

Location Options for the Pittsburgh-based, Café Cycle Mobile Fleet

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This analysis document is in partial completion of requirements for the [Applied Data Science Capstone Course](#) and the [IBM Data Science Professional Certificate](#). This section of the document completes the first requirement of the “Capstone Project - The Battle of Neighborhoods” to provide an introduction to the problem or opportunity we are trying to solve and discuss the data to be used to solve it.

INTRODUCTION/BUSINESS PROBLEM:

With the onslaught of the Coronavirus 19 pandemic, there is an increase in cycling activities for both families and individuals as persons change from indoor and group activities to outdoor and socially distanced activities. This increase in cyclists provides a likely increase in demand to provide specialty beverages (coffee) in an outdoor seating situation.

Café Cycle is a custom beverage provider that caters to the cycling community in Pittsburgh, Pennsylvania. While it has a main coffee shop in a fixed location in Pittsburgh, it recently acquired three new coffee trucks that allow the company to deliver the same products and services, along with an outdoor seating for comfort and safe social interaction.

Café Cycle would like to identify possible operating locations for its small fleet of trucks. Since it already has brand awareness within the Pittsburgh cycling community, it is looking for locations where there is a greater likelihood of cyclist to be present. It would also like to know of competitors in the area that might detract from their sales.

DATA COLLECTION AND PREPARATION

Foursquare Developers' Places API allows applications to query its Foursquare global database of venue and user content associated with business locations. These APIs are used to pull data locations of where the Pittsburgh cycling community is more likely to frequent, and group these locations into possible vicinities to place their trucks. We will also identify the competitors in the vicinity that might affect their success.

Both the possible locations and the competitors will be displayed on a map using the visualization library, Folium. For the competitors, we will also provide a list with the name and address, location, distance to a group centers, and the overall rating of the business location. We will focus on any business within a 20-mile radius of the center of Pittsburgh (where the three rivers join). The venue categories that we will filter on are below.

Cycling Community Data: Venues associated with cycling

- Outdoors & Recreation → Bike Trail
- Shop & Service → Bike Shop
- Travel & Transport → Bike Rental / Bike Share

Competitor Data: Venues associated with sit down coffee shops

- Food → Café
- Food → Coffee Shop
- Shop & Service → Food & Drink Shop → Coffee Roaster