

Motor City Eatery

Predicting the Best Locations for a New Restaurant in the
City of Detroit

Introduction

- Detroit is a city on the rise
- Metro area population of 4.2 million second only to Chicago in midwest region
- Opportunities within city due to low cost of living
- Many aspiring chefs have been moving back to open new restaurants
- Begun to be recognized as a top food city in recent years
 - “Detroit named North America’s top ‘unexpected’ food city”
 - “10 reasons why Detroit is America’s most underrated food city”
 - “Detroit is quickly becoming a great food city”

The Problem...

- Detroit is BIG
 - 142 sq. miles
- Where to open?
- Factors:
 - Current development
 - Crime
 - Proximity to attractions



Available Data to Solve Problem

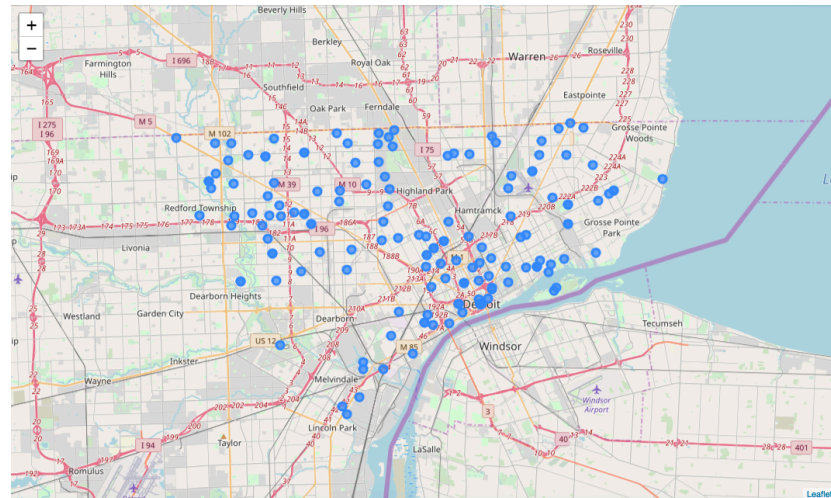
- City of Detroit public datasets
 - Names and locations of neighborhoods
 - Public safety information
 - Sale of property
- Foursquare data
 - Public API
 - Find number and types of establishments

Approach and Methodology

1. Find neighborhood centers
2. Cluster neighborhoods
3. Find incidence of crime near each cluster center
4. Locate number of restaurants near each cluster center

