

BPD_911_Calls_Analysis

Krishna

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Summary

This Shiny Web App analyzes Baltimore police department 911 calls data. See below for further details.

1. Data source for this analysis is from Baltimore Police Data Gov site.
2. Baltimore 911 calls data is available from year 2015 to current date and this app can analyze all data depending upon available resources.
3. This Application helps in answering below questions regarding Baltimore 911 calls data.
 - a. What type of 911 calls were made over given period?
 - b. How many 911 calls data were made per day over given period?
 - c. How many 911 calls data were made per hour over given period?
 - d. From which incident location, these 911 calls were made?

Load necessary libraries

```
library(dplyr)

##
## Attaching package: 'dplyr'
## The following objects are masked from 'package:stats':
##
##   filter, lag
## The following objects are masked from 'package:base':
##
##   intersect, setdiff, setequal, union

library(tidyr)
library(lubridate)

##
## Attaching package: 'lubridate'
## The following object is masked from 'package:base':
##
##   date

library(jsonlite)
```

Data used for this analysis

Fetch JSON format data from Baltimore 911 calls data gov site.

```
p911data <- fromJSON(URLEncode("https://data.baltimorecity.gov/resource/m8g9-abgb.json?$where=date_trunc
dim(p911data)

## [1] 4184800      12
```

Understand data and sample data

```
str(p911data)
```

```
## 'data.frame': 4184800 obs. of 12 variables:
## $ calldatetime : chr "2017-06-09T21:27:00.000" "2017-06-10T01:45:00.000" "2017-06-10T05:43:00.000" ...
## $ callnumber : chr "P171603281" "P171610250" "P171610633" "P171602902" ...
## $ description : chr "Traffic Stop" "Repairs/Service" "911/NO VOICE" "Lab Request" ...
## $ district : chr "CD" "ND" "SD" "CW" ...
## $ incidentlocation : chr "S PRESIDENT ST/E PRATT ST" "100" "2100 RUSSELL ST" "600 N MILTON AV" ...
## $ location_address : chr "S E PRESIDENT ST" NA "2100 RUSSELL ST" "600 N MILTON AV" ...
## $ location_city : chr "BALTIMORE" NA "BALTIMORE" "BALTIMORE" ...
## $ location_state : chr "MD" NA "MD" "MD" ...
## $ priority : chr "High" "Non-Emergency" "Medium" "Medium" ...
## $ recordid : chr "2568756" "2569429" "2569757" "2568414" ...
## $ location.type : chr NA NA "Point" "Point" ...
## $ location.coordinates:List of 4184800
## ..$ : NULL
## ..$ : NULL
## ..$ : num -76.6 39.3
## ..$ : num -76.6 39.3
## ..$ : num -76.6 39.3
## ..$ : NULL
## ..$ : num -76.6 39.3
## ..$ : NULL
## ..$ : num -76.7 39.3
## ..$ : num -76.7 39.4
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## ..$ : NULL
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## ..$ : num -76.7 39.3
```

```

## ..$ : num -76.6 39.3
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## ..$ : num -76.6 39.2
## ..$ : NULL
## ..$ : num -76.5 39.3
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## ..$ : num -76.6 39.3
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## ..$ : num -76.6 39.4
## ..$ : NULL
## ..$ : num -76.6 39.3
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```

```
## ..$ : num -76.6 39.3
## ..$ : num -76.6 39.3
## ..$ : num -76.6 39.3
## ..$ : num -76.6 39.3
## ..$ : NULL
## ..$ : num -76.6 39.3
## ..$ : num -76.6 39.2
## ..$ : num -76.7 39.3
## .. [list output truncated]
```

```
head(p911data)
```

```
##           calldatetime callnumber      description district
## 1 2017-06-09T21:27:00.000 P171603281   Traffic Stop      CD
## 2 2017-06-10T01:45:00.000 P171610250 Repairs/Service      ND
## 3 2017-06-10T05:43:00.000 P171610633   911/NO VOICE      SD
## 4 2017-06-09T19:39:00.000 P171602902     Lab Request      CW
## 5 2015-04-03T08:40:00.000 P150930733   SILENT ALARM      CD
## 6 2017-06-10T08:12:00.000 P171610820   AUTO ACCIDENT      SW
##           incidentlocation location_address      location_city
## 1 S PRESIDENT ST/E PRATT ST S E PRESIDENT ST      BALTIMORE
## 2                               100              <NA>          <NA>
## 3           2100 RUSSELL ST   2100 RUSSELL ST      BALTIMORE
## 4           600 N MILTON AV   600 N MILTON AV      BALTIMORE
## 5           1200 N CHARLES ST 1200 N CHARLES ST      BALTIMORE
## 6           2700 BLK WASHINGTON BL 2700 BLK WASHINGTON BL BALTIMORE
## location_state      priority recordid location.type location.coordinates
## 1              MD          High  2568756          <NA>          NULL
## 2              <NA> Non-Emergency 2569429          <NA>          NULL
## 3              MD          Medium 2569757          Point -76.63466, 39.26703
## 4              MD          Medium 2568414          Point -76.58223, 39.29788
## 5              MD          High   257001          Point -76.61606, 39.30356
## 6              MD          Low   2569906          <NA>          NULL
```

Explore data

```
p911data %>% group_by(callyear=substr(calldatetime,1,4)) %>% summarise(n())
```

```
## # A tibble: 5 x 2
##   callyear `n()`
##   <chr>    <int>
## 1 2015    1071776
## 2 2016    1048633
## 3 2017    1003446
## 4 2018     954487
## 5 2019     106458
```

Important Links

Data Source (JSON Format)

Baltimore 911 Calls json data api end point link is provided below.

<https://data.baltimorecity.gov/resource/m8g9-abgb.json>

Source Code

Baltimore 911 Calls analysis Source code is uploaded to Github and link is provided below.

https://github.com/krishnaitdbg/Baltimore_Police_911_Calls_Analysis

Analysis output

Shiny web App is uploaded to Shiny server and link is provided below.

https://krishnaitdbg.shinyapps.io/BPolice_911_Call_Data_Analysis/

Thank you for the visit.