in the register\_google() function below.

## Step 1.3 - Get Latitudes and Longitudes

1. Get latitudes and longitudes for all address in the crime dataset and store them in a new column using the geocode() function.
2. Make sure the new dataframe includes lon and lat columns.
3. Investigate the structure.

It should look something like this (details could be differ from your data):



Step 1.3 Environment

# Write your code below.  
  
#Having to run this on 5400 addresses is ridiculous and takes far too much time to compile.  
#The example in the picture has only 200 observations, why isn't that the case for the data provided?  
#I have to shorten the data.  
df <- df[1:200,]  
df$Coordinates <- geocode(df$Address)

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=2400+BLOCK+W+AZEELE+ST&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=2400+BLOCK+W+AZEELE+ST&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=5000+BLOCK+E+BUSCH+BLVD&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=5000+BLOCK+E+BUSCH+BLVD&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=N+39TH+ST+/+E+LAKE+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=N+39TH+ST+/+E+LAKE+AVE&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=1000+BLOCK+E+NORTH+BAY+ST&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=1000+BLOCK+E+NORTH+BAY+ST&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=15400+BLOCK+PLANTATION+OAKS+DR&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=15400+BLOCK+PLANTATION+OAKS+DR&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=N+15TH+ST+/+E+OSBORNE+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=N+15TH+ST+/+E+OSBORNE+AVE&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=1100+BLOCK+W+SPRUCE+ST&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=1100+BLOCK+W+SPRUCE+ST&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=2000+BLOCK+E+SLIGH+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=2000+BLOCK+E+SLIGH+AVE&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=1000+BLOCK+E+ESKIMO+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=1000+BLOCK+E+ESKIMO+AVE&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=3700+BLOCK+LOWRY+CT&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=3700+BLOCK+LOWRY+CT&key=xxx]8;;>

## Warning: Geocoding "3700 BLOCK LOWRY CT" failed with error:

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=900+BLOCK+W+GRACE+ST&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=900+BLOCK+W+GRACE+ST&key=xxx]8;;>

## Warning: "900 BLOCK W GRACE ST" not uniquely geocoded, using "900 w grace st, richmond,  
## va 23220, usa"

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=N+WEST+SHORE+BLVD+/+W+KENNEDY+BLVD&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=N+WEST+SHORE+BLVD+/+W+KENNEDY+BLVD&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=E+DAVIS+BLVD+/+BISCAYNE+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=E+DAVIS+BLVD+/+BISCAYNE+AVE&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=7200+BLOCK+S+KISSIMMEE+ST&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=7200+BLOCK+S+KISSIMMEE+ST&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=4400+BLOCK+S+HIMES+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=4400+BLOCK+S+HIMES+AVE&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=800+BLOCK+FREDERIC+H+SPAULDING+DR&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=800+BLOCK+FREDERIC+H+SPAULDING+DR&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=3300+BLOCK+W+CARACAS+ST&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=3300+BLOCK+W+CARACAS+ST&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=8900+BLOCK+N+FLORIDA+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=8900+BLOCK+N+FLORIDA+AVE&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=2000+BLOCK+N+DALE+MABRY+HWY&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=2000+BLOCK+N+DALE+MABRY+HWY&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=2500+BLOCK+S+OBRAPIA+ST&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=2500+BLOCK+S+OBRAPIA+ST&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=200+BLOCK+W+GIDDENS+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=200+BLOCK+W+GIDDENS+AVE&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=N+30TH+ST+/+E+LINEBAUGH+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=N+30TH+ST+/+E+LINEBAUGH+AVE&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=E+LAKE+AVE+/+N+38TH+ST&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=E+LAKE+AVE+/+N+38TH+ST&key=xxx]8;;>

## Warning: Geocoding "E LAKE AVE / N 38..." failed with error:

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=W+WATERS+AVE+/+N+ARMENIA+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=W+WATERS+AVE+/+N+ARMENIA+AVE&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=N+40TH+ST+/+E+HILLSBOROUGH+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=N+40TH+ST+/+E+HILLSBOROUGH+AVE&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=1700+BLOCK+E+HILLSBOROUGH+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=1700+BLOCK+E+HILLSBOROUGH+AVE&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=4100+BLOCK+W+NASSAU+ST&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=4100+BLOCK+W+NASSAU+ST&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=N+LOIS+AVE+/+W+HILLSBOROUGH+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=N+LOIS+AVE+/+W+HILLSBOROUGH+AVE&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=W+7TH+AVE+/+N+HIGHLAND+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=W+7TH+AVE+/+N+HIGHLAND+AVE&key=xxx]8;;>

