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# **AccessPark Vancouver**

## DSMM - Maple Mapping

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# I. PROJECT OVERVIEW

The *AccessPark Vancouver* project aims to develop a user-friendly digital tool addressing the challenges faced by individuals with disabilities in finding accessible parking spaces. Driven by Maple Mapping's commitment to inclusivity, this project utilizes the City of Vancouver's disability parking and violations datasets for data mining and analysis. The goal is to identify patterns and trends within the datasets, ultimately providing valuable visualizations and recommendations to enhance the accessibility of parking spaces for people with disabilities in Vancouver.

## II. DATA REQUIREMENTS

The datasets to be utilized for analysis are sourced from the City of Vancouver's open data portal<sup>1</sup>. The team seeks insights into enhancing accessibility in Vancouver's parking spaces, focusing on factors such as the distribution of available spaces in different local areas and the enforcement measures required by analyzing areas with high parking violations. Two key datasets are considered for a comprehensive evaluation.

- a. **Disability Parking:** This dataset encompasses designated disability parking zones and disability meter spaces strategically located in commercial districts and high-density residential areas across Vancouver. It includes information on permit usage (SPARC placard or recognized equivalent), identifying disability zones through universal symbols and disability meters through blue meter heads and signs.<sup>2</sup>
- b. **Parking Tickets:** To maintain a balance between the needs of residents, commuters, and visitors, the City of Vancouver regulates parking through its Parking Operations and Enforcement branch. The dataset includes records of parking tickets from 2020 to 2023, and the location information for ticket issuance was aggregated to a 100-block unit level, providing a detailed understanding of parking violations throughout the city.<sup>3</sup>

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<sup>1</sup> Open data portal of City of Vancouver [↗](#)

<sup>2</sup> Disability Parking dataset [↗](#)

<sup>3</sup> Parking Tickers dataset [↗](#)

By integrating datasets on Disability Parking and Parking Tickets, the team aims to provide a comprehensive evaluation that informs targeted improvements for a more inclusive and efficiently regulated parking environment in Vancouver.

### III. DATA ANALYSIS AND VISUALIZATION

With over 2 million residents and a rapidly growing population in Vancouver, it is crucial to address the accessibility challenges faced by people with disabilities. Recent research led by University of Calgary says that nearly half of the public spaces in the city are either inaccessible or partially accessible to individuals with disabilities<sup>4</sup>. Focusing on parking spaces, a vital aspect of urban accessibility, Maple Mapping team utilized Power BI to craft visualizations and conduct in-depth analyses. These offer insights into the current state of disability parking zones and violations across Vancouver, uncovering patterns and trends that can inform targeted interventions. Check the *AccessPark Vancouver* Power BI report [here](#).

#### Accessibility Parking Information

The 2017 Statistics Canada report highlighted that over 20% of the population, i.e. more than 400,000 individuals, has disabilities<sup>5</sup>. Examining the accessible parking situation in Vancouver through the provided visualization report in Figure 1, it is evident that only an average of 1 space per block is designated for people with disabilities, resulting in a total of 131 accessible parking spaces. Only three blocks have three spaces each, while 14 blocks have two spaces each. With just 5.6 spaces allocated per local area (excluding Downtown for higher accessible parking allocation), this falls short of meeting the needs of the disabled population. Moreover, the majority of designated zones are concentrated in the Northern part of Vancouver, leaving the Southern part underserved.

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<sup>4</sup> Vancouver lacking in accessibility for people with disabilities: study [↗](#)

<sup>5</sup> Persons with and without disabilities aged 15 years and over, census metropolitan areas [↗](#)

