

5

The Geography of Wellness in British Columbia

British Columbia, as discussed previously, is a very diverse province geographically. This includes its physical and demographic environments. It is also a province whose environments continue to evolve and change. This chapter presents the main focus of the Atlas, which is the geographical presentation of wellness throughout the province. At the outset, it must be recognized that this is a static snapshot of wellness in BC. Like other aspects of its environment, wellness and its assets and indicators will continue to evolve over time as the population shifts increasingly to a multicultural one, to one that is older, and to one that becomes more concentrated in urban areas, particularly in the southwest part of the province in the lower mainland, southern and eastern parts of Vancouver Island, and in the Okanagan region of the southern interior.

There are seven main sections to this chapter. The first (5.1) presents a variety of mapped indicators that portray a series of assets or determinants of wellness and health. In total, there are more than 60 maps providing data and geographic patterns for approximately 30 wellness indicators. They cover the key areas of family structure and economic characteristics, social assets for and determinants of wellness, educational indicators for several age groups, safety indicators, and finally, civic engagement. Many of these maps provide data at the Health Service Delivery Area (HSDA) level, but some, specifically those related to education, provide data at the school district level.

The second section (5.2) provides information on one of the key ActNow BC pillars—the reduction of smoking throughout the province. More than 30 maps show the geography of smoke-free environments in BC. Maps provide information on school smoking prevention policies and the distribution of population

covered by municipal no smoking bylaws. Most of the maps, however, are based on results from the Canadian Community Health Survey (CCHS) undertaken in 2005. Maps cover smoke-free environments such as public places, workplaces, vehicles, and homes, and also look at variations in non-smoking behaviours throughout the province. Each of these maps provides geographic information at the HSDA level for the total respondents of the survey, and for sub-components based on age cohorts (12 to 19 years, and 65 years and over) and gender. Those HSDAs that are significantly different from the provincial averages are identified.

The third section (5.3) provides a variety of indicators related to a second pillar of ActNow BC—nutrition and food security. Approximately 25 maps provide information on breastfeeding, healthy eating, healthy food education, nutrition policies in schools and school districts, and food availability in the form of farmers' markets.

The fourth section (5.4) provides nearly 50 maps focused on a third pillar of ActNow BC—physical activity. Information is given on available assets that enable individuals to undertake different kinds of activities. These include specific types of recreation facilities such as ice rinks and swimming pools, activity centres such as seniors centres and community halls, as well as outdoor opportunities provided through the availability of sports fields such as soccer pitches and baseball diamonds. Some of these data, which are based on surveys, are incomplete and so caution in analysing the geographic patterns is required. However, it is useful to know that these data on recreation and activity assets exist for those interested in understanding, and planning for, activity levels throughout the province. Information is also provided on the distribution of walking

clubs and public transit use and coverage within the province. Membership data in specific sports clubs are also included, along with the location of national and provincial parks.

The fifth section (5.5), which is short, looks at issues related to healthy weights. Healthy weights are closely related to aspects of nutrition and physical activity levels of individuals. Data are provided at the HSDA level based on responses to a couple of questions on the CCHS. In all, 10 maps are presented.

The sixth section (5.6) provides a series of indicators related to healthy pregnancies and childbirth. ActNow BC is concerned with healthy choices in pregnancy related to alcohol consumption and concerns about Fetal Alcohol Syndrome Disorder (FASD), but there are few data available related to this condition for mapping purposes. While one FASD-related indicator is included, we have chosen to provide healthy pregnancy indicators based primarily on data from the Vital Statistics Agency covering the 5 year period 2001 to 2005 inclusive. Indicators show the degree of complications-free perinatal and maternal conditions during pregnancy and childbirth. In addition, maps provide information on the healthiest age for mothers to conceive, and the geography of healthy birth weights, full term deliveries, infants born free of congenital anomalies, and infant survival rates. These are all important factors for the future wellness of individuals. The data are all shown at the HSDA level. Smoking-free behaviour rates in pregnancy are also mapped. Finally, the availability of Pregnancy Outreach Programs is provided.

