



Socio-Economics Technical Data Report

October 30, 2019

Prepared for:

Broadway Subway Project
Ministry of Transportation and
Infrastructure

Prepared by:

Stantec Consulting Ltd.

Table of Contents

ABBREVIATIONS	I
1.0 INTRODUCTION	1
2.0 ADMINISTRATIVE BOUNDARIES	2
3.0 POPULATION AND DEMOGRAPHICS	5
3.1 POPULATION FORECASTS.....	7
4.0 LABOUR FORCE.....	8
5.0 ECONOMIC ACTIVITY	9
6.0 PROPERTY AND HOUSING	11
6.1 BUILDING PERMITS.....	11
6.2 HOUSING MARKET AFFORDABILITY	11
6.3 HOUSING STARTS AND COMPLETIONS	13
6.4 NON-MARKET HOUSING.....	13
7.0 URBAN PLANNING PROJECTS AND LAND USE PLANS	16
7.1 FALSE CREEK FLATS.....	16
7.2 GREAT NORTHERN WAY CAMPUS.....	16
7.3 MOUNT PLEASANT.....	17
7.4 GRANDVIEW-WOODLAND COMMUNITY PLAN	18
7.5 CAMBIE CORRIDOR	18
7.6 FALSE CREEK SOUTH	18
7.7 SOUTHEAST FALSE CREEK AND OLYMPIC VILLAGE	18
7.8 BROADWAY-ARBUTUS	19
8.0 COMMUNITY INFRASTRUCTURE AND SERVICES	19
8.1 EDUCATIONAL INSTITUTIONS	19
8.2 PARKS	19
8.2.1 Mount Pleasant	19
8.2.2 Kitsilano	20
8.2.3 Fairview	20
9.0 TRAFFIC AND TRANSPORTATION	21
9.1 TRANSPORTATION PLANNING	21
9.2 PARKING	21
9.3 CAR SHARING	22
9.4 ELECTRIC VEHICLE CHARGING STATIONS.....	22
9.5 MOTOR VEHICLE TRAFFIC.....	22
9.6 MODES OF TRANSIT	24
9.7 COMMUTING TIMES	27



9.8	CYCLIST SAFETY	27
10.0	REFERENCES.....	29
10.1	LITERATURE CITED	29

LIST OF TABLES

Table 1	Socio-Economic Administrative Boundaries.....	2
Table 2	Population Information for Vancouver and the Review Area	5
Table 3	Largest Employers in Metro Vancouver, 2015	10
Table 4	Building Permits for City of Vancouver, 2016-17	11
Table 5	Housing Market Affordability, 2016	12
Table 6	Housing Starts and Completions for Review Area Communities, 2016-17	13
Table 7	Non-Market Housing in the Review Area	14
Table 8	Average Class Size for the Vancouver School District, 2017/18	19
Table 9	EasyPark Lots within the Review Area.....	22
Table 10	Vehicle Counts for Major Intersections located in the Review Area, 2012-2016	23
Table 11	SkyTrain Service to Review Area, 2017	24
Table 12	Review Area Bus Route Service, 2016	25
Table 13	Commuting Duration and Departure Time - Residents of Vancouver and Review Area, 2016	27
Table 14	High Collision Corridors for Cyclists located in the Review Area, 2007-2012	28
Table 15	Cycling Collision Locations within the Review Area (2007-2012)	28

LIST OF FIGURES

Figure 1	Socio-Economic Existing Conditions Review Area.....	4
Figure 2	Age Distribution of Vancouver, 2016.....	6
Figure 3	Age Distribution of Review Area, 2016.....	7
Figure 4	Labour Force Activity, 2016	8
Figure 5	Employment by Occupation, 2016	9
Figure 6	Vision for Great Northern Way Walking, Cycling, and Motor Vehicle Connections, 2014.....	17
Figure 7	Transit Network, centered on the Review Area	26



Abbreviations

BC	British Columbia
CMA	Census Metropolitan Area
CMHC	Canada Mortgage and Housing Corporation
ESR	Environmental and Socio-economic Review
LHA	local health area
TOR	Terms of Reference



SOCIO-ECONOMICS TECHNICAL DATA REPORT

Introduction
October 30, 2019

1.0 INTRODUCTION

The Ministry of Transportation and Infrastructure (MOTI) is undertaking the development of the Broadway Subway Project (the Project) to meet current and future ridership demands along the Broadway Corridor in Vancouver, British Columbia (BC). The scope of the Project includes a 5.7 km tunnelled alignment (the Alignment), with six stations, running between the existing VCC-Clark Station and the western terminus at Arbutus and Broadway.

Construction of the Project is anticipated to begin in 2020, last five to six years, with operation commencing in 2025.

This technical data report provides information on socio-economic conditions in the Project area and has been used in support of Project planning including the conduct of the Environmental and Socio-Economic Review (ESR) of the Project. The spatial area guiding the collection of socio-economic data presented in the report is the Review Areas for the assessments of Transportation and Access and Housing and Properties, included in the ESR Report (MOTI, 2019), and defined as being within 400 m of the Project Alignment (the Alignment).

Information presented in this report includes:

- Administrative boundaries guiding the collection of socio-economic information
- Existing socio-economic conditions within the Review Area, including:
 - Population and demographics
 - Labour force information
 - Economic activity
 - Property and housing information
 - Urban planning projects and land use plans
 - Community infrastructure and services
 - Traffic and transportation

Information on existing conditions was obtained from public sources (e.g., Statistics Canada), public feedback and engagement summaries, interviews with key personnel involved in recent rapid transit projects in the Lower Mainland, and comprehensive studies prepared for the Project. Information was also obtained through a review of studies and assessments of similar rapid transit projects, in addition to a variety of other contextual information from online, publicly available sources (e.g., City of Vancouver programs and policies).



SOCIO-ECONOMICS TECHNICAL DATA REPORT

Administrative Boundaries
October 30, 2019

2.0 ADMINISTRATIVE BOUNDARIES

Administrative boundaries that guided the collection of socio-economic information presented in this report are based on jurisdictions and defined management areas shown in Table 1. Administrative boundaries represent spatial areas where population census were completed (e.g., Vancouver Census Subdivision and Census Tracts), where housing information is available (CMHC survey zones), and where there are defined local community areas (e.g., Strathcona, Mount Pleasant, Fairview, and Kitsilano).

Statistical information for the Review Area (e.g., population and labour force) is presented for Census Tracts within a 400 m buffer of the Alignment as shown in Figure 1.

Table 1 **Socio-Economic Administrative Boundaries**

Administrative Boundary	Description
Statistics Canada	
Vancouver Census Metropolitan Area (Metro Vancouver)	<p>A Census Metropolitan Area (CMA) is formed by one or more adjacent municipalities to a given population centre (known as the 'core'). A CMA must have a total population of at least 100,000 people of which 50% or more must live in the core. Adjacent municipalities included in the CMA must have a high degree of integration with the core municipality, as measured by commuting flows. The Vancouver CMA includes the following:</p> <ul style="list-style-type: none">• The cities of Burnaby, Coquitlam, Langley, Maple Ridge, New Westminster, North Vancouver, Pitt Meadows, Port Coquitlam, Port Moody, Richmond, Surrey, Vancouver, and White Rock• The Indian reserves Barnston Island 3, Burrard Inlet 3, Capilano 5, Coquitlam 1, Coquitlam 2, Katzie 1, Katzie 2, Langley 5, Matsqui 4, McMillan Island 6, Mission 1, Musqueam 2, Musqueam 4, Semiahmoo, Seymour Creek 2, Tsawwassen, and Whonnock 1• The villages of Anmore, Belcarra, and Lions Bay• The district municipalities of Delta, Langley, North Vancouver, and West Vancouver• The island municipality of Bowen Island• Greater Vancouver Regional District Electoral Area A
Vancouver Census Subdivision (City of Vancouver)	<p>Census Subdivision is the general term for municipalities (as determined by provincial/territorial legislation) or areas treated as municipal equivalents for statistical purposes (e.g., Indian reserves, and unorganized territories). The geographical boundary of Vancouver is the same as the geographical boundary of Vancouver Census Subdivision.</p>
Census Tracts— 9330038.00, 9330039.01, 9330039.02, 9330040.01, 9330040.02, 9330041.01, 9330041.02, 9330046.00, 9330048.00, 9330049.01, 9330049.02, 9330050.02, 9330050.03, 9330050.04, 9330057.02	<p>Census Tracts are small, relatively stable geographic areas that usually have a population between 2,500 and 8,000 persons. Census Tracts are located within CMAs or Census Agglomerations that have a core population of at least 50,000. Census Tracts are geographically defined by Statistics Canada through consultation with local specialists (e.g., planners, and health and social workers).</p>



