

Complete Communities Assessment

Proximity of the Indigenous Population to Amenities within the City of Surrey

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PREPARED FOR

*Surrey Urban Indigenous
Leadership Committee*

PREPARED BY

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Acknowledgements

Surrey Urban Indigenous Leadership Council's (SUILC) work takes place on the traditional territories of the Coast Salish, including the Semiahmoo First Nation, the Kwantlen First Nation, the Katzie First Nation, the Kwikwetlem First Nation, the Qayqayt First Nation and the Tsawwassen First Nation. SUILC recognizes their connection to this land and acknowledges that we are newcomers to Surrey like everyone else. SUILC does not represent these land-based First Nations, and is careful not to speak on their behalf. Instead, SUILC represents urban Indigenous people that have moved from all over BC and, in fact, from all over Canada to make Surrey their home. SUILC's focus is on making Surrey a great place for Indigenous people living in the city, regardless of where they come from, their legal status, or their particular cultural heritage. As SUILC does this, they endeavour to live in a good way with the land-based First Nations that have called this land their home since time immemorial.

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Executive Summary

In 2023, the Surrey Urban Indigenous Leadership Committee (SUILC) and the City of Surrey partnered to better understand Surrey's Indigenous population using 2021 Census data. This analysis is used to inform the City of Surrey's Complete Communities Assessment, which looks at the degree to which residents have access to a range of amenities within 15 minutes of their home. This report leverages information about the Indigenous population in Surrey to analyze the proximity and availability of community amenities in areas where Indigenous people live.

The City of Surrey has evaluated each parcel based on available amenities within a 15-minute walkshed. A parcel is given a score of 1 for a given amenity if there is at least one instance of the amenity that can be reached within 15 minutes by walking, up to a maximum of ten, for the ten different amenities that the City of Surrey considered. Amenity scores are aggregated by calculating the average score across parcels for three levels of geographic boundaries for which Indigenous population counts are available: Surrey communities, census tracts, and dissemination areas.

Analysis of amenity access and Indigenous population counts across census tracts and dissemination areas in Surrey reveals no statistically significant relationship between where Indigenous people live and amenity scores. Amenity scores vary by community, with Cloverdale, Fleetwood, and Newton having above-average scores, and Whalley, South Surrey, and Guildford falling below average. Cloverdale has the highest amenity score (4.1) and is the community where Indigenous people make up the largest share of the population (3.5%), while Whalley has the largest Indigenous population overall (23.9% of Surrey's total) and below average amenity scores at the community and census tract levels. Notably, census tracts where a higher share of the population is Indigenous in Cloverdale tend to have higher amenity scores, whereas South Surrey has lower access to amenities in census tracts where Indigenous people make up a larger share of the population (1.99). These findings suggest that Indigenous population share and amenity access are not correlated, some communities have better access than others, and there are areas where targeted improvements could enhance access for Indigenous residents, particularly in South Surrey and Whalley.

Our analysis of whether Indigenous people in Surrey live in a complete community has limitations. Statistics Canada's random rounding affects small population counts, requiring cautious interpretation. More importantly, there is no data on the amenity preferences of Surrey's Indigenous population, so our assessment may not reflect the actual needs. Despite these limitations, this report is a starting point for understanding Indigenous access to amenities and can inform future engagement with SUILC and the urban Indigenous community.

1.0 Introduction and Purpose

In 2023/2024, the City of Surrey received grant funding through the Province of BC's Complete Communities Program to undertake a Complete Communities Assessment. This program, administered by the Union of BC Municipalities (UBCM) on behalf of the province, supports local governments and modern treaty First Nations in advancing identified community goals through the creation of more complete communities. The program supports communities in undertaking assessments to inform land use decision-making, considering housing need, supply, and location; providing transportation options including increased walkability; and making connections to infrastructure investment and servicing decisions (UBCM, 2023)

The provincial Ministry of Housing released a guide in April 2023 specifying how Complete Communities Assessments are to be undertaken in line with grant funding requirements. The guide, titled *Complete Communities: A Guide to Geospatial Land Use Assessments for British Columbia's Communities*, outlines four prescribed lenses through which communities must be assessed, including: housing, daily needs, transportation, and infrastructure. It is in this context that the provincial government defines a Complete Community as: *"a community, or areas within a community, which provide a diversity of housing to meet identified community needs and accommodate people at all stages of life, and provide a wider range of employment opportunities, amenities, and services within a 15-20 minute walk. This definition of complete communities is intended to operate as an overall goal, recognizing that complete communities may look different across regions"* (Province of BC, 2023).

At the outset of the Complete Communities Assessment, the City of Surrey engaged the Surrey Urban Indigenous Leadership Committee (SUILC) to provide data about the Indigenous population to inform their analysis. This data was prepared as part of a previous collaboration on a report between SUILC, the City of Surrey and Big River Analytics known as the *SUILC Census Data Report 2021 Profile of the Indigenous Population in Surrey* (Big River Analytics, 2023). Stemming from the completion of the *SUILC Census Data Report* in 2023, the three parties worked collaboratively in 2024 to integrate data about Surrey's Indigenous population into the City of Surrey's Complete Communities Assessment.

Using the Complete Communities Assessment framework provided by the Province of BC, spatial data provided by the City of Surrey, and data from the *SUILC Census Data Report*, this report aims to provide information about the Indigenous population in Surrey and, based on an analysis of proximity of community amenities, analyze the availability and access to amenities specifically for the Indigenous population. Section 1.1 and 1.2 below provides background information about the *SUILC Census Data Report* and Section 1.3 describes the method.

1.1 Overview of SUILC Census Data Report 2021

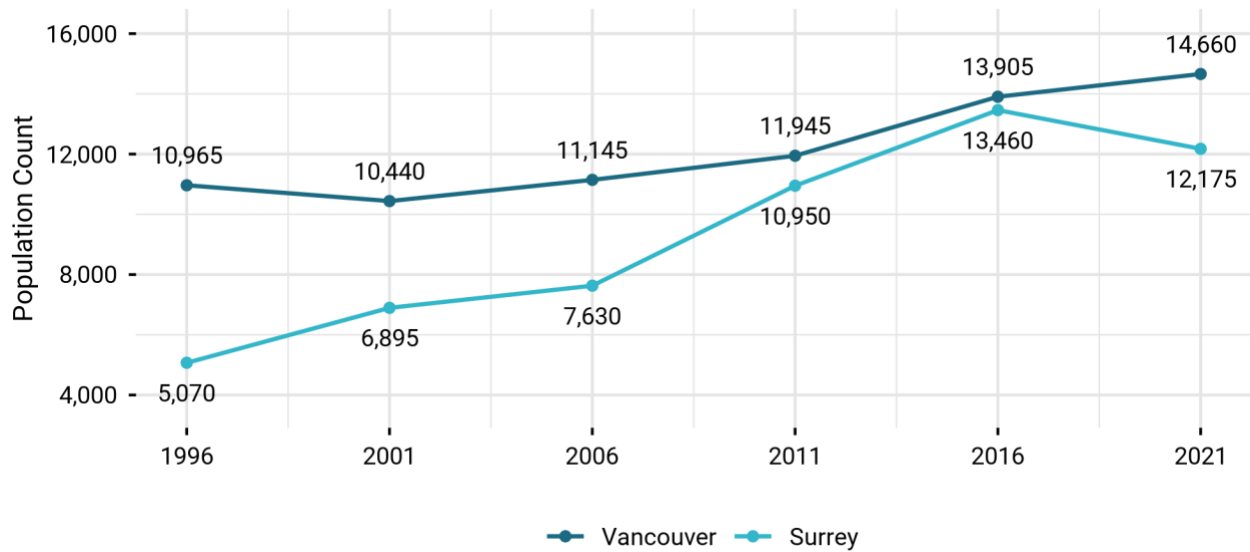
In 2023, the Surrey Urban Indigenous Leadership Committee and the City of Surrey were interested in better understanding the characteristics of the Indigenous population in Surrey. In pursuit of this goal, data from the 2021 Census of Population (Census) was used to explore the demographics, family, housing, mobility, language, education, income, employment, and commuting characteristics of the Indigenous and non-Indigenous populations in Surrey.

This work served to update a previous SUILC report that reported on similar characteristics of the Indigenous population using 2016 Census of the Population data (Reciprocal Consulting, 2019). Additional comparisons were made with other census geographies across British Columbia and Canada and, where appropriate, time-series analysis was completed using Census data from 1996, 2001, 2006, 2011, and 2016. Results of the updated analysis were compiled in a report titled *SUILC Census Data Report 2021 Profile of the Indigenous Population in Surrey* (Big River Analytics, 2023), and key findings were summarized into a series of fact sheets. The reports and fact sheets are available online on SUILC's website at: <https://surreyindigenousleadership.ca/our-research>.

1.2 Indigenous Population Growth and Distribution

The Indigenous population in Surrey more than doubled between 1996 (5,070) and 2021 (12,175), growing an average of 21% every five years from 1996 to 2016, but recently declined between 2016 (13,460) and 2021 (12,175). At over 12,000 people, the Indigenous population in Surrey makes up 2.2% of the total population of the city, representing the second largest Indigenous population within a municipality in BC behind Vancouver (14,660). Looking forward, the Indigenous population in Surrey is expected to grow at a more modest rate of about 4% every five years, reaching 14,000 by 2041.