The final section (5.7) of this chapter provides 50 maps and 10 indicators on self-assessed wellness features based on response data from the CCHS. Topics covered include general health, mental health, both chronic- and injury-free conditions, and the degree of satisfaction with life. All CCHS question indicators are provided at the HSDA level by gender and by age group. A final indicator looks at life expectancy at birth for the total population and for each gender individually by HSDA.

5.1

Assets and Determinants

Research has shown that numerous factors are assets and determinants of health and wellness (see Chapter 2). This section provides a variety of maps that focus on some of these key factors. Individuals and communities that possess these wellness-related factors are more likely to possess better health and wellness status than those without them. Many of the data presented in this section are drawn from the 2001 Canada census. Although several years old, these data are still generally the most current for the purposes of geographic comparisons. Other data, which focus on school children, use information from school districts and the Ministry of Education (2004 to 2006), and also from the latest McCreary Adolescent Health Survey (2003). Other indicators are based on a variety of different sources, including the Ministry of Children and Family Development, the public libraries system, the court system, and the Electoral Office of BC.

The first nine maps look at indicators related to family structure and economics. Children living at home do far better than those living alone or in state care (Kendall, 2001; Foster and Wright, 2002; Kendall and Morley, 2006). Children living with two adults have a greater likelihood of thriving than those in lone parent families. Single parenthood is generally tougher on both parent and child than living in a two adult family, thus potentially compromising wellness. Adults living together are better able to provide many kinds of different supports for each other throughout life, thus increasing wellness for both individuals.

Gender is also important. Women have a longer life expectancy than men, but usually report being less healthy. For some, their final years may be spent alone in relative poverty with chronic disabilities, all of which affect their sense of wellness. In 2000/2001 Canada-wide, more than 4 million women compared with less than 3 million men reported having two or more chronic conditions, and over half a million more women than men reported having disabilities based on an assessment of their functional health (Canadian Institute for Health Information, 2004). A recent study on chronic conditions in BC showed women were much more likely than men to have confirmed chronic conditions and have co-morbidity of such conditions (Broemeling, Watson, and Black, 2005). The percentage

of young and old who are (theoretically) supported by the working age group is also a useful community wellness indicator, as is the diversity of income sources within a community. High levels of income diversity result in more stable communities. Three indicators of family economics complete this cluster of family/community-related wellness factors. The first looks at the employment rate. The second provides median household income, which is that income level that has 50% of the province's households both above and below it. At the population level, health and wellness status increases as income increases. The third indicator, known as the Low Income Cut-off (LICO), is an income threshold, calculated by examining family expenditure data, below which families spend more of their household income on food, clothing, and shelter than would an average family. It is a measure, although not the only one, of relative poverty. This indicator is not without controversy (Statistics Canada, 2006), but one in general use.

The second group of indicators deals with a variety of social issues. A total of 24 maps provide data on issues related to home ownership and housing affordability, as well as attachment to school and family for students, and community attachment for the broader population. Housing is a key asset for wellness. It provides shelter, a place for families to form and bond, and a place where friends and neighbours can gather to socialize and share time, experiences, and support when needed. Shelter is one of the key basic needs of individuals. Housing provides not only protection, but also security and stability. However, not all housing is perfect, and poor housing conditions can lead to health and wellness reduction. The cost of housing can make it very difficult for low income families to find adequate accommodation.

A key indicator that has been shown to be important for positive youth development and wellness is that of family connectedness: youth with high levels of family connectedness have a reduced likelihood of engaging in a variety of risky behaviours, such as early sexual activity, smoking cigarettes or marijuana, other drug use, getting into fights, or experiencing emotional distress or considering suicide (McCreary Centre Society, 2004; Tonkin, 2005).