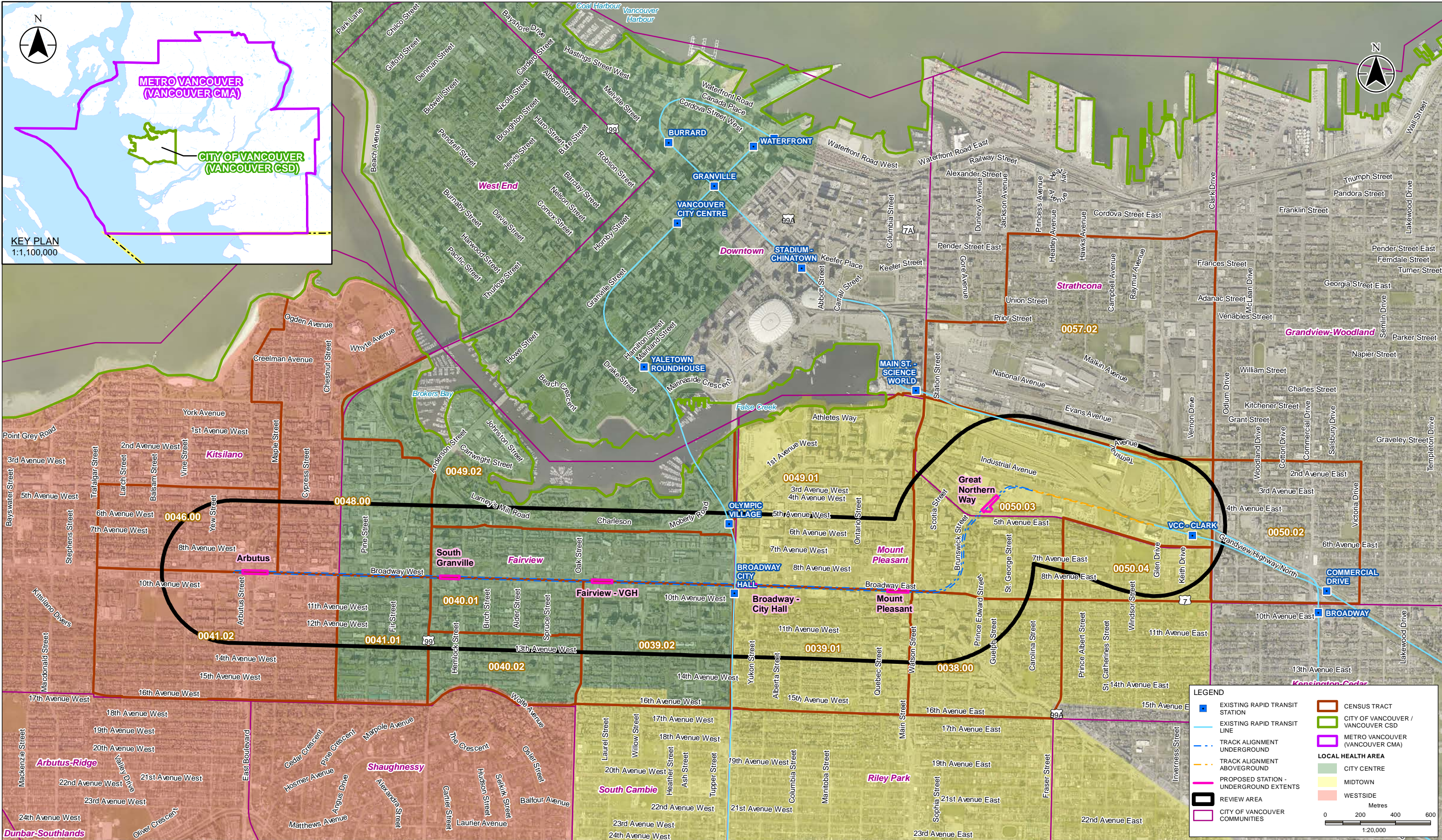
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Administrative Boundaries
October 30, 2019

Table 1 Socio-Economic Administrative Boundaries

Administrative Boundary	Description
City of Vancouver	
Neighbourhoods—Strathcona, Mount Pleasant, Fairview, and Kitsilano	Vancouver is divided into 22 neighbourhoods: Arbutus Ridge, Downtown, Dunbar, Fairview, Grandview Woodland, Hastings-Sunrise, Kensington-Cedar, Cottage, Kerrisdale, Killarney, Kitsilano, Marpole, Mount Pleasant, Oakridge, Renfrew-Collingwood, Riley Park South Cambie, Shaughnessy, Southlands, Strathcona, Sunset, Victoria-Fraserview, West End, West Point Grey. Four of these fall within the Review Area: Strathcona, Mount Pleasant, Fairview, and Kitsilano.
Canada Mortgage and Housing Corporation (CMHC)	
Survey Zones— Strathcona, Mount Pleasant, Fairview, and Kitsilano 4 (South Granville/Oak), 5 (Kitsilano/Point Grey), 8 (Mount Pleasant/ Renfrew Heights)	CMHC divides Statistics Canada standard geographies (e.g., CMAs, Census Subdivisions and Census Tracts) into survey zones. There are 25 CMHC survey zones within the Vancouver CMA.
BC Stats and BC Ministry of Health	
Local health areas (LHAs)— Midtown (165), City Centre (161), and Westside (164)	Defined by the British Columbia (BC) Ministry of Health, these geographic areas are used for creating health profiles for local areas, and include information on demographics, population health, and health service use over time.
Other	
Broadway Corridor	Used in various project-related studies to describe the segment of Broadway from Victoria Drive to the University of British Columbia.
SOURCE: CHMC, 2017; Statistics Canada, 2015, 2016; Metro Vancouver, 2016; BC, 2018.	





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PROFESSIONAL SEAL



BROADWAY SUBWAY PROJECT

SOCIO-ECONOMIC EXISTING CONDITIONS REVIEW AREA

SCALE	1:20,000	CONTRACT NO.	SUB CONSULTANT	PROJECT NO.
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SOCIO-ECONOMICS TECHNICAL DATA REPORT

Population and Demographics
October 30, 2019

3.0 POPULATION AND DEMOGRAPHICS

The Regional District of Metro Vancouver (Metro Vancouver) is 2,882.7 km² and is a partnership of 21 municipalities, one electoral area, and one treaty First Nation (Tsawwassen First Nation). There are 11 First Nations in the Metro Vancouver region; however, only Tsawwassen First Nation is a member of Metro Vancouver.

The population of Metro Vancouver increased 6.5% between 2011 and 2016, from 2,313,328 persons to 2,463,431 persons (0.9 percentage points more than population growth for the Province of BC). The average and median age of Metro Vancouver residents is 41.0 and 40.9, respectively (Statistics Canada 2016c).

In 2016, the population of Vancouver was 631,486. Approximately 14.5% (91,433 people) resided in the Review Area, an increase of 12.3% from 2011. Compared to Vancouver the Review Area population grew at more than double the rate from 2011 to 2016 (Table 2; Statistics Canada 2017a, b).

Table 2 Population Information for Vancouver and the Review Area

	Review Area¹	Vancouver²
Population 2016	91,433	631,486
Population 2011	81,451	603,502
Percentage Change (2011–2016)	12.3%	4.6%
Population density (persons per square kilometre)	7,689.9	5,492.6
SOURCES:		
¹ Statistics Canada. 2017a.		
² Statistics Canada. 2017b.		

In 2016, 11.2% of Vancouver's population was below the age of 15, 73.3% between the ages of 15 and 64 (21.5% between the age of 15 and 29, 24.5% between the age 30 and 44, 27.3% between the age of 45 and 64), and 15.2% aged 65 years and older (13.0% between the ages of 65 and 85, and 2.2% aged 85 years and older; see Figure 2; Statistics Canada 2017b). The average and median age of the population of Vancouver in 2016 was 41.6 years and 39.9 years respectively (Statistics Canada 2017b).