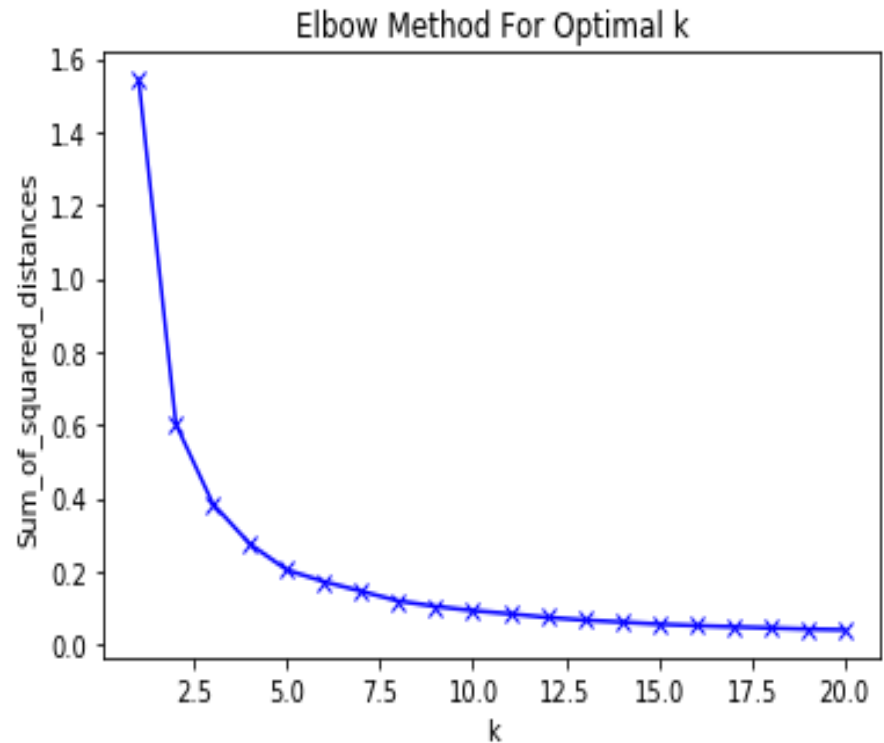
Find Neighborhood Centers

- “Neighborhoods” dataset from city
- No Lat/Long
 - Query from ArcGis

