

# EXECUTIVE SUMMARY - ARBUTUS RIDGE

## COMMUNITY CONTEXT

The Arbutus Ridge neighbourhood in Vancouver has a large senior population, with 22.8% of its residents being over the age of 64.

Approximately two-thirds of residents own their homes and approximately 14.1% of households earn more than \$200,000 per year, making this an affluent, older neighbourhood. Arbutus Ridge also has a high percentage of residents who identify as visible minorities, with 58.1% of its residents identifying as such. Of that percentage, 79.6% of the visible minority population in this neighbourhood are of Chinese

descent, based on Statistics Canada data from the 2016 census. In terms of emergency management, Arbutus Ridge residents are quite representative of Vancouver as a whole in terms of specific concerns or risks. Residents in the Arbutus-Ridge neighbourhood are driven to prepare for emergencies due to the desire to be self-reliant in cases of emergencies. People here are concerned about the impacts that emergencies have as a result of climate change in addition to the desire to prepare to keep their families safe. Residents in Arbutus Ridge are looking for information to prepare themselves in the case of emergencies, in addition to feeling overwhelmed when thinking about preparing for emergencies, which is similar to Vancouver as a whole.

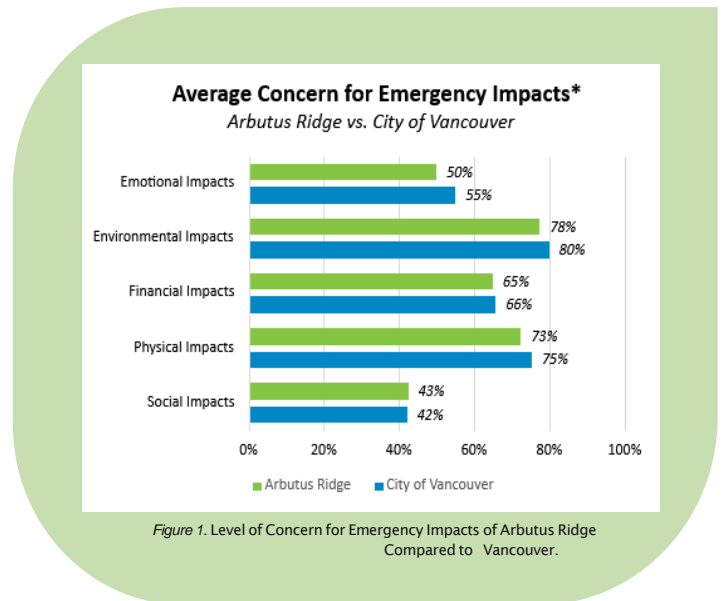
## VULNERABLE GROUPS & RECOMMENDATIONS

22.8% of the neighborhood is senior (64+), seniors may have less access to information and limited physical ability and thus should be a priority in terms of emergency preparation, and there is a high level of concern regarding earthquakes in the neighborhood.

Because of the larger senior population and their specific concerns regarding earthquakes, outreach should include direct engagement at senior centers, information available in multiple languages, and flyers delivered to homes detailing available emergency resources like emergency centers and important contact information. A potential outreach strategy could include hosting workshops on preparing emergency kits as per the Province of B.C.'s Earthquake preparedness resources. These sessions would be regularly held and done in person to ensure those who might not be as tech-savvy can access these sessions. It is important to note that Arbutus Ridge does not have a disaster support hub, so it should be a priority for the city to ensure that one is implemented, and in the meantime to communicate other nearby disaster support hubs with residents.

## ANALYSIS OF RESULTS

Even though Arbutus Ridge has a large visible minority population, 49% of survey respondents identified as being of European heritage. The City of Vancouver needs to ensure that future data collected be representative of the diversity of this neighbourhood by ensuring that surveys are available in multiple languages and through multiple formats, such as physical along with digital surveys. Additionally, people between the ages of 55 and 84 are overrepresented in this survey, and even though they do make up a large portion of this neighbourhood's population, young people between 18-24 are significantly underrepresented, which means that more outreach needs to be done to ensure that younger people are also engaged.



# EXECUTIVE SUMMARY - DOWNTOWN

## COMMUNITY CONTEXT

Downtown is home to 9.8% of Vancouver's population, and the second most densely populated neighborhood in the city. With 94% of buildings being apartments with 5+ stories, it may be difficult for the population to escape during disastrous events, as evacuation speed may be lowered.

Compared to other neighborhoods, Downtown residents show a relatively lower level of concern towards most types of emergencies, except for fire and public. As the survey was conducted in October 2024, the higher concern

towards fire may be linked to the fire breakout in the West End in the same month. Higher concern around public hazards may relate to Downtown's frequent role as a protest site. Downtown respondents also reported lower barriers in emergency preparedness and lower concern about assessing emergency evacuation and necessities. This reflects higher levels of access to resources, better infrastructure, or higher individual confidence in their ability to respond to emergencies.

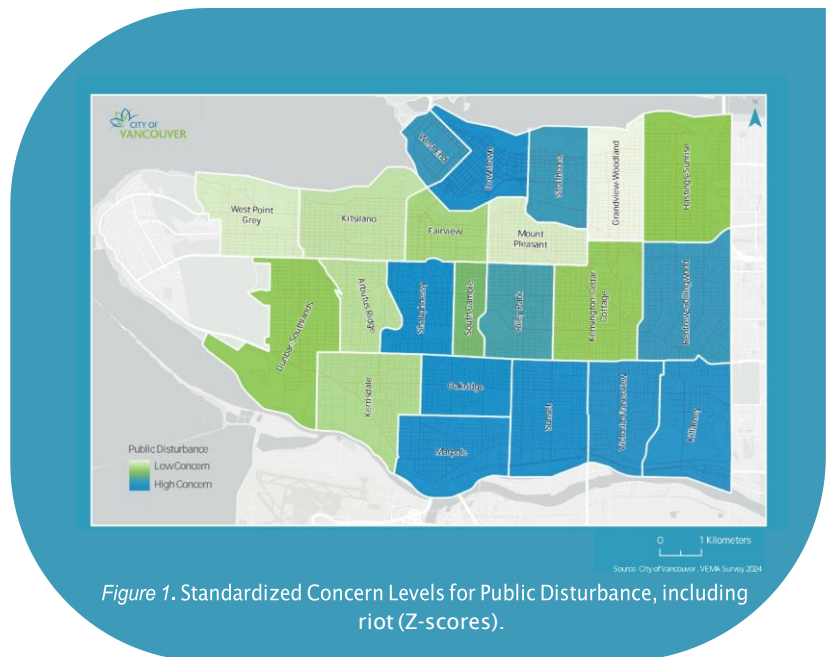
## VULNERABLE GROUPS & RECOMMENDATIONS

The social indicator report in 2020 highlighted two vulnerable groups in the community:

- The 37% of elderly living alone often have no support network. Given that the neighborhood is relatively younger, a solution may be establishing a "check-in buddy" system, where younger residents are matched with seniors to ensure their safety post-disaster.
- Although 83% population aged 18-65 are not traditionally considered vulnerable, the lower level of concern observed may reflect a lower perceived risk due to their physical ability. To improve awareness and preparedness within this group, targeted outreach through social media and digital platforms could be effective. In relation to the concern about public disturbance, the outreach content could be about civic events, their rights, and how to stay safe during demonstrations

## ANALYSIS OF RESULTS

While Downtown survey results show a relatively balanced representation in terms of gender (53% male vs. 47% female) and ethnicity (47% of European descent), the respondents are not representative of the distribution of demographics in the City of Vancouver. Respondents with incomes below \$80,000 and between \$100,000-\$150,000 were less represented, along with renters, which make up 57% of the neighborhood's population. This underrepresentation may skew the results toward perspectives of higher-income, possibly homeowner respondents, hindering the effectiveness of translating the results into targeted strategies to improve emergency preparedness.



# EXECUTIVE SUMMARY - DUNBAR SOUTHLANDS

## COMMUNITY CONTEXT

According to the 2020 Neighborhood Social Indicators Profile, Dunbar-Southlands has larger households and a higher proportion of families with children than the rest of Vancouver, resulting in more adults aged 40–60 and youth aged 0–20. The neighborhood has a higher percentage of post-secondary graduates. In 2020, the median household income was \$104,000, nearly double the city average. Rent is more expensive than the rest of the city, with nearly half of households spending 30% or more of their income on shelter. Rates of homeownership is high, and housing is predominantly single-family homes. The visible minority population is lower than the city average, though the Musqueam Reserve contributes to a larger than average Indigenous population.

VEMA survey results show residents generally have slightly higher concern for hazards than the rest of the city, with significantly higher concerns over wind hazards. Conversely, residents reported lower concern over financial and emotional impacts. In Dunbar-Southlands, residents are more motivated to prepare for emergencies, face fewer preparedness barriers and feel confident in their ability to evacuate if needed.

## VULNERABLE GROUPS & RECOMMENDATIONS

Respondents reported not feeling particularly vulnerable, but did raise concern over wind hazards. This could be due to higher levels of tree coverage in the neighbourhood. The city can implement educational campaigns and programs promoting roof maintenance, tree pruning, and surveying of tree health, identifying those who may be at risk of falling. While residents in Dunbar-Southlands are confident in their levels of emergency preparedness overall, our analysis shows that these findings are not representative of the community (see analysis for more details). Further research indicates that there is high levels of income disparity within the neighbourhood, with new immigrants and Indigenous residents significantly more likely to be low-income earners. Rising rental costs also draw speculation over the ability of renters to prepare for emergencies. To address this, the city should conduct more targeted research focusing on visible minorities, renters, youth, new immigrants, and Indigenous peoples. From this, we can make more informed recommendations on how to improve emergency preparedness.

## ANALYSIS OF RESULTS

Dunbar-Southlands was one of the best represented neighbourhoods, with only slight over- representation in its overall proportions to the rest of the city. However, we found that homeowners, high-to-very-high income earners, and seniors aged 65-74 were significantly over- represented. On the other hand, renters, residents making under \$60,000, visible minorities, and 18- 24-year-olds were under-represented. In our analysis we found that respondents who are older, have higher income, and have post-secondary degrees were more likely to respond. This likely indicates that there are barriers for those groups which were under-represented in the results.

Barriers can be as a result of things such as scarce time, lack of knowledge of survey, language barriers, a lack of knowledge on the potential for emergency, or a lack of capacity/interest to engage. From our analysis, we have raised concerns over whether the data captured in the survey accurately represents the emergency preparedness of the neighbourhoods.

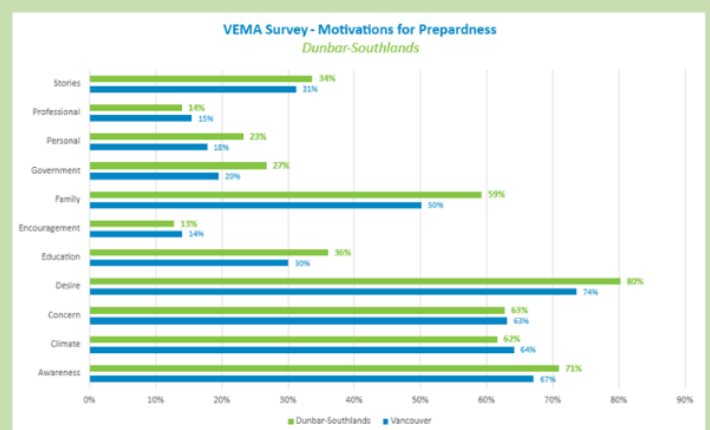


Figure 1. Motivations for Preparedness in Dunbar-Southlands Compared to Vancouver.