The average age of the Review Area is higher than that of Vancouver (see Figure 3; Statistics Canada, 2017a). In 2016, 8.2% of the Review Area population was below the age of 15, 77.8% between the ages of 15 and 64 (32.8% between the age of 15 and 29, 24.9% between the age 30 and 44, 20.1% between the age of 45 and 64), and 13.9% aged 65 years and older (11.8% between the ages of 65 and 85, and 2.1% aged 85 years and older; Statistics Canada 2017a).

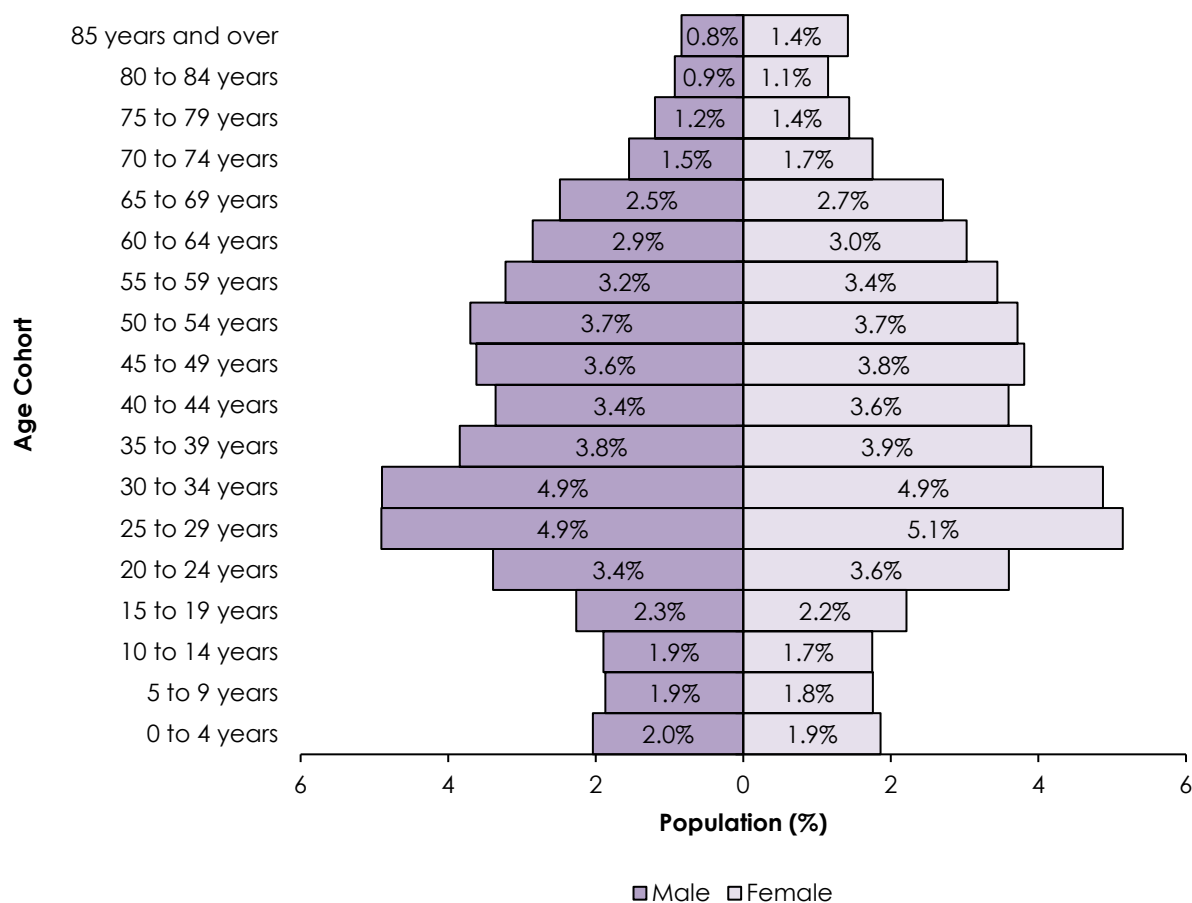


SOCIO-ECONOMICS TECHNICAL DATA REPORT

Population and Demographics

October 30, 2019

Approximately 25.7% of the population residing in Vancouver speaks a non-official language regularly at home (Statistics Canada, 2017b). The most common first language spoken at home other than English is Cantonese (37.7%) followed by Mandarin (18.8%), Tagalog, Punjabi, Vietnamese, Spanish, and Korean (all less than 6%) (Statistics Canada, 2017b).

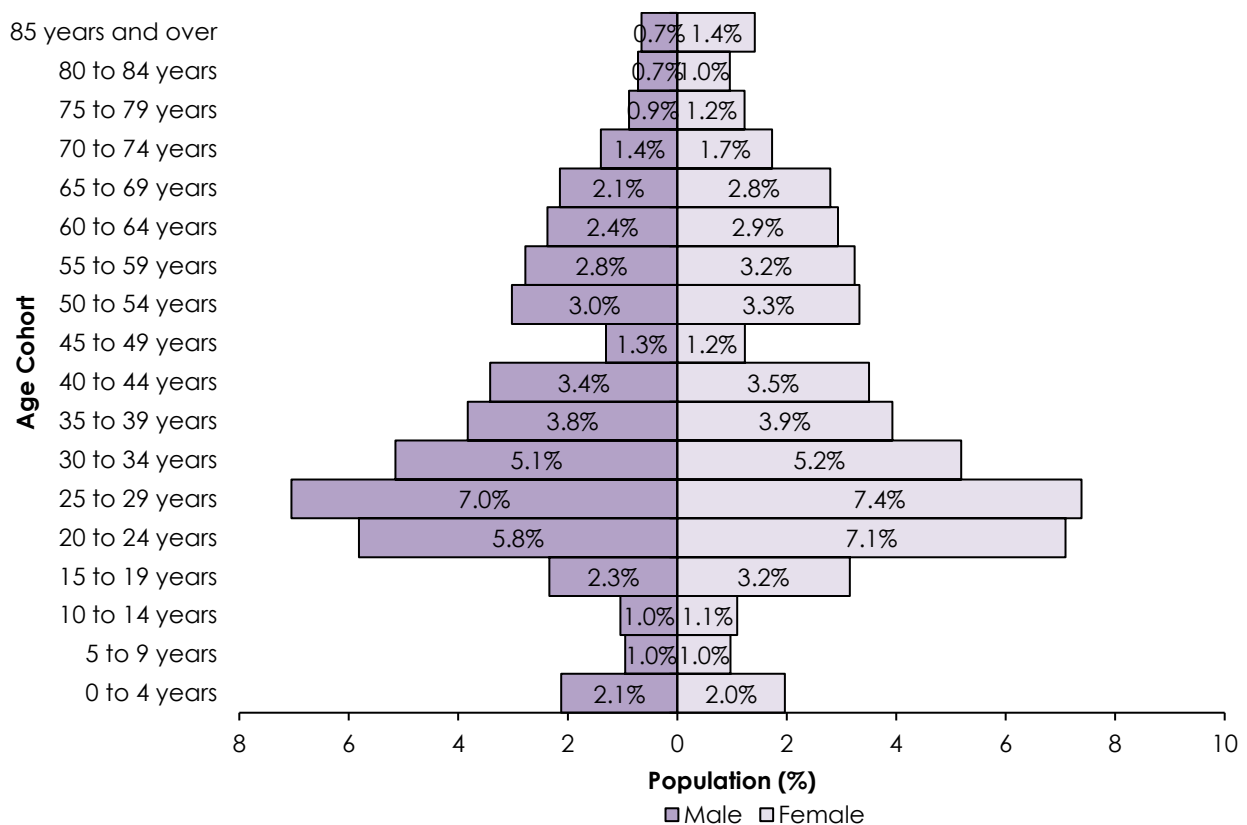


SOURCE: Statistics Canada 2017b.
Figure 2 Age Distribution of Vancouver, 2016



SOCIO-ECONOMICS TECHNICAL DATA REPORT

Population and Demographics
October 30, 2019



SOURCE: Statistics Canada, 2017a.

