

## Spatial data analysis for the City of Windsor

**Business Problem:** Which Wards in Windsor are plagued with what specific non-emergency (things like trash problems, trees down, potholes in the roads) issues and what are the recommendations to mitigate them?

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Windsor, with its safety, affordability, variety, and enjoyment, has become the place to be in Canada! It's not simply that we're close to Detroit that makes us unique. Windsor, with its steadily increasing population, is dedicated to becoming a lively destination that promotes cultural variety. City of Windsor like many other cities in Canada is a great place to live and work. It is situated across the Detroit River from the US city of Detroit and is a major contributor to Canada's automotive industry besides being culturally diverse. It has several issues which are faced by the residents and are regularly reported to **311 customer request management system** from various channels, i.e., phone, email, online self-serve, text.

(City of Windsor, n.d.)

It has various service requests under its purview (examples listed below) as initiated by respective customer's perspective.

- Portable Sign Issue
- Litter Bin - Service
- Sign Issue
- Property Flooding / Grading
- Dog Complaint - Humane Society
- Litter Bin - Request New
- Skunk Inspection
- Building Accessibility
- Sewer Project
- Swimming Pool
- Parks - Playground Issues
- Snow & Ice - Dumping on Road/Alley

Looking at the types of service requests received, it is evident that the city has its own issues to tackle. We are attempting to identify specific issues in various parts of the city by analysing the 311 service requests database performing spatial analysis on it.

### **Importance**

All the issues reported at 311, though non-emergencies, are extremely important for the overall improvement of the city as mitigation or resolving of these issues will result in better public services. Theoretically, it is a perfect way for local bodies to learn what is on the residents' minds and gather a general idea of neighbourhood's well-being.

(La Grassa, 2021)

(CBC News, n.d.)

### **Approach**

In this project, we aim to conduct spatial EDA to find out which areas in the city have reported specific issues. Out of the overall 52 categories of issues reported at 311 customer service, we target to study top 15 problem categories each of which contributes more than 2% in the overall bucket of reported issues.

Basis the outcomes of the target analysis, we plan to recommend several measures which will better the present conditions resulting in the city's overall improvement.

### **Tools**

- R – for performing EDA
- Tableau – for visualization & dashboard

### **Success indicator**

Basis the outcome of the project analysis, there will be specific measures/recommendations for improving the present conditions as reported by residents from various parts of the city.

Recommendations supplied, if implemented, may result in reduction of the issues reported.

With this, a feedback survey will be recommended to gauge the satisfaction level of the people who reported issues on 311.

### **Data sources**

This open data catalogue is available for the public at: <https://opendata.citywindsor.ca/>.

### **References**

City of Windsor. (n.d.). *20-Year Strategic Vision*. Retrieved June 3, 2022, from <https://www.citywindsor.ca/mayorandcouncil/20-year-strategic-vision/documents/windsor-20-year-plan.pdf>

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CBC News. (n.d.). *City cracking down on parking enforcement near schools, following complaints*. Retrieved June 3, 2022, from <https://www.cbc.ca/news/canada/windsor/windsor-parking-enforcement-schools-1.6205122>

### **(Group 12) - Members**

- Shubhankar Sudhir Vaidya – W0782520
- Dilpreet Singh – W0781536
- Sunil Kumar Choudhary – W0783490
- Kartik Kalubhai Kotadiya – W0779972