## Warning: Geocoding "W 7TH AVE / N HIG..." failed with error:

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=11200+BLOCK+N+NEBRASKA+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=11200+BLOCK+N+NEBRASKA+AVE&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=10200+BLOCK+N+BOULEVARD&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=10200+BLOCK+N+BOULEVARD&key=xxx]8;;>

## Warning: Geocoding "10200 BLOCK N BOU..." failed with error:

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=2700+BLOCK+PIONEER+DAYS+LN&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=2700+BLOCK+PIONEER+DAYS+LN&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=E+23RD+AVE+/+N+28TH+ST&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=E+23RD+AVE+/+N+28TH+ST&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=200+BLOCK+COLUMBIA+DR&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=200+BLOCK+COLUMBIA+DR&key=xxx]8;;>

## Warning: Geocoding "200 BLOCK COLUMBI..." failed with error:

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=6700+BLOCK+N+FLORIDA+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=6700+BLOCK+N+FLORIDA+AVE&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=1300+BLOCK+E+28TH+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=1300+BLOCK+E+28TH+AVE&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=E+BUSCH+BLVD+/+N+30TH+ST&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=E+BUSCH+BLVD+/+N+30TH+ST&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=8300+BLOCK+N+ROME+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=8300+BLOCK+N+ROME+AVE&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=8900+BLOCK+N+FLORIDA+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=8900+BLOCK+N+FLORIDA+AVE&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=1900+BLOCK+W+SAINT+ISABEL+ST&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=1900+BLOCK+W+SAINT+ISABEL+ST&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=5000+BLOCK+E+BUSCH+BLVD&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=5000+BLOCK+E+BUSCH+BLVD&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=3700+BLOCK+HENDERSON+BLVD&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=3700+BLOCK+HENDERSON+BLVD&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=E+DR+MARTIN+LUTHER+KING+JR+BLVD+/+N+39TH+ST&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=E+DR+MARTIN+LUTHER+KING+JR+BLVD+/+N+39TH+ST&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=200+BLOCK+BAYSHORE+BLVD&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=200+BLOCK+BAYSHORE+BLVD&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=500+BLOCK+E+COLUMBUS+DR&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=500+BLOCK+E+COLUMBUS+DR&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=4100+BLOCK+FIESTA+PLZ&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=4100+BLOCK+FIESTA+PLZ&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=11200+BLOCK+N+22ND+ST&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=11200+BLOCK+N+22ND+ST&key=xxx]8;;>

## Warning: Geocoding "11200 BLOCK N 22N..." failed with error:

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=HENDERSON+BLVD+/+S+DALE+MABRY+HWY&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=HENDERSON+BLVD+/+S+DALE+MABRY+HWY&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=5200+BLOCK+CYPRESS+PRESERVE+DR&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=5200+BLOCK+CYPRESS+PRESERVE+DR&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=10900+BLOCK+N+NEBRASKA+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=10900+BLOCK+N+NEBRASKA+AVE&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=E+LINEBAUGH+AVE+/+N+NEBRASKA+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=E+LINEBAUGH+AVE+/+N+NEBRASKA+AVE&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=E+BUSCH+BLVD+/+N+30TH+ST&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=E+BUSCH+BLVD+/+N+30TH+ST&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=3000+BLOCK+W+DR+MARTIN+LUTHER+KING+JR+BLVD&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=3000+BLOCK+W+DR+MARTIN+LUTHER+KING+JR+BLVD&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=2600+BLOCK+E+COLUMBUS+DR&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=2600+BLOCK+E+COLUMBUS+DR&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=200+BLOCK+S+WEST+SHORE+BLVD&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=200+BLOCK+S+WEST+SHORE+BLVD&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=10200+BLOCK+N+BOULEVARD&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=10200+BLOCK+N+BOULEVARD&key=xxx]8;;>

## Warning: Geocoding "10200 BLOCK N BOU..." failed with error:

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=2500+BLOCK+E+BUSCH+BLVD&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=2500+BLOCK+E+BUSCH+BLVD&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=GRID+ONLY&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=GRID+ONLY&key=xxx]8;;>