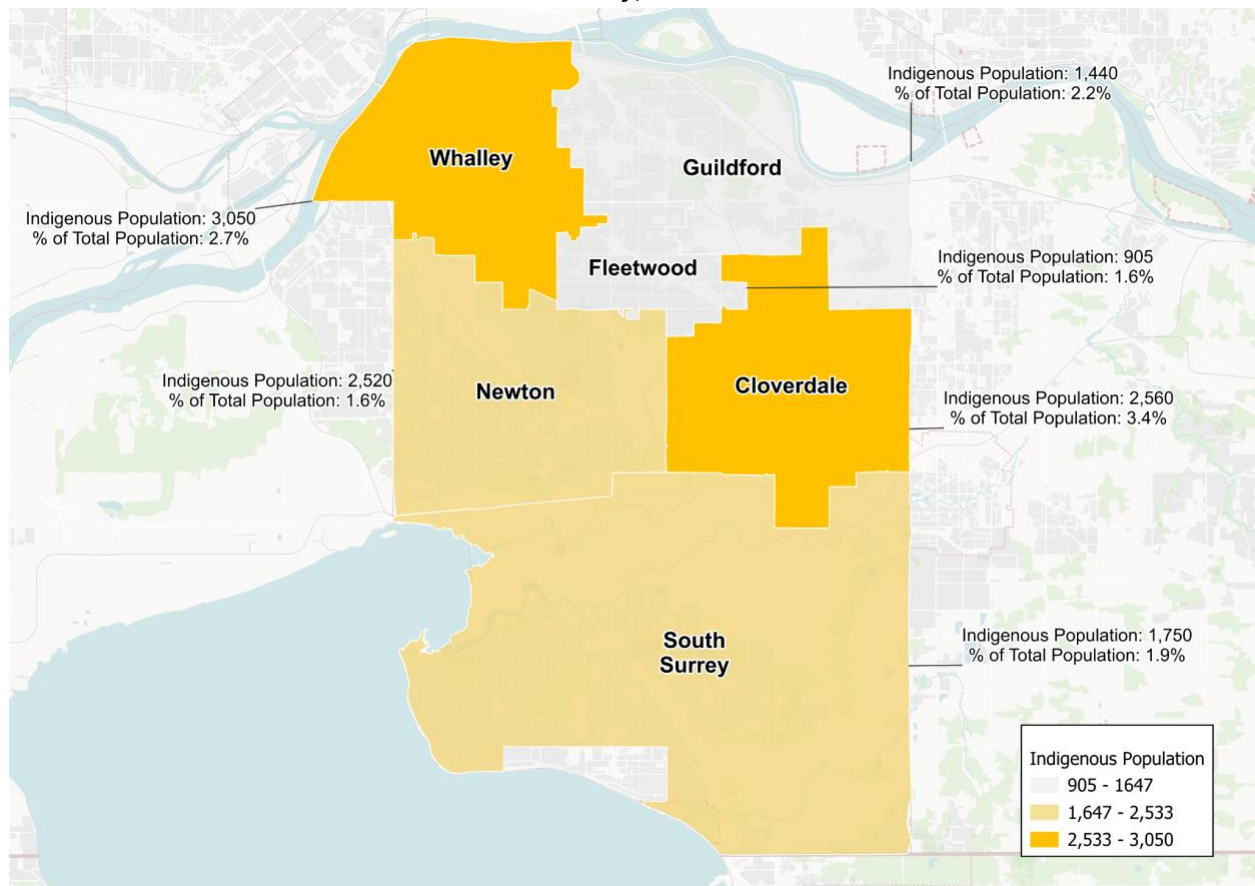
Figure 1.2.1: Indigenous Population Growth by Census Subdivision, 1996–2021



Source: Big River Analytics, 2023. SUILC Census Data Report: 2021 Profile of the Indigenous Population in Surrey.

Of the 12,175 Indigenous residents who live in Surrey, the largest share live in Whalley (25%), followed by Cloverdale (21%) and Newton (20%), at 3,050, 2,560 and 2,520 residents respectively. The community with the fewest Indigenous residents is Fleetwood, with 905 Indigenous residents representing a 7% share of the Indigenous population. As a proportion of the total population, Cloverdale has the highest Indigenous population percentage (3.4%), followed by Whalley (2.7%), and Guildford (2.2%). In the last five years (between the 2016 and 2021 Census), the Indigenous population increased in only two of Surrey's six communities - Cloverdale and South Surrey - while decreasing in Whalley, Guildford, Fleetwood, and Newton.

Figure 1.2.2: Indigenous Population by Community and Percentage of Total Population, Surrey, 2021



Source: Big River Analytics Calculations. Statistics Canada, 2021 Census of Population. **Note:** The data in this map was created using a mapping of Surrey Communities to Dissemination Areas, before a custom tab request for Surrey communities was available.

1.3 Method

The City of Surrey, SUILC, and BRA worked collaboratively to develop a method based on City of Surrey data and available Census data about the urban Indigenous population in Surrey while being consistent with the Province of BC's Complete Communities program.

Each parcel in the City of Surrey is evaluated based on available amenities within a 15-minute walkshed. A parcel is given a score of 1 for a given amenity if there is at least one instance of the amenity that can be reached within 15 minutes by walking. Distances are calculated based on a network using Surrey's road centerline dataset. For example, if there is a school within a ten minute walk, then the amenity score for schools for the parcel is 1. If the closest school to a parcel is a 20-minute walk, then the school amenity score for the parcel is 0.

The existence of sidewalks on one or both sides of a street is addressed in the City's model. The reason for including this consideration in the complete communities analysis is that it helps inform realistic and safe travel times between parcels and amenities. For example, if a sidewalk only exists on one side of a major road such as an arterial road with many lanes of traffic, this could affect the travel time to access an amenity as a pedestrian may be required to cross the street one or more times to safely reach the amenity via sidewalk infrastructure.

There are a total of ten different amenities that the City of Surrey considered in their complete communities analysis. These amenities are based on guidance in the province's Complete Communities Guide and reflect a traditional city planning perspective of amenities:

- Childcare
- Elementary Schools
- Secondary Schools
- Pharmacy
- Healthcare
- Grocery
- Retail Shopping
- Parks and Natural Areas
- Civic Facilities
- Frequent Transit

The goal of the data analysis is to analyze the proximity of the ten amenities listed above to the Indigenous population in the City of Surrey.

Data for the Indigenous population in Surrey is available from Statistics Canada's Census of the Population. The Census of Population is run by Statistics Canada every five years and is designed to provide information about people and housing units in Canada, including for different demographic, social, and economic characteristics. Statistics Canada undertakes a number of activities to ensure each Census provides relevant and reliable information, including consulting broadly with Indigenous peoples and governments on the content of the questionnaire (Statistics Canada, 2022b).

Given that even the smallest levels of geography available for the population cover many parcels, in order to compare availability of amenities to the Indigenous population, the per-parcel amenity scores must be aggregated to be comparable to Census data. Amenity scores are aggregated by calculating the average score across parcels for three levels of geographic boundaries for which Indigenous population counts are available:

1. Surrey Communities:
 - Cloverdale
 - Fleetwood

- Guildford
 - Newtown
 - South Surrey
 - Whalley
2. Census Tracts¹
 3. Dissemination Areas²

To gauge whether different levels of geography have high amenity scores or high Indigenous populations, both are classified with low, medium, and high rankings. There are ten total amenity categories and each parcel can have a minimum amenity score of zero and a maximum amenity score of ten, with scores being divided into three equal ranged categories. These categories are derived from the data, since Indigenous population counts vary across the three different geographies noted above. For each different level of geography, the categories are divided in the three equal count categories, meaning that each category is divided in a way that each category has an approximately equal number of observations.

Section 2 describes the results of the analysis of the City of Surrey's amenity scores and Indigenous population at the three different levels of geography: Surrey communities, census tracts, and dissemination areas. Section 3 describes limitations of the complete communities analysis, along with recommendations for future work that could be considered by SUILC and the City of Surrey.

¹ Census tracts are boundaries determined by Statistics Canada. More information on census tracts is available at <https://www12.statcan.gc.ca/census-recensement/2021/ref/dict/az/definition-eng.cfm?ID=geo013>

² Dissemination areas are boundaries determined by Statistics Canada. More information on dissemination areas is available at <https://www12.statcan.gc.ca/census-recensement/2021/ref/dict/az/definition-eng.cfm?ID=geo021>

2.0 Findings

An average amenity score calculates the average number out of the ten amenities that are part of the complete communities analysis, that are within a 15-minute walkshed in each area.

Understanding an area's average amenity score **relative to the total number of Indigenous** people who live in that area, can help inform where increasing amenity scores may have a larger impact on Indigenous peoples. For example, increasing amenities in geographic areas where there are low amenity scores and a lot of Indigenous people living can increase amenity access for Indigenous residents relative to making those same increases elsewhere.