A student's connectedness to school has been shown to be important for health and wellness and for positive youth development. Based on data from the National Longitudinal Survey of Children and Youth, the Canadian Institute for Health Information has shown that a high level of school engagement for 12- to 15-year-olds was significantly related, statistically, to a variety of factors such as high self-worth, excellent or very good health, low level of anxiety, and a lower likelihood of alcohol, tobacco, and marijuana use and of associating with peers who commit crimes (Canadian Institute for Health Information, 2005). Similar results have been found using the McCreary Adolescent Health Survey data for Grade 7 to Grade 12 students (Tonkin, 2005).

Where people live is important from a wellness perspective. In a speech on determinants of people's health, Roy Romanow made this recommendation: "Be sure to live in a community where you trust your neighbours and feel that you belong: a civil and trusting community promotes health and long life" (as quoted in Canadian Institute for Health Information, 2004, p. 12). The next several maps show data, by gender and age group, indicating the level of social and emotional supports individuals feel they have available to them.

The next cluster of maps (22) indicate education and learning characteristics and opportunities within BC. Health and wellness generally increase with level of education. Getting a good start in life is a key determinant of health and wellness. Prenatal and early childhood events and experiences have been shown to have major impacts on later health and wellness (Canadian Institute for Health Information, 2004). In BC, an Early Development Instrument (EDI), which is a population-based tool, assesses the state of child development for kindergarten students throughout the province. It is generally acknowledged that, because our abilities and choices differ, complete equality in outcomes for individuals across a population is likely unattainable. Rather, it is equality of opportunity that is generally accepted as a desirable, attainable goal. Education is not only a key determinant of wellness, but is important for health, labour market participation, and social inclusion (Canadian Institute for Health Information, 2004). It is one of society's most effective means of providing children from various backgrounds with similar opportunities to attain positive outcomes. For society, universal quality education is the foundation of an egalitarian, socially coherent, and progressive society and essential for future self-fulfilment, economic productivity gains, and poverty reduction.

Not all children at school are in a grade normally associated with their age. Variations between groups of children from different backgrounds or gender can be symptomatic of opportunity inequality. For instance, Aboriginal children, students from socio-economically deprived backgrounds, and children in the care of the state are less likely than other children to be in a grade appropriate for their age (Kendall and Turpel-Lafond, 2007). This measure may also be a useful barometer of general wellness and social well-being and a leading indicator of future graduation rates within a geographic area, in this case, a school district. Four maps are presented based on this indicator.

Graduation from high school is an important event in life's developmental trajectory. It is a major step toward initiating post-secondary education and the lifelong benefits that come from that pursuit: improved employment opportunities, critical thinking, participation in society and social structures, to name but a few. Four maps related to graduation are included.

In a knowledge-based economy, lifelong learning is important for most individuals. It is a process that involves the development of skills, knowledge, and values from early childhood through to adulthood. Several maps are presented on lifelong learning.

Libraries are important institutions for assisting with lifelong learning. While they provide a traditional service of lending out print and other media to the public at no direct charge, they are also important locations for socialization and other activities, including educational opportunities. In particular, most libraries run literacy and reading programs, especially for the young, and literacy, in and of itself, is an important wellness asset. A recent report has suggested that as much as 55% of Canada's adult population may be jeopardizing their health because of an inability to understand prescription information, nutrition labels, or safety instructions (Canadian Council on Learning, 2007). Furthermore, all public libraries in BC provide free access to the internet so that individuals can gain a broader knowledge on a variety of topics, including issues related to health literacy and wellness.

The next six maps provide information on community safety. Students spend a large part of their daily lives in a school setting. There is "a recognition that a strong relationship exists between feelings of safety and belonging and a student's ability to learn" (Ministry of Education, 2004, p. 3). Furthermore, the feeling of

safety at school enhances a student's mental health. Crime rates are a measure of community cohesion, safety, and wellness. While crime is a "negative" indicator of community wellness, it is an important consideration when looking at key community indicators.