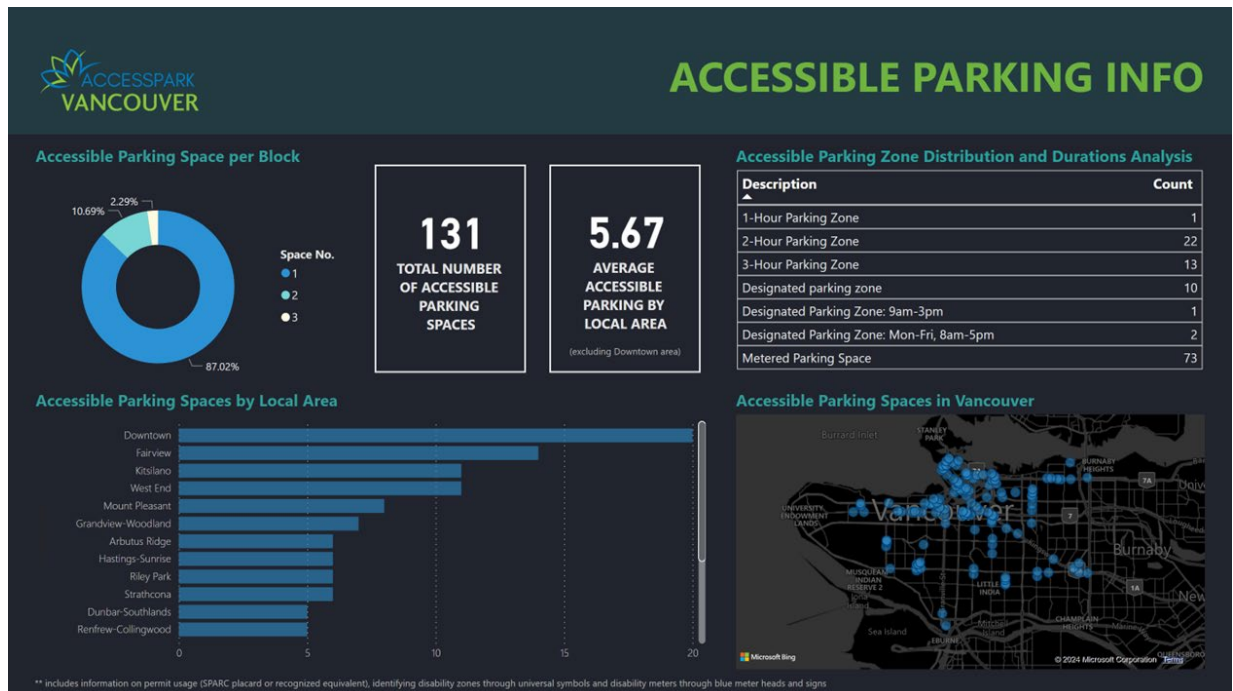


Figure 1 Data Analysis Report for Accessible Parking Information

To address this imbalance, several recommendations are proposed to improve accessible parking spaces in Vancouver.

- **Redistributing Accessible Parking Spaces:** There is a need to redistribute accessible parking spaces to align more closely with the distribution of the population. Conducting a comprehensive city-wide accessibility assessment will help identify specific areas with higher demand and insufficient provision.
- **Collaboration with Local Businesses:** Collaboration with local businesses is crucial to create additional designated spaces, particularly in high-traffic areas where accessibility is vital. This collaborative effort can involve incentivizing businesses to allocate a portion of their parking spaces for individuals with disabilities, promoting inclusivity throughout the city.
- **Establishing Community Engagement and Feedback Mechanisms:** Ongoing community engagement and feedback mechanisms should be established to ensure that any adjustments made are responsive to the evolving needs of the disabled population in Vancouver.

## Accessibility Parking Violations

From 2020 to 2023, over 15,000 tickets were issued for violations of Vancouver's Accessibility Parking By-law. Unauthorized parking in designated accessible zones is prohibited under Section 17.2(J) of Street and Traffic By-law 2849 unless a valid SPARC permit is displayed<sup>6</sup> <sup>7</sup>. In 2020, due to COVID-19 restrictions, violations were at their lowest; however, as restrictions lifted, violations increased, peaking in 2022 after the removal of entry restrictions to Canada<sup>8</sup>. While violations slightly decreased the following year, the months of January, February, November, and December recorded the highest instances in 2023 (check *AccessPark Vancouver* report [here](#) to see these details). As shown on map in Figure 2, the majority of violations occurred in northern part of Vancouver, where Downtown is located.



Figure 2 Data Analysis Report for Accessible Parking Violations

<sup>6</sup> SPARC Permit by British Columbia [↗](#)

<sup>7</sup> Vancouver's Street and Traffic By-law 2849 [↗](#)

<sup>8</sup> Canada's COVID-19 border measures data [↗](#)

To tackle the issues in accessible parking violations, the following suggestions are proposed:

- **Enhanced Enforcement in High-Violation Areas:** Strengthen enforcement efforts in regions with a history of frequent violations, particularly in Northern Vancouver, to discourage unauthorized parking.
- **Increased Penalties:** Explore the possibility of imposing more substantial fines for infractions to act as a stronger deterrent. Elevated penalties can effectively discourage non-compliance with accessibility parking regulations.
- **Implementation of Stricter Regulations and Surveillance:** Introduce and enforce more stringent rules pertaining to accessibility parking, coupled with heightened monitoring and surveillance measures. This may entail increased patrols and the utilization of technology for more efficient enforcement.
- **Community Awareness Initiatives:** Initiate programs within the community to raise awareness, educating the public on the significance of accessible parking spaces and the repercussions of violations. This can foster a culture of respect and adherence.

## IV. CONCLUSION

The analysis of accessibility parking in Vancouver has highlighted significant gaps in provision and an alarming rate of violations. To address these issues, recommendations include redistributing parking spaces, collaborating with local businesses, and establishing community engagement mechanisms. While these recommendations provide a foundation, the research could benefit from additional data, such as entry and exit records, to gain a more comprehensive understanding of parking dynamics. The ongoing *AccessPark Vancouver* project, driven by Maple Mapping, aims to develop a user-friendly digital tool using data mining and analysis from the City of Vancouver. This initiative seeks to identify patterns, trends, and visualization opportunities, ultimately offering valuable insights to enhance accessibility for individuals with disabilities in Vancouver's parking spaces.