Figure 3 Age Distribution of Review Area, 2016

3.1 POPULATION FORECASTS

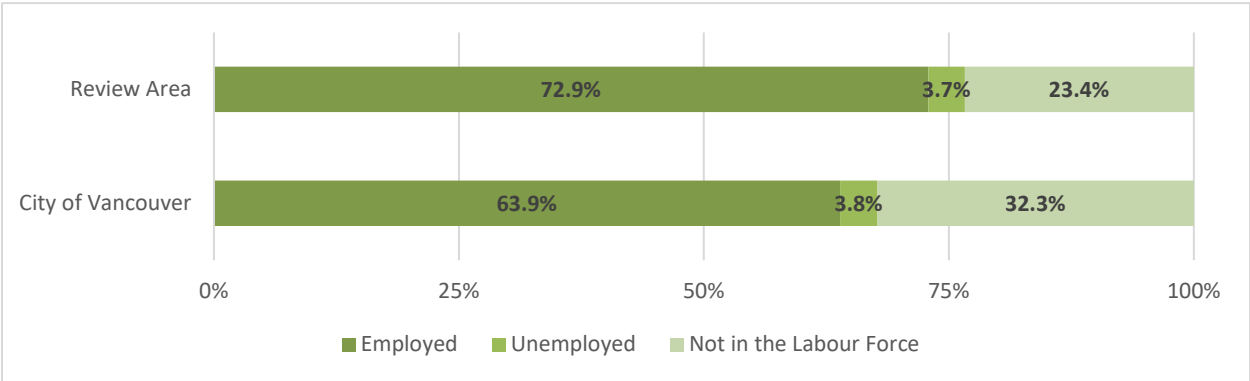
In 2016, the population of Metro Vancouver was approximately 2.46 million (Statistics Canada, 2016c). This is forecast to grow to 3.29 million by 2036 and to 3.4 million by 2041 (Metro Vancouver, 2011). Vancouver is projected to grow by approximately 17% in the next 25 years, reaching 740,000 residents by 2045 (Metro Vancouver, 2011). In 2011, the Broadway Corridor was home to 124,000 residents (MOTI 2018). This is forecast to increase 57% by 2045, to a population of 195,000 (MOTI 2018).



4.0 LABOUR FORCE

The labour force participation rate (the percent of the population actively employed or seeking employment) for the Review Area in 2016 was 76.6%, approximately nine percentage points greater than the participation rate for the Vancouver (Statistics Canada 2017b). The unemployment rate for the Review Area in 2016 was 4.9%, compared to 5.6% for Vancouver overall (Statistics Canada 2017b).

The proportion of persons employed, unemployed, and not in the labour force in Vancouver and in the Review Area for 2016 are provided in Figure 4. Statistics Canada defines employed persons as those with a job or business; unemployed persons are defined as those without a job or business, available to do work, and actively looking for a job.



SOURCE: Statistics Canada 2017a, 2017b.
Figure 4 Labour Force Activity, 2016

Occupation categories and the proportion employed within each category for Vancouver and the Review Area, for 2016, are provided in Figure 5. Most employed individuals were employed in the ‘sales and service’, ‘business, finance and administration’, and ‘education, law, social, community, and government services’ occupations. Combined, these three occupational classifications accounted for 53.0% of total employment in Vancouver and 50.1% of total employment in the Review Area.



SOCIO-ECONOMICS TECHNICAL DATA REPORT

Economic Activity
October 30, 2019



SOURCE: Statistics Canada 2017a, 2017b.
Figure 5 Employment by Occupation, 2016

5.0 ECONOMIC ACTIVITY

Vancouver's economy includes mature and emerging sectors, including manufacturing, resource development, media and film, technology, and biotech (Vancouver Economic Commission, 2011). The Vancouver Economic Commission (an agency of the City of Vancouver) focuses on strengthening Vancouver's tech, digital entertainment, and green economy sectors to become a globally recognized city for business (Vancouver Economic Commission, 2018). The Vancouver Economic Commission works with municipal staff, entrepreneurs, industry associations, educational institutions, and other stakeholders to understand and address talent and capital dynamics (Vancouver Economic Commission, 2018).

The City adopted the Economic Plan in 2011 (Vancouver Economic Commission, 2011), including the following targets, tactics, and outcomes:

- Development of strategic, strong, sector clusters
 - Enhance and densify employment spaces
 - Reduce automobile dependency
 - Increase the potential for people to work in the neighbourhoods in which they live
 - Increase employment density in key commercial neighbourhoods and along transportation routes



SOCIO-ECONOMICS TECHNICAL DATA REPORT

Economic Activity

October 30, 2019

- Attract, retain, retrain and support talent
 - Engage the business community in addressing affordability
 - Create an affordable environment for working entrepreneurs and families
 - Increase market rental housing
 - Increase daycare spaces (Vancouver Economic Commission, 2011)

Table 3 lists the largest public and private sector employers in Metro Vancouver and their head office locations. The second largest public-sector employer in Metro Vancouver in 2015 was Vancouver Coastal Health, located within the Review Area at 601 West Broadway (Business in Vancouver, 2016).

Table 3 Largest Employers in Metro Vancouver, 2015

Public Sector	Industry Sector	Headquarters	No. BC Employees
1. Fraser Health	Health care	Surrey	14,712
2. Vancouver Coastal Health	Health care	Vancouver	12,896
3. UBC	Education	Vancouver	12,398
4. School District No. 36	Education	Surrey	9,998
5. Provincial Health Services Authority	Health Care	Vancouver	8,409
Private Sector	Industry Sector	Headquarters	No. BC Employees
6. Jim Pattison Group	Trade (diversified, consumer-oriented)	Vancouver	8,655
7. Telus Corp	Telecommunications	Vancouver	6,600
8. RBC Royal Bank of Canada	Financial services	Toronto	5,272
9. Providence Health Care	Health care	Vancouver	4,800
10. Air Canada	Air travel	Montreal	4,100
SOURCE: Business in Vancouver 2016			



SOCIO-ECONOMICS TECHNICAL DATA REPORT

Property and Housing
October 30, 2019

6.0 PROPERTY AND HOUSING

6.1 BUILDING PERMITS

Construction or renovation of a residential, commercial, institutional and government, or industrial building in Vancouver requires that a developer, contractor, or property owner obtain a building permit prior to commencing work.

The number of residential building permits issued by the City of Vancouver, as well as the value of residential and commercial building permits issued by the City of Vancouver in 2016 and 2017, is provided in Table 4. The value of residential and commercial building permits increased 10% between January and September 2016 and that same period in 2017 (see Table 4).

Table 4 Building Permits for City of Vancouver, 2016-17

	2016	Jan-Sept 2016	Jan-Sept 2017	YTD % change
Residential building permits	6,029	4,452	4,589	3.1%
Value of residential building permits (\$000)	\$1,775,254	\$1,367,980	\$1,506,756	10.1%
Value of commercial building permits (\$000)	\$481,520	\$392,448	\$431,874	10.0%
SOURCE: BC Stats, 2017b.				

6.2 HOUSING MARKET AFFORDABILITY

Table 5 provides information on monthly rental costs compared to household income and other housing affordability indicators for the Review Area, Vancouver, and Metro Vancouver.



SOCIO-ECONOMICS TECHNICAL DATA REPORT

Property and Housing
October 30, 2019

Table 5 Housing Market Affordability, 2016

	Owners			Renters		
	Average Monthly Costs for Owned Dwellings	Median Value of Dwellings	% of Households with Unaffordable Housing ¹	Average Monthly Costs for Rented Dwellings	% of Tenants in Subsidized Housing	30% or More of Household Income
Metro Vancouver	\$1,622	\$800,220	25.4%	\$1,242	13.1%	43.5%
Vancouver	\$1,714	\$1,102,843	27.8%	\$1,296	13.7%	44.3%
Review Area	\$1,532	Range from \$330,176 to \$899,986	22.9%	\$1,261	13.3%	41.8%
<p>NOTES:</p> <p>¹ According to the Canadian Mortgage and Housing Corporation affordable housing is defined as costing 30% or less of a household's before-tax income.</p> <p>SOURCE:</p> <p>Statistics Canada, 2017a, 2017b, 2017c.</p>						



SOCIO-ECONOMICS TECHNICAL DATA REPORT

Property and Housing
October 30, 2019

6.3 HOUSING STARTS AND COMPLETIONS

In 2017, housing starts in Vancouver in 2017 dropped 42.4% compared to 2016 (see Table 6). The Review Area accounted for roughly 11% of total housing starts in the Vancouver in 2016, decreasing to 6% in 2017. In 2016, condominium starts accounted for the greatest percentage of total housing starts within the Review Area (73%) as well as within Vancouver (57%).