## Fairview – Executive Summary

### Overview:

Fairview is a centrally located neighbourhood with a high proportion of apartment dwellers, seniors, and solo households.<sup>3</sup> It has strong ties to healthcare, retail, and transit services, but faces challenges around social isolation and support systems.

### Who Responded:

Fairview was overrepresented in survey participation compared to the rest of the city but showed an underrepresentation of those making below \$20,000 per year.

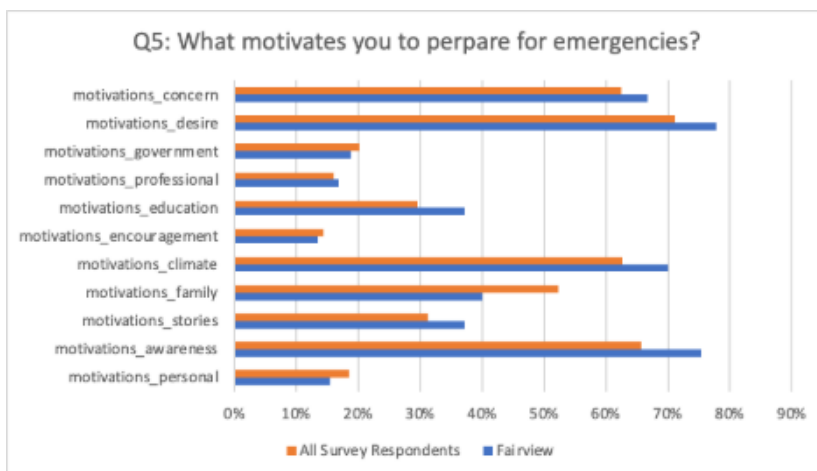
### Focus of Concern:

Residents expressed greater concern than average about social, financial, emotional and physical impacts. Consistent with responses throughout the survey, they are concerned about environmental impacts such as earthquakes, wildfire smoke, and drought. All of these concerns could seriously impact the health and mobility of older or isolated individuals. Although perceived impacts didn't differ significantly from citywide trends, respondents reported higher-than-average motivation to prepare—driven by awareness, concern, and education.

### Who Is Missing:

Households with incomes under \$20,000 were underrepresented in the survey. Census data shows the proportion of female seniors is higher in this neighbourhood than others. Therefore, there may be an underrepresentation of low-income female seniors in survey respondents.

Seniors, particularly those living alone, face added risks and may need support during emergencies. The dominance of apartment living and solo households means many residents may lack immediate support in a disaster.



**Figure 3:** Shows percentage of respondents (x-axis) who selected a given motivation (y-axis) for emergency preparedness. Raw data was collected by Vancouver Emergency Management Agency.

### Recommendations:

1. Increase outreach to renters and low-income seniors, using community clinics and social service centers as access points.
  2. Partner with building managers and tenant groups to boost emergency planning awareness in this denser area of the city due to larger apartment buildings.
  3. Promote neighbour-to-neighbour preparedness efforts, such as buddy systems and resource-sharing groups.
- Overall, create programs that reduce isolation and increase readiness, especially for people aging in place or with mobility concerns.

<sup>3</sup> 2020 Fairview Social Indicators Profile, 2020

# Grandview Woodland – Executive Summary

## Overview

Grandview Woodland is a diverse, vibrant neighbourhood known for its mix of cultures, artists, renters, and homeowners. Despite its inclusivity, disparities in income, housing, and vulnerability are significant—and those realities weren't fully captured in the survey results.

## Who Responded:

Survey participation matched the neighbourhood's overall population size, but homeowners and individuals with higher incomes (over \$150,000) were overrepresented in responses. This imbalance likely influenced the lower levels of concern around financial impact and access to resources in an emergency (Figure 1).

## Focus of Concerns:

Respondents reported less concern about extreme weather events such as cold, wind, and fire, along with public disturbances than residents in other areas. Top concerns focused on environmental and physical impacts, such as power outages or unsafe buildings after a disaster.

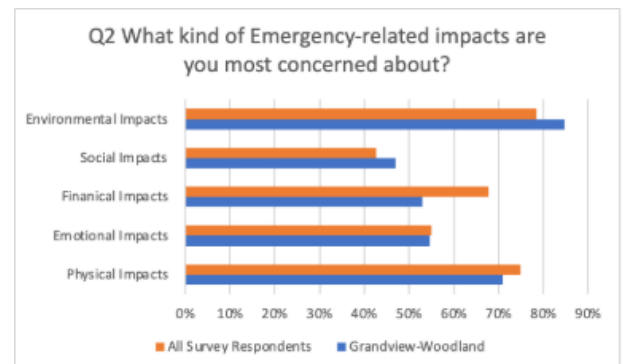
Financial impacts were rated lower than average possibly because of overrepresentation of higher income respondents. Additionally, Grandview Woodland is more confident than the rest of Vancouver in accessing shelter and essentials. Consistent with other neighbourhoods, residents were motivated to prepare by a general sense of concern, awareness of climate change, and witnessing disasters elsewhere.

## Who Is Missing:

There is a notable absence of voices from renters, especially those in subsidized housing, who make up a larger-than-average portion of the renting population in this neighbourhood. These groups often lack insurance, savings, and stable employment, making them especially vulnerable during crises. Lack of agency, empowerment, or a sense of ownership felt by non-homeowners may contribute to lower rates of survey participation.

The Indigenous population—which is higher than other neighbourhoods in the city at 7.8% of residents—also appears underrepresented, despite facing some of the city's highest poverty rates and systemic barriers to support.

**Figure 1:** Shows the percentage of respondents (x-axis) who selected a given emergency-related impact (y-axis). Multiple answers were allowed. Raw data was collected by Vancouver Emergency Management Agency.



## Recommendations:

1. Partnerships with non-profits in the area and/or local Indigenous communities who have members living off reserve present an opportunity for engagement to increase this group's representation in survey responses.
2. There is a rise in solo living in this neighbourhood which could reduce access to informal support networks. Reaching these populations could offer an opportunity to explore ways to connect solo-living residents with their neighbours. Connecting with individuals through neighbourhood clubs, recreation leagues, etc. could provide community access to this population. Additionally, outreach in local businesses and apartment buildings could offer an avenue for advertisement of resources available. This could also establish connection points with VEMA for the purpose of public engagement and education.
3. Invest in community cohesion and peer-to-peer preparedness evaluations through comprehensive engagement with community and targeted informational resources. Understanding this dynamic could help to bridge gaps between high-income and low-income residents to foster mutual support.

## Hastings Sunrise – Executive Summary

### Overview:

Hastings Sunrise is a growing, family-oriented neighbourhood with a strong sense of place and a large immigrant population, particularly Chinese-speaking residents. It also has a mix of old and new housing, some of which may pose challenges during emergencies.

### Who Responded:

While overall participation was representative of the neighbourhood size, there was no representation from households in the \$40K–\$60K range—a significant gap, as they make up around 13% of this population.<sup>1</sup> As a result, the data may not reflect the experiences of a large portion of working-class households.

The survey respondents of Hastings Sunrise *are* representative of the rental/homeowner demographics of this area.

### Focus of Concern:

Residents expressed greater-than-average concern about earthquakes and hazardous materials, likely due to aging infrastructure/housing and proximity to industrial zones. As reflected in other neighbourhood survey responses, top concerns included environmental damage, physical injury, and financial hardship.

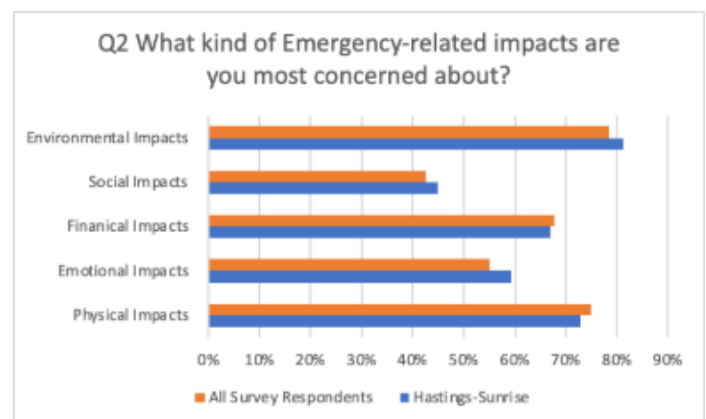
The motivations for emergency preparedness were consistent with the rest of the survey respondents: desire to be ready, climate change, and exposure to global disasters.

### Who Is Missing:

The Chinese-speaking population in this neighbourhood makes up 41% of the mother-tongue languages spoken and are underrepresented in survey respondents. This may be due to language and cultural barriers.

Families are a critical demographic in this neighbourhood with higher proportions of families living in this community compared to other neighbourhoods in the city. Given the income levels that were underrepresented and the fact that families (particularly families in this income demographic) might not have the time or financial resources to participate. Therefore, it's possible they are also not fully represented in this data.

**Figure 2:** Shows the percentage of respondents (x-axis) who selected a given emergency-related impact (y-axis). Multiple answers were allowed. Raw data was collected by Vancouver Emergency Management Agency.



### Recommendations:

1. Offer translated educational materials and culturally appropriate outreach, especially for Mandarin and Cantonese speakers.
2. Engage community-based organizations that serve middle-income and immigrant families. This could include Kiwassa Neighbourhood House which offers Newcomer Settlement Services and Support in the Hastings Sunrise area.
3. Involve schools and youth programs as key platforms for preparedness messaging. VEMA should consider allowing survey participation from everyone in a household instead of just 'heads of the house', to increase youth and inclusive family representation.
4. Focus on family-based strategies, such as recommendations 1 and 2, that reflect the importance of intergenerational resilience as families and youth play a major role in the neighbourhood, with children often acting as translators or information conduits in multi-generational homes.<sup>2</sup>

<sup>1</sup> Statistics Canada, 2020.

<sup>2</sup> Benavides et al. (2020)



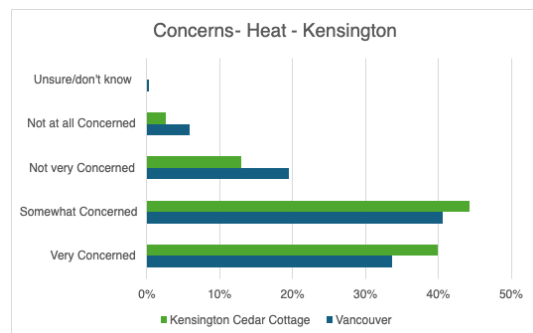
# Executive Summary: Kensington Cedar-Cottage

Kensington Cedar-Cottage (KCC) is a primarily residential and middle-income neighbourhood where survey respondents reveal unique trends reflecting both strengths and gaps in community resilience. However, this may be influenced by an overrepresentation of higher-income individuals in the sample. As a result, the data may not fully capture the realities of lower-income or more vulnerable populations in the neighbourhood. Understanding limitations in data is essential for designing equitable and inclusive emergency planning and outreach strategies.