Understanding an area's average amenity score **relative to where Indigenous people make up the largest share of the population** in that community can help determine if communities where more Indigenous people live tend to have more or fewer amenities, relative to other Surrey residents. This can inform further analysis into factors related to city planning and socio-economic conditions that could contribute to these outcomes, and could be influenced moving forward.

In both cases, understanding the relationship between amenity scores and where Indigenous people reside **is a starting point for additional investigation, engagement, and analysis**, in consultation with Indigenous residents, on what could make their communities more livable. Section 3 summarizes recommendations for the City of Surrey in consideration of further engagement to inform City planning efforts, and some of the limitations in relying on analysis of complete communities to inform planning in ways that advance the interests of Indigenous residents.

Sections 2.2 - 2.5 include comparisons between each level of geography's average amenity score and the total and share of the population that are Indigenous in that area. **Census tract analysis provides the most useful data, as it balances having sufficiently large populations to be able to gain insights**, while still enabling investigation of variance within Surrey. All census tract and dissemination area data are available in Appendix A.

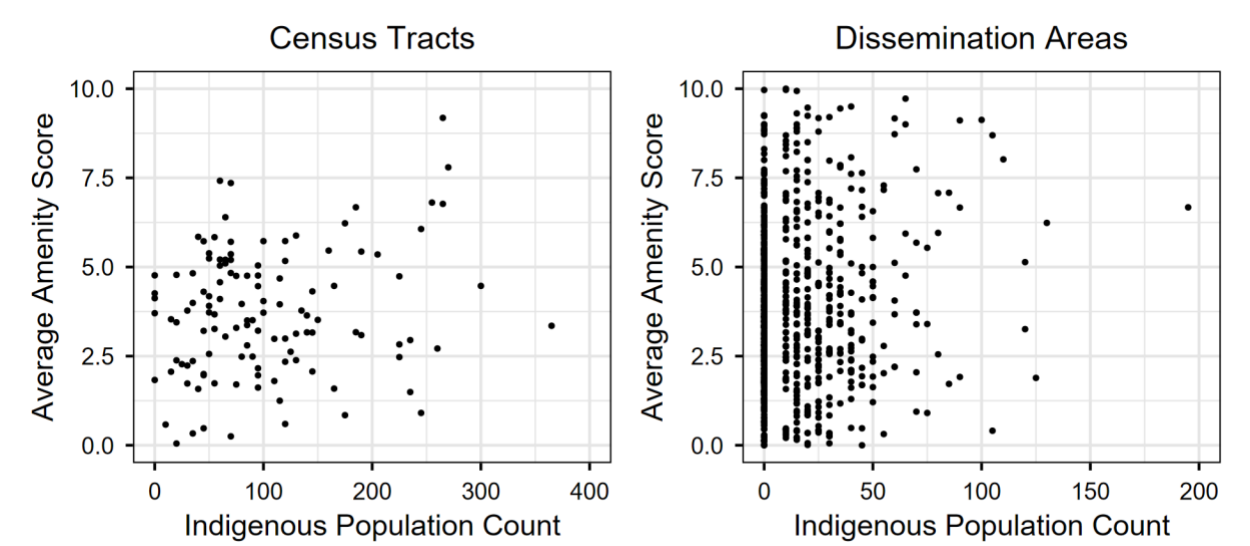
2.1 Key Findings

Analyzing the relationship between amenity access and the count of Indigenous residents across all census tracts and dissemination areas shows that **amenity access across Surrey does not systematically differ in areas where Indigenous people live**. In other words, there is no statistically significant relationship between Indigenous population and amenity scores for the City of Surrey as whole.

Figure 2.1.1 presents a scatter plot showing the relationship between Indigenous population counts and average amenity scores, at the census tract and dissemination area level. Correlation

tests were conducted to understand if a relationship Indigenous population and amenity scores exists. At both geographic levels, census tracts and dissemination areas, there was no significant relationship found. For census tracts there is a weak positive correlation between Indigenous population and average amenity scores, that is not statistically significant. For dissemination areas, there is a very weak positive correlation between Indigenous population counts and average amenity scores. Ultimately, there is no evidence of a strong relationship between where Indigenous people live and amenity scores across the City of Surrey, suggesting that amenity scores for regions where Indigenous people live are not consistently better or worse, relative to other Surrey residents. Results of the correlation tests are shown in Table A.1 in Appendix A.

Figure 2.1.1: Indigenous Population Counts and Average Amenity Score of Census Tracts and Dissemination Areas



Source: Big River Analytics Calculations. Statistics Canada, 2021 Census of Population. City of Surrey, 15-Minute Neighbourhood Amenities

Table 2.1.1 shows the average amenity scores for each Surrey community, as well as the Indigenous and total populations in each community. **Surrey's average amenity score across all parcels is 3.3.** Cloverdale, Fleetwood and Newton have above average amenity scores, while Whalley, South Surrey and Guildford have below average amenity scores.

Understanding the differences across each of Surrey's six communities, both in terms of where Indigenous people live and average amenity can help inform if there are regions where there is better amenity access for Indigenous residents. **Cloverdale has better amenity access for the Indigenous population relative to other Surrey communities.** Cloverdale has an average amenity score of 4.1 (the highest of all City of Surrey communities). Indigenous people make up the largest share of the total population (3.5%) relative to other communities, and 20.9% of the Indigenous population of Surrey lives there.

Table 2.1.1: Amenity Scores, Indigenous Population by Surrey Community

Surrey Community	Amenity Score	Indigenous Population (% of total population)	Total Population (% of total population)
Cloverdale	4.1	2,550 (3.5%)	73,360 (13.0%)
Fleetwood	3.9	1,090 (1.7%)	65,570 (11.7%)
Newton	3.7	2,590 (1.6%)	159,390 (28.3%)
Whalley	2.9	2,905 (2.6%)	110,880 (19.7%)
South Surrey	2.7	1,655 (1.9%)	88,445 (15.7%)
Guildford	2.6	1,435 (2.2%)	64,985 (11.6%)
Total	3.3	12,175*	562,565*

Source: Big River Analytics Calculations. Statistics Canada, 2021 Census of Population. City of Surrey, 15-Minute Neighbourhood Amenities. ***Note:** this is the population in private households. Community totals do not add up to city total due to random rounding.

Table 2.1.2 presents the average amenity scores for census tracts by community, categorized by low (0%-1.4%), medium (1.4%-2.5%), and high (2.5%-60%), where the percentage represents the share of the population in that area who are Indigenous. In Cloverdale, census tracts generally have higher amenity scores compared to other communities. Notably, census tracts with higher Indigenous population proportions in Cloverdale have a higher average amenity score (3.91) than those with lower Indigenous population proportions (0.58). These census tracts also outperform most other communities, except for Newton, which has the highest average amenity score (4.03) for census tracts with high Indigenous population proportions.

Further analysis of census tracts shows that Cloverdale outperforms other communities for the Indigenous population across several metrics (see section 2.3), and our analysis of dissemination areas also shows similar trends (see section 2.4.)

Table 2.1.2: Average Amenity Scores by Indigenous Population Percent and Community

	Low (0% - 1.4%)		Medium (1.4% - 2.5%)		High (2.5% - 60%)		All CTs	
Community	Amenity Score	CTs	Amenity Score	CTs	Amenity Score	CTs	Amenity Score	CTs
Whalley	3.98	6	2.80	11	3.08	13	3.11	30
South Surrey	3.56	5	2.50	11	1.99	5	2.68	21
Newton	3.67	20	3.17	10	4.03	8	3.57	38
Guildford	2.71	7	3.00	9	2.50	7	2.77	23
Fleetwood	2.83	8	4.01	13	2.96	2	3.50	23
Cloverdale	0.58	1	3.43	5	3.91	13	3.66	19
Total	3.33	38	3.11	41	3.24	40	3.21	119

Source: Big River Analytics Calculations. Statistics Canada, 2021 Census of Population. City of Surrey, 15-Minute Neighbourhood Amenities.

Understanding differences across each of Surrey's six communities can also help inform where increasing amenity access can reach the largest number of Indigenous people. **Improving amenity access in Whalley will impact the highest number of Indigenous people.** Whalley is home to the largest Indigenous population, making up approximately 23.9% of the total Indigenous population in Surrey. Whalley has an amenity score of 2.9 (below average).

At the census tract level, Whalley also has a slightly below-average amenity score across all census tracts (3.11). Notably, census tracts in Whalley with lower Indigenous population proportions have the highest amenity score average (3.98) compared to similar tracts in other communities. In contrast, census tracts in Whalley with high Indigenous population proportions have a lower average amenity score (3.08).

Understanding differences across each of Surrey's six communities can also help inform where amenity access is lowest for Indigenous residents. **South Surrey has disproportionately lower access to amenities for the Indigenous population.** South Surrey is home to approximately 13.6% of the Indigenous population in Surrey, and has the second lowest amenity score. Analysis of census tracts shows that South Surrey has lower access to amenities for areas with high Indigenous populations.

Although South Surrey does not have one of the highest Indigenous populations, there is evidence of inequitable access to amenities for its Indigenous residents. This disparity is evident in the lower amenity score averages across census tracts, particularly in areas with higher Indigenous

population proportions. South Surrey has the lowest amenity score average (1.99) for census tracts with high Indigenous population proportions, significantly lower than its amenity score for tracts with low Indigenous population proportions (3.56).