In 2017, rentals accounted for the greatest percentage of housing starts in the Review Area (51%), while condos remained the most active housing type for Vancouver (53% of housing starts were condos). In contrast to housing starts, housing completions for all types have increased between 2016 and 2017.

The number of housing starts and completions for communities within the Review Area, and for Vancouver overall, in 2016 and 2017 is summarized in Table 6. Housing is categorized into freehold, condo, and rental.

Table 6 Housing Starts and Completions for Review Area Communities, 2016-17

Location	Freehold		Condo		Rental		Total	
	2016	2017	2016	2017	2016	2017	2016	2017
Starts								
South Granville/Oak	6	7	137	8	10	4	153	19
Kitsilano/Point Grey	5	8	74	5	0	171	79	184
Mount Pleasant/Renfrew Heights	29	37	555	106	227	1	811	144
Total Review Area	40	52	766	119	237	176	1,043	347
City of Vancouver	842	745	5,582	2,989	3,245	1,883	9,759	5,617
Completions								
South Granville/Oak	0	0	0	3	0	1	0	4
Kitsilano/Point Grey	0	2	0	0	0	0	0	2
Mount Pleasant/Renfrew Heights	2	8	0	21	0	0	2	29
Total Review Area	2	10	0	24	0	1	2	35
City of Vancouver	23	86	105	184	38	345	166	615
SOURCE: CMHC, 2018.								

6.4 NON-MARKET HOUSING

Non-market housing is a term used to refer to various types of subsidized housing including, co-operatives, non-profit housing, social housing, and public housing. There are 24 buildings offering non-market housing within 400 m of the Alignment. These buildings, non-market housing units, and the closest proposed station are detailed in Table 7.



SOCIO-ECONOMICS TECHNICAL DATA REPORT

Property and Housing
October 30, 2019

Table 7 Non-Market Housing in the Review Area

Building Name	Units					Total Units	Clientele			Closest Potential Future Station Location
	Studio/ bachelor	1-bed	2-bed	3-bed	4-bed		Families	Seniors	Other	
Blair Court	0	18	14	6	1	39	21	4	14	Arbutus
Maple Creek Co-op	0	16	16	8	0	40	24	0	16	Arbutus
Phoenix Court Co-op	0	13	20	0	0	33	20	0	13	Arbutus
Arbutus Co-op	0	24	18	6	5	53	29	0	24	Arbutus
Cypress Walk	2	0	29	1	0	32	30	0	2	Arbutus
Maple Crest Apartment	16	82	4	0	0	102	0	102	0	Arbutus
Seven Maples	31	7	0	0	0	38	0	38	0	Arbutus
Kitsun Co-op	0	1	11	5	0	17	16	0	1	Arbutus
Linden Tree Place	1	41	3	0	0	45	0	35	10	Arbutus
Sanford Apartments	62	0	0	0	0	62	0	0	62	South Granville
Charleston Terrace Co-op	0	18	22	20	0	60	42	0	18	Fairview-VGH
Heritage Co-op	1	9	9	22	0	41	31	0	10	Fairview-VGH
Phoenix	10	4	0	0	0	14	0	0	14	Fairview-VGH
Stan Stronge Noble House	0	11	8	2	0	21	10	6	5	Fairview-VGH
Lutheran Manor	36	13	0	0	0	49	0	49	0	Broadway-City Hall
Glynn Manor	48	1	0	0	0	49	0	0	49	Broadway-City Hall
City Vista	0	0	9	16	1	26	26	0	0	Broadway-City Hall
Claude Douglas Place	38	1	0	0	0	39	0	0	39	Mount Pleasant
Ledingham Place	0	12	15	6	0	33	21	0	12	Mount Pleasant
Quebec Manor Co-op	0	8	14	10	0	32	10	0	22	Mount Pleasant
View Court Co-op	6	24	2	0	0	32	2	0	30	Mount Pleasant



SOCIO-ECONOMICS TECHNICAL DATA REPORT

Property and Housing
October 30, 2019

Table 7 Non-Market Housing in the Review Area

Building Name	Units					Total Units	Clientele			Closest Potential Future Station Location
	Studio/ bachelor	1-bed	2-bed	3-bed	4-bed		Families	Seniors	Other	
Chelsea Tower	40	7	0	0	0	47	0	46	1	Great Northern Way
Lions Manor-6th Ave.	34	2	0	0	0	36	0	36	0	Great Northern Way
Northern Way Co-op	0	16	24	19	1	60	44	0	16	Great Northern Way
Total	325	328	218	121	8	1000	326	316	358	-
% of total units	32.5%	32.8%	21.8%	12.1%	0.8%	100%	32.6%	31.6%	35.8%	-
SOURCE: City of Vancouver, 2018d; City of Vancouver, 2018e.										



7.0 URBAN PLANNING PROJECTS AND LAND USE PLANS

The Project Alignment (the Alignment) overlaps with the following local area boundaries: Strathcona, Mount Pleasant, Fairview, and Kitsilano. Within these local areas, distinct neighborhoods also exist, however the naming and boundaries are not always clear. High level summaries are provided for neighborhoods and local areas that have had significant planning processes completed recently or are currently underway. Recently approved land use plans for Grandview-Woodlands, Mount Pleasant, and False Creek Flats have incorporated policies to support increased development and density.

7.1 FALSE CREEK FLATS

The False Creek Flats area is bounded by Main Street to the West, Great Northern Way to the South, Clark Drive to the East, and Prior Street to the North. Currently, the area is characterized as an industrial employment area (warehousing, wholesaling, and distribution) with over 600 diverse businesses and approximately 8,000 jobs. The majority of False Creek Flats is reserved for employment use and represents 18% of Vancouver's regionally designated employment lands. Residential use within False Creek Flats is not permitted (City of Vancouver, 2017a).

The area plan for False Creek Flats was approved in May 2017 with a primary focus to intensify employment in the area (to over 30,000 jobs by 2047), while preserving valuable industrial land. Four economic clusters within the plan area were identified: the Health Hub, Creative Campus, Industrial Back-of-House (home to civic services such as emergency management and response and infrastructure maintenance services), and the Terminal Spine (key transit route, bounded by CN and BNSF freight yards and rail lines). The 'Creative Campus' sub-area includes several post-secondary institutions, art galleries, breweries, and auto-service and repair businesses (City of Vancouver, 2017a). Key directions of the False Creek Flats Plan are to:

- Permit conditional heights and densities, especially near rapid transit
- Provide new rental housing opportunities for students and local employers
- Implement new walking and cycling paths (over rail lines) to improve connections
- Accommodate the future site for St. Paul's hospital and health campus

7.2 GREAT NORTHERN WAY CAMPUS

This 14-acre site is located within the False Creek Flats area and is owned by the Great Northern Way (GNW) Campus Trust, which is comprised of the University of British Columbia, Simon Fraser University, BC Institute of Technology, and Emily Carr University of Art + Design.

The GNW Revised Structure Plan provides a site planning framework for roads, open spaces, and development parcels. The Revised Structure Plan considers the future construction activities and presence of rapid rail transit. Figure 6 depicts the vision for walking, cycling, and motor vehicle connections within the site (City of Vancouver, 2014).



SOCIO-ECONOMICS TECHNICAL DATA REPORT

Urban Planning Projects and Land Use Plans
October 30, 2019



SOURCE: City of Vancouver, 2014.
Figure 6 Vision for Great Northern Way Walking, Cycling, and Motor Vehicle Connections, 2014

7.3 MOUNT PLEASANT

The Mount Pleasant Community Plan Implementation Package (2013) considers the potential for future connections to rapid transit along the Broadway Corridor. The potential future creation of a transit station at East Broadway and Main Street is cited as reinforcing the intent of the Mount Pleasant Area Plan towards establishing the area as a destination (City of Vancouver 2017b). Recent updates in proximity to the Project include:

- Approval of zoning amendments for limited areas of the Mount Pleasant Industrial Area to support specialty spaces for digital technology use (February 2017)
- Approved zoning amendments to increase housing opportunities by allowing infill and conversion to multiple family buildings (October 2017).



