Analysis of Current Market Competition for Conceptual Pizzeria/Bar in the Greater Pittsburgh Region

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Background: Business Case

- An immense market of both pizza restaurants and bars exists in and around the midsize city of Pittsburgh, PA

    - USA Today reported Pittsburgh, PA as ranking:
    #2 in most pizzerias per capita (9.9 per 10,000 people) [1]
    #1 in most bars per capita (11.8 per 10,000 people) [1]

- The overall, high market interest is appealing to prospective entrepreneurs; this business case explores the current competition (ideal locales to open a conceptual pizzeria/bar)

    - Data is derived from the Foursquare API, filtered down to the (25) major city suburbs containing the most venues
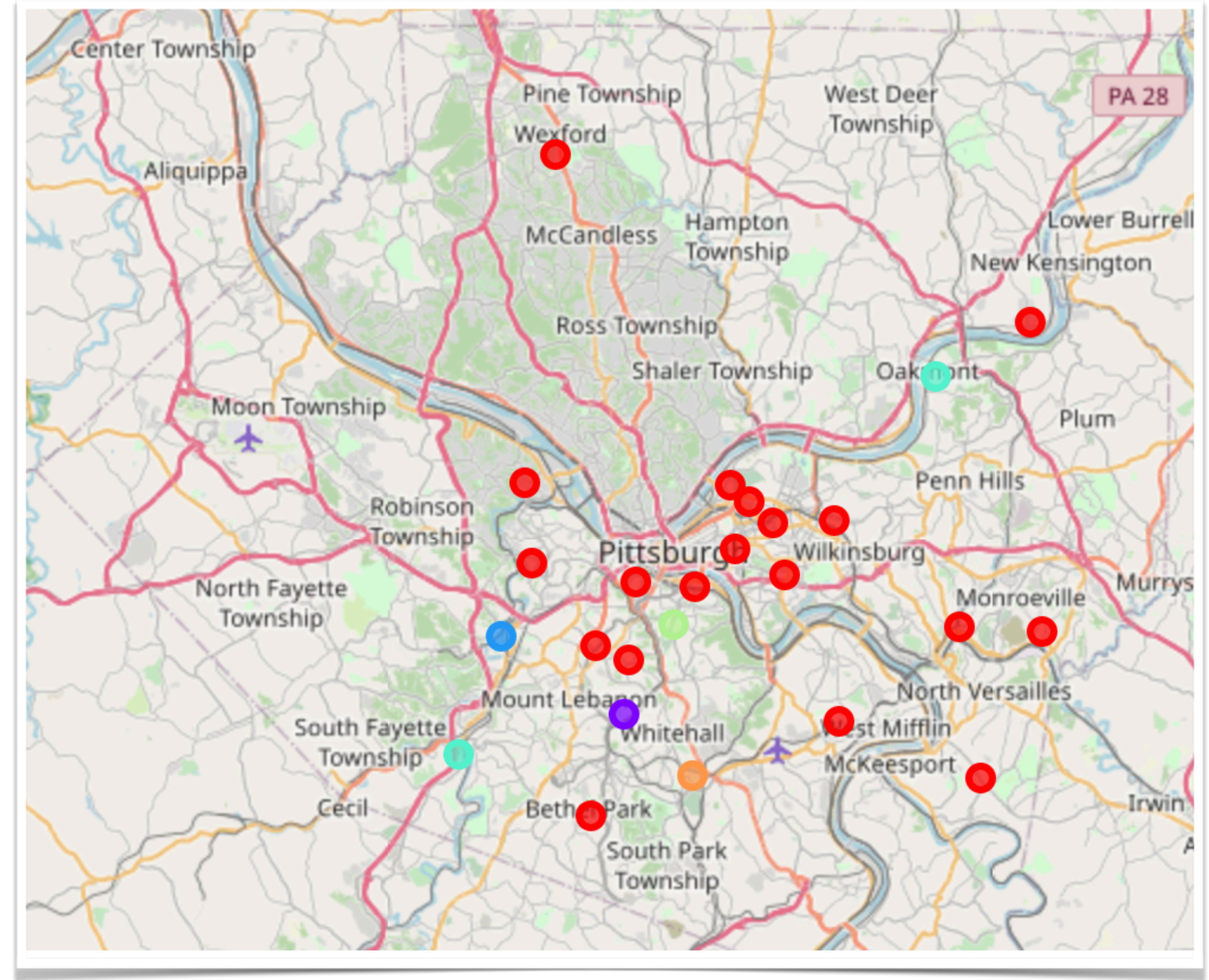
Data Acquisition & Cleaning

- **First Dataset**: Scraped from comprehensive listing of Pittsburgh **postal codes** within Allegheny County [http://www.ciclt.net/sn/clt/capitolimpact/gw_ziplist.aspx?FIPS=42003]

- **Second Dataset:** Retrievable data from open data API for **latitudinal/longitudinal coordinates** by postal code. The API is derived from the following url, where {zip} = desired postal code: [https://public.opendatasoft.com/api/records/1.0/search/?dataset=us-zip-code-latitude-and-longitude&q=zip%3D{zip}]

- **Third Dataset:** Use of *Foursquare API* —through which all relevant **Pittsburgh venues** by neighborhood were pulled

- **Data Cleaning:** All duplicated coordinates, spelling variants & null coordinates were removed, keeping only those neighborhoods containing (7) or more venues
    - This final dataset allowed for statistically significant clustering to occur
    - Limited scope to (25) Pittsburgh neighborhoods

Map of Competition

- K-means Clustering was implemented via top venues per neighborhood with (6) clusters

- Red markers indicate the cluster in which Pizzerias/Bars are most heavily-concentrated

- Largest existing competition is seen surrounding the eastern, western, and southern downtown area

- Other top Pittsburgh venues: Chinese/American restaurants, coffee shops/cafés, delis, diners bakeries, baseball fields & parks

Allegheny County: K-Means Clustering

Conclusion

- Analysis of the Pittsburgh market via Foursquare, revealed:

- **<u>Most-Underserved Area</u>** with least pizzeria/bar competition was the North Hills region, directly north of city center

- **<u>Greatest Area of Competition</u>** with most pizzerias/bars was the area within ~10 mile south/east/west radius of downtown Pittsburgh (with epicenter just southeast of city center)

References

[1] Clark, Jayne. "Where the Bars Are: Top U.S. Cities" *USA Today,* Gannett Satellite Information Network, 6-Dec-13, <www.usatoday.com/story/dispatches/2013/12/06/top-bar-and-pizza-cities/3882089/>