## Warning: Geocoding "GRID ONLY" failed with error:

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=1700+BLOCK+W+HILLSBOROUGH+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=1700+BLOCK+W+HILLSBOROUGH+AVE&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=3600+BLOCK+W+HILLSBOROUGH+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=3600+BLOCK+W+HILLSBOROUGH+AVE&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=1700+BLOCK+E+HILLSBOROUGH+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=1700+BLOCK+E+HILLSBOROUGH+AVE&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=5800+BLOCK+N+DALE+MABRY+HWY&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=5800+BLOCK+N+DALE+MABRY+HWY&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=6300+BLOCK+S+LOIS+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=6300+BLOCK+S+LOIS+AVE&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=1300+BLOCK+E+COLUMBUS+DR&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=1300+BLOCK+E+COLUMBUS+DR&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=2500+BLOCK+W+WATERS+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=2500+BLOCK+W+WATERS+AVE&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=4700+BLOCK+W+MONTGOMERY+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=4700+BLOCK+W+MONTGOMERY+AVE&key=xxx]8;;>

## Warning: Geocoding "4700 BLOCK W MONT..." failed with error:

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=3900+BLOCK+E+POWHATAN+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=3900+BLOCK+E+POWHATAN+AVE&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=W+BEACON+AVE+/+N+BOULEVARD&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=W+BEACON+AVE+/+N+BOULEVARD&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=N+15TH+ST+/+E+DR+MARTIN+LUTHER+KING+JR+BLVD&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=N+15TH+ST+/+E+DR+MARTIN+LUTHER+KING+JR+BLVD&key=xxx]8;;>

## Warning: Geocoding "N 15TH ST / E DR ..." failed with error:

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=E+WATERS+AVE+/+I275&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=E+WATERS+AVE+/+I275&key=xxx]8;;>

## Warning: Geocoding "E WATERS AVE / I275" failed with error:

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=10100+BLOCK+N+ASTER+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=10100+BLOCK+N+ASTER+AVE&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=N+FLORIDA+AVE+/+E+VIRGINIA+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=N+FLORIDA+AVE+/+E+VIRGINIA+AVE&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=4200+BLOCK+DELEUIL+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=4200+BLOCK+DELEUIL+AVE&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=1700+BLOCK+S+MANHATTAN+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=1700+BLOCK+S+MANHATTAN+AVE&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=4500+BLOCK+S+MANHATTAN+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=4500+BLOCK+S+MANHATTAN+AVE&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=GRID+ONLY&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=GRID+ONLY&key=xxx]8;;>

## Warning: Geocoding "GRID ONLY" failed with error:

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=5000+BLOCK+N+29TH+ST&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=5000+BLOCK+N+29TH+ST&key=xxx]8;;>

## Warning: Geocoding "5000 BLOCK N 29TH ST" failed with error:

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=N+22ND+ST+/+E+HENRY+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=N+22ND+ST+/+E+HENRY+AVE&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=5800+BLOCK+N+19TH+ST&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=5800+BLOCK+N+19TH+ST&key=xxx]8;;>

## Warning: Geocoding "5800 BLOCK N 19TH ST" failed with error:

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=3900+BLOCK+W+PAXTON+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=3900+BLOCK+W+PAXTON+AVE&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=E+WATERS+AVE+/+N+FLORIDA+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=E+WATERS+AVE+/+N+FLORIDA+AVE&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=3300+BLOCK+W+GANDY+BLVD&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=3300+BLOCK+W+GANDY+BLVD&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=4700+BLOCK+N+HABANA+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=4700+BLOCK+N+HABANA+AVE&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=4100+BLOCK+W+NASSAU+ST&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=4100+BLOCK+W+NASSAU+ST&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=2700+BLOCK+N+46TH+ST&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=2700+BLOCK+N+46TH+ST&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=1900+BLOCK+W+KIRBY+ST&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=1900+BLOCK+W+KIRBY+ST&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=W+CLIFTON+ST+/+N+ALBANY+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=W+CLIFTON+ST+/+N+ALBANY+AVE&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=N+TAMPA+ST+/+I275&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=N+TAMPA+ST+/+I275&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=2900+BLOCK+W+CREST+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=2900+BLOCK+W+CREST+AVE&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=500+BLOCK+N+HOWARD+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=500+BLOCK+N+HOWARD+AVE&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=7200+BLOCK+S+KISSIMMEE+ST&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=7200+BLOCK+S+KISSIMMEE+ST&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=1100+BLOCK+N+22ND+ST&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=1100+BLOCK+N+22ND+ST&key=xxx]8;;>