The rest of section 2 provides further analysis of amenity scores and the Indigenous population at the community level, census tracts and dissemination areas.

2.2 Surrey Communities Analysis

Table 2.2.1 and Figure 2.2.1 show the average amenity scores and Indigenous population in each of the six Surrey communities. Considering the amenity score ranking (Table 2.2.2), the Indigenous population count, and the Indigenous population percentage at a community level, the community that provides the **greatest access to amenities to the Indigenous population is Cloverdale**.

Cloverdale is home to 13.0% of the Surrey population and has the highest average amenity score compared to other Surrey communities at 4.1. Cloverdale is the community where Indigenous people make up the largest share of the total population (3.5%) and is the community with the third highest total count of Indigenous residents (2,550).

Fleetwood has the second highest amenity score (3.9), and, like Cloverdale, is one of the smaller of the Surrey communities, home to 11.7% of all residents. It is the community with the fewest total Indigenous people (1,090) and where Indigenous people make up only 1.7% of the Fleetwood population.

Newton is home to the largest population in Surrey (28.3%) and has the third highest amenity score (3.7), while being home to the second highest number of Indigenous residents (2,590). The Indigenous population makes up the lowest overall share of the total population (1.6%).

Whalley has the fourth highest amenity score (2.9) and has the highest Indigenous population count (2,905) compared to other communities.

South Surrey and **Guildford**, have relatively low average amenity scores and are not ranked highly in terms of the share of the total population who are Indigenous residents or the total number of Indigenous residents who live there.

Surprisingly, the communities with the highest total population do not have the highest amenity scores. Although this is the case, community level analysis should be interpreted with caution as it requires aggregation of many small parcels. Outliers, that is unusually high and low scores, can substantially increase or decrease an average. That means that, if there are areas within these communities where there are really low concentrations of amenities in areas that are not densely populated, the average score for that community will reflect a lower amenity score, even if there

are few people living there. As such, although at the community level we see a mixed relationship between amenity scores, population sizes and the share of residents who are Indigenous, making further investigation at lower levels of geography beneficial.

Table 2.2.1: Amenity Scores, Indigenous Population by Surrey Community

Surrey Community	Amenity Score	Indigenous Population (% of total population)	Total Population (% of total population)
Cloverdale	4.1	2,550 (3.5%)	73,360 (13.0%)
Fleetwood	3.9	1,090 (1.7%)	65,570 (11.7%)
Newton	3.7	2,590 (1.6%)	159,390 (28.3%)
Whalley	2.9	2,905 (2.6%)	110,880 (19.7%)
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Total	3.3	12,175*	562,565*

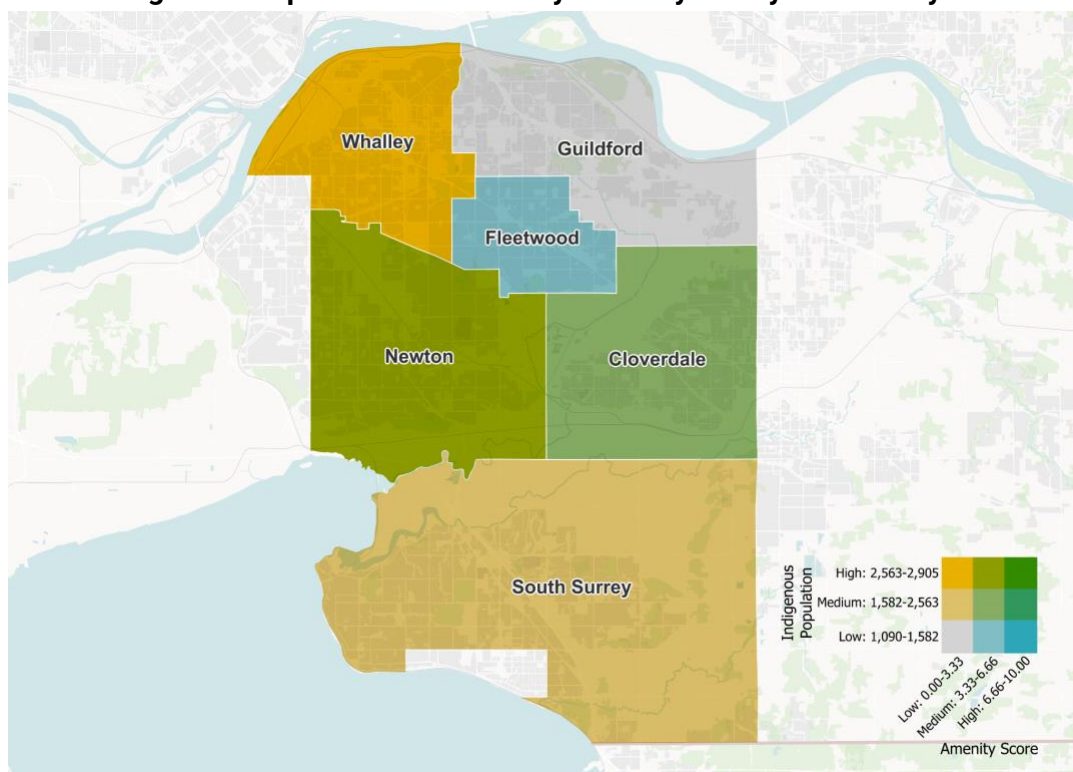
Source: Big River Analytics Calculations. Statistics Canada, 2021 Census of Population. City of Surrey, 15-Minute Neighbourhood Amenities. ***Note:** this is the population in private households. Community totals do not add up to city total due to random rounding.

Table 2.2.2: Amenity Scores, Indigenous Population by Surrey Community

Surrey Community	Amenity Score Rank	Indigenous Population Count Rank	Indigenous Population (% of Total) Rank	Total Population Rank
Cloverdale	1	3	1	4
Fleetwood	2	6	5	5
Newton	3	2	6	1
Whalley	4	1	2	2
South Surrey	5	4	4	3
Guildford	6	5	3	6

Source: Big River Analytics Calculations. Statistics Canada, 2021 Census of Population. City of Surrey, 15-Minute Neighbourhood Amenities. **Notes:** Green cells show top 2 rankings and red cells show bottom two rankings in relation to other Surrey communities.

Figure 2.2.1: Indigenous Population and Amenity Score by Surrey Community



Source: Big River Analytics Calculations. Statistics Canada, 2021 Census of Population. City of Surrey, 15-Minute Neighbourhood Amenities.

2.3 Census Tracts Analysis

There are 119 census tracts in the City of Surrey, and the average amenity score for all census tracts is 3.21. Census tracts are categorized as high, if they have an average amenity score of greater than 6.66. A total of 7 census tracts in Surrey fit this category. Census tracts with average amenity scores of between 3.33 and 6.66 are categorized as medium, and there are 61 medium census tracts. There are 51 low census tracts, with an average amenity score of less than 3.33.

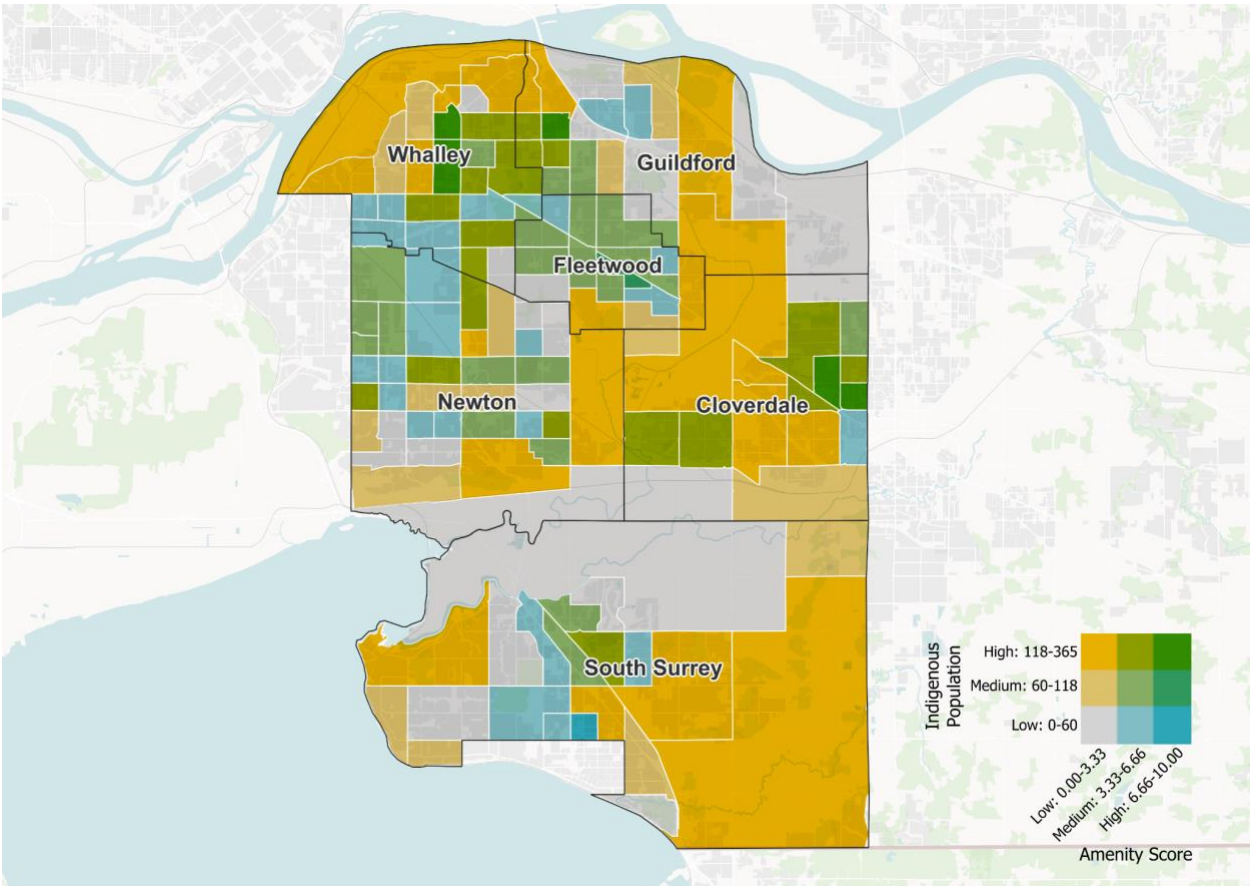
Census tracts are likewise categorized by the size of the total Indigenous population, relative to other census tracts. There are 43 communities with between 0 - 60 Indigenous residents (low), 36 communities with between 60 - 118 Indigenous residents (medium), and 40 census tracts with between 118 - 365 Indigenous residents (high).