The final map in this section provides a measure of civic engagement. Community activities of individuals is a useful measure of their commitment to their community. These commitments not only benefit the individual, but usually make the community stronger, more cohesive, and healthier. Civic engagement results in interactions with others through, for example, social clubs, voluntary organizations, school groups for both students and parents, and faith groups. Community wellness and social capital is enhanced by increased civic engagement. While there are many variables, too numerous to mention, that can be used to measure civic engagement, we have focused on one: the rate of voting by registered voters in the last (2005) provincial election.

Family structure

Children living at home

The proportion of children living with their family, rather than being in the care of the province or living independently through a Youth Agreement with the province, is a useful indicator of community and family social and economic well-being. It also measures the effectiveness of community supports for families in need. While socio-economic deprivation is associated with depression, very low self-esteem, substance abuse, and other issues that affect parents' ability to care for their children, factors such as community resources, cohesiveness, and social capital are significant mediators. This is true of all population groups, but it must be acknowledged that Aboriginal children are less likely to be living at home than other British Columbian children (Foster and Wright, 2002; Foster and Wharf, 2007).

In BC throughout 2005, 98.52% of children (individuals aged 0 to 18 years) were living at home for the whole year. This ranged from 99.38% in Richmond to 97.86% in Thompson Cariboo Shuswap. Rates were higher in lower mainland HSDAs and Kootenay Boundary in the southeast interior of the province. A range of approximately 1.5% may seem very small, but children not living at home are but a small proportion of the neediest of all children. From small differences in the rate of children living at home, large differences in the social wellness of communities can be inferred.