## Warning: Geocoding "1100 BLOCK N 22ND ST" failed with error:

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=E+KENNEDY+BLVD+/+N+12TH+ST&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=E+KENNEDY+BLVD+/+N+12TH+ST&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=10600+BLOCK+N+26TH+ST&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=10600+BLOCK+N+26TH+ST&key=xxx]8;;>

## Warning: Geocoding "10600 BLOCK N 26T..." failed with error:

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=18000+BLOCK+HIGHWOODS+PRESERVE+PKWY&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=18000+BLOCK+HIGHWOODS+PRESERVE+PKWY&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=BRUCE+B+DOWNS+BLVD+/+AMBERLY+DR&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=BRUCE+B+DOWNS+BLVD+/+AMBERLY+DR&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=BRUCE+B+DOWNS+BLVD+/+TAMPA+PALMS+BLVD+W&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=BRUCE+B+DOWNS+BLVD+/+TAMPA+PALMS+BLVD+W&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=2700+BLOCK+BAYSHORE+BLVD&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=2700+BLOCK+BAYSHORE+BLVD&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=7500+BLOCK+ADAMO+DR&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=7500+BLOCK+ADAMO+DR&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=E+KENNEDY+BLVD+/+CHANNELSIDE+DR&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=E+KENNEDY+BLVD+/+CHANNELSIDE+DR&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=400+BLOCK+E+7TH+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=400+BLOCK+E+7TH+AVE&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=3200+BLOCK+E+11TH+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=3200+BLOCK+E+11TH+AVE&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=2300+BLOCK+W+FIG+ST&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=2300+BLOCK+W+FIG+ST&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=4000+BLOCK+E+GROVE+ST&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=4000+BLOCK+E+GROVE+ST&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=17400+BLOCK+COMMERCE+PARK+BLVD&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=17400+BLOCK+COMMERCE+PARK+BLVD&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=600+BLOCK+CHANNELSIDE+DR&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=600+BLOCK+CHANNELSIDE+DR&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=16200+BLOCK+MONTEREY+GREENS+CIR&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=16200+BLOCK+MONTEREY+GREENS+CIR&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=1500+BLOCK+N+DALE+MABRY+HWY&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=1500+BLOCK+N+DALE+MABRY+HWY&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=8300+BLOCK+N+ORANGEVIEW+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=8300+BLOCK+N+ORANGEVIEW+AVE&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=3500+BLOCK+CLAY+ST&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=3500+BLOCK+CLAY+ST&key=xxx]8;;>

## Warning: Geocoding "3500 BLOCK CLAY ST" failed with error:

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=N+NEBRASKA+AVE+/+E+19TH+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=N+NEBRASKA+AVE+/+E+19TH+AVE&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=1500+BLOCK+E+GENESEE+ST&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=1500+BLOCK+E+GENESEE+ST&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=4800+BLOCK+N+17TH+ST&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=4800+BLOCK+N+17TH+ST&key=xxx]8;;>

## Warning: Geocoding "4800 BLOCK N 17TH ST" failed with error:

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=6900+BLOCK+N+PACKWOOD+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=6900+BLOCK+N+PACKWOOD+AVE&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=1600+BLOCK+W+KENNEDY+BLVD&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=1600+BLOCK+W+KENNEDY+BLVD&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=N+22ND+ST+/+E+HILLSBOROUGH+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=N+22ND+ST+/+E+HILLSBOROUGH+AVE&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=2900+BLOCK+E+HILLSBOROUGH+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=2900+BLOCK+E+HILLSBOROUGH+AVE&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=2400+BLOCK+W+CYPRESS+ST&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=2400+BLOCK+W+CYPRESS+ST&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=200+BLOCK+S+WEST+SHORE+BLVD&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=200+BLOCK+S+WEST+SHORE+BLVD&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=1200+BLOCK+N+MARION+ST&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=1200+BLOCK+N+MARION+ST&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=2500+BLOCK+N+50TH+ST&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=2500+BLOCK+N+50TH+ST&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=1500+BLOCK+N+DALE+MABRY+HWY&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=1500+BLOCK+N+DALE+MABRY+HWY&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=18100+BLOCK+SANDY+POINTE+DR&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=18100+BLOCK+SANDY+POINTE+DR&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=8500+BLOCK+N+ARMENIA+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=8500+BLOCK+N+ARMENIA+AVE&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=1700+BLOCK+N+FRANKLIN+ST&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=1700+BLOCK+N+FRANKLIN+ST&key=xxx]8;;>