Appendix A lists all Surrey census tracts, including the total population, the Indigenous population, the share of the total population in that census tract who are Indigenous, and the average amenity score for each census tract. Given there are so many census tracts, our analysis compares community level outcomes, based on how census tracts are categorized within each community.

Figure 2.3.1 shows a map of census tracts within the City of Surrey by each census tract's amenity score and the number of Indigenous residents, along with Surrey community boundaries for reference.³

³ Note that the boundaries of census tracts and Surrey communities are non-congruent, meaning that some census tracts cross the boundaries of Surrey communities. When speaking to census tracts in this report, all communities that the census tracts are part of are discussed, in other words, some census tracts are included in more than one community. Where totals are reported for the City overall, we only include unique census tracts.

Figure 2.3.1: Indigenous Population and Amenity Score by Census Tract, Surrey



Source: Big River Analytics Calculations. Statistics Canada, 2021 Census of Population. City of Surrey, 15-Minute Neighbourhood Amenities.

Table 2.3.1 shows the count of census tracts by average amenity score and Indigenous population for each Surrey Community, and Table 2.3.2 compares low and high ranked census tracts with high Indigenous populations and high total populations. There are a total of five census tracts that are highly ranked in both amenity scores and Indigenous population count. Two of these Census Tracts are in Whalley, two are in Cloverdale and one is in Guildford. Newton, South Surrey, and Fleetwood do not have any census tracts that are highly ranked in both amenity scores and Indigenous population.

Most census tracts that have high amenity scores also have a high Indigenous population. There are only two census tracts that are highly ranked in amenity scores but not Indigenous population, one in South Surrey and one in Fleetwood.

Across communities, there are a total of 51 census tracts that have low amenity scores, 19 of which also have high Indigenous populations (37.3%). Most census tracts that have low amenity scores and high Indigenous populations are in Whalley, Cloverdale and Guildford, which are also the communities with high ranked census tracts. Most of these census tracts are larger census

tracts that have lower population density. The average size of low ranked census tracts is 7.39 km², while the average census tract size across Surrey is 2.66 km².

Table 2.3.1: Count of Ranked Census Tracts by Surrey Community

		Indigenous Population			
Community	Amenity Score	Low (0 - 60)	Medium (60 - 118)	High (118 - 365)	Total
Whalley	Low (0 - 3.33)	2	3	5	10
	Medium (3.33 - 6.66)	7	5	6	18
	High (6.66 - 10)	0	0	2	2
	Total	9	8	13	30
Cloverdale	Low (0 - 3.33)	2	2	6	10
	Medium (3.33 - 6.66)	1	1	5	7
	High (6.66 - 10)	0	0	2	2
	Total	3	3	13	19
Guildford	Low (0 - 3.33)	5	2	5	12
	Medium (3.33 - 6.66)	3	4	3	10
	High (6.66 - 10)	0	0	1	1
	Total	8	6	9	23
Newton	Low (0 - 3.33)	7	5	3	15
	Medium (3.33 - 6.66)	10	8	5	23
	High (6.66 - 10)	0	0	0	0
	Total	17	13	8	38
South Surrey	Low (0 - 3.33)	5	4	4	13
	Medium (3.33 - 6.66)	4	2	1	7
	High (6.66 - 10)	1	0	0	1
	Total	10	6	5	21
Fleetwood	Low (0 - 3.33)	5	3	2	10
	Medium (3.33 - 6.66)	3	9	0	12
	High (6.66 - 10)	0	1	0	1
	Total	8	13	2	23
Total		43	36	40	119

Source: Big River Analytics Calculations. Statistics Canada, 2021 Census of Population. City of Surrey, 15-Minute Neighbourhood Amenities. ***Note:** Total number of unique CTs, which cross community boundaries.

Table 2.3.2: Low and High Amenity Score Dissemination Areas with High Indigenous and High Total Populations

Low Amenity Scores			
Community	High Indigenous Population Count	High Indigenous Population Percent	High Total Population Count
Whalley	5	5	5
South Surrey	4	5	4
Newton	3	3	5
Guildford	5	3	2
Fleetwood	2	2	3
Cloverdale	6	7	4
Total	19	20	16
High Amenity Scores			
Whalley	2	2	1
South Surrey	0	0	0
Newton	0	0	0
Guildford	1	1	1
Fleetwood	0	0	0
Cloverdale	2	2	2
Total	5	5	4

Source: Big River Analytics Calculations. Statistics Canada, 2021 Census of Population. City of Surrey, 15-Minute Neighbourhood Amenities. ***Note:** Total number of unique CTs, which cross community boundaries.

Table 2.3.3 presents the average amenity scores for census tracts by community, categorized by low (0%-1.4%), medium (1.4%-2.5%), and high (2.5%-60%), where the percentage represents the share of the population in that area who are Indigenous. In this case we examine the Indigenous proportion of the total population in each census tract instead of the Indigenous population count to control for the fact that some census tracts with low numbers of Indigenous residents, may also have a lower total population count. Census tracts are categorized as high if more than 2.5%

of the population is Indigenous (40 census tracts), medium if 1.4% to 2.5% of the population is Indigenous (41 census tracts), and low if less than 1.4% of the population is Indigenous (38 census tracts).

Out of the six communities, Cloverdale, Newton and Whalley have the highest average amenity scores among census tracts where a high percentage of the population is Indigenous, closely followed by Guildford.

Cloverdale has the highest average amenity score (3.66), as well as the second highest average amenity score across census tracts that have high Indigenous population proportions (3.91) and a very low average amenity score (0.58) for census tracts where Indigenous people make up a smaller share of the population.⁴

To understand whether areas where Indigenous people make up a larger percentage of the population have higher or lower amenity scores, it is useful to compare the average amenity scores within a community or Surrey overall, to those where a high percentage of the population is Indigenous. The average amenity score for census tracts where there is a higher percentage of Indigenous people living in **Cloverdale** (3.91) exceeds the average score for all census tracts in Cloverdale (3.66) and in Surrey overall (3.21) suggesting a positive relationship between amenity scores and where Indigenous people make up a larger share of the population in Cloverdale.

South Surrey has a lower average amenity scores in census tracts where Indigenous people make up a larger share of the population (1.65) relative to the average amenity score in that community (3.61), and for Surrey overall.

Table 2.3.3: Average Amenity Scores by Indigenous Population Percent and Community