## Essential Survey Takeaways

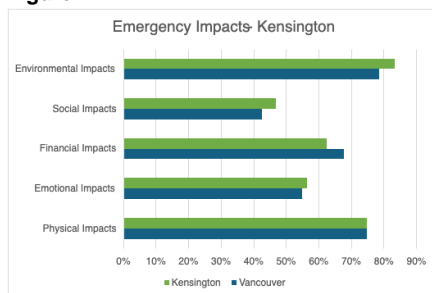
Respondents reported higher extreme heat concern than the rest of the City. This may be linked to a high concentration of semi-detached housing and low-rise apartments, with 44% of homes rented. This means less control over building materials, cooling options, or retrofits that reduce indoor heat. Nearly 45% of residents commute by walking, biking, or public transit, exposing them to heat during commutes (COV 2020). Additionally, the 2022 Vancouver Tree Canopy Assessment reports only a 20% tree coverage in KCC, reducing natural shade and increasing heat exposure (Diamond Head Consulting 2022).

Figure 1.



## Representation and Recommendations

Figure 2.



Respondents reported higher confidence in finding alternative shelter during emergencies than the rest of City. While the neighbourhood has fewer low-income residents than average, higher-income individuals were overrepresented and financial concerns appeared lower. VEMA should engage middle-class residents and families through schools and homeowners' networks. Prioritizing data collection and outreach from underrepresented groups is

also essential. This includes those in shared and supportive housing, with Cedar Cottage Neighbourhood House (CCNH) as a potential partner organization in the area. VEMA should focus on messaging to address the heightened risk of extreme heat and residents' unequal capacity to respond to it by promoting accessible cooling support and resources through libraries and community centres in KCC.

## **Kerrisdale: Executive Summary**

### **Introduction**

Kerrisdale is primarily residential neighbourhood in southwestern Vancouver characterized by its mature trees and mix of single-family homes, low-rise apartments and shopping streets. The neighbourhood is bounded by 41<sup>st</sup> Avenue to the north, the Fraser River to the south, Blenheim Street to the west, and Granville Street or Angus Drive to the east. Kerrisdale is home to 2% of Vancouver's population with a significant proportion of older adults: in 2016, 19% of residents were over the age of 65 and the median age was the second highest in Vancouver. At 24 persons/ha, Kerrisdale has one of the city's lowest population densities and experienced a 5% drop in population between 2011 and 2016. Single-family dwellings make up just over half the housing stock and only 34% of households are rented, compared to 53% across the city. 58% of Kerrisdale residents belong to visible minority groups and 48% have a non-English mother tongue.

### **Survey Responses**

65 Kerrisdale residents out of about 13,975 completed the VEMA survey, representing 0.46% of the neighbourhood's population. Kerrisdale is slightly overrepresented amongst survey respondents. Notably, 66% of respondents from Kerrisdale were over the age of 55. Though the \$150,000+ annual household income bracket was significantly overrepresented at 31% of respondents, it is important to note that this category is broad and may represent a wide range of lived experiences. There is also a sharp divide in income by immigration status in. Survey respondents from Kerrisdale expressed more concern about windstorms and power outages than respondents from Vancouver as a whole. Otherwise, levels of concern about hazards were largely consistent with the rest of the city. Earthquakes and poor air quality were the most concerning hazards for Kerrisdale residents, while public disturbances including riots were the least. It is important to acknowledge this survey's limitations. First, the sample size is small and may not accurately reflect the experience of the majority of the neighbourhood's residents. People without the time, dedicated interest, and/or ability to fill out an online survey may not be captured in the respondent pool. Relatedly, barriers to accessing and using technology may further limit who is able to respond. It can also be difficult to ensure adequate outreach to unhoused populations for this type of data collection. Additional measures may need to be taken to understand key concerns for unhoused individuals as they are often among the most vulnerable during emergencies. Finally, while write-in responses to questions can provide valuable insights, we were unable to include them in our analysis due to time and capacity constraints.

### **Priority Audience: Younger Residents & Immigrant Population**

Residents between 18 and 44 years of age made up only 20% of Kerrisdale survey respondents, highlighting a need for additional outreach to understand this group's specific concerns and preparation for emergencies. It is relevant to note that seniors can be disproportionately vulnerable to impacts from hazards and seniors in Kerrisdale are more likely to live alone than other Kerrisdale residents (City of Vancouver, 2020). Even so, the noticeable gap in survey responses from younger adults indicates a mismatch between which groups the survey reached and the general population. Exploring intersections between age and income, immigration status, housing tenure, and other demographic characteristics could provide insight into how to increase younger adults' participation in future surveys. Similarly, due to Kerrisdale's income disparity based on immigration status, it would be useful to explore variation in survey responses between immigrants and non-immigrants and across different income brackets.

The high rate of responses from older adults may suggest that Kerrisdale's older population is engaged in emergency preparedness efforts and/or has been effectively targeted by this survey. To continue this pattern, it would be useful to communicate emergency preparedness information on the Vancouver.ca website and through newsletters, which were the two most preferred communication methods among survey respondents from Kerrisdale. Resources for responding to windstorms and power outages should be considered for prioritization due to their high relevance to residents' concerns.



## **Killarney: Executive Summary**

### **Introduction**

Killarney, located in South Vancouver, extends from 41<sup>st</sup> avenue in the North to the Fraser River in the South. The neighbourhood is bordered by Boundary Road and Burnaby to the East, and Earles, Vivial or Elliot Streets in the West. The neighbourhood has a population of 29,325 or 5% of Vancouver's total population. Killarney has an aging population with 18% of residents being above the age of 65. The neighbourhood has large stock of single-family dwellings and is made up by 54% renters. 72% of the neighbourhood are visible minorities, and 58% have a non-English mother tongue.

### **Survey Responses**

70 Killarney residents completed the VEMA survey, representing 0.24% of the total population of the neighbourhood. Killarney is underrepresented in the survey results, with an expected response of 110 and an actual response of 70 (95% certainty). Overall, environmental, physical and emotional impacts of hazards are of significant concern to Killarney respondents compared to other neighbourhoods. Killarney respondents viewed a lack of information and money as significant barriers to readiness compared to other neighbourhoods. Similarly, a significant number of survey respondents stated that it was overwhelming to think about emergency planning and preparedness. Residents here are more concerned about cold weather and snowstorms events than other Vancouver neighbourhoods (95% certainty). They are also more concerned about windstorms and power outage events when compared with other Vancouver neighbourhoods (95% certainty).

It is important to understand that this survey has noticeable limitations. Often, people without the time, special interest, and/or ability are unable to fill out these surveys. This fact is further limited by potential barriers to accessing technology to complete an online response sheet. Lastly, it is difficult to account for unhoused populations in this type of data collection, specific additional measures may need to be taken to understand impacts on unhoused groups as they are often the most vulnerable in times of emergency.

### **Priority Audience: Low Income Renters and Seniors 65+**

Renters and low-income individuals are underrepresented in the survey responses (95% certainty). Considering that renters are the dominant tenure type in the neighbourhood, they are a key demographic not currently captured. We recommend considering efforts that focus on building collective preparedness as opposed to individual preparedness. Exploring programming opportunities that strengthen collective resilience between neighbours, particularly in multi-unit rentals will also be beneficial. Place-based organizations are an important community-resource for many low-income renters, developing partnerships with organizations to leverage their existing networks and programs can help reach this demographic.

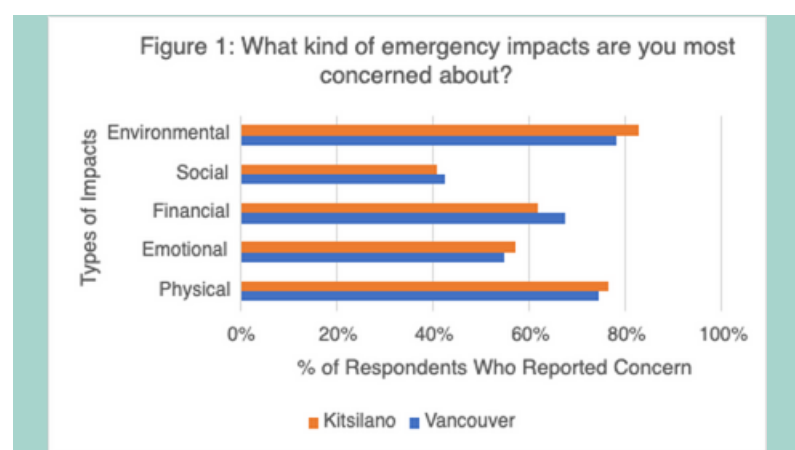
While seniors are overrepresented in the survey results, it is possible that their overrepresentation is due to higher concern about emergencies from this demographic. Seniors are disproportionately more at risk to impacts from hazards, for example, 67% of fatalities in the 2021 heatwave were seniors. Additionally, Killarney has an aging population, and a high percentage of seniors living alone. Identifying Killarney's NORCS (Naturally-occurring-retirement-communities) and senior gathering spaces will provide information on where to give free, informational workshops geared towards preparedness. Seeing as extreme weather events are a top concern for

# VEMA SURVEY EXECUTIVE SUMMARY: KITSILANO NEIGHBOURHOOD

**Data Limitations:** As a percentage of Vancouver's population, Kitsilano residents are over-represented in this survey. When we compare Kitsilano survey data with Kitsilano census data, we observe that a disproportionately large number of respondents owned their dwelling (as opposed to rented) and earned incomes above the Kitsilano average. Therefore, this analysis is limited by under-reporting perspectives of renters and lower-income residents in Kitsilano<sup>1</sup>.

## ANALYSIS:

We can say with a high degree of confidence that Kitsilano respondents, as compared to respondents from other areas of Vancouver, had higher levels of concern about earthquakes and coastal spills (2/13 hazards), as well as lower levels of concern regarding extreme cold, disease outbreak, and public disturbances (3/13 hazards). In all the other hazard areas identified in the survey (remaining 7/13 hazards), there was no noteworthy statistical difference between Kitsilano and the rest of Vancouver. Importantly, this does not mean that Kitsilano residents are not concerned about the other hazards, but rather that their level of concern is aligned with other neighborhoods. Overall, Kitsilano was most worried about earthquakes and wildfires, including the associated smoke.



There was also statistically significant data to show that Kitsilano residents are most worried about the environmental impacts of emergencies and least worried about the financial impacts, as compared to Vancouver averages. This trend can be observed in Figure 1 to the left. Additionally, our group identified noteworthy results for survey question #7: in the event of evacuating their home during an emergency, Kitsilano respondents were more confident than other Vancouver respondents that they would be able to arrange another place to stay, as well as replace food,

clothing and other essentials for themselves. All of these findings align with 2016 census data, which shows that Kitsilano exhibits high incomes and low levels of recent immigrants: factors that indicate reduced financial fear and greater chances of having long-term relationships to help in emergency situations<sup>23</sup>. Finally, Kitsilano respondents were motivated to prepare for emergencies primarily out of general concern and a desire to be self-reliant, no other external motivations were specified.

## RECOMMENDATIONS:

Evidence suggests that the most vulnerable population groups to emergencies include people with disabilities, language barriers, low incomes, or elderly people<sup>4</sup>. Of these groups, the elderly represent the largest proportion in Kitsilano. For example, in Kitsilano, the percentage of seniors (65+) living alone is 12% above the Vancouver average, while 99% of the population has English-language knowledge (low language barriers)<sup>5</sup>. Therefore, our group recommends an outreach strategy that (1) emphasizes information on earthquakes, wildfires, spills, and environmental impacts; (2) focuses less on arranging alternate places to stay in emergencies; and (3) targets Kitsilano seniors in the areas where they reported preference in receiving information - including community centres, newsletters, and the City of Vancouver website.

