

A Model for Placing New Urgent Care Centers in St Louis

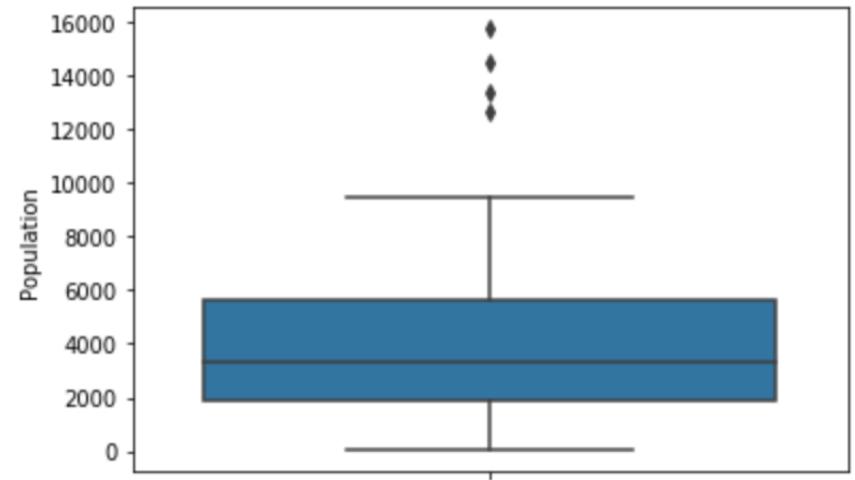
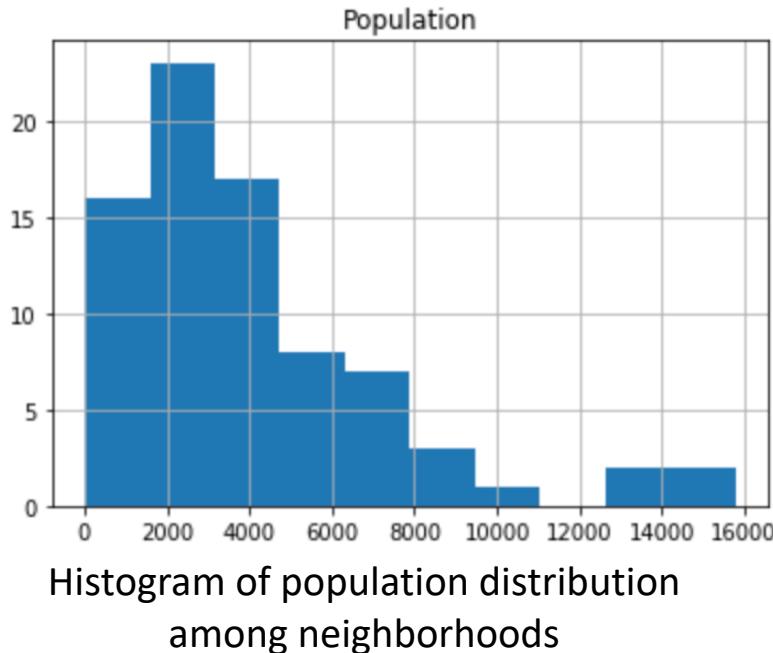
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Urgent Care Centers

- Walk-in clinics that serve communities
- The U.S. urgent care market size ~ USD 19.0 billion in 2017
- 10,000 clinic locations across the country
- Market anticipated compound annual growth rate of 6.2%
- Stakeholders: Hospitals, Physicians and Corporations.