SOCIO-ECONOMICS TECHNICAL DATA REPORT

Urban Planning Projects and Land Use Plans
October 30, 2019

7.4 GRANDVIEW-WOODLAND COMMUNITY PLAN

The Grandview Woodland Community Plan was approved in June 2016 and prioritizes the following key benefits for the community:

- Creation of additional affordable housing (market and non-market housing units)
- Improvements to pedestrian safety
- Cycling network and safety improvements

The Commercial-Broadway Station Precinct is identified as a unique area within this plan and is near the Alignment. Residents located within this area are within a 10-minute walk from the existing rapid transit station at Commercial-Broadway (City of Vancouver, 2017c).

7.5 CAMBIE CORRIDOR

The Cambie Corridor Plan Area is approximately 1,000 hectares and runs generally from South of 16th Avenue to the Fraser River, and East of Oak Street to Ontario Street. Phases 1 and 2 of the Cambie Corridor planning process were approved in 2010 and 2011, respectively, and the Phase 3 planning process began in 2015. Phase 3 focuses on areas influenced by transit. Four of nine Canada Line stops are located within the Cambie Corridor area; two potential additional station sites have been identified at West 57th and West 33rd Avenues (Vancouver, 2015a). Most residents in the Cambie Corridor drive to work, despite proximity to rapid transit (Vancouver, 2015a).

7.6 FALSE CREEK SOUTH

The False Creek South Neighborhood is considered to lie between Cambie Street and Burrard Street, north of West 6th Avenue, following the shoreline. The majority of land in this area is lease-hold (owned by the City of Vancouver) with leases to residents (approximately 1,849 housing units) expiring between 2036 and 2046. The City is exploring options for co-operative housing and non-market housing leases upon lease expiration dates. A local neighborhood plan is in the early stages of development for False Creek South (City of Vancouver, 2017d).

7.7 SOUTHEAST FALSE CREEK AND OLYMPIC VILLAGE

Southeast False Creek is home to approximately 13,000 residents and it is estimated that this will increase to approximately 16,000 residents by 2020. The community is mixed-use, with a focus on high density residential dwellings (City of Vancouver, 2017e). This area is served by rapid transit via the Olympic Village Station (Canada Line) and the Main Street-Science World Station (Expo Line).



SOCIO-ECONOMICS TECHNICAL DATA REPORT

Community Infrastructure and Services
October 30, 2019

7.8 BROADWAY-ARBUTUS

Policy guidance was published in 2004 for the Broadway-Arbutus area in response to development interest in the area (City of Vancouver, 2004). Policies were developed to:

- Support local, small scale retail and services
- Favour residential use north of Broadway near Arbutus Street
- Facilitate mobility for pedestrians and traffic (including parking)
- Require future development to consider the potential for rapid transit in the future

8.0 COMMUNITY INFRASTRUCTURE AND SERVICES

8.1 EDUCATIONAL INSTITUTIONS

The Vancouver School District (No. 39) has an annual enrollment of approximately 52,000 students. Average class sizes for the 2016/17 school year were 19.5 (kindergarten), 21.5 (grades 1 to 3), 26.5 (grades 4 to 7), 23.9 (grades 8 to 12; BC Ministry of Education, 2016). Average class size for the Vancouver school district in 2017/2018 is included in Table 8.

Table 8 Average Class Size for the Vancouver School District, 2017/18

	Average class size (2017-18)			
	K	1-3	4-7	8-12
Vancouver School District	17.9	19.7	25.3	22.5
SOURCE: BC Teachers' Federation, 2018				

8.2 PARKS

There are 16 parks located in the Review Area. The closest park to the Alignment is in Mount Pleasant: Guelph Park (2390 Brunswick Street). Guelph Park (also formally known as Dude Chilling Park) is approximately one hectare and includes a playground, tennis courts, grass field, and benches (City of Vancouver, 2018b).

8.2.1 Mount Pleasant

Jonathan Rogers park (110 West 7th Avenue) is approximately 1.4 ha. The Park has washrooms, a playground, soccer field, fieldhouse, and softball diamond. There is also a community garden and a caretaker on site (City of Vancouver, 2018b).



SOCIO-ECONOMICS TECHNICAL DATA REPORT

Community Infrastructure and Services
October 30, 2019

China Creek North Park (1001 East 7th Avenue at Glen Drive) is a large park (approximately 3.2 ha) with a playground, jogging trail, soccer field, and two softball diamonds. The park is known for its views of the North Shore Mountains and Southeast False Creek (City of Vancouver, 2018b).

Major Matthews Park is a small park, less than 0.1 ha located at 2627 Manitoba Street and West 11th Avenue. There is a playground, seating, and a gazebo (City of Vancouver, 2018b).

Carolina Park is a small park (less than 0.1 ha) located at 2100 Carolina Street at East 5th Avenue. A playground and benches are available at the park which affords good views of the North Shore Mountains (City of Vancouver, 2018b).

Sahalli Park (approximately 0.6 ha in size) is located at 2300 Fraser Street at East 7th Avenue. The park is a good spot for picnics, resting, and viewing the neighborhood from the elevated fields. There is also a playground and community garden at the park (City of Vancouver, 2018b).

8.2.2 Kitsilano

Rosemary Brown Park is a small park (approximately 0.5 ha) adjacent to the west end of the Arbutus Greenway. The park is located at 2299 Redbud Lane at West 11th Avenue and has a sitting area with benches (City of Vancouver, 2018b).

Arbutus Greenway Park (0.7 ha) is located at 2205 West 11th Avenue. The corridor has plenty of greenery, sculptures, arbors, and seating areas (City of Vancouver, 2018b).

Delamont Park (approximately 0.2 ha in size) is located at 2091 West 7th Avenue at Arbutus Street. The park features a playground, benches, and pathways (City of Vancouver, 2018b).

Connaught Park is a large park approximately 6.0 ha in size and is located at 2390 West 10th Avenue at Vine Street. The park is home to a community centre, cricket pitch, field house, lighted field, playground, ice rink, soccer field, water park, two rugby fields and four softball diamonds (City of Vancouver, 2018b).

8.2.3 Fairview

Willow Park is a small corner park (less than 0.1 ha) located at 802 West 7th Avenue at Willow Street. The park has seating and is elevated with views of the surrounding neighborhood (City of Vancouver, 2018b).

Laurel Landbridge park is an overhead garden walkway (above 6th Avenue) connecting Fairview slopes with Charleson park, the seawall, False Creek, and Granville Island. The park is approximately 0.2 ha and is located at the North West corner of Laurel at 7th Avenue (City of Vancouver, 2018b).

Charleson Park is a large park (approximately 7.3 ha) that fronts the False Creek seawall (located at 999 Charleson Street at Laurel Street). The park has an off-leash dog area, sea wall, soccer field, two playgrounds, and five rooftop tennis courts (600 Moberly Road). The park has views of the water and downtown Vancouver shoreline (City of Vancouver, 2018b).



SOCIO-ECONOMICS TECHNICAL DATA REPORT

Traffic and Transportation
October 30, 2019

Choklit Park is located at 2400 Spruce Street at West 78th Avenue and is less than 0.1 ha in size. The park has a playground, terraced garden area, and views to False Creek and downtown Vancouver (City of Vancouver, 2018b).

Granville Loop Park (1.1 ha in size) is located adjacent to the Granville Street Bridge at 1435 West 5th Avenue at Granville Street. The park has two tennis courts and a playground. The park has walking paths, planting beds, and open lawns (City of Vancouver, 2018b).

9.0 TRAFFIC AND TRANSPORTATION

The following sections provide information related to transportation planning, parking, car sharing, motor vehicle traffic, modes of transit, commuting times, and cyclist safety.