Children living in two parent families

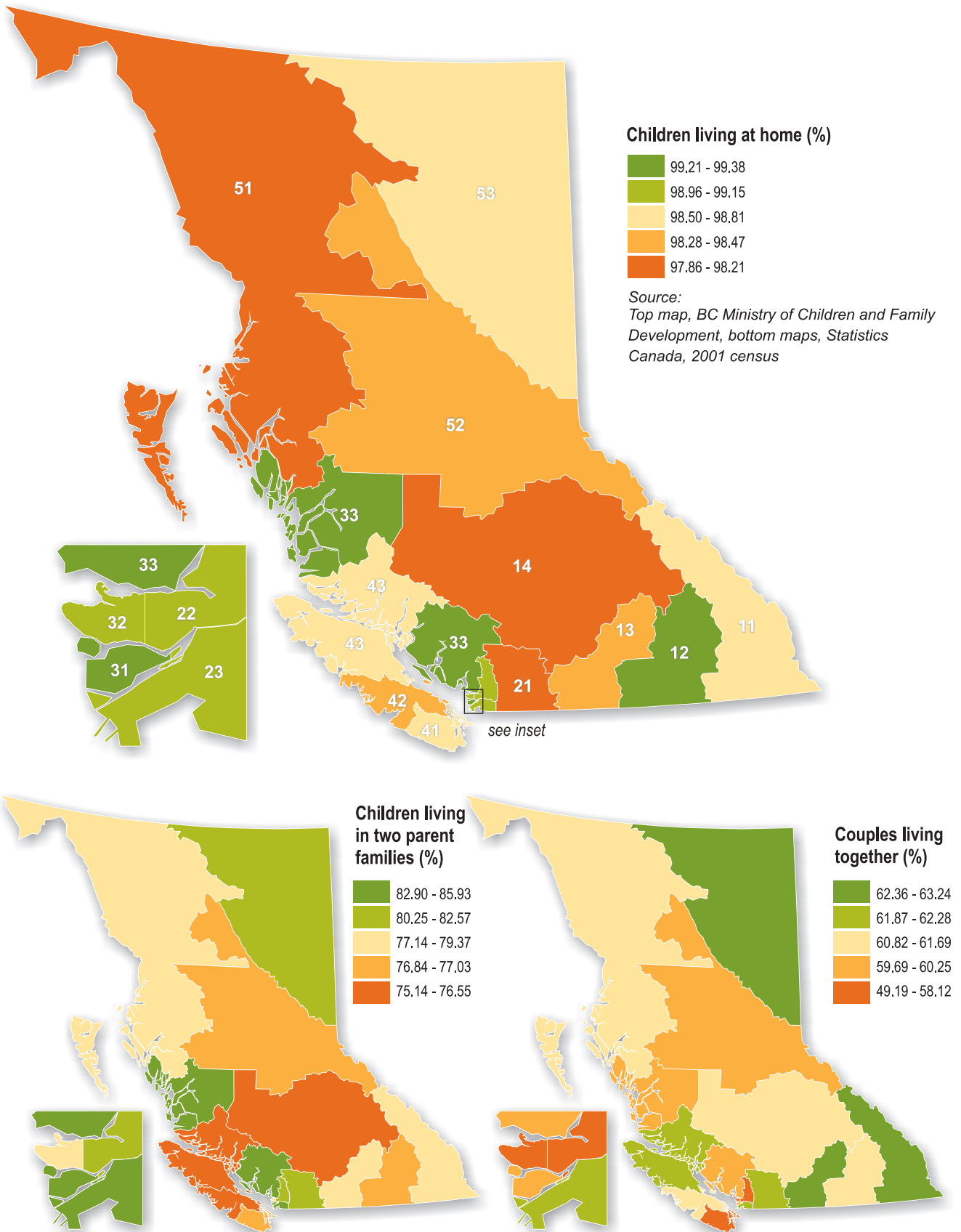
Single parents generally experience greater challenges in child rearing. They tend to be poorer economically and have a greater challenge balancing life's requirements around work and family. They are more socially isolated, in general, than two parent families. In short, children with two adults in their life generally do better. Throughout BC in 2001, nearly four out of every five children were being raised in a two parent family. The range within the province went from 85.93% (Richmond) to 75.14% (Central Vancouver Island). The lower mainland (with the exception of Vancouver) and Northeast were above the provincial average on this indicator. The lowest values were in the northern two-thirds of Vancouver Island and Thompson Cariboo Shuswap in the interior.

Health Service Delivery Area	Children living at home (%)	Children in two parent families (%)	Couples living together (%)
031 Richmond	99.38	85.93	59.69
012 Kootenay Boundary	99.22	76.98	61.00
033 North Shore/Coast Garibaldi	99.21	82.93	59.99
022 Fraser North	99.15	81.70	58.12
032 Vancouver	99.08	79.37	49.19
023 Fraser South	98.96	82.90	62.28
053 Northeast	98.81	82.57	62.65
011 East Kootenay	98.63	78.94	63.24
041 South Vancouver Island	98.55	77.03	57.61
043 North Vancouver Island	98.50	75.30	61.87
013 Okanagan	98.47	77.14	62.36
052 Northern Interior	98.32	76.84	60.25
042 Central Vancouver Island	98.28	75.14	61.69
021 Fraser East	98.21	80.25	62.05
051 Northwest	98.00	77.30	60.82
014 Thompson Cariboo Shuswap	97.86	76.55	61.67
999 Province	98.52	79.80	58.86

Couples living together

Adults living together, whether legally married or in a common-law relationship, are able to share many aspects of living, such as income, household duties, and child rearing, to name but a few. Mutual emotional and social supports are provided and, in times of ill health, caring is immediately at hand. For males, those who are married tend to live longer. In BC, nearly 6 out of every 10 adults live in a relationship with another adult. The highest rates were in East Kootenay, Northeast, Okanagan, and Fraser East (all greater than 62%). Most other regions were about average or above, except for Vancouver, where more than half of the adults were not living in a shared relationship.