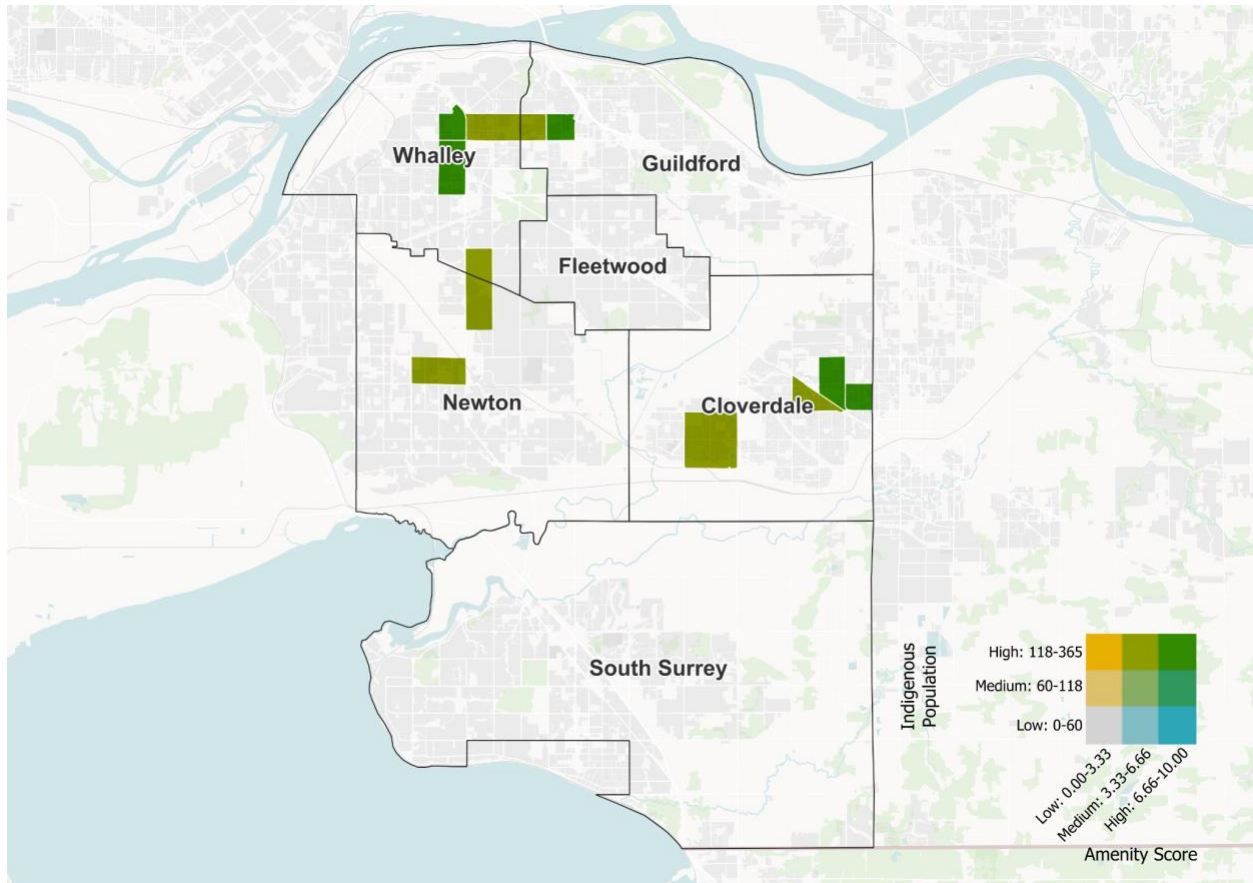
	Low (0% - 1.4%)		Medium (1.4% - 2.5%)		High (2.5% - 60%)		All CTs	
Community	Amenity Score	CTs	Amenity Score	CTs	Amenity Score	CTs	Amenity Score	CTs
Whalley	3.98	6	2.80	11	3.08	13	3.11	30
South Surrey	3.56	5	2.50	11	1.99	5	2.68	21
Newton	3.67	20	3.17	10	4.03	8	3.57	38
Guildford	2.71	7	3.00	9	2.50	7	2.77	23
Fleetwood	2.83	8	4.01	13	2.96	2	3.50	23
Cloverdale	0.58	1	3.43	5	3.91	13	3.66	19
Total	3.33	38	3.11	41	3.24	40	3.21	119

Source: Big River Analytics Calculations. Statistics Canada, 2021 Census of Population. City of Surrey, 15-Minute Neighbourhood Amenities. ***Note:** Total number of unique CTs, which cross community boundaries.

⁴ Note, this is based on only one census tract fitting this description.

Figure 2.3.2 and Table 2.3.4 shows the top ten census tracts with the highest combination of Indigenous population and amenity scores. Whalley and Cloverdale each have four out of the top ten census tracts being located within their community boundaries.

Figure 2.3.2: Top Ten Census Tracts



Source: Big River Analytics Calculations. Statistics Canada, 2021 Census of Population. City of Surrey, 15-Minute Neighbourhood Amenities.

Table 2.3.4: Top Ten Census Tracts*

Census tract	Community	Amenity Score	Indigenous Population	Indigenous Population %	Total Population
9330183.13	Cloverdale	9.18	265	3.7%	7,155
9330189.08	Guildford	7.80	270	3.7%	7,330
9330191.04	Whalley	6.77	265	2.7%	9,785
9330191.07	Whalley	6.81	255	6.1%	4,210
9330185.05	Newton	6.07	245	3.9%	6,290
9330190.03	Guildford/Whalley	4.47	300	3.7%	8,015
9330183.11	Cloverdale	6.67	185	3.2%	5,815
9330183.01	Cloverdale	3.35	365	5.0%	7,240
9330184.21	Newton/Whalley	5.35	205	4.0%	5,100
9330183.17	Cloverdale	6.23	175	3.5%	5,030

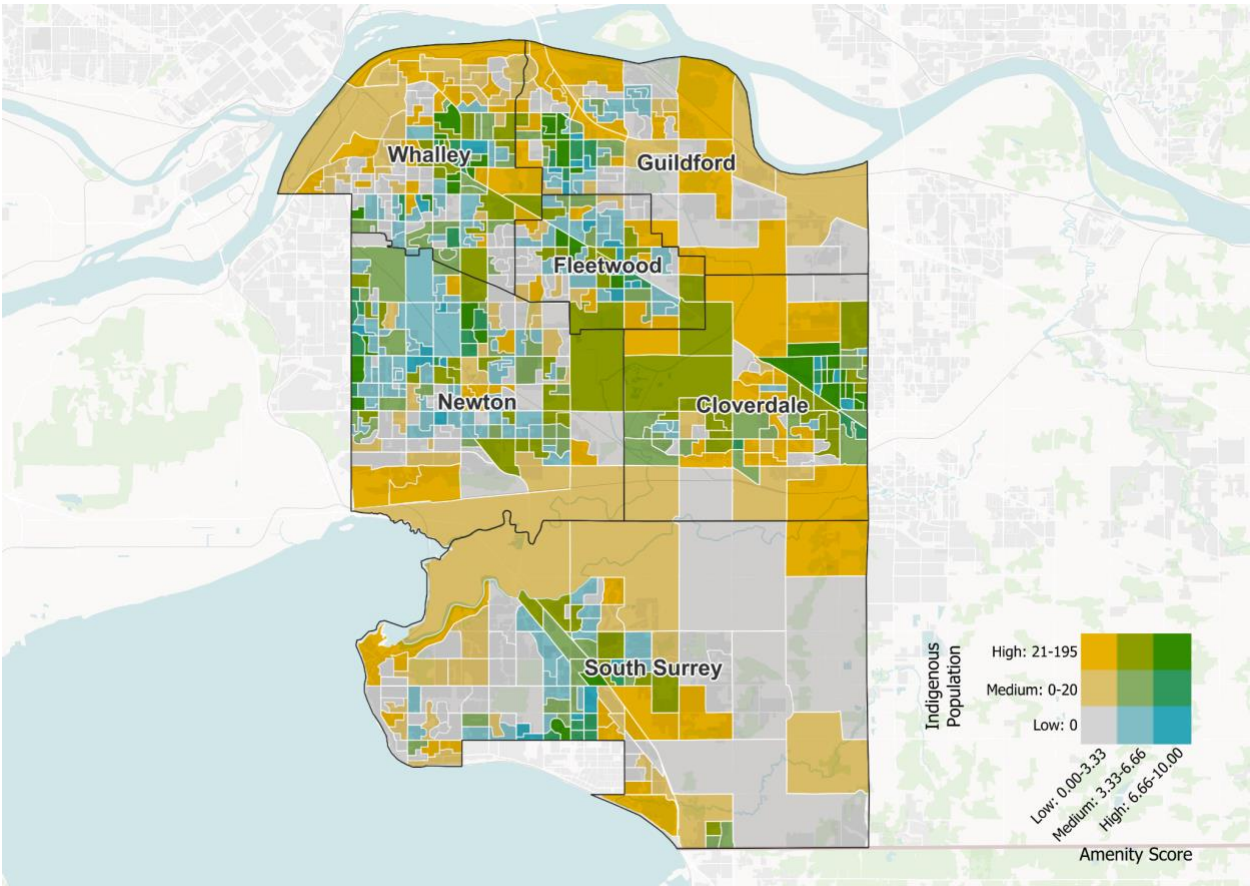
Source: Big River Analytics Calculations. Statistics Canada, 2021 Census of Population. City of Surrey, 15-Minute Neighbourhood Amenities. ***Note:** Columns are ordered by the weighted product of the Indigenous population and amenity score in each census tract.

Overall our analysis of census tracts validates trends seen at the community level, while also showing there is considerable variation among census tracts. **Cloverdale** seems to provide the greatest access to amenities to the Indigenous population, having two of five highly ranked census tracts, having four of the top ten ranked census tracts, and having the highest average amenity score for census tracts that have a high Indigenous population proportions. Conversely, the analysis of census tracts shows that **South Surrey** has relatively poor access to amenities for the Indigenous population. South Surrey does not have any census tracts that are highly ranked in both amenity score and Indigenous population (in terms of count and percentage), and has the lowest amenity score average for census tracts that have high Indigenous population percentages.

2.4 Dissemination Areas Analysis

Figure 2.4.1 shows a map of dissemination areas within the City of Surrey by each dissemination area's amenity score and Indigenous population, along with Surrey community boundaries for reference. Note that, like census tracts, the boundaries of dissemination areas and Surrey communities are non-congruent, meaning that some dissemination areas cross the boundaries of Surrey communities. When speaking to dissemination areas, all communities that the dissemination areas are part of are discussed.