1. For further analysis on how these conclusions were reached, see A4 Supplementary Information file

2. Statistics Canada. (2016). 2016 Census of Population

3. Keep in mind - this takeaway could be applied with reduced importance, as we observed lower-income renters were under-represented within Kitsilano

4. Stel, M., Ketelaar, D., Gutteling, J., Giebels, E., Egtberts, M., Kerstholt, J., & Stel, I. (2019). Vulnerable Groups in Emergencies: When and Why are They at Risk?. University of Twente.

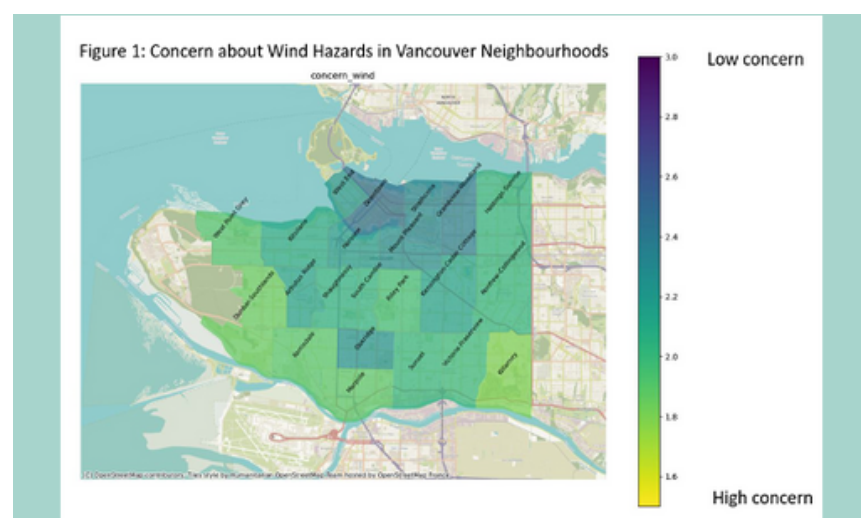
5. Statistics Canada. (2016). 2016 Census of Population

# VEMA SURVEY EXECUTIVE SUMMARY: MARPOLE NEIGHBOURHOOD

**Data Limitations:** Unlike Kitsilano or Mount Pleasant, Marpole respondents in the VEMA survey closely matched the neighbourhood's actual demographics, particularly in terms of housing tenure and income levels. The survey data showed no statistically significant overrepresentation or underrepresentation by renters versus owners, or by income category. Therefore, this analysis has a higher degree of representativeness than some other neighbourhoods and likely reflects the broader perspectives of Marpole residents<sup>1</sup>.

## ANALYSIS:

Through analysis of the survey, Marpole respondents, as compared to respondents from other areas of Vancouver, had higher levels of concern regarding windstorms (1/13 hazards), as can be seen in Figure 1. In all other hazard areas identified in the survey (remaining 12/13 hazards), including earthquakes, heat, wildfire smoke, drought, and disease outbreaks, there was no statistically significant difference between Marpole and the rest of Vancouver. Importantly, this does not mean that Marpole residents are not concerned about these hazards, but that their level of concern is aligned with other neighbourhoods. When examining the types of impacts residents are most worried about during



emergencies, Marpole, again showed no statistically significant deviation from the city average. Environmental, financial, and health-related concerns were all noted as at rates consistent with other parts of Vancouver. Similarly, residents' motivations for preparing for emergencies did not stand out. The responses around personal drive, general concern, or specific external motivators fell within expected ranges. Barriers to preparedness, such as time, cost, or lack of information, were also not statistically distinct from Vancouver-wide patterns. We also

identified results for survey question #7 regarding evacuation confidence. While not statistically significant, Marpole respondents expressed slightly less confidence than Vancouver averages when asked if they could arrange an alternate place to stay or replace food, clothing, and other essentials during an emergency. This trend could suggest fewer social connections or financial resources to draw upon in the case of displacement. However, the small difference means this finding should be interpreted cautiously<sup>2</sup>.

## RECOMMENDATIONS:

Given the statistical analysis of Marpole's survey sample and the overall alignment of concerns and preparedness with city-wide averages, our group recommends a general emergency preparedness outreach strategy for this neighbourhood. Specifically, communication material by the city should include a greater emphasis on windstorm awareness for non-English speakers, as this is the one area where Marpole residents expressed above-average concern<sup>3</sup>. As no single demographic was notably overrepresented, emergency messaging in Marpole should be (1) broad-based and accessible on different platforms (digital and printed), with a focus on (2) inclusive communication through various immigrant community groups, (3) translated resources, and (4) established local networks for emergency preparedness.

1. For further analysis on how these conclusions were reached, see A4 Supplementary Information file

2. Marpole respondents reported slightly higher mean values, but these were not statistically significant for ability to find a place to stay and replace food/clothing/essentials. There is a subtle trend suggesting slightly lower confidence compared to the Vancouver average, but it can not be said with statistical certainty.

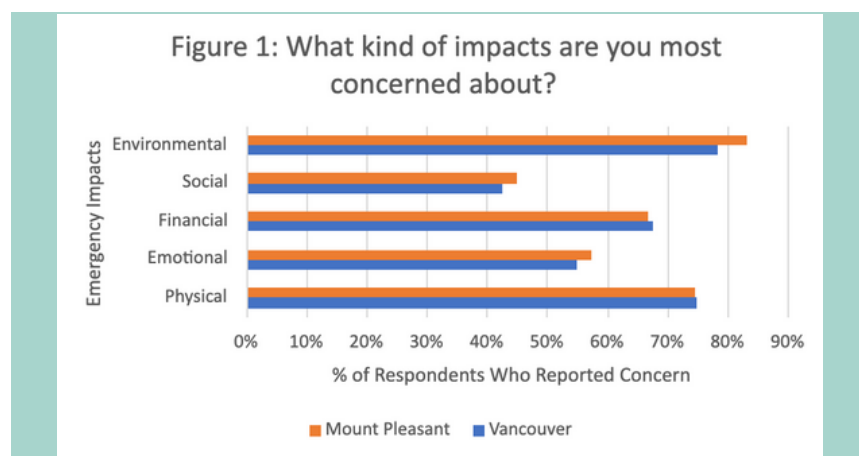
3. 2020 Marpole Social Indicators Profile states that the neighbourhood consists of "high rates of non-English speakers, people in visible minority groups and immigrants." This strategy ensures that people who are non-English speakers are informed about wind-related emergencies (The City of Vancouver, 2020)

# VEMA SURVEY EXECUTIVE SUMMARY: MOUNT PLEASANT NEIGHBOURHOOD

**Data Limitations:** Mount Pleasant's residents are over-represented as a percentage of Vancouver's population in the VEMA Survey. Moreover, when Mount Pleasant survey data was compared with Mount Pleasant census data, we observed that a disproportionately large number of respondents owned their dwellings and earned incomes above the Mount Pleasant average. Therefore, this survey is additionally limited by under-reporting experiences of renters and lower-income residents in Mount Pleasant <sup>1</sup>.

## ANALYSIS:

With a high degree of confidence it was found that Mount Pleasant respondents had greater concern about wildfire smoke and coastal flooding/sea level rise (2/13 hazards), as well as lower levels of concern regarding windstorms and public disturbances (2/13 hazards), as compared to respondents from other neighbourhoods of Vancouver. Of the remaining hazard concerns identified in the survey (9/13 hazards), there were no significant statistical differences between Mount Pleasant and the rest of Vancouver. Importantly, this does not mean that Mount Pleasant residents are not concerned about the other hazards, but rather that their level of concern is aligned with other neighbourhoods.



Through further analysis, Mount Pleasant residents were found to be most concerned about the environmental and social impacts of emergencies, as compared to other Vancouver neighbourhoods (see Figure 1). Mount Pleasant is shown to be more motivated than the city on average for preparing for emergencies, the two most cited reasons for motivation were awareness and climate. Mount Pleasant residents identified help and time as barriers to preparedness for emergencies, at higher rates

than as compared to the City average. Our group also identified noteworthy results for Mount Pleasant residents' confidence in being able to evacuate their home during an emergency. Mount Pleasant respondents were more confident than other Vancouver respondents that they would be able to arrange another place to stay, as well as replace food, clothing and other essentials for themselves. Given the demographic background of the survey participants from Mount Pleasant states most owned their dwelling and earned incomes above the Mount Pleasant, factors that indicate reduced financial fear as well as greater chances of securing shelter and essentials during emergency situations

## RECOMMENDATIONS:

Literature shows there are specific groups more vulnerable to emergencies – including people with disabilities, language barriers, low incomes, or elderly people<sup>2</sup>. In Mount Pleasant, approximately 16% of households are considered low-income and there are approximately 7% more single-parent families living in this neighbourhood as compared to the rest of the City<sup>3</sup>. Therefore, our group's first recommendation is to develop outreach activities that are geared towards both adults and children. These activities should emphasize information regarding wildfire smoke and coastal flooding/sea level rise for adults while teaching children basic safety and awareness through games. This will also provide parents an opportunity to attend informational sessions without having to seek alternative forms of childcare. Additionally, we recommend running workshops at Mount Pleasant Community Centre and Mount Pleasant Neighbourhood House to demonstrate practical skills such as preparing emergency preparedness kits with the ability to then take home the kit you create. This could ease the barrier of help that Mount Pleasant residents cited as a primary reason for not engaging in emergency preparedness.

1. For further analysis on how these conclusions were reached, see A4 Supplementary Information file

2. Statistics Canada. (2016). 2016 Census of Population

3. Stel, M., Ketelaar, D., Gutteling, J., Giebels, E., Egtberts, M., Kerstholt, J., & Stel, I. (2019). Vulnerable Groups in Emergencies: When and Why are They at Risk?. University of Twente.

## Oakridge - Executive Summary

The following report aims to summarize the responses to the VEMA survey of residents from **Oakridge, Vancouver**. Our initial analysis of the response data showed that compared to the rest of Vancouver, Oakridge residents had no statistically significant differences in their emergency response concerns and preparedness. Oakridge is slightly underrepresented with 30 recorded responses versus 49 expected (symbolized in Figure 1); however, it falls within the average range compared to the city as a whole<sup>1</sup>.

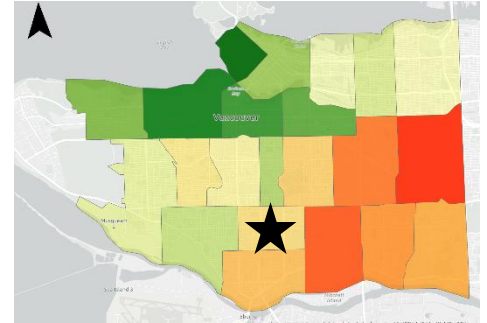


Figure 1: Oakridge in geographic context, symbolized by level of representation

Our analysis of income distribution of the area did not differ significantly from the 2016 census data, suggesting that the survey accurately represented households in terms of income; however, upon further investigation, we noted that the survey respondents *did not* accurately represent the expected housing tenure (rent or own) for the area. As observed in Figure 2, actual respondents to the survey **disproportionally represented renters** as compared to census data<sup>2</sup>. This analysis reveals that the results of the survey are skewed to represent the emergency preparedness of renters, and that **homeowners may be underrepresented** in their response to the survey. Compared to the response to Question 6 in Figure 3, we can see that across the survey responses, residents of Oakridge perceived more barriers to information than Vancouver as a whole, meaning that even those who accessed the survey felt a lack of information.