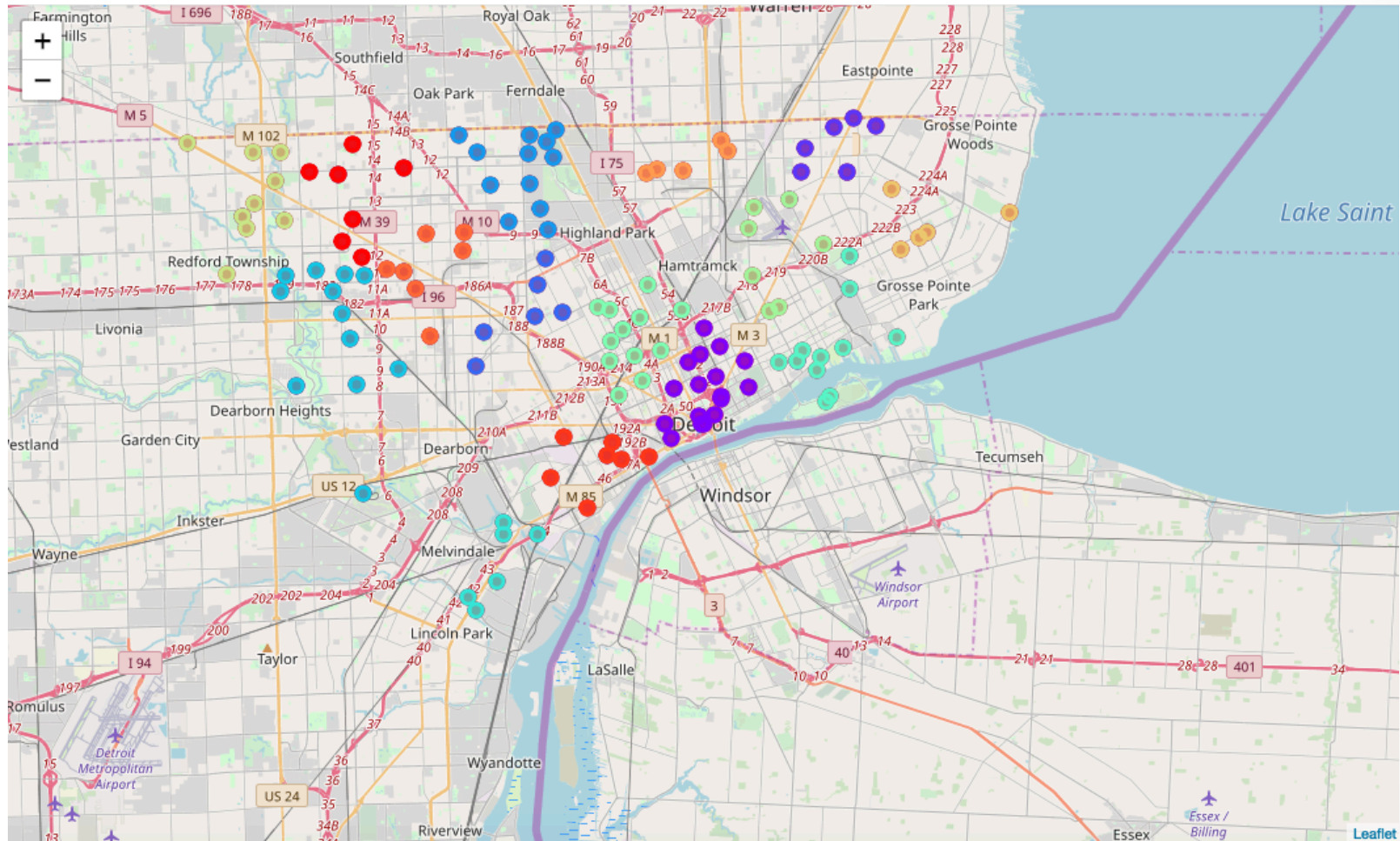


Cluster Neighborhoods

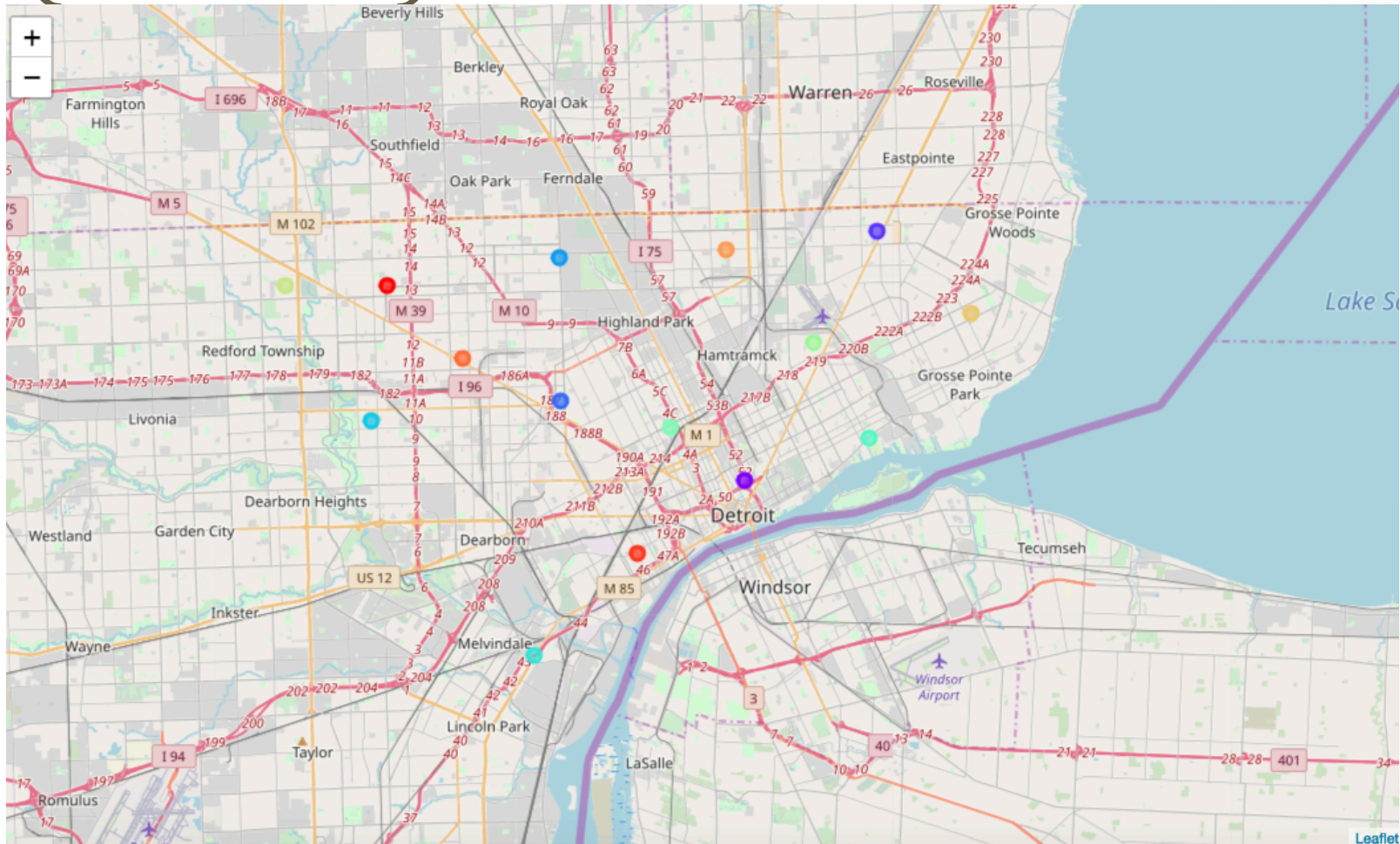
- K-Means Clustering
- Identified optimal K
 - 15