Family structure



Gender, dependency, and income diversity

Gender: Female population

In 2005, 50.78% of the province's population were women. Geographically, however, there were important regional trends in the distribution of women among the HSDAs. Higher than average percentages of women than men were evident in parts of the lower mainland, particularly Richmond and North Shore/Coast Garibaldi, in South Vancouver Island, and in the Okanagan in the interior of the province.

By contrast, several northern and interior HSDAs had more males than females. These included the three northern HSDAs (Northwest, Northeast, and Northern Interior), North Vancouver Island, and East Kootenay in the southeast.

Dependency rate

This looks at the combined number of children (aged 0 to 17 years) and seniors (aged 65 and over) as a percentage of the population in the 18 to 64 age group. This indicator gives a sense of the ability of the “working age population” to support the young and the old, both economically and as their caregivers. The lower the rate, the greater the likelihood that the resident population can support the young and old dependents.

For the province as a whole, the overall dependency rate is 51.53, which means that there are about twice as many people available than those requiring “looking after” or supporting. There are, however, variations in this rate among the HSDAs. The range in the rate is more than 22 points. The HSDAs with the lowest dependency rates occur in the lower mainland HSDAs, particularly Vancouver (40.97), Richmond (44.94), and Fraser North (46.51). By contrast, three HSDAs have rates in excess of 60: Okanagan in the interior, Fraser East in the south, and Central Vancouver Island.

Economic diversity index

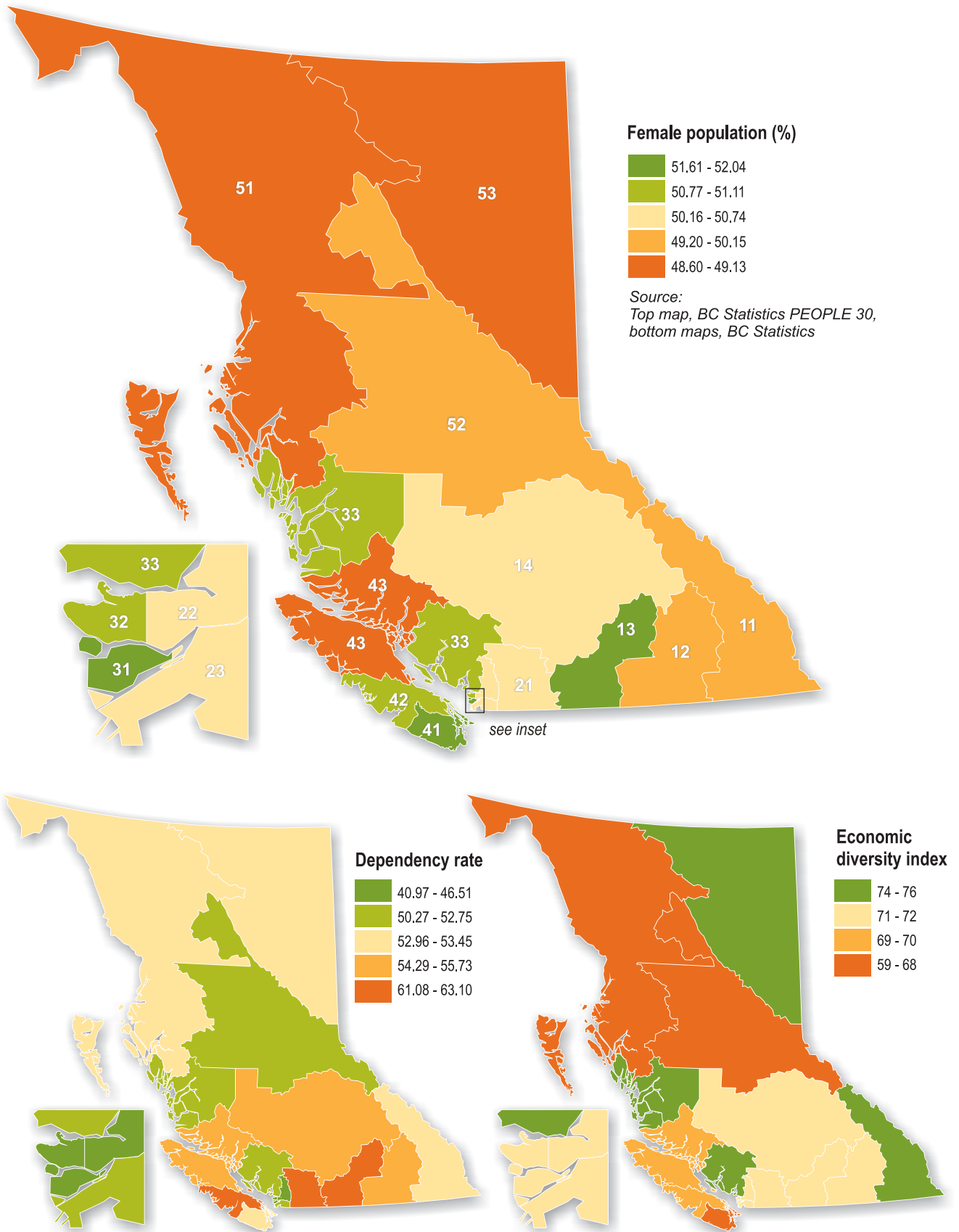
This is a measure of the degree of income source diversity within a region. The less dependent a region is on one dominant industry, the more likely it is to be able to weather volatile economic times. The index includes several key economic sectors (Forestry, Mining, Fishing, Agriculture and Food, Tourism, High Technology, Public Sector, Construction, Other, Government Transfers [e.g., pensions], and Non-employment Income). The most