## Warning: Geocoding "1700 BLOCK N FRAN..." failed with error:

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=4000+BLOCK+S+WEST+SHORE+BLVD&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=4000+BLOCK+S+WEST+SHORE+BLVD&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=3800+BLOCK+N+22ND+ST&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=3800+BLOCK+N+22ND+ST&key=xxx]8;;>

## Warning: Geocoding "3800 BLOCK N 22ND ST" failed with error:

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=8400+BLOCK+N+10TH+ST&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=8400+BLOCK+N+10TH+ST&key=xxx]8;;>

## Warning: Geocoding "8400 BLOCK N 10TH ST" failed with error:

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=900+BLOCK+N+ASHLEY+DR&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=900+BLOCK+N+ASHLEY+DR&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=E+KENNEDY+BLVD+/+N+ASHLEY+DR&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=E+KENNEDY+BLVD+/+N+ASHLEY+DR&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=1500+BLOCK+N+PIERCE+ST&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=1500+BLOCK+N+PIERCE+ST&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=2200+BLOCK+E+27TH+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=2200+BLOCK+E+27TH+AVE&key=xxx]8;;>

## Warning: Geocoding "2200 BLOCK E 27TH..." failed with error:

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=6000+BLOCK+S+DALE+MABRY+HWY&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=6000+BLOCK+S+DALE+MABRY+HWY&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=2700+BLOCK+N+ARMENIA+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=2700+BLOCK+N+ARMENIA+AVE&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=700+BLOCK+GENEVA+PL&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=700+BLOCK+GENEVA+PL&key=xxx]8;;>

## Warning: Geocoding "700 BLOCK GENEVA PL" failed with error:

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=2000+BLOCK+E+26TH+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=2000+BLOCK+E+26TH+AVE&key=xxx]8;;>

## Warning: "2000 BLOCK E 26TH..." not uniquely geocoded, using "2000 e 26th ave, denver,  
## co 80205, usa"

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=2100+BLOCK+W+MARJORY+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=2100+BLOCK+W+MARJORY+AVE&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=900+BLOCK+E+BUSCH+BLVD&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=900+BLOCK+E+BUSCH+BLVD&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=700+BLOCK+N+FRANKLIN+ST&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=700+BLOCK+N+FRANKLIN+ST&key=xxx]8;;>

## Warning: Geocoding "700 BLOCK N FRANK..." failed with error:

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=1700+BLOCK+MARITIME+BLVD&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=1700+BLOCK+MARITIME+BLVD&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=E+SLIGH+AVE+/+N+24TH+ST&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=E+SLIGH+AVE+/+N+24TH+ST&key=xxx]8;;>

## Warning: Geocoding "E SLIGH AVE / N 2..." failed with error:

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=16200+BLOCK+BRUCE+B+DOWNS+BLVD&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=16200+BLOCK+BRUCE+B+DOWNS+BLVD&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=200+BLOCK+WESTSHORE+PLZ&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=200+BLOCK+WESTSHORE+PLZ&key=xxx]8;;>

## Warning: Geocoding "200 BLOCK WESTSHO..." failed with error:

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=S+TAMPA+ST+/+E+BROREIN+ST&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=S+TAMPA+ST+/+E+BROREIN+ST&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=3600+BLOCK+N+15TH+ST&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=3600+BLOCK+N+15TH+ST&key=xxx]8;;>

## Warning: Geocoding "3600 BLOCK N 15TH ST" failed with error:

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=20100+BLOCK+HERON+CROSSING+DR&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=20100+BLOCK+HERON+CROSSING+DR&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=4200+BLOCK+W+SYLVAN+RAMBLE+ST&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=4200+BLOCK+W+SYLVAN+RAMBLE+ST&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=3900+BLOCK+W+CYPRESS+ST&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=3900+BLOCK+W+CYPRESS+ST&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=300+BLOCK+N+DALE+MABRY+HWY&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=300+BLOCK+N+DALE+MABRY+HWY&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=I275+/+N+JEFFERSON+ST&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=I275+/+N+JEFFERSON+ST&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=3900+BLOCK+E+HILLSBOROUGH+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=3900+BLOCK+E+HILLSBOROUGH+AVE&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=GRID+ONLY&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=GRID+ONLY&key=xxx]8;;>