9.1 TRANSPORTATION PLANNING

The City of Vancouver adopted the 2040 Transportation Plan in 2012. The following key targets were set:

- By 2020: half of all trips on foot, bicycle, or transit (achieved in 2016)
- By 2040: two-thirds of all trips on foot, bicycle, or transit
- By 2020: reduce vehicle kilometers travelled by 20%
- By 2040: zero traffic-related fatalities

The plan includes direction for land use to support sustainable transportation choices, including prioritizing dense and diverse development in areas served by rapid transit and establishing trip generating entities (e.g., schools, employment centres, shopping districts) along rapid transit corridors. Other strategies include policies to encourage use of electric vehicles and carshare vehicles, and policies to discourage private automobile use, such as changes to parking. Key areas of focus in the plan include the Arbutus Corridor and Broadway Subway (City of Vancouver, 2012).

9.2 PARKING

EasyPark manages lots that are owned and leased by the City of Vancouver; there are six EasyPark lots located within the Review Area (Table 9). There is one dedicated tour bus parking zone in the Review Area, located at 700 Earl Finning Way (Emily Carr Campus). There are numerous private parking lots within the Review Area, some owned by local businesses and reserved for customer parking, and some managed by private parking companies that require payment to park.



SOCIO-ECONOMICS TECHNICAL DATA REPORT

Traffic and Transportation
October 30, 2019

Table 9 **EasyPark Lots within the Review Area**

Station	Address	Stalls
Main Street and Broadway	Lot 17 199 E 7 th Avenue	100
	Lot 56 245 E Broadway	20
	Lot 61—1 Kingsway	85 (2 electric vehicle charging stations)
Cambie Street and Main Street	Lot 57 453 10 th Avenue	56
	Lot 58 2615 Cambie Street	221
Broadway and Granville	Lot 84 1580 W Broadway	236
SOURCE: EasyPark, 2016.		

9.3 CAR SHARING

Four car-sharing companies operate in Vancouver: Car2Go, Evo, Modo, and Zipcar. Car share vehicles can generally be parked in any approved public, on-street parking space (including residential zones reading 'no parking except with permit' or 'resident only parking'), in addition to reserved spaces located on the street or in parking lots. Car2Go is the only company with locations that have more than eight spaces reserved in parking locations. These locations include:

- 199 East 7th Avenue
- 595 West 6th Avenue
- 990 Lamey Mill Rd
- 1500 Main Street

Modo does not allocate any reserved spaces. Zipcars may only be parked in Zipcar designated spaces; there are approximately 11 Zipcar locations within the Review Area.

9.4 ELECTRIC VEHICLE CHARGING STATIONS

Vancouver has 75 electric vehicle charging stations throughout the city. An estimated 175 additional charging stations are managed by private businesses and parking lot operators. There are two charging locations operated by the City of Vancouver within the Review Area, one located near the proposed station at Main Street (Mount Pleasant Community Centre) and the other near the proposed station at Cambie Street (Vancouver City Hall).

9.5 MOTOR VEHICLE TRAFFIC

Table 10 contains vehicle count information by direction and peak AM and PM periods for major intersections in the Review Area. West Broadway and Cambie Street was the busiest intersection for Northbound and Southbound traffic in both the AM and PM peak periods. Great Northern Way and Foley Street was the busiest for Eastbound and Westbound traffic during both AM and PM peak periods.



SOCIO-ECONOMICS TECHNICAL DATA REPORT

Traffic and Transportation
October 30, 2019

Table 10 Vehicle Counts for Major Intersections located in the Review Area, 2012-2016

Intersection	North Leg				West Leg				East Leg				South Leg			
	Peak AM	% South-bound	Peak PM	% South-bound	Peak AM	% East-bound	Peak PM	% East-bound	Peak AM	% West-bound	Peak PM	% West-bound	Peak AM	% North-bound	Peak PM	% North-bound
E 6th Ave and Clark Dr	2,380	44	3,239	46	1,796	48	2,050	70	1	100	0	0	2,251	58	2,665	39
Glen Drive and Great Northern Way	147	48	61	64	1,500	49	2,058	71	1,493	52	2,028	29	172	47	167	43
Foley St and Great Northern Way	71	30	61	80	3,381	72	4,747	83	3,356	28	4,770	17	-	-	-	-
E 2nd Ave and Brunswick	-	-	-	-	2,049	53	2,408	67	2,112	41	2,356	34	357	85	384	44
Kingsway and East Broadway	2,418	26	2,414	57	2,148	40	2,654	66	2,221	62	2,675	37	2,353	72	2,425	39
Main St and East Broadway	1,443	44	1,682	64	2,173	31	2,254	52	1,873	64	2,072	44	1,679	64	1,956	42
East Broadway and Quebec	250	37	353	67	2,245	32	2,270	49	2,259	67	2,341	48	80	100	36	100
Yukon St and West Broadway	653	28	614	49	2,510	34	1,911	53	2,526	65	1,911	46	603	78	658	55
West Broadway and Cambie St	2,788	44	2,983	47	2,079	45	2,661	63	2,262	64	2,805	48	2,757	49	2,937	44
Ash St and West Broadway	321	41	550	58	1,852	46	2,056	58	1,923	55	2,085	39	286	49	467	51
Laurel St and West Broadway	202	41	233	70	1,710	43	2,079	48	1,728	57	2,059	49	132	57	167	56
Oak St and West Broadway	719	41	545	92	1,759	40	1,128	0	1,760	57	1,598	97	1,218	60	817	0
Hemlock St and West Broadway	1,397	22	1,599	38	1,314	49	1,718	50	1,494	51	1,894	50	1,295	80	1,405	63
Granville St and West Broadway	2,443	35	2,548	51	1,563	56	1,853	56	1,425	54	1,749	54	2,339	59	2,536	41
Arbutus St and West Broadway	837	53	966	42	1,890	61	2,198	59	1,913	39	2,324	46	1,144	49	1,312	48
SOURCE: City of Vancouver, 2015b.																



SOCIO-ECONOMICS TECHNICAL DATA REPORT

Traffic and Transportation
October 30, 2019

9.6 MODES OF TRANSIT

Created in 1999, the South Coast BC Transportation Authority (TransLink) is responsible for managing and operating the transportation system for Metro Vancouver. This is achieved through a variety of operating companies, and in partnership with other stakeholders.

The Coast Mountain Bus Company operates 96% of the region's bus services, including the SeaBus (linking North Vancouver with downtown Vancouver; TransLink, 2018a). Independent bus companies are used for HandyDart services, the West Vancouver Blue Bus services, and community shuttle services (TransLink, 2018a).

The BC Rapid Transit Company operates the Expo, Millennium, and Evergreen Line SkyTrains, and the West Coast Express (rail line with eight stations from Mission to downtown Vancouver; TransLink 2018a). InTransit BC operates the Canada Line SkyTrain (TransLink, 2018b).

TransLink is also responsible for the Major Road Network, in partnership with municipalities. The Major Road Network includes more than 600 km of major arterial roads that connect the provincial highway system with local road networks (TransLink, 2018c). Within the Review Area, Broadway, Granville Street, Oak Street, Cambie Street, Main Street, Kingsway, and Clark Drive are classified as part of the Major Road Network. Some of the Major Road Network also serves cyclists and pedestrians.

The Review Area is serviced with rapid transit by the Canada Line SkyTrain at the Broadway-City Hall station and by the Millennium Line SkyTrain at VCC-Clark station. Train frequency varies based on the time of day and day of the week, as shown in Table 11. Bus service serves the remainder of the Review Area. Table 12 includes service information for bus routes travelling through the Review Area. Figure 7 depicts the transit network for a portion of Vancouver, centered on the Review Area.