Figure 2.4.1: Indigenous Population & Amenity Score by Dissemination Area, Surrey



Source: Big River Analytics Calculations. Statistics Canada, 2021 Census of Population. City of Surrey, 15-Minute Neighbourhood Amenities.

Table 2.4.1 shows the count of dissemination areas by amenity score and Indigenous population for each Surrey Community, and Table 2.4.2 compares low and high ranked dissemination areas among areas with high Indigenous populations and high total populations.

There are a total of 36 dissemination areas that rank highly in both their average amenity scores and total number of Indigenous residents. Of those 36 dissemination areas, the highest number are in **Cloverdale** (11) and **Whalley** (9). **South Surrey** has the fewest dissemination areas that have both high average amenity scores and a high number of Indigenous residents.

There are some differences between areas with high Indigenous populations and high total populations. Whalley and Newton have more high amenity score dissemination areas for the total population, while Cloverdale has more high ranked dissemination areas for Indigenous populations (count and percent).

Across communities there are a total of 288 dissemination areas that have low amenity scores, 82 of which are dissemination areas where a higher number of Indigenous people reside (28.5%).

Whalley, Cloverdale, and Guildford have the most dissemination areas that have low amenity scores and high Indigenous populations.

There are some differences between low amenity score dissemination areas when comparing high Indigenous populations to high total populations. Whalley, Cloverdale, and South Surrey have more low amenity score dissemination areas with high Indigenous populations (count and percent) compared to low amenity score dissemination areas with high total populations. Conversely, Newton and Fleetwood have more low amenity score dissemination areas with a high total population. Looking at the size of low amenity score dissemination areas, the same trend as with census tracts is observed. The average size of low ranked dissemination areas is 0.99 km² and the average size of all dissemination areas in Surrey is 0.48 km², showing that low ranked dissemination areas have lower population density.

Table 2.4.1: Count of Ranked Dissemination areas by Surrey Community

		Indigenous Population			
Community	Amenity Score	Low (0)	Medium (0 - 20)	High (20 - 195)	Total
Cloverdale	Low (0 - 3.33)	12	5	19	36
	Medium (3.33 - 6.66)	7	15	20	42
	High (6.66 - 10)	5	6	11	22
	Total	24	26	50	100
Whalley	Low (0 - 3.33)	39	20	23	82
	Medium (3.33 - 6.66)	23	17	13	53
	High (6.66 - 10)	2	6	9	17
	Total	64	43	45	152
Guildford	Low (0 - 3.33)	21	10	19	50
	Medium (3.33 - 6.66)	15	9	4	28
	High (6.66 - 10)	5	5	6	16
	Total	41	24	29	94
Newton	Low (0 - 3.33)	32	19	9	60
	Medium (3.33 - 6.66)	60	23	19	102
	High (6.66 - 10)	6	9	5	20
	Total	98	51	33	182
South Surrey	Low (0 - 3.33)	33	19	14	66
	Medium (3.33 - 6.66)	17	11	8	36
	High (6.66 - 10)	5	7	2	14
	Total	55	37	24	116
Fleetwood	Low (0 - 3.33)	23	8	9	40
	Medium (3.33 - 6.66)	23	5	12	40
	High (6.66 - 10)	8	1	3	12
	Total	54	14	24	92
Total		305	175	187	667

Source: Big River Analytics Calculations. Statistics Canada, 2021 Census of Population. City of Surrey, 15-Minute Neighbourhood Amenities. ***Note:** Total number of unique DAs, which cross community boundaries.

Table 2.4.2: Low and High Amenity Score Dissemination Areas with High Indigenous and High Total Populations

Low Amenity Scores			
Community	High Indigenous Population Count	High Indigenous Population Percent	High Total Population Count
Whalley	23	31	16
South Surrey	14	23	10
Newton	9	10	30
Guildford	19	18	18
Fleetwood	9	7	16
Cloverdale	19	20	8
Total	82	100	81
High Amenity Scores			
Whalley	9	8	13
South Surrey	2	5	2
Newton	5	6	9
Guildford	6	7	6
Fleetwood	3	3	4
Cloverdale	11	14	5
Total	36	43	39

Source: Big River Analytics Calculations. Statistics Canada, 2021 Census of Population. City of Surrey, 15-Minute Neighbourhood Amenities. ***Note:** Total number of unique DAs, which cross community boundaries.

Table 2.4.3 shows the average amenity scores of dissemination areas by Indigenous population percentage. **Fleetwood** (4.08), **Cloverdale** (4.06), and **Newton** (3.27) have the highest amenity score averages for dissemination areas with high Indigenous population proportions. In contrast, **Guildford** (2.24) and **South Surrey** (2.32) have the lowest amenity score averages for dissemination areas with high Indigenous population proportions. Both Guildford and South Surrey also have relatively low amenity score averages for dissemination areas with low Indigenous population percentages, at 3.02 and 2.52, respectively.

Except for Cloverdale and Fleetwood, all other communities have average amenity scores that are higher for dissemination areas with low Indigenous population percentages relative to dissemination areas with high Indigenous population percentages. Note that random rounding could have a substantial effect on these results especially in the context of the results of the community level and census tract analysis.

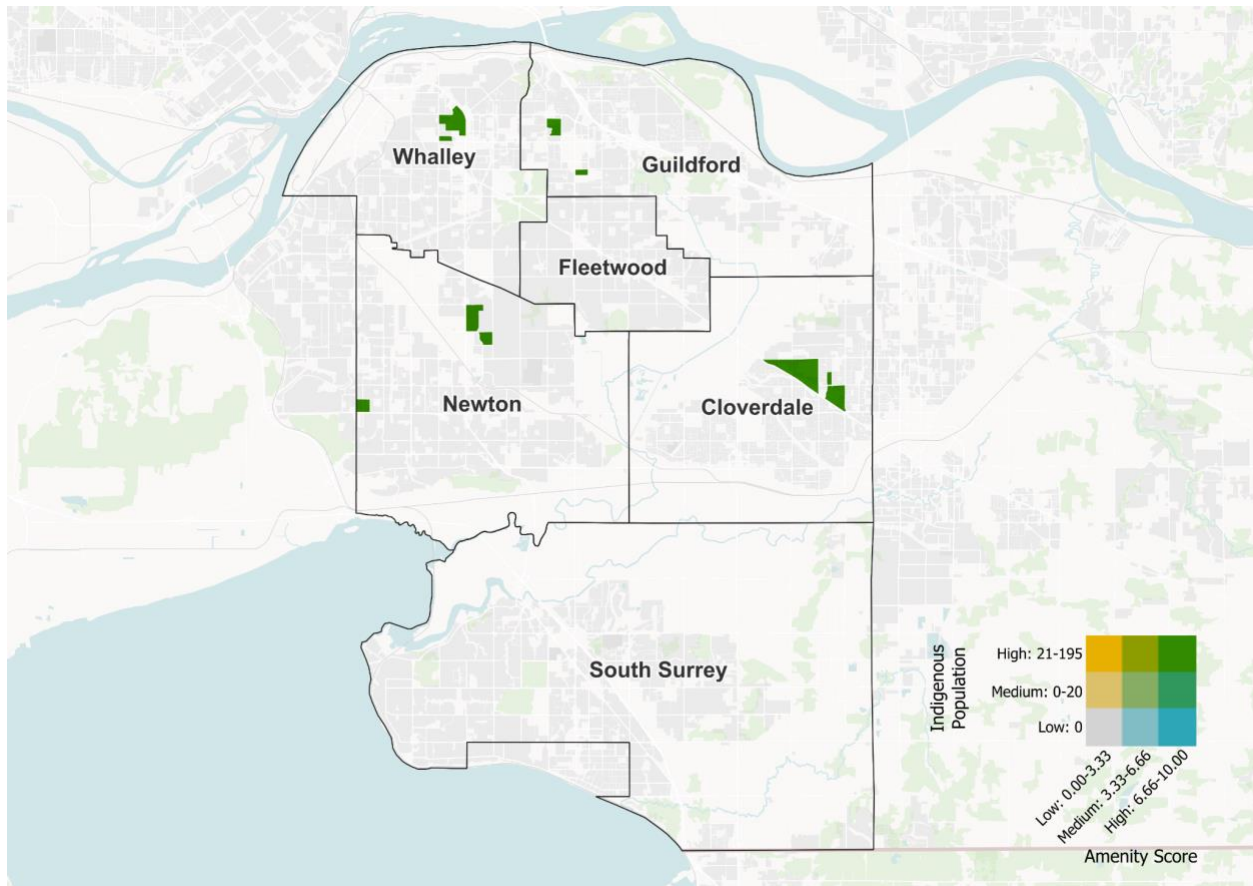
Table 2.4.3: Average Amenity Scores of Dissemination Areas by Indigenous Population Percent Ranking

	Low (0.0% - 0.0%)		Medium (0.0% -2.2%)		High (2.2% - 60%)		All DAs	
Community	Amenity Score	DAs	Amenity Score	DAs	Amenity Score	DAs	Amenity Score	DAs
Whalley	2.94	64	3.01	31	2.82	57	2.91	152
South Surrey	2.52	54	3.29	26	2.32	35	2.68	116
Newton	3.73	98	3.49	48	3.27	36	3.58	182
Guildford	3.02	41	2.37	22	2.24	31	2.60	94
Fleetwood	3.55	54	3.30	19	4.08	19	3.58	92
Cloverdale	3.49	24	3.68	16	4.06	60	3.88	100
Total	3.22	304	3.22	138	3.17	224	3.20	667

Source: Big River Analytics Calculations. Statistics Canada, 2021 Census of Population. City of Surrey, 15-Minute Neighbourhood Amenities. ***Note:** Total number of unique DAs, which cross community boundaries.