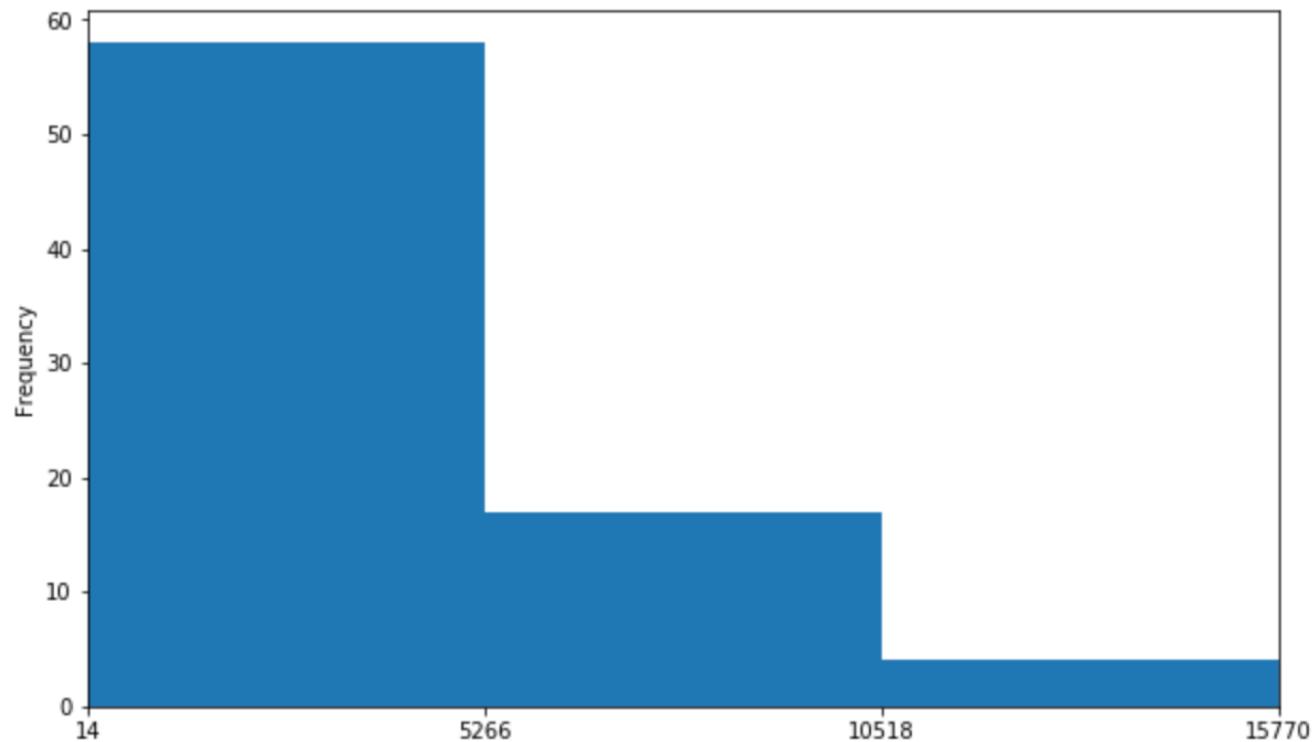
St Louis, MO

- 79 neighborhoods



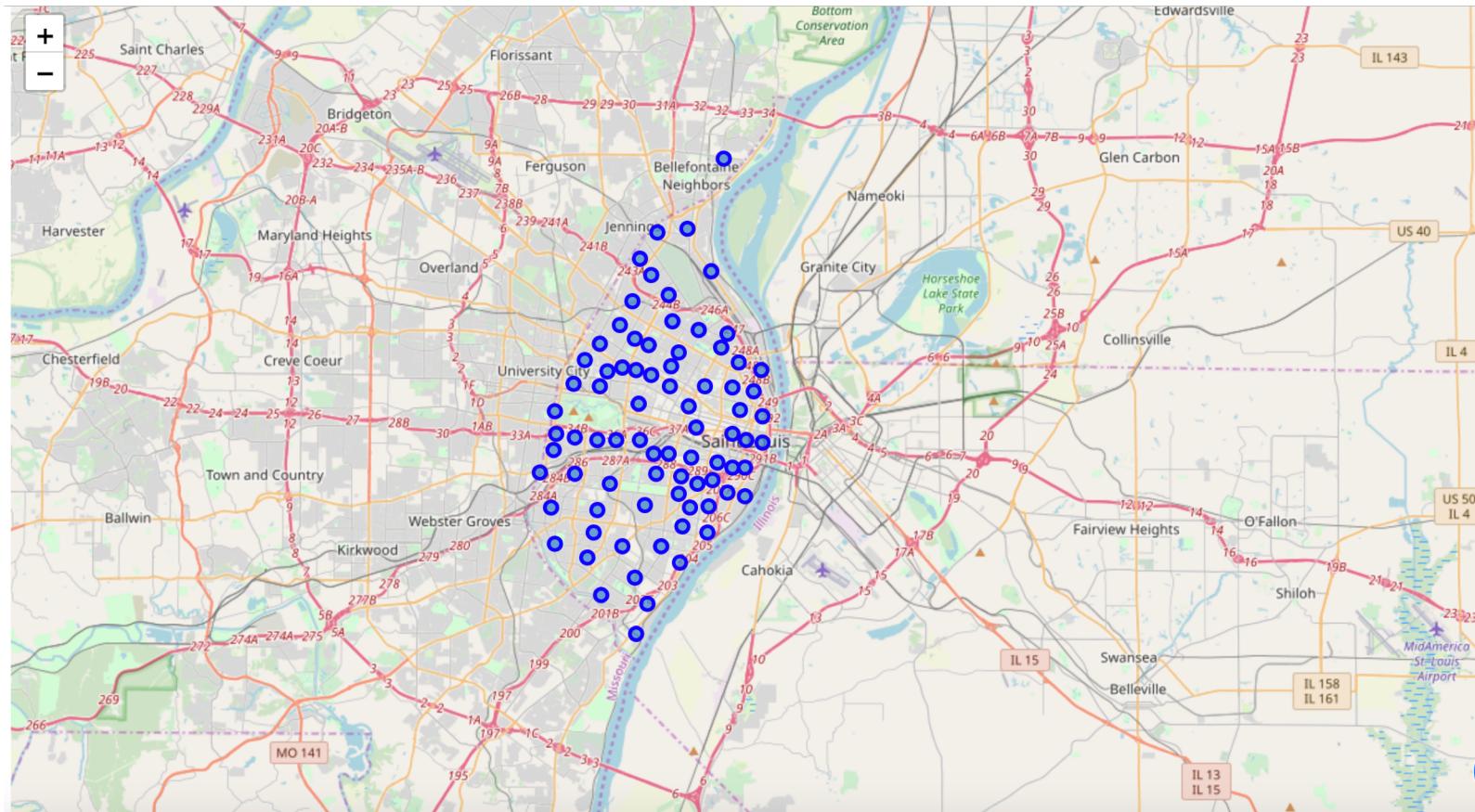
Boxplot showing median and interquartile ranges.
4 neighborhoods are outliers with population of
more than 12,000 each

