## Data Challenge webpage

<http://thisisstatistics.org/policedatachallenge/>

## As of 10.17

**Variable Interpretation**

Incident type full name

<https://data.cincinnati-oh.gov/Safer-Streets/Mt-Washington-Calls-Consolidated/udr2-2dqx>

More Data Information:

<https://data.cincinnati-oh.gov/Safer-Streets/PDI-Police-Calls-For-Service-CAD-/gexm-h6bt>

Data 101

<http://thisisstatistics.org/wp-content/uploads/2017/09/Calls-for-Service-Data-101.pdf>

About the Cincinnati Police Department

<http://www.cincinnati-oh.gov/police/districts/district-1/>

<http://thisisstatistics.org/wp-content/uploads/2017/09/Calls-for-Service-Data-101.pdf>

Mapping Tutorial

<http://eriqande.github.io/rep-res-web/lectures/making-maps-with-R.html>

## As of 10.19

＊可能需要考虑的问题：

1. Police station是不是可以移动；移动的成本有多少？
2. 现在的partition/ beats的划分是根据什么规则、标准、原理、考虑来划分的？（assumption是现在的partition不是arbitrary的）——我们在我们propose的新的partition的时候可能也需要把这些原因／因素考虑在内

＊可以做的事情／潜在的目标：

1. 我们可以通过研究出警时间来figure out什么时候在哪里什么样的crime会发生
2. 根据这个可以设计一个**巡逻线路**让警察更加efficient地巡逻
3. An alternative **partition** of various regions of the city, so that the route will be the most efficient and shortest one for each police officer, given the limited working time and the fact that a police officer cannot be at every site at every moment to meet the (infinite?) need/ demand of patrol
   1. 可能需要了解更多警察的日常工作：  
      MORE RESEARCH ON:
      1. Eg 平均警力，目前每个片区（or 一定平方数 or 某中beat的划分）中的警察数，警察工作的时间range，不同时间的警察数
      2. 现在警察的路线设计中考虑了哪些问题，为什么是现在的样子
      3. 在未来，如果需要改变，最大的限制／limit是什么，在哪里
      4. 有没有什么在现实中不可克服的困难constraint了我们propose的optimal choice

### Police Districts

**Overview: Cincinnati's Police Districts**

[**http://www.cincinnati-oh.gov/police/districts/**](http://www.cincinnati-oh.gov/police/districts/)

The City of Cincinnati is divided into five Police Districts, each commanded by a captain who is responsible for operations and personnel deployment.

Police officers assigned to the districts for uniform patrol activity are generally divided into three fixed shifts. Each shift is commanded by a lieutenant. The first shift has starting times of 0600 and 0700 hours. The second shift has starting times of 1300, 1400, or 1500 hours, depending upon the service demands of each individual district. The third shift has starting times of 2200 or 2300 hours. Third shift is supplemented by a late-power shift and has a starting time between 1900 and 2100 hours. This increases field strength when the demand for police service is higher.

The districts provide uniformed patrols in a variety of ways. In addition to marked vehicle and foot patrols, each district contains a Mountain Bike Squad. These officers provide a full range of police services. The district efforts are supplemented by mounted and canine patrols as needed.

Each district has an investigative unit commanded by a lieutenant. This unit investigates crimes occurring within the district. When necessary, the unit coordinates these investigations with the Criminal Investigation Section (CIS) of the Investigations Bureau.

Each district has identified a Community Problem Oriented Policing (CPOP) liaison supervisor and an officer on each shift as a contact for the community to address recurring problems. Citizens can contact these officers via e-mail or the 24-hour CPOP cell phone. The goal is for all officers to adopt and apply the components of problem solving and community policing to address community concerns.

Each district fields a Violent Crimes Squad (VCS) supervised by a sergeant. VCS officers concentrate on responding to and investigating reports of violent crimes. They also serve outstanding warrants to arrest and incarcerate the subjects committing these violent crimes.

Each district assigns officers to perform specialized law enforcement tasks that include crime prevention, community relations, vice enforcement activities, traffic control, crime analysis, and warrant service.

Find more on: <http://www.cincinnati-oh.gov/police/districts/district-1/> for:

1. Patrol Shifts
2. Investigative Unit
3. Neighborhood Liaison Officer

### Helpful Terms

1. 311 – Non-emergency calls that are not typically included in calls for service unless otherwise specified
2. Beat – Smaller assigned geographical areas among police agencies
3. CAD – Computer-aided dispatch; method of dispatching police following a call for service
4. Calls for Service – Call typically initiated by the public and relayed through the emergency telephone service (“911”) and dispatched to local police by a dispatcher
5. Clearance – A crime is cleared or “closed” either by arrest or exceptional means, such as identifying the offender but encountering a circumstance outside law enforcement control prohibiting arrest
6. Incident – A specific criminal act involving one or more victims and offenders
7. Offense – A crime
8. Precinct/Sector/District – Larger assigned geographical areas of distinction among police agencies
9. Unit – Smaller groups of police officers, often with a particular designation (i.e. highway patrol, gang intelligence, major case, etc.)

四类变量

1. Car Accident（无论受伤与否）
   1. AUTO ACCIDENT - NO I
   2. AUTO CRASH INTO BUIL
   3. AUTO ACCIDENT INJURI
2. Shooting
   1. SHOTS FIRED
   2. SHOOTING ALREADY OCC
3. Theft and burglar in progress
   1. THEFT REPORT
   2. NON-RESIDENTIAL BURG
   3. THEFT J/O OR IN PROGRESS
   4. THEFT IN PROG/JO
4. Buglar and robbery
   1. ROBBERY REPORT
   2. ROBBERY WITH INJURIE
   3. ROBBERY W INJ POL ON
   4. BURGLARY/INTRUSION A
   5. RESIDENTIAL BURGLAR

Useless variables:

* AGENCY
* DISPOSITION\_TEXT
* EVENT\_NUMBER
* INCIDENT\_TYPE\_ID
* PRIORITY
* PRIORITY\_COLOR
* BEAT