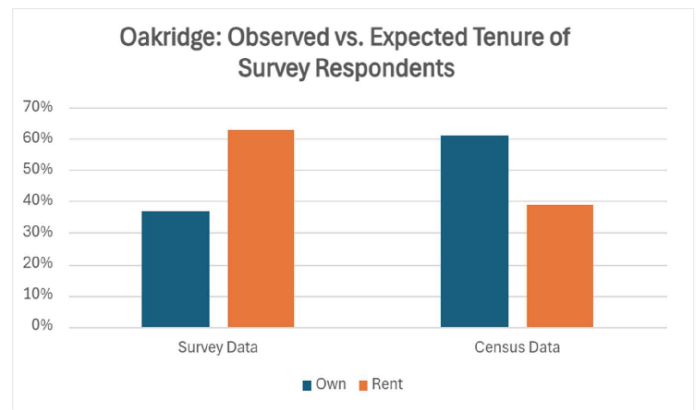


Figure 2: Barriers to Emergency Preparation

To better represent homeowners in Oakridge, we suggest that VEMA **increases advertisements** to the area through billboard campaigns, transit ads, and mail drops, with pertinent emergency information included to better inform all residents. Evidentially, more general outreach must be done to engage **homeowners** as a primary audience for future engagement.

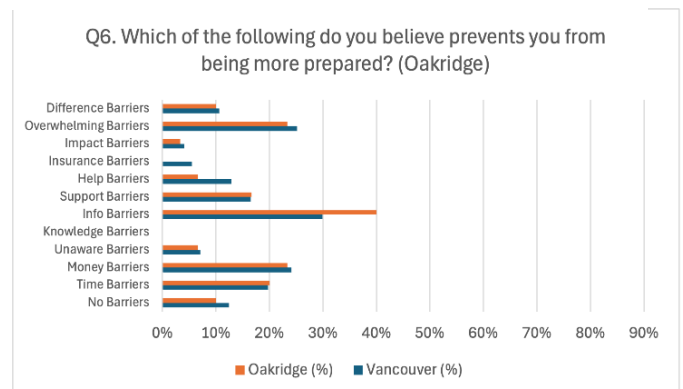


Figure 3: Tenure Survey Response Distribution

<sup>1</sup> Full matrix with representation information can be found in the P2Q3Q6.pdf file in our submission folder

<sup>2</sup> Additional information on this discrepancy can be found in the Part 1 Supplementary PDF in our submission folder



## Renfrew-Collingwood – Executive Summary

The following report aims to summarize the responses to the VEMA survey of residents from **Renfrew-Collingwood, Vancouver**. Our analysis of the survey shows that overall, the general population of Renfrew-Collingwood was the **least represented neighbourhood** in Vancouver, with only 101 responses recorded compared to 194 expected (represented in red in Figure 1)<sup>1</sup>. To help understand this, our analysis revealed that the largest implication of this underrepresentation are minor discrepancies in annual income, with households between \$60,000 and \$80,000 being underrepresented, and households with income exceeding \$150,000 being overrepresented<sup>2</sup>. While these discrepancies are important for consideration, they are **not considered statistically significant** and cannot be identified as a primary audience outside of the survey's reach on their own.

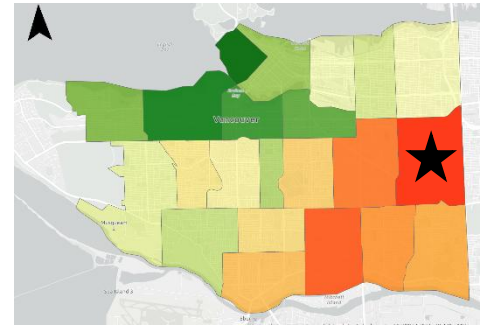


Figure 1: Renfrew-Collingwood in geographic context, symbolized by level of representation

The limited reach in survey respondents is not shocking when compared with answers from those who did respond, as the survey captured a **marginally higher** concern of barriers to preparedness in the **“Information”** category compared with to Vancouver as a whole (Figure 2). Other standout barriers include “Overwhelming” and “Money,” which when contrasted to primary impacts of concern (Figure 3) suggests that **financial burden and monetary barriers** could be impacting the average emergency preparedness of the neighbourhood.

While no statistically significant audiences were found as individual outliers in the survey responses, minor discrepancies relating to middle-class households, monetary barriers, and financial concerns were found; thus, we suggest that VEMA **provide more outreach** to the area offering **free and low-cost** emergency response resources to better represent middle-class households.

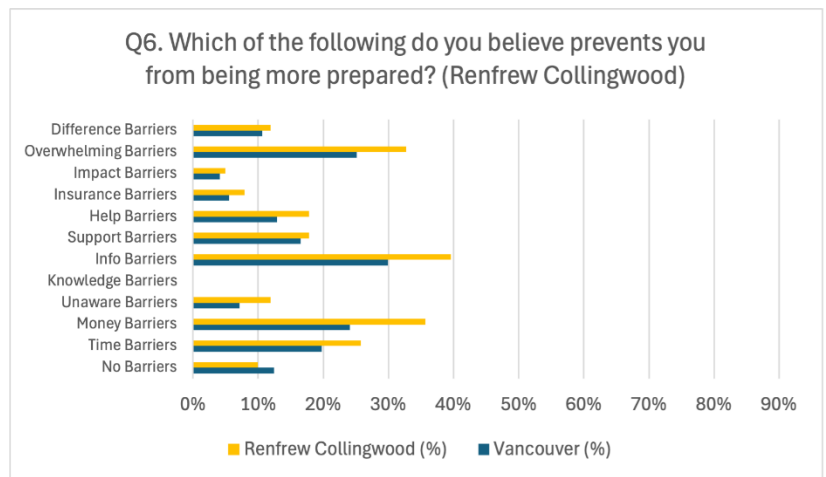


Figure 2: Barriers to emergency preparedness

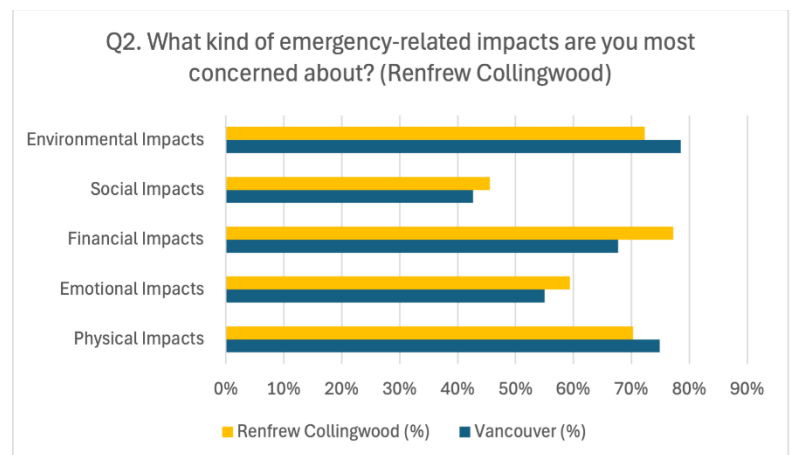


Figure 3: Impacts of concern

<sup>1</sup> Full matrix with representation information can be found in the P2Q9.pdf file in our submission folder

<sup>2</sup> Additional information on income discrepancies can be found in the P2Q9.pdf file in our submission folder



## Executive Summary – Renfrew-Collingwood

**Date:** April 14, 2025

**To:** Vancouver Emergency Management Agency (VEMA)

**Prepared by:** Anoop Dayal, Jason Eklund, Peter McCartney, Cody Wang, & Mingdi Zhang

### 1. Introduction

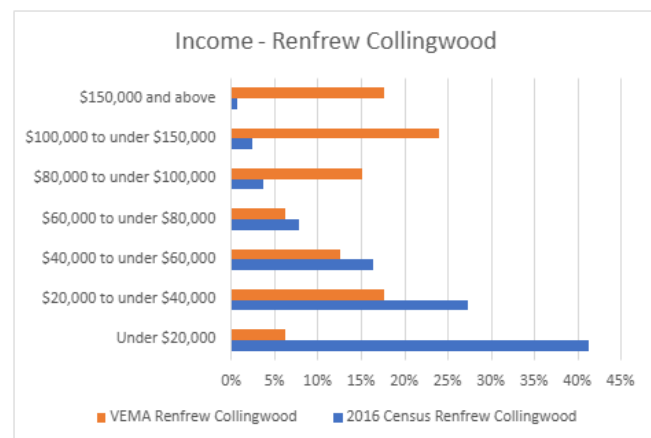
This executive summary presents key findings from the responses of VEMA's emergency preparedness survey, with a focus on respondents from Renfrew-Collingwood. The analysis identifies key areas to prioritize for emergency preparedness outreach.

### 2. Priority Audience for Emergency Preparedness Outreach

The most notable finding is that residents of Renfrew-Collingwood are the most underrepresented group in the survey when compared to their share of Vancouver's population<sup>1</sup>. According to the last census<sup>2</sup>, the neighbourhood has a higher proportion of lone-parent families, as well as a lower average income. It also has a significant immigrant population, with Chinese being the largest ethnic group.

### 3. Groups Not Reached by the Survey

Another crucial finding is that low-income residents are severely underrepresented<sup>3</sup>. As shown in *Figure 1*, residents of Renfrew-Collingwood who completed the survey belong to a higher-income group, meaning the survey responses primarily reflect the views of higher-income residents. Low-income and other marginalized groups may not have had the opportunity or resources to participate, which is particularly important given the neighbourhood's demographic makeup as well as the fact that low-income residents are often the most vulnerable during emergencies.



*Figure 1: Income levels of survey respondents from Renfrew-Collingwood*

### 4. Unique Survey Responses

Respondents from Renfrew-Collingwood also reported lower levels of concern about cold-related emergencies and earthquakes compared to residents of other neighbourhoods<sup>4</sup>.

### 5. Conclusion and Recommendations

Overall, emergency preparedness outreach efforts should focus on engaging low-income residents and ethnic communities with accessible, culturally inclusive, and low-cost resources.

<sup>1</sup> See *Table 1* on page 4 of the Supplementary Information document for more details.

<sup>2</sup> City of Vancouver. (2020). [2020 Renfrew-Collingwood Social Indicators Profile](#).

<sup>3</sup> See Q9 on page 12 of the Supplementary Information document for more details.

<sup>4</sup> See Q1 on page 9 of the Supplementary Information document for more details.

## Riley Park – Executive Summary

The following report aims to summarize the responses to the VEMA survey of residents from **Riley Park, Vancouver**. Our analysis of the survey data shows that Riley Park is among the most **underrepresented** neighbourhoods in the city (symbolized in yellow in Figure 1), with 64 recorded responses compared to 85 expected responses<sup>1</sup>. While the discrepancy between the recorded and expected is not large, it could lead to a skewed representation of the neighbourhood's population. Our analysis also found a **statistically significant** difference in income distribution among survey respondents and census data for the neighbourhood. Households earning more than \$150,000 annually are significantly overrepresented, while households earning under less are underrepresented, especially below \$60,000<sup>2</sup>.