Neighborhood Population

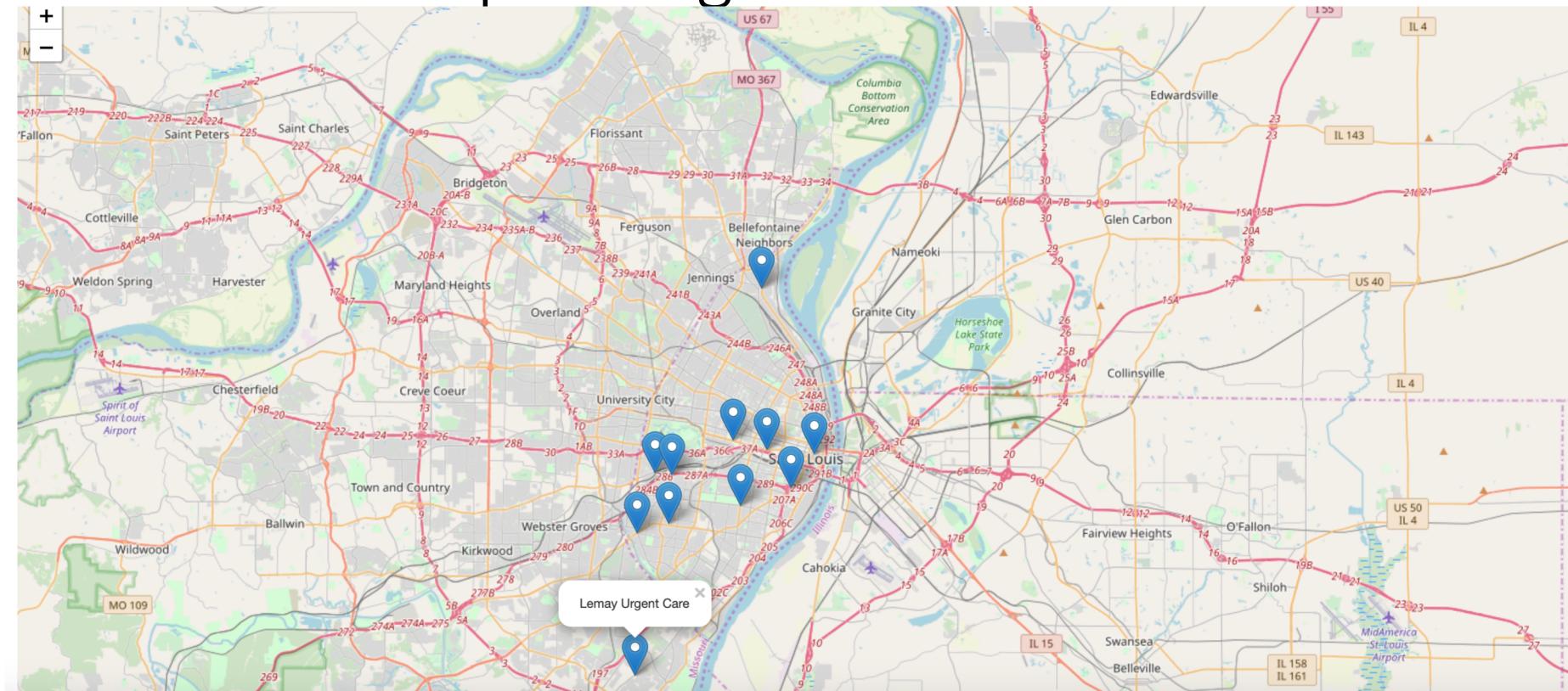


Binning population shows that most neighborhoods have a population size less than 5,266