## Warning: Geocoding "GRID ONLY" failed with error:

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=E+PALM+AVE+/+N+15TH+ST&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=E+PALM+AVE+/+N+15TH+ST&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=500+BLOCK+E+LAKE+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=500+BLOCK+E+LAKE+AVE&key=xxx]8;;>

## Warning: Geocoding "500 BLOCK E LAKE AVE" failed with error:

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=I275+/+N+ASHLEY+DR&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=I275+/+N+ASHLEY+DR&key=xxx]8;;>

## Warning: "I275 / N ASHLEY DR" not uniquely geocoded, using "275 n ashley dr, tampa, fl  
## 33602, usa"

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=N+DALE+MABRY+HWY+/+W+KENNEDY+BLVD&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=N+DALE+MABRY+HWY+/+W+KENNEDY+BLVD&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=2500+BLOCK+N+50TH+ST&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=2500+BLOCK+N+50TH+ST&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=4700+BLOCK+W+MONTGOMERY+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=4700+BLOCK+W+MONTGOMERY+AVE&key=xxx]8;;>

## Warning: Geocoding "4700 BLOCK W MONT..." failed with error:

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=3000+BLOCK+N+AV+REPUBLICA+DE+CUBA&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=3000+BLOCK+N+AV+REPUBLICA+DE+CUBA&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=W+AZEELE+ST+/+S+HABANA+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=W+AZEELE+ST+/+S+HABANA+AVE&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=4800+BLOCK+N+FLORIDA+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=4800+BLOCK+N+FLORIDA+AVE&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=2100+BLOCK+E+IDA+ST&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=2100+BLOCK+E+IDA+ST&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=900+BLOCK+E+WATERS+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=900+BLOCK+E+WATERS+AVE&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=I275+/+EXIT+42+I275+N+ARMENIA+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=I275+/+EXIT+42+I275+N+ARMENIA+AVE&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=11200+BLOCK+N+22ND+ST&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=11200+BLOCK+N+22ND+ST&key=xxx]8;;>

## Warning: Geocoding "11200 BLOCK N 22N..." failed with error:

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=8100+BLOCK+N+ALASKA+ST&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=8100+BLOCK+N+ALASKA+ST&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=SR+60+W+NB+/+I275+N+SR+60+W+NB+RAMP&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=SR+60+W+NB+/+I275+N+SR+60+W+NB+RAMP&key=xxx]8;;>

## Warning: Geocoding "SR 60 W NB / I275..." failed with error:

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=GRID+ONLY&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=GRID+ONLY&key=xxx]8;;>

## Warning: Geocoding "GRID ONLY" failed with error:

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=3000+BLOCK+N+NEBRASKA+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=3000+BLOCK+N+NEBRASKA+AVE&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=300+BLOCK+E+LINEBAUGH+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=300+BLOCK+E+LINEBAUGH+AVE&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=N+ARMENIA+AVE+/+W+BUSCH+BLVD&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=N+ARMENIA+AVE+/+W+BUSCH+BLVD&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=2700+BLOCK+N+FLORIDA+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=2700+BLOCK+N+FLORIDA+AVE&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=5000+BLOCK+ADAMO+DR&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=5000+BLOCK+ADAMO+DR&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=SR+60+HILLSBOROUGH+RAMP+/+W+SPRUCE+ST&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=SR+60+HILLSBOROUGH+RAMP+/+W+SPRUCE+ST&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=4100+BLOCK+E+FERN+ST&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=4100+BLOCK+E+FERN+ST&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=BRUCE+B+DOWNS+BLVD+/+CYPRESS+PRESERVE+DR&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=BRUCE+B+DOWNS+BLVD+/+CYPRESS+PRESERVE+DR&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=4800+BLOCK+N+HESPERIDES+ST&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=4800+BLOCK+N+HESPERIDES+ST&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=N+40TH+ST+/+E+HANNA+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=N+40TH+ST+/+E+HANNA+AVE&key=xxx]8;;>