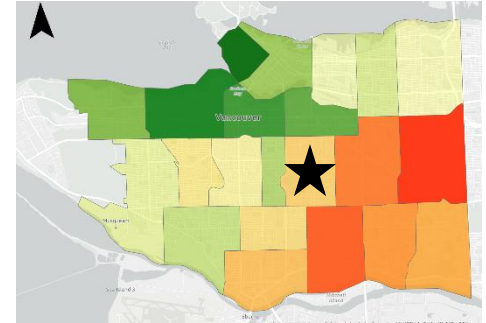


Figure 1: Riley Park in geographic context, symbolized by level of representation

The overrepresentation of wealthier residents could contribute to some of the survey responses, primarily in their concern for emergency-related impacts. As illustrated in Figure 2, Riley Park residents are slightly less concerned about financial impacts than Vancouver as a whole; however, with lower and medium households being significantly underrepresented, these concerns **may not accurately reflect the real population** of the neighbourhood. Additionally, Riley Park residents were **significantly less** concerned about information and monetary barriers to emergency preparedness compared to the rest of the city (Figure 3), which may be due to the fact that higher-earning households have more time to research information regarding preparations, with more secure finances to protect themselves in the event of a disaster.

Due to the results of our analysis, we suggest that VEMA **significantly increases** outreach to lower- and medium-income households in Riley Park to more accurately reflect the general population of the neighbourhood. While these audiences are underrepresented in the current data, a **more diverse ad campaign** or a **less time-intensive survey** could better reach lower- and middle-income households.

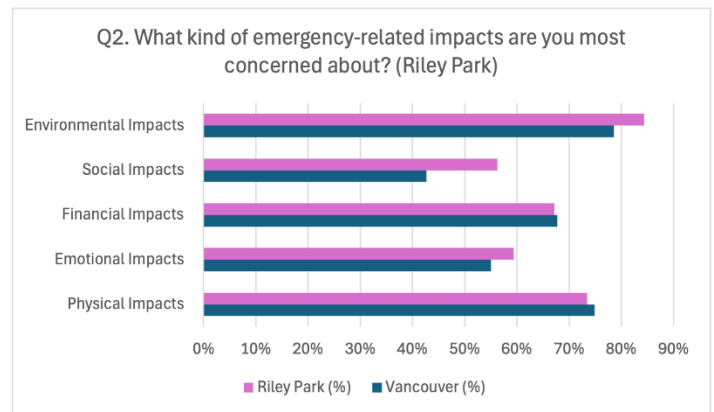


Figure 2: Impacts of concern

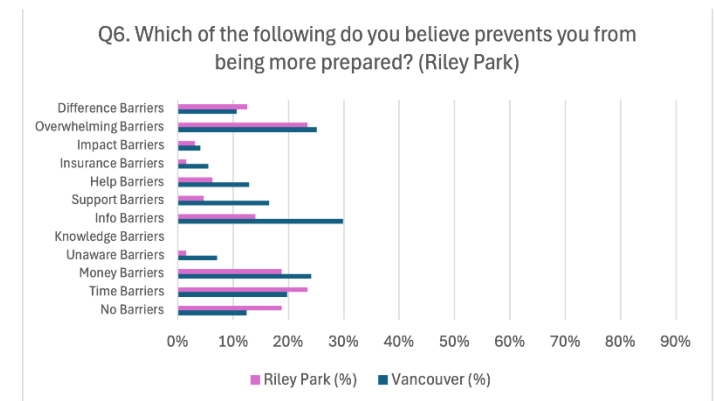


Figure 3: Barriers to emergency preparedness

<sup>1</sup> Full matrix with representation information can be found in the P2Q3Q6.pdf file in our submission folder

<sup>2</sup> Additional information on income discrepancies can be found in the P2Q9.pdf file in our submission folder

## **Executive Summary: Shaughnessy**

Addressed to: The City of Vancouver's Emergency Management Agency (VEMA)

This executive summary provides information on emergency preparedness for the Shaughnessy neighborhood. Notably, 18 of Shaughnessy's 8,340 residents<sup>1</sup> completed the VEMA survey. Shaughnessy is, consequently, significantly underrepresented in this survey. "Shaughnessy also has a large share of seniors that has increased significantly since 2001"<sup>2</sup>.

### *Methodology*

To verify and validate our findings, the t-test of means and chi-square tests of association were used to test the statistical significance of survey results.

### *Key findings*

The results indicate that Shaughnessy residents are not very concerned about earthquakes, wildfire smoke and poor air quality, but are somewhat concerned about drought and coastal spills. Residents in this neighborhood also did not show concern regarding the potential impacts of disasters and emergencies. Regarding factors that motivate emergency preparedness, survey results show that most residents were motivated by concern and desire, followed by awareness, climate, and family, which largely mirrors the trend seen in Vancouver. Respondents did not share concerns related to barriers for emergency preparedness, with most respondents, conversely, feeling prepared for an emergency and expressing confidence in the help of others and/or insurance coverage for potentially damaged goods. In the aftermath of an emergency, respondents in Shaughnessy also reported higher confidence levels in replacing food, clothing and other essentials.

### *Recommendations*

Affluent neighborhoods such as Shaughnessy require a more personalized approach to emergency strategies, as residents might be less concerned about emergency preparedness. It is recommended that VEMA focus on reaching the seniors in the neighborhood, who might not have extended networks of support and are at risk of being more vulnerable in an emergency. A second recommendation would be to tailor the messaging on impacts of disasters and emergencies on homes, as 64,6% of residents in Shaughnessy live in single detached houses<sup>3</sup> and might be more likely to express concern or desire in keeping their homes safe.

### *Observations*

The data collected from responses from Shaughnessy is (1) not representative of the neighborhood, (2) not representative of the city of Vancouver as a whole, and most importantly, (3) is not reflective of the residents who are most at risk in an emergency. Although VEMA must consider a strategy for all of Vancouver's residents, it would be a mistake to use the data gathered in the survey from Shaughnessy as the primary contributing data to the development of the strategy.

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<sup>1</sup> Shaughnessy Census Data, 2016

<sup>2</sup> Shaughnessy Social Indicators Profile, 2020, p.1

<sup>3</sup> Shaughnessy Census Data, 2016

## **Executive Summary: South Cambie**

Addressed to: The City of Vancouver's Emergency Management Agency (VEMA)

This executive summary provides information on emergency preparedness for the South Cambie neighbourhood. It is important to note that South Cambie is significantly overrepresented in this survey based on the number of expected survey responses compared to the 2016 census population, meaning a higher proportion of residents responded in this neighbourhood.

### *Key Findings*

The results indicate significant levels of concern among survey respondents in South Cambie for the following hazards: poor air quality and wildfire smoke. Neighbourhood residents are more concerned about poor air quality compared to other neighbourhoods and are very concerned about wildfire smoke compared to other neighbourhoods.

The survey results also indicate that a higher proportion of South Cambie residents feel overwhelmed in regards to emergency preparedness: 34% of survey respondents feel overwhelmed compared to 25% across the City of Vancouver. An above-average number of respondents feel that no amount of emergency preparation will make a difference: 19% of South Cambie respondents feel this way compared to 11% across the City of Vancouver. While these responses are not statistically significant, a comparison to City of Vancouver averages indicates that South Cambie residents feel more overwhelmed and pessimistic about emergency preparedness. However, responses also indicate that South Cambie residents are slightly more confident that they can receive help from others (17%) in an emergency compared to the City of Vancouver average (12%).

### *Recommendations*

1. That South Cambie residents are exposed to more emergency preparedness education to ease the feeling that no amount of preparation will make a difference in emergencies.
2. That emergency preparedness outreach and education initiatives target older adults, as South Cambie has an aging population with rapid growth in older adults.<sup>1</sup> This demographic may have contributed to the sentiment reflected in survey responses that residents in South Cambie feel overwhelmed in regards to emergency preparedness. For this audience, education should occur through an in-person format as older adults may not have access to or know how to use online resources. Communication that reassures and informs this demographic may be effective to increase their feeling of preparedness.

It should be noted that this data is not necessarily representative of the population in South Cambie due to limitations in data collection for the VEMA survey. Since the survey relies on voluntary participation, there is a sampling bias that excludes certain demographics such as those with accessibility barriers. As a result, the survey results are not necessarily representative of residents who are most at risk in an emergency.

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<sup>1</sup> City of Vancouver. "2020 South Cambie Social Indicators Profile," 2020.

## Executive Summary: Strathcona

Addressed to: The City of Vancouver's Emergency Management Agency (VEMA)

This executive summary provides information on emergency preparedness for the Strathcona neighbourhood. It should be noted that Strathcona is slightly underrepresented in this survey based on the number of expected survey responses compared to the 2016 census population, meaning a lower proportion of residents responded in this neighbourhood.

### *Key Findings*

Though the results were not statistically significant, 26% of residents from Strathcona indicated that they were concerned about other impacts on the neighbourhood – noticeably higher than Shaughnessy and South Cambie. This indicates that there may be additional impacts that were not captured in the answer options, further highlighting the gaps in knowledge regarding the unmet needs of the community. It was also found that Strathcona residents were more concerned about money and time being barriers to preparing for emergencies compared to the rest of the City. These results are reflective of the demographics of Strathcona's residents. A high proportion of marginalised populations live in Strathcona, including visible minorities, Indigenous peoples, seniors, and low-income individuals. The barriers experienced by these groups may significantly inhibit residents when it comes to preparing for emergencies and recovering after adverse weather and climate events. Yet, respondents from Strathcona also indicated that they were more confident about being able to find shelter if they had to evacuate their home in an emergency. This may be attributable to Strathcona's built environment - a high concentration of non-profit organisations, shelters, and supportive services are located in the neighbourhood, which significantly increases accessibility to help and support during emergencies.

However, it should be noted that this data is not necessarily representative of the population in Strathcona. There are several limitations to data collection using the VEMA survey. First, the VEMA survey relies on voluntary participation. This creates sampling bias as its voluntary nature may lead to self-selection bias on top of skewing results if individuals choose not to participate. This means that there is not only a large gap in data from individuals representing a key demographic in Strathcona, but that data collected is not representative of the neighbourhood overall. This effect is especially potent in Strathcona due to the neighbourhood's high proportion of vulnerable, marginalised populations. These individuals may experience greater accessibility barriers and thus may be less likely to start or complete the survey. Hence, there is significant variability in the accuracy of the results, and the data may not necessarily be reflective of the whole neighbourhood even when results are statistically significant.

### *Recommendations*

1. Conduct outreach to shelters and non-profit organisations during data collection to bridge accessibility barriers and capture robust data.
2. Ensure that non-profit shelters and supportive services have adequate knowledge, training, and resources to respond to need in times of emergency. Though survey respondents indicated that they feel confident about access to support in case of emergency, this does not necessarily translate to practical resource availability on the ground. Emergency preparedness outreach and education for staff will be crucial to help provide further support to Strathcona's residents in times of need.

## Executive Summary – Strathcona

**Date:** April 14, 2025

**To:** Vancouver Emergency Management Agency (VEMA)

**Prepared by:** Anoop Dayal, Jason Eklund, Peter McCartney, Cody Wang, & Mingdi Zhang

### 1. Introduction

This executive summary presents key findings from the responses of VEMA’s emergency preparedness survey, with a focus on respondents from Strathcona.