Map of St Louis Neighborhoods

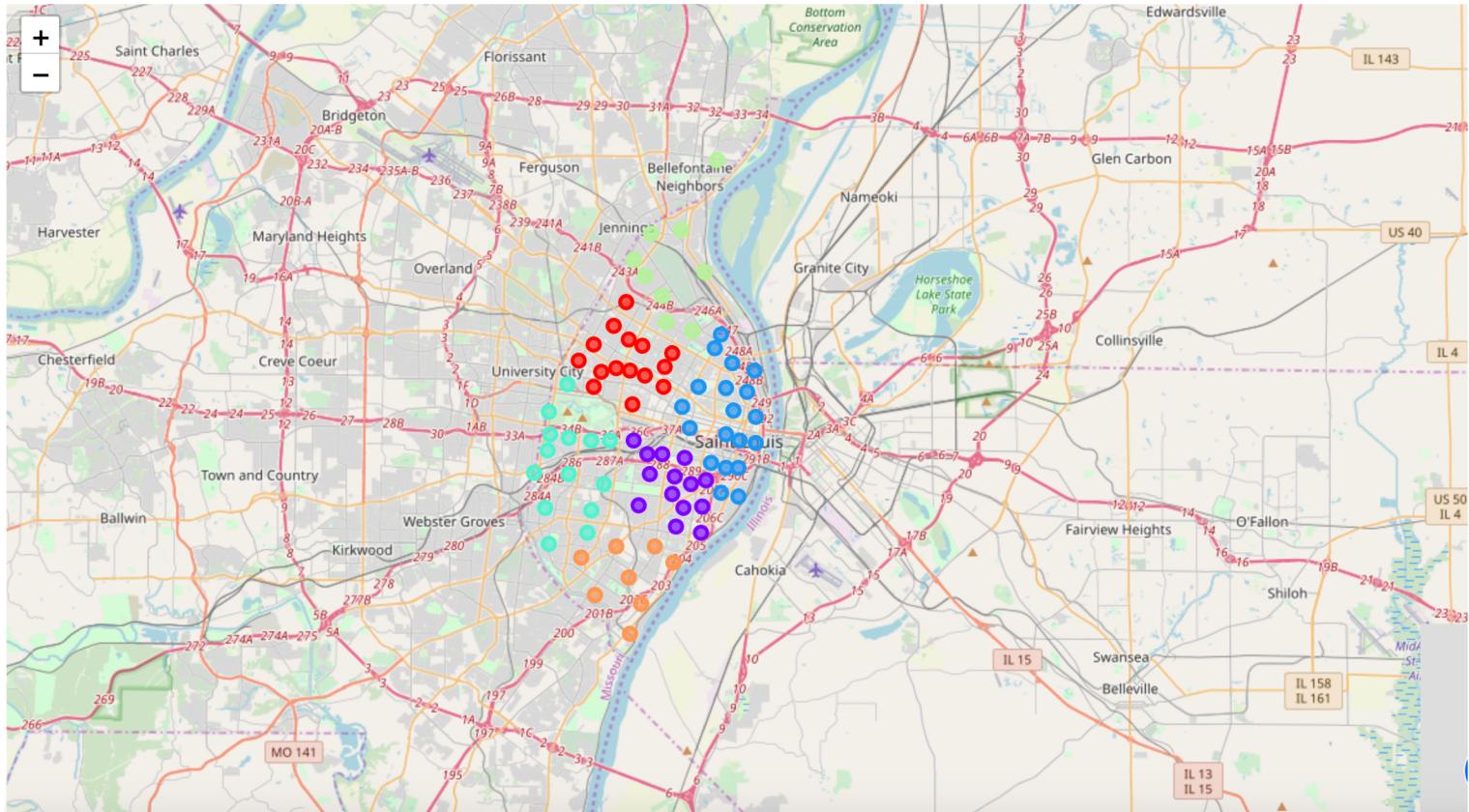


Map of Urgent Care Centers



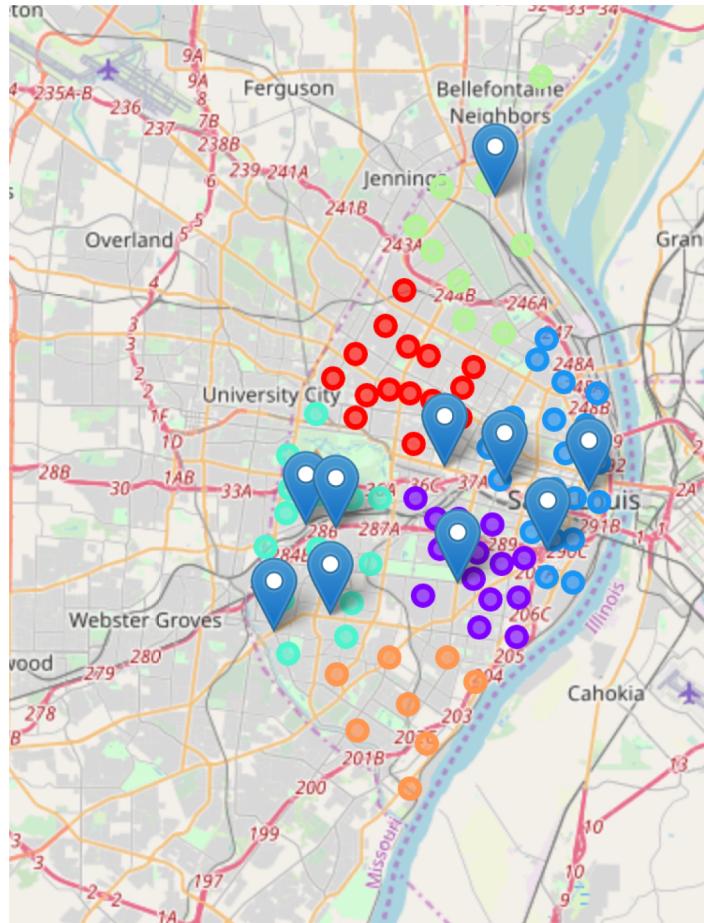
Note the highlighted “Lemay Urgent Care was removed as it is outside city limits

K-means clusters of Neighborhoods



6 clusters based on geographical coordinates. Cluster labels on next slide

Urgent Care Centers and Clusters



Cluster	Color	Position	Population
Cluster 0	Red	Northwest	58,617
Cluster 1	Purple	Southeast	55,854
Cluster 2	Blue	East	50,466
Cluster 3	Cyan	West	54,009
Cluster 4	Green	North	36,320
Cluster 5	Orange	South	64,216

Conclusion

- K-means clustering aids in highlighting areas for new centers.
- Model showed potential locations for new urgent care Centers in the south and northwest of St Louis.
- Approach can be applied to other cities

References

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- https://en.wikipedia.org/wiki/List_of_neighborhoods_of_St._Louis