Figure 2.4.2 and Table 2.4.2 shows the top ten dissemination areas with the highest combination of amenity scores and Indigenous population. Newton and Cloverdale appear the most with three dissemination areas in the top ten, each. Both South Surrey and Fleetwood do not appear in the top ten. Although Newton does not rank highly in terms of the number of high ranked dissemination areas (with only five compared to eleven in Cloverdale and nine in Whalley), it has some of the highest ranking dissemination areas due to a few areas that are densely populated with lots of amenities available. The three dissemination areas in Newton that appear in the top ten have a total Indigenous population of 405, which accounts for over 15% of the Indigenous population in Newton.

Figure 2.4.2: Top Ten Dissemination Areas*



Source: Big River Analytics Calculations. Statistics Canada, 2021 Census of Population. City of Surrey, 15-Minute Neighbourhood Amenities.

Table 2.4.2: Top Ten Dissemination Areas*

Geography	Community	Amenity Score	Indigenous Population	Indigenous Population %	Total Population
59152276	Newton	6.67	195	10.7%	1,815
59154231	Cloverdale	8.69	105	5.5%	1,910
59152255	Newton	9.13	100	7.5%	1,330
59151974	Newton	8.02	110	7.9%	1,400
59153362	Guildford	9.11	90	4.7%	1,910
59154227	Cloverdale	9.72	65	11.2%	580
59151931	Whalley	7.08	85	5.1%	1,675
59151929	Whalley	6.67	90	7.5%	1,205
59151860	Guildford	9.00	65	8.3%	785
59154221	Cloverdale	7.07	80	5.3%	1,505

Source: Big River Analytics Calculations. Statistics Canada, 2021 Census of Population. City of Surrey, 15-Minute Neighbourhood Amenities. ***Note:** Columns are ordered by the weighted product of the Indigenous population and amenity score in each census tract.

The trends among communities are less clear in the analysis of dissemination areas, but there are some results that track with the community level and census tract analysis. Cloverdale and Newton consistently have better amenity scores for areas with high Indigenous populations. They have more high amenity score dissemination areas, higher amenity score averages for areas with high Indigenous populations, and have the most dissemination areas in the top ten.

2.5. Summary

The results of the data analysis in Section 2.0 show that out of the six Surrey communities, Cloverdale and Newton have the highest combinations of Indigenous population and amenity scores when considering the three geographic scales that were reviewed (Surrey communities, census tracts, and dissemination areas). This finding suggests that Indigenous people living in Cloverdale and Newton generally have greater access to amenities compared to the other Surrey communities.

Unlike Cloverdale and Newton, the communities of South Surrey and Guildford were found to have the lowest combinations of Indigenous population and average amenity scores, suggesting that these areas have lesser access to amenities. It should be noted that although Guildford was found to have the lowest overall average amenity score (2.6) at the community level of geography, it was found to have some specific areas that are ranked highly in terms of amenity scores when

viewed at a more granular level, highlighting the importance of data analysis using census tract and dissemination area geographies in addition to community-level geography.

Indigenous people generally seem to live in areas that have higher relative access to amenities. Cloverdale in particular seems to support greater amenity access to the Indigenous population of Surrey. Further work could be done to understand why this is the case. Although Cloverdale consistently has some of the highest amenity scores, there are other areas with high amenity scores that do not have high Indigenous populations. It is not clear if Indigenous people are choosing to live in Cloverdale due to the availability of amenities or if there are other contributing factors that make Cloverdale a desirable place to live for Indigenous people.

3.0 Limitations and Next Steps

3.1 Data Limitations

There are a number of limitations that impacted the analysis of the Indigenous population's access to complete community amenities within the City of Surrey. One such limitation is the geographic availability of Census data compared to City of Surrey's 15-minute community dataset. Census data is only available at larger geographic areas, so data on amenities needed to be aggregated based on the three Census geographies (Surrey communities, census tracts and dissemination areas), which reduces the granularity of amenity availability and creates issues with rounding areas. At the Surrey community and census tract levels of geography, findings are generalized across entire communities or large sections of communities, resulting in challenges drawing conclusions about specific areas of Surrey.

Statistics Canada applies random rounding to census counts in order to reduce the possibility of identifying individuals. Counts are randomly rounded up or down to a multiple of five or ten, and counts under ten may be rounded down to zero or up to ten. For this reason, results should be interpreted with caution when the analysis is focused on areas with small population counts. This limitation mainly applies to dissemination areas - the smallest level of geography analyzed in this report. These data limitations exist to allow for reporting of data while maintaining confidentiality.

3.2 Method Limitations

The Province of BC's complete communities framework, and the ten amenities used in the City of Surrey complete communities analysis are representative of a traditional city planning perspective that has not been vetted by the Indigenous population living in Surrey. It is unknown if the concept of complete communities presented in the Province of BC's Complete Communities Guide - centred around the four lenses of housing, daily needs, transportation and infrastructure - is consistent with an Indigenous view of what makes a complete community. This relates to a larger issue with the complete communities method in general, which is that it is unknown what a complete community means to Indigenous people, both in Surrey and British Columbia.

This list of amenities may or may not align with amenity preferences of Surrey's Indigenous population. Further engagement is required to understand the priorities of the Surrey Indigenous population, and whether planning frameworks and methods are adequately providing for those preferences and voices to inform decisions.

3.3 Recommendations

This project represents an initial step towards the City of Surrey working with SUILC on integrating considerations specific to the urban Indigenous population into their planning efforts. Overall, it is positive to see the City of Surrey interested in building stronger relationships with SUILC and considering how best to integrate reconciliation and equity considerations into their planning approaches.

To that effect, SUILC recommends that for future projects of this kind, the City of Surrey work with SUILC to identify which approaches, methodologies, and priorities would be of highest relevance and value to advance shared interests in the planning space. This project was born from an interest in leveraging data SUILC had collected for another purpose, and provincial funds, to consider new and different questions of interest to the City of Surrey, as it relates to Complete Communities Assessments. Overall, the study had significant limitations, and relied heavily on existing data sources that were collected and frameworks that were developed without consideration of the unique priorities and interests of the urban Indigenous population. Further consultation and engagement with SUILC at the project outset could have better shaped the outcomes of this work to suit SUILC priorities and the City of Surrey's needs.

Although this is the case, the report and project provides a useful starting place for further engagement related to complete communities, if the City of Surrey is interested in continuing to use this framework to inform planning efforts. In particular, this could look like engagement with the urban Indigenous population to identify:

- What matters most to Indigenous people when they think about the concept of a complete community, including different perspectives or lens with which to identify amenities, and how that can inform analysis and planning efforts moving forward?
- Whether there are other amenities that should be included in a complete community assessment? Whether some amenities are more important than others, and some should be dropped?
- Whether there are barriers (e.g. cultural safety issues) to accessing amenities considered a part of the complete communities framework that may impact whether amenities within a 15-minute walkshed are equally accessible to Indigenous people, as they are to other residents?
- Factors that determine where Indigenous residents choose to live within Surrey, for instance, where socio-economic factors, preferences, or barriers prevent Indigenous peoples from living in neighbourhoods where there is higher access to desired amenities?

Engagement could be focused by sharing and seeking feedback on the analysis in this report. For example, this could look like sharing community-level findings, and seeking feedback on whether this analysis tracks with how Indigenous people experience living in these communities.

Overall, the complete communities framework is one lens with which the City of Surrey can consider decisions related to planning moving forward. It is recommended that as a next step,

the City of Surrey work with SUILC to identify the most meaningful and appropriate planning frameworks and methods to engage with the Indigenous population to not just address the limitations and gaps highlighted in this report, rather align engagement and planning efforts to more holistically treat Indigenous perspectives and advance shared priorities. This will be particularly important as engagement is undertaken as part of the Official Community Plan (OCP). Engagement should focus on moving beyond the Province of BC's complete communities framework of housing, daily needs, transportation and infrastructure to a framework that encompasses an Indigenous view of what makes a complete community.

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Appendix A

Census tract and dissemination areas with Indigenous population amenity scores: [SUILC - City of Surrey Complete Communities Assessment - CT/DAs](#)

Table A.1: Spearman Correlation of Indigenous Population and Average Amenity Scores

Geographic Level	rho	p-value	S
Census tract	0.1298186	0.1594	244382
Dissemination area	0.06720186	0.06863	61730193

Source: Big River Analytics Calculations. Statistics Canada, 2021 Census of Population. City of Surrey, 15-Minute Neighbourhood Amenities