### 2. Groups Not Reached by the Survey

Strathcona is home to Vancouver’s Downtown Eastside, people who are highly vulnerable to disaster impacts and aging buildings that weren’t built for disaster. Data from the survey show renters and low-income people in Strathcona were underrepresented in the results (Figs. 1 & 2).<sup>1</sup>

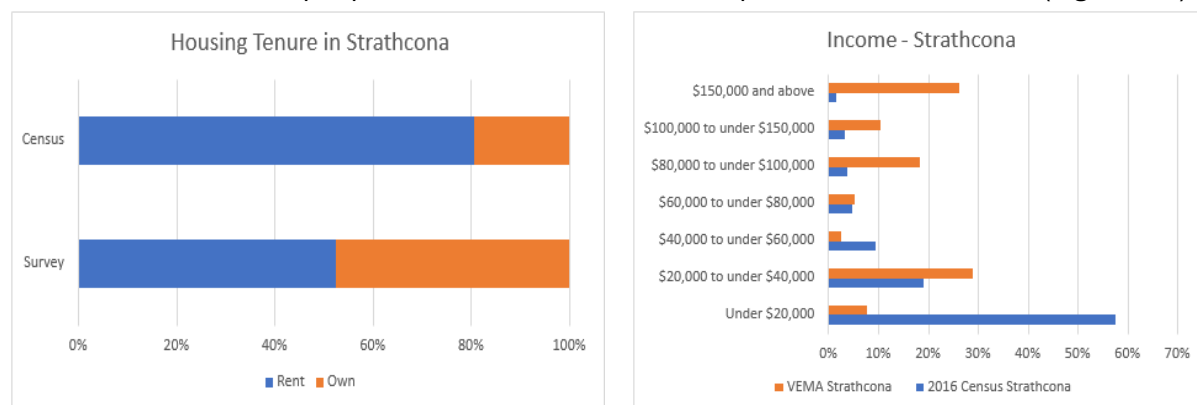


Figure 1 (left): Renters in Strathcona were much less likely to participate in the survey than homeowners. Figure 2 (right): Low-income people were severely underrepresented in the survey results while the highest income bracket was significantly overrepresented.

### 3. Priority Audience for Emergency Preparedness Outreach

Results suggest renters and low-income people may be less aware of emergency preparedness or at least less likely to take an online survey about it. Regardless they should be a priority audience for outreach in the Strathcona neighbourhood given subsidized renters tend to be least prepared for disaster.<sup>2</sup> One communications strategy might be to create targeted resources for low-income people with practical steps they can take to prepare for disasters and distribute them in the entryways of social/supportive, single-resident occupancy and purpose-built rental housing.

### 4. Unique Survey Responses

<sup>1</sup> See page 9 (Strathcona, Q6 & Q9) in the Supplementary Information document for more details.

<sup>2</sup> McCarthy, S., & Friedman, S. (2023). Disaster Preparedness and Housing Tenure: How Do Subsidized Renters Fare?. *Housing policy debate*, 33(5), 1100–1123. <https://doi.org/10.1080/10511482.2023.2224309>



# Emergency Preparedness in Sunset Executive Summary

## Overview

This executive summary is based on the City of Vancouver’s Emergency Personal Preparedness Survey conducted in 2024. Only statistically significant results are highlighted where there is a 95% confidence level that the results are unlikely to have occurred by chance. Most importantly, **the Sunset neighbourhood was significantly underrepresented in the survey**, meaning the number of respondents was not proportional to the 2016 Census of Population<sup>1</sup>. This affects the applicability of findings, **skewing results for all questions and may overlook the needs of certain groups, leading to less reliable conclusions for emergency preparedness planning.**

## Emergency Preparedness Sentiments from Sunset Residents

### High Levels of Concern Regarding Extreme Cold (Fig 1)



Among the 13 emergency hazards identified by the City of Vancouver, Sunset residents expressed a statistically significant higher level of concern about extreme cold compared to the rest of Vancouver’s neighbourhoods<sup>2</sup>.

### Top 4 Barriers for Emergency Preparedness<sup>3\*</sup>



Needing more information to get prepared



Feeling overwhelmed when thinking about emergencies



Not having enough financial resources for emergency preparation



Not having enough time

*\*None of the identified barriers are statistically significant at a 95% confidence level. In other words, the barriers are not unique to Sunset, and are similar to the rest of Vancouver.*

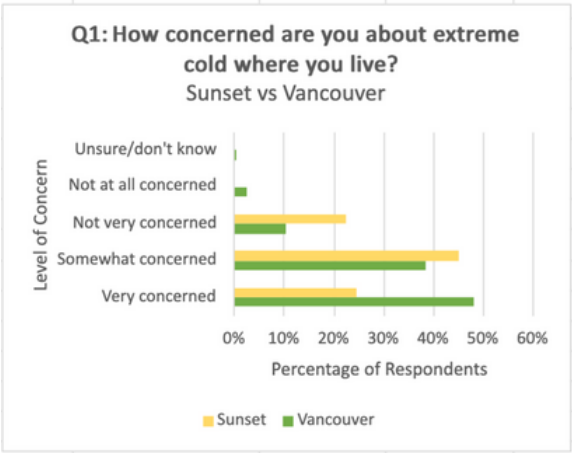


Fig 1. Responses to Survey Q1: Hazards of Top Concern - Extreme Cold, Sunset v Vancouver

## Priority Audiences<sup>4</sup>



### Families with Children and Seniors

High rates of multi-family households



### Large South Asian Community

High rates of first and second-generation immigrants



### Service Industry Workers

Most common jobs of Sunset residents

## Neighbourhood Outreach Recommendations

While personal preparedness such as having a 72-hour emergency kit is essential, building strong social connections with neighbours who are often the first to respond is critical.

- **Fund free culturally relevant emergency preparedness workshops in multiple languages** (e.g., Punjabi, Hindi), and encourage emergence of community leaders and champions by **partnering with local community organizations**, such as South Vancouver Neighbourhood House.
- **Host preparedness pop-ups** and emergency prep activities in gathering spaces, such as Sunset Community Centre and Sunset Park.
- **Engage local faith and cultural organizations**, such as Khalsa Diwan Society with preparedness talks
- **Translate** all workshops and information materials into common languages (e.g. Punjabi, Hindi).
- **Engage youth** with emergency preparation skills and kits.

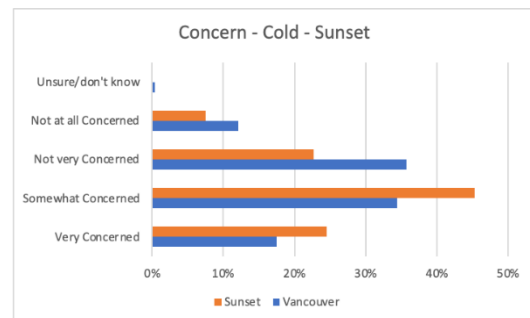
1. See Appendix 2, Section 1.1  
2. Appendix 1, Section 2.1.2  
3. Appendix 1, Section 2.4.2  
4. City of Vancouver, "Sunset Neighbourhood Social Indicators Profile," October 5<sup>th</sup>, 2020.

# Executive Summary: Sunset

Sunset survey respondents were more concerned about extreme cold than the rest of Vancouver, and identified environmental, physical, and financial impacts as their highest disaster concerns.

Emergencies could pose real economic burdens to the Sunset population, home to Vancouver's largest share of multi-family households, and who are largely lower to middle-income (COV 2020, 1). Homeowners were slightly overrepresented in the survey results, which excludes renters and possibly lower-income individuals from results.

Figure 1



## Essential Survey Takeaways

The ability to evacuate and secure essentials in emergencies is critical, yet many respondents report uncertainty on capability to replace necessities. This lack of confidence is compounded by a diminished sense of community reported here- interpersonal networks often provide critical support systems during emergencies (Ibid). In general, there was lower emergency preparation motivation compared to the rest of Vancouver. While certain motivators, such as disaster anecdotes, rank highly in other communities, they are less influential in Sunset. Together, the Sunset Social Indicators Profile and VEMA Survey results illustrates gaps and risks in emergency preparedness (COV 2020, 1).

## Representation and Recommendations

Sunset is a diverse neighbourhood in terms of age, culture, and living arrangements. Sunset is home to Vancouver's largest South Asian population. VEMA should explore working with the South Vancouver Neighbourhood house or by establishing direct lines of communication via trusted community members and partners. As Sunset has a major aging population, VEMA should engage with the Older Adult Programs at the Sunset Community Centre Association (COV 2020, 1). Finally, as renters were underrepresented, VEMA should partner with local rental buildings to engage residents. Engagement strategies that focus on building trust, improving individual preparedness, and fostering connections can be transformative, ensuring residents are better equipped to weather any emergency and reinforcing a strengthened social fabric in times of crisis.

Engaging residents in meaningful ways, enhancing infrastructure, fostering social connectivity, and re-establishing trust in community resources are crucial steps toward building a resilient Sunset neighbourhood.

### Sources

City of Vancouver (2020). Sunset Neighbourhood Social Indicators Profile. Social Policies and Projects. <https://vancouver.ca/files/cov/social-indicators-profile-sunset.pdf>

# Emergency Preparedness in Victoria-Fraserview Executive Summary

## Overview

This executive summary is based on the City of Vancouver’s Emergency Personal Preparedness Survey conducted in 2024. Only statistically significant results are highlighted where there is a 95% confidence level that the results are unlikely to have occurred by chance. Most importantly, **the Victoria-Fraserview neighbourhood was significantly underrepresented in the survey**, meaning the number of respondents was not proportional to the 2016 Census of Population<sup>1</sup>. This affects the applicability of findings, **skewing results for all questions and may overlook the needs of certain groups, leading to less reliable conclusions for emergency preparedness planning.**

## Emergency Preparedness Sentiments from Victoria-Fraserview Residents

### High Levels of Concern Regarding Heat & Disease Outbreak<sup>2</sup>



Among the 13 emergency hazards identified by the City of Vancouver, Victoria-Fraserview residents expressed a statistically significant higher level of concern about heat and disease outbreak compared to the rest of Vancouver’s neighbourhoods.

### Top 4 Barriers for Emergency Preparedness (Fig 1)<sup>3\*</sup>



Needing more information to get prepared



Feeling overwhelmed when thinking about emergencies



Not having enough financial resources for emergency preparation



Not having enough time

*\*None of the identified barriers are statistically significant at a 95% confidence level. In other words, the barriers are not unique to Victoria-Fraserview, and are similar to the rest of Vancouver.*

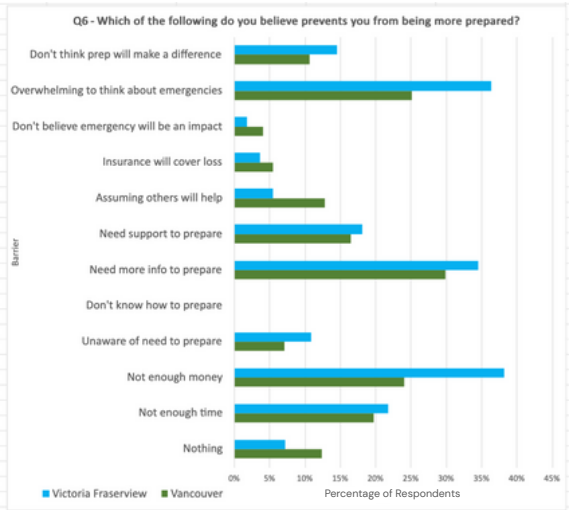


Fig 1. Responses to Survey Q6: Barriers to Preparedness, Victoria-Fraserview v Vancouver

## Priority Audiences<sup>4</sup>



**Lower-Income Residents & Renters<sup>5,6</sup>**



**Families with Children & Seniors**



**Asian Immigrants & Visible Minority Groups**

High rates of first and second-generation immigrants, particularly from East and South Asia. The most commonly spoken non-English mother tongues include Cantonese, Mandarin, Punjabi and Tagalog.