## Warning: Geocoding "N 40TH ST / E HAN..." failed with error:

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=N+22ND+ST+/+ADAMO+DR&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=N+22ND+ST+/+ADAMO+DR&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=4400+BLOCK+W+BAY+VISTA+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=4400+BLOCK+W+BAY+VISTA+AVE&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=3400+BLOCK+E+COMANCHE+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=3400+BLOCK+E+COMANCHE+AVE&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=SR+60+W+SB+/+W+SPRUCE+ST&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=SR+60+W+SB+/+W+SPRUCE+ST&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=E+PALM+AVE+/+N+NEBRASKA+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=E+PALM+AVE+/+N+NEBRASKA+AVE&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=N+ARMENIA+AVE+/+W+DR+MARTIN+LUTHER+KING+JR+BLVD&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=N+ARMENIA+AVE+/+W+DR+MARTIN+LUTHER+KING+JR+BLVD&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=N+ARMENIA+AVE+/+W+CURTIS+ST&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=N+ARMENIA+AVE+/+W+CURTIS+ST&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=E+SLIGH+AVE+/+N+FLORIDA+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=E+SLIGH+AVE+/+N+FLORIDA+AVE&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=E+POLK+ST+/+N+MARION+ST&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=E+POLK+ST+/+N+MARION+ST&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=SR+60+W+SB+/+W+SPRUCE+ST&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=SR+60+W+SB+/+W+SPRUCE+ST&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=3000+BLOCK+N+AV+REPUBLICA+DE+CUBA&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=3000+BLOCK+N+AV+REPUBLICA+DE+CUBA&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=MEMORIAL+HWY+/+INDEPENDENCE+PKWY&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=MEMORIAL+HWY+/+INDEPENDENCE+PKWY&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=800+BLOCK+W+WATERS+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=800+BLOCK+W+WATERS+AVE&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=7000+BLOCK+INTERBAY+BLVD&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=7000+BLOCK+INTERBAY+BLVD&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=SCOTT+ST+/+N+MARION+ST&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=SCOTT+ST+/+N+MARION+ST&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=4700+BLOCK+W+MONTGOMERY+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=4700+BLOCK+W+MONTGOMERY+AVE&key=xxx]8;;>

## Warning: Geocoding "4700 BLOCK W MONT..." failed with error:

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=E+HANNA+AVE+/+N+NEBRASKA+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=E+HANNA+AVE+/+N+NEBRASKA+AVE&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=1900+BLOCK+N+DALE+MABRY+HWY&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=1900+BLOCK+N+DALE+MABRY+HWY&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=11300+BLOCK+WINTER+CT&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=11300+BLOCK+WINTER+CT&key=xxx]8;;>

## Warning: Geocoding "11300 BLOCK WINTE..." failed with error:

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=4500+BLOCK+N+FLORIDA+AVE&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=4500+BLOCK+N+FLORIDA+AVE&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=6400+BLOCK+S+WEST+SHORE+BLVD&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=6400+BLOCK+S+WEST+SHORE+BLVD&key=xxx]8;;>

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=N+22ND+ST+/+ADAMO+DR&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=N+22ND+ST+/+ADAMO+DR&key=xxx]8;;>

## Step 1.4 - Create simpleMap object

Use the following code to create an object called simpleMap:

#get latitude and longtitude for USF  
tampa <-geocode ("usf, tampa, fl")  
tampa  
  
# obtain maps from multiple sources and zoom into the region around tampaacuse university  
tampa.map <-get\_map(location=tampa, zoom=11)  
  
# generate map and sore it in "simpleMap"  
simpleMap <- ggmap(tampa.map)  
# plot the map  
simpleMap

# Write your code below.  
tampa <- geocode("usf, tampa, fl")

## ℹ <]8;;https://maps.googleapis.com/maps/api/geocode/json?address=usf,+tampa,+fl&key=xxxhttps://maps.googleapis.com/maps/api/geocode/json?address=usf,+tampa,+fl&key=xxx]8;;>

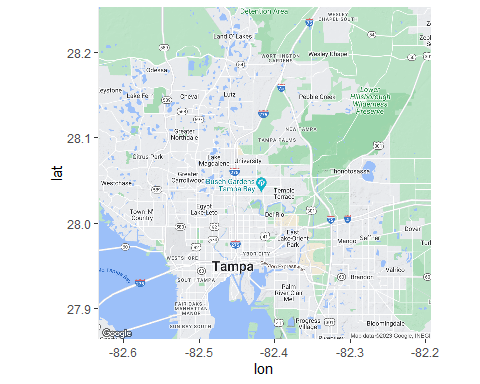
tampa

## # A tibble: 1 × 2  
## lon lat  
## <dbl> <dbl>  
## 1 -82.4 28.1

tampa.map <- get\_map(location=tampa, zoom=11)