Cluster Neighborhoods

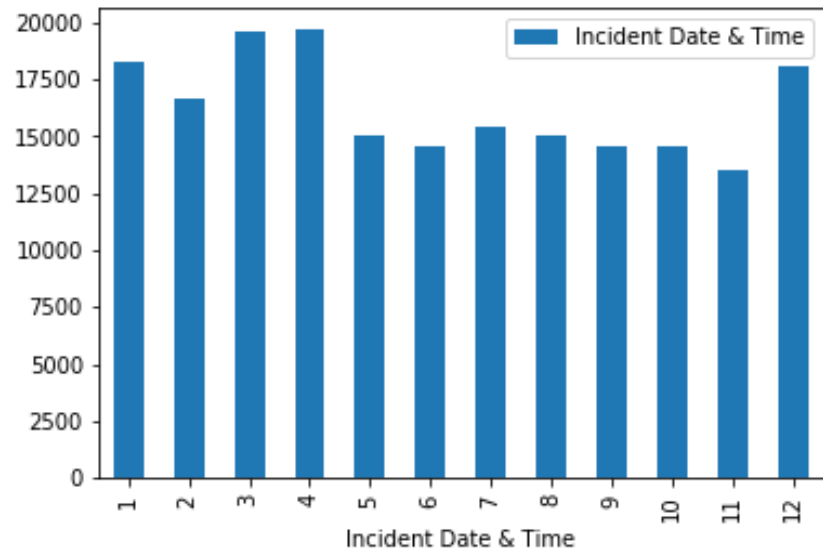


Cluster Neighborhood (Centers)



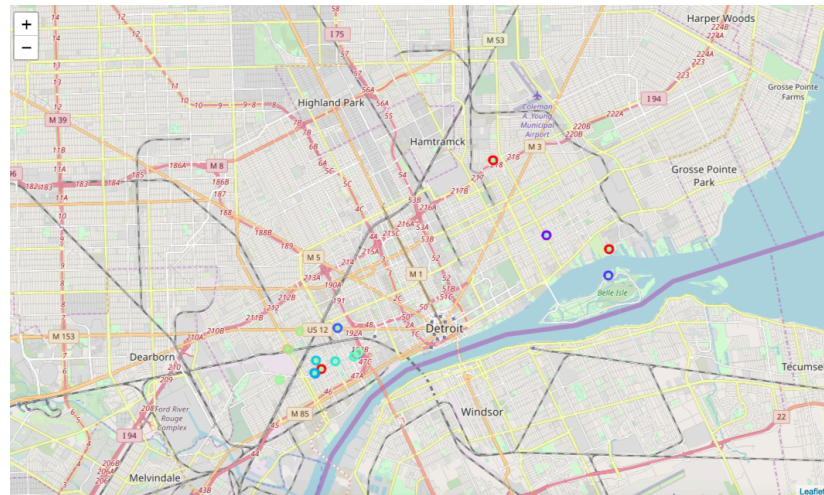
Public Safety Data

- Public safety dataset from city
 - All incidents since December 6, 2017
- Analyzed only crime within past month
 - Almost 200000 data points otherwise!
 - Snapshot to reduce data



Foursquare Analysis

- Used Foursquare query “Restaurant”
 - Find all restaurants within mile radius
- Result:
 - Southwest: 15
 - Southeast: 3
 - Northeast: 1



Discussion

- Started with 200 neighborhoods
- 3 top candidate clusters
 - Based on:
 - Proximity
 - Crime
 - Other establishments

Conclusions:

Recommendations

- Southeast
 - Proximal to many attractions
 - Lack of development currently
- Southwest
 - Proximal to downtown and new developments
 - Well developed restaurant network