Table 11 SkyTrain Service to Review Area, 2017

Time of day	Canada Line (Bridgeport to Waterfront) Trip Frequency	Millennium Line	Expo Line (Waterfront to Columbia)
Peak Hours	Every 3 minutes	Every 3-4 minutes	Every 2-3 minutes
Early mornings	Every 6 minutes	Every 8 minutes	Every 4 minutes
Midday	Every 3-4 minutes	Every 6 minutes	Every 3 minutes
Evening	Every 6 minutes	Every 6-8 minutes	Every 3-5 minutes
Late night	Every 10 minutes	Every 8-10 minutes	Every 4-5 minutes
Saturdays, Sundays and Holidays	4-10 minutes	Every 6 minutes	Every 3 minutes



SOCIO-ECONOMICS TECHNICAL DATA REPORT

Traffic and Transportation
October 30, 2019

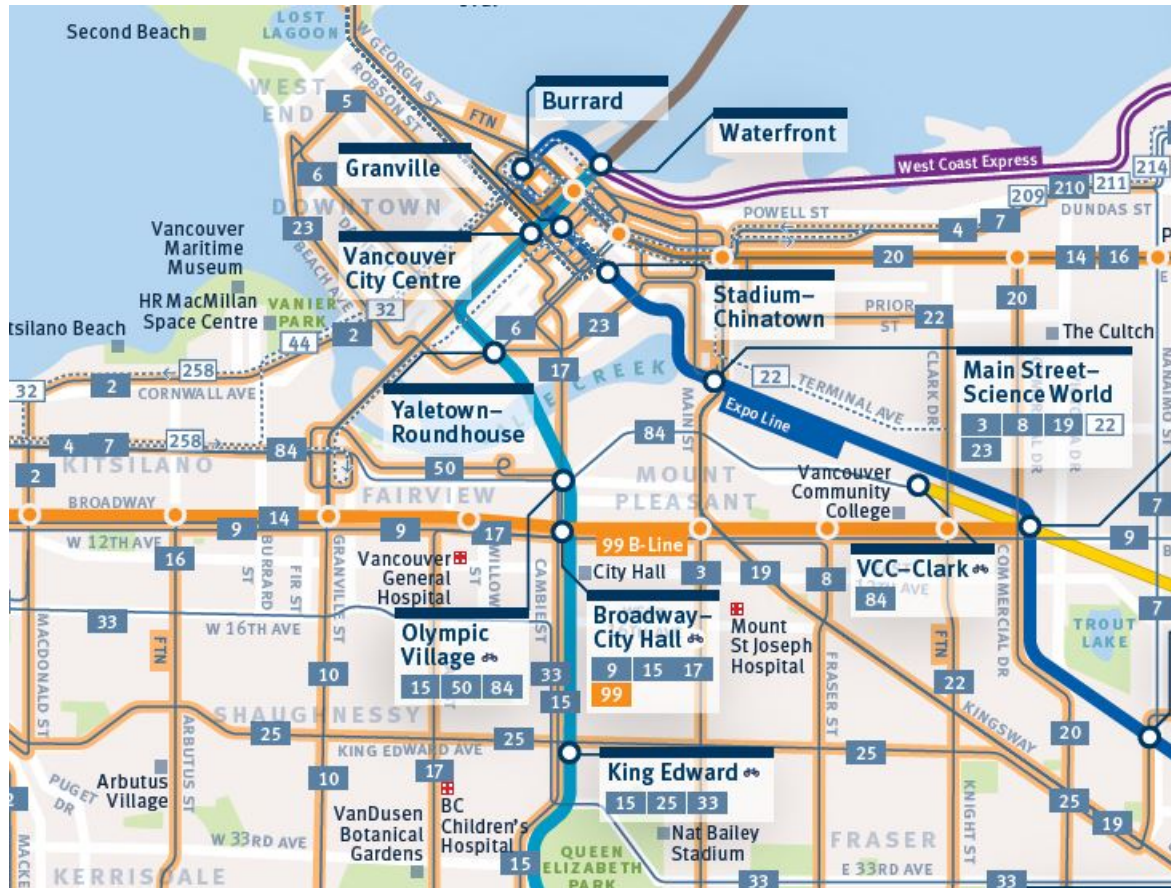
Table 12 Review Area Bus Route Service, 2016

Route	Name	Average One-way Trip Distance (km)	Average Daily Boardings			Average Peak Load Factor	Average Speed (km/hr)
			Mon–Fri	Sat	Sun and Hol		
99	B-Line	12.4	55,700	33,350	24,750	76	20.7
004	UBC/Powell	14.8	9,350	8,100	6,700	61	17.2
007	Dunbar/Nanaimo Station	15.7	13,000	10,950	9,000	54	15.8
008	Fraser/downtown	8.0	16,850	13,150	10,950	35	13.8
009	Boundary/Broadway Station/Granville/Alma	9.0	22,200	14,750	12,650	50	14.8
010	Granville/Downtown	9.9	13,950	7,700	6,500	39	16.1
014	Hastings/Downtown/UBC	12.7	16,450	14,300	11,300	63	16.4
016	29 th Avenue Station/Arbutus	16.7	21,850	16,800	13,400	57	15.5
017	Downtown/Oak	9.6	9,000	4,650	3,900	29	16.0
044	UBC/Downtown	8.6	5,740	-	-	67	21.1
050	Waterfront Station/False Creek South	6.6	4,400	3,900	3,350	36	14.1
084	VCC-Clark Station/UBC	11.5	9,750	3,650	1,750	63	23.7
SOURCE: TransLink 2016b.							



SOCIO-ECONOMICS TECHNICAL DATA REPORT

Traffic and Transportation
October 30, 2019



SOURCE TransLink, 2018d.
Figure 7 Transit Network, centered on the Review Area



SOCIO-ECONOMICS TECHNICAL DATA REPORT

Traffic and Transportation
October 30, 2019

9.7 COMMUTING TIMES

Average commuting durations and departure times for all modes of transportation within Vancouver and in the Review Area for 2016 are summarized below in Table 13.

Table 13 **Commuting Duration and Departure Time - Residents of Vancouver and Review Area, 2016**

	Number of Vancouver Residents (%)	Number of Review Area Residents (%)
Commuting Duration		
Less than 15 minutes	51,980 (16.5%)	10,310 (19.4%)
15 to 29 minutes	124,645 (39.5%)	22,355 (42.0%)
30 to 44 minutes	88,985 (28.2%)	13,755 (25.9%)
45 minutes and over	49,725 (15.8%)	6,755 (12.7%)
Time Leaving for Work		
Between 5 and 6:59 AM	48,885 (15.5%)	7,500 (14.1%)
Between 7 and 9:00 AM	161,925 (51.4%)	30,130 (56.7%)
Any time after 9:00 AM	104,520 (33.1%)	15,525 (29.2%)
SOURCE: Statistics Canada 2017a; 2017b		

Approximately 59% of trips between Main Street and Burrard Street are made by car (TransLink, 2013). Approximately 75% of the trips originating in Vancouver (75%), remain in the city; the next most common destinations are Burnaby and New Westminster (9%), followed by Richmond and South Delta [6% (TransLink, 2013)].

9.8 CYCLIST SAFETY

Table 14 provides information on 'high collision corridors' for cyclists within the Review Area. Twenty-five percent of the top 20 reported cycling collision locations are located within the Review Area (see Table 15).



SOCIO-ECONOMICS TECHNICAL DATA REPORT

Traffic and Transportation
October 30, 2019

Table 14 High Collision Corridors for Cyclists located in the Review Area, 2007-2012

Corridor	Total Reported Cycling Collisions	Corridor Length	Reported Cycling Collisions per km	Improvements Made Since Study
Clark Drive (Adanac Street to W 10th Avenue)	58	1.8	32.0	yes
Cypress Street (Cornwall to W 19th Avenue)	60	2.0	29.9	yes
10 th Avenue (Trafalgar to Victoria Drive)	213	7.2	29.6	not specified
Main Street (Powell to West Kent Avenue)	206	8.3	24.8	yes
Broadway (Highbury Street to Commercial Dr)	145	8.6	16.9	not specified
7th Avenue (Yew Street to Yukon Street)	45	3.1	14.6	not specified
SOURCE: Urban Systems, 2015.				

Table 15 Cycling Collision Locations within the Review Area (2007-2012)

Location	Bicycle Route	Reported Cycling Collisions (2007-2012)
Main Street and E 2nd Avenue	yes	22
Clark Drive & East 10th Avenue	yes	19
Pine Street & West 10th Avenue	yes	17
Main Street & East 10th Avenue	yes	15
West 10th Avenue & Laurel Street	yes	10
SOURCE: Urban Systems 2015.		



References
October 30, 2019

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SOCIO-ECONOMICS TECHNICAL DATA REPORT

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October 30, 2019

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