## ℹ <]8;;https://maps.googleapis.com/maps/api/staticmap?center=28.058703,-82.413854&zoom=11&size=640x640&scale=2&maptype=terrain&language=en-EN&key=xxxhttps://maps.googleapis.com/maps/api/staticmap?center=28.058703,-82.413854&zoom=11&size=640x640&scale=2&maptype=terrain&language=en-EN&key=xxx]8;;>

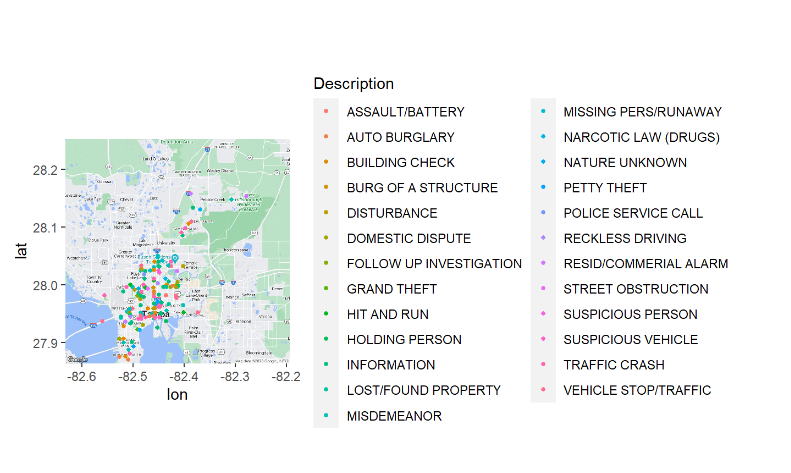
simpleMap <- ggmap(tampa.map)  
simpleMap



## Step 1.5 - Create Tampa\_crimemape

Create an object called Tampa\_crimemap based on simpleMap, where each point represents one crime.

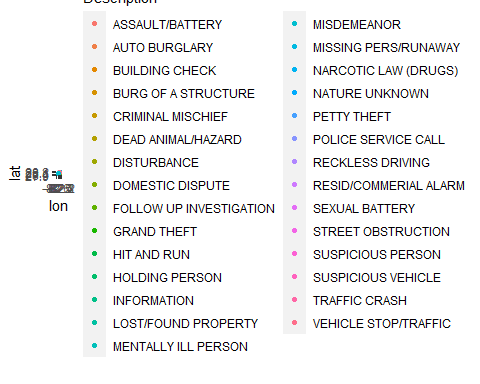
It should look like this:



Step 1.5 Map

# Write your code below.  
Tampa\_crimemap <- simpleMap + geom\_point(data=df,aes(x=Coordinates$lon, y=Coordinates$lat, color=Description))  
Tampa\_crimemap

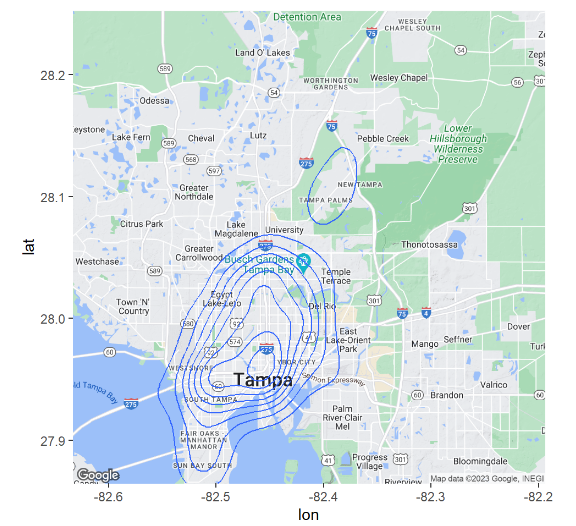
## Warning: Removed 48 rows containing missing values (`geom\_point()`).



# Step 2 - A “density map” showing the same information.

Use the geom\_density2d() function. See the documentation as well as the ggplot cheatsheet to acquire more information on this.

The plot should look like this:



Step 2 Map

# Write your code below.