## Neighbourhood Outreach Recommendations

While personal preparedness such as having a 72-hour emergency kit is essential, building strong social connections with neighbours who are often the first to respond is critical.

- **Partner with local community organizations, such as South Vancouver Family Place:** Collaborate on funding free culturally relevant emergency preparedness workshops in multiple languages (e.g., Punjabi, Hindi), leveraging their connections with immigrant and newcomer families, seniors, and youth and encouraging emergence of community leaders and champions.
- **Expand outreach to schools, such as David Thompson Secondary School:** Organize preparedness events and information sessions at schools and involving students in emergency preparedness may help to bridge language and cultural gaps with caregivers.
- **Engage local faith and cultural organizations, such as Fraserview Muslim Community Services:** Co-develop outreach by hosting preparedness talks, distributing free emergency resources, and building trusted networks of communication.

1. See Appendix 2, Section 1.1  
2. Appendix 1, Section 2.1.3  
3. Appendix 1, Section 2.4.3  
4. City of Vancouver, "Victoria-Fraserview Neighbourhood Social Indicators Profile", October 5, 2020.  
5. Appendix 2, Section 1.3  
6. Appendix 2, Section 1.2

# Emergency Preparedness in West End Executive Summary

## Overview

This executive summary is based on the City of Vancouver’s Emergency Personal Preparedness Survey conducted in 2024. Only statistically significant results are highlighted where there is a 95% confidence level that the results are unlikely to have occurred by chance. Most importantly, **the West End neighbourhood was significantly overrepresented in the survey**, meaning the number of respondents was not proportional to the 2016 Census of Population<sup>1</sup>. This affects the applicability of the findings, potentially **skewing results across all questions and leading to emergency preparedness conclusions that overly reflect West End respondents**.

## Emergency Preparedness Sentiments from West End Residents

### High Levels of Concern Regarding Fire, Flooding, and Public Disturbance



Among the 13 emergency hazards identified by the City of Vancouver, West End residents expressed a statistically significant higher level of concern about fire, flooding, and public disturbance compared to the rest of the City. In contrast, they expressed lower concern about extreme cold, extreme rainfall, and windstorms<sup>2</sup>.

### Top 4 Barriers for Emergency Preparedness (Fig 1)<sup>3\*</sup>



Needing more information to get prepared



Feeling overwhelmed when thinking about emergencies



Not having enough financial resources for emergency preparation



Assuming that others will help \*\*

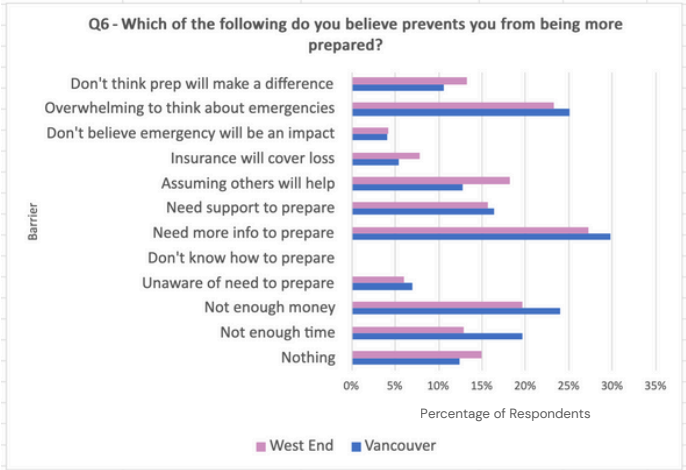


Fig 1. Responses to Survey Q6: Barriers to Preparedness, West End v Vancouver

## Priority Audiences<sup>4</sup>



### Seniors

Many seniors 65+ live alone.



### Renters<sup>5</sup>

Renters were largely underrepresented in the survey despite being a large portion of West End’s residents. Growing families, immigrants, non-permanent residents, renters, and lower-income households continue to face affordability challenges.



### Vulnerable Populations

Vulnerable populations are facing intersecting crises of homelessness, mental health challenges, and addiction that may be missing from the survey and need targeted support for emergency preparedness and community resources.

## Neighbourhood Outreach Recommendations

More emphasis should be placed on personal preparedness such as having a 72-hour emergency kit due to the overconfidence in collective support in addition to supporting social connections among seniors living alone and vulnerable populations.

- **Pilot Resident Leader Program:** Develop community leaders by encouraging the emergence of leaders who can strengthen collective resilience and encourage personal preparedness in multi-unit buildings.
- **Mobile Outreach Teams:** Deploy mobile teams with BC Housing and Vancouver Coastal Health to provide safety tips, free emergency supplies, and information on direct access to cooling and warming centres during extreme weather events.
- **Host personal preparedness pop-ups at public gathering spaces, such as Nelson Park:** Use highly visible public gathering spaces to engage seniors and vulnerable residents through information booths, during existing community events.

1. See Appendix 2, Section 1.1  
2. Appendix 1, Section 2.2.3  
3. Appendix 1, Section 2.4.1  
4. City of Vancouver, “West End Neighbourhood Social Indicators Profile”, October 5, 2020.  
5. Appendix 2, Section 1.2.2

## Executive Summary: West End

West End (WE) respondents' top concerns reflect the area's spatial factors: high density, the predominance of older infrastructure, multi-story apartments. In summarizing an analysis on WE results, it's crucial to note that most vulnerable residents are often missing from survey data, and the demographic information relies on the 2016 Census, which may not reflect current realities.

### Essential Survey Takeaways

Participants' concern for coastal oil spills, and public disturbances, but especially large structure fires, are higher than the rest of Vancouver. Fire concern is likely attributable to apartments comprising 99% of occupied dwellings (Figure 1; COV 2020, 46). The primary emergency preparation motivator for participants was a desire to be more self-reliant and prepared. Participants identified different emergency preparation barriers than the rest of Vancouver. WE respondents also reported higher feelings of preparedness and trust in other agencies (government, family, insurance, etc.) to help them during emergencies.

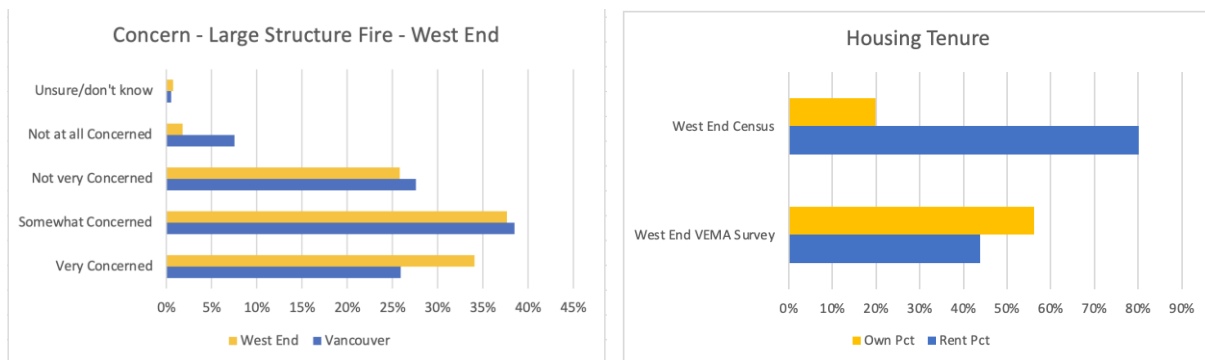


Figure 1: West End Fire Concern, Figure 2: Housing Tenure in West End Survey vs. Census

### Recommendations for VEMA

We recommend VEMA prioritizes outreach to renters, and low-income households. Renters occupy 80% of West End households, yet homeowners were overrepresented in survey responses, and poorest residents (those earning under \$20,000) underrepresented (Figure 2; COV 2020, 17). With 25% of WE residents below the poverty line and 45% facing rent burden, these groups face distinct barriers. The use of empowering messaging around preparedness and partnership with organizations like The West End Community Center and Gordon Neighborhood House could increase both survey representation and preparedness of residents. Additionally, we recommend using both online and in-person outreach for inclusive access.



## Executive Summary – West Point Grey

Date: April 14, 2025

To: Vancouver Emergency Management Agency (VEMA)

Prepared by: Anoop Dayal, Jason Eklund, Peter McCartney, Cody Wang, & Mingdi Zhang

### 1. Introduction

This executive summary presents key findings from the responses of VEMA's emergency preparedness survey, with a focus on respondents from West Point Grey. The analysis identifies key areas to prioritize for emergency preparedness outreach.

### 2. Priority Audience for Emergency Preparedness Outreach

The most notable finding is that residents of West Point Grey which make less than \$40,000 annually before taxes are significantly underrepresented in this survey, while the opposite is true for those making more than \$60,000 annually, with this trend becoming more extreme the further towards each end of the spectrum (Figure 1). This means that priority audiences for outreach should be those impoverished individuals living in the neighbourhood. This can be accomplished by providing alternative forms of survey response sampling, as the primarily online format is not accessible for those without access to internet, a computer or phone.



Figure 1: Proportion of total household income of survey respondents in West Point Grey compared to expected proportions based on the City of Vancouver 2016 census.

### 3. Groups Not Reached by the Survey

Based on the above determination of priority audiences for outreach, is it clear low-income residents were not reached by this survey. Data from the City of Vancouver Social Indicators Profile (2016) shows that of these low-income groups, the primary demographics are Indigenous, Black, and other visible minorities (Figure 2). New immigrants are also more likely to be in this low-income demographic, as well as individuals who only have a post-secondary education.

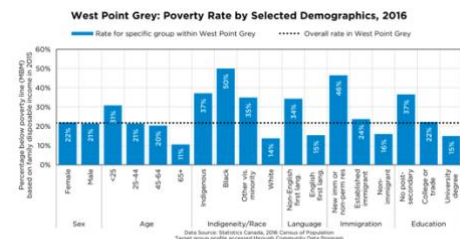


Figure 2

### 4. Unique Survey Responses

Unique responses from West Point Grey from this survey are seen in the significantly higher concern for windstorms and earthquakes (Figure 3).

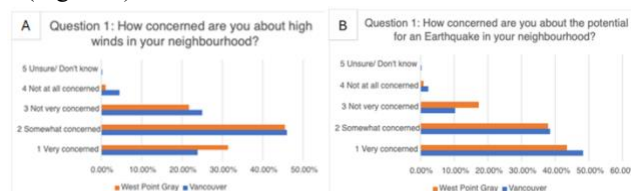


Figure 3: Significant survey responses from West Point Grey regarding windstorms (A) and earthquakes (B).

### 5. Conclusion and Recommendations

There is a higher level of concern among survey respondents regarding windstorms and earthquakes, and the main barriers for preparing for this are information, time, a sense of being overwhelmed (Figure 4). As such, we recommend providing more specific education materials regarding these hazards, and to make this information widely accessible to the community. As the survey does not accurately represent the lowest income population of West Point Grey, it is recommended that extensive outreach be done to understand the concerns and needs of those associated minority demographics, as they are the most vulnerable to a disaster and the least likely to be able to recover without significant financial help.

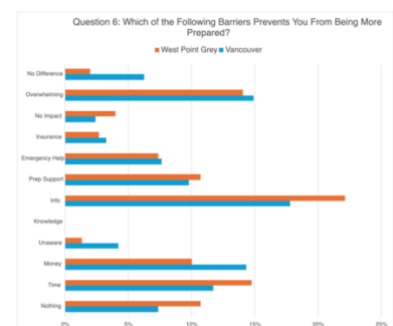


Figure 4: Survey responses from West Point Grey regarding barriers to emergency preparedness.