Health Service Delivery Area	Female population (%)	Dependency rate (%)	Economic diversity index
041 South Vancouver Island	52.04	53.30	59
013 Okanagan	51.62	63.10	72
031 Richmond	51.61	44.94	71
033 North Shore/Coast Garibaldi	51.11	50.27	75
042 Central Vancouver Island	51.04	61.08	69
032 Vancouver	50.77	40.97	71
022 Fraser North	50.74	46.51	71
023 Fraser South	50.73	52.75	72
021 Fraser East	50.55	61.20	72
014 Thompson Cariboo Shuswap	50.16	54.29	72
012 Kootenay Boundary	50.15	55.73	72
011 East Kootenay	49.80	52.96	76
052 Northern Interior	49.20	50.48	61
043 North Vancouver Island	49.13	54.82	70
053 Northeast	48.61	53.45	74
051 Northwest	48.60	53.21	68
999 Province	50.78	51.53	N/A

diversified region economically would have its income sources divided equally among the economic sectors and its value would be 100. If its value were zero (0), it would only have one income source (Horne, 2004).

For BC, the diversity index ranges from a high of 76 for East Kootenay, to a low of 59 for South Vancouver Island, which is heavily dependent upon the public sector for its economy. Northern Interior and Northwest, both dominated by the public sector and forestry, also have relatively low indices, while Northeast and North Shore/Coast Garibaldi have more diversified economies.

Gender, dependency, and income diversity



Family economics

Income and economic stability are important not only to individuals and families, but also to the communities in which they live. Having a good, enjoyable, and well-paying job is important for health and wellness.

Employment rate

In 2001, the employment rate in BC was nearly 60%, although the range among HSDAs was quite large at 15 percentage points. HSDAs with higher rates of employment were in the north, parts of the lower mainland, and North Vancouver Island (all greater than 60%). At 67.3%, Northeast had the highest employment rate, followed by Fraser South and North Shore/Coast Garibaldi in the southwest, and Northern Interior. The areas with the lowest employment rates occurred in the southern interior and Central Vancouver Island (all about 55% or lower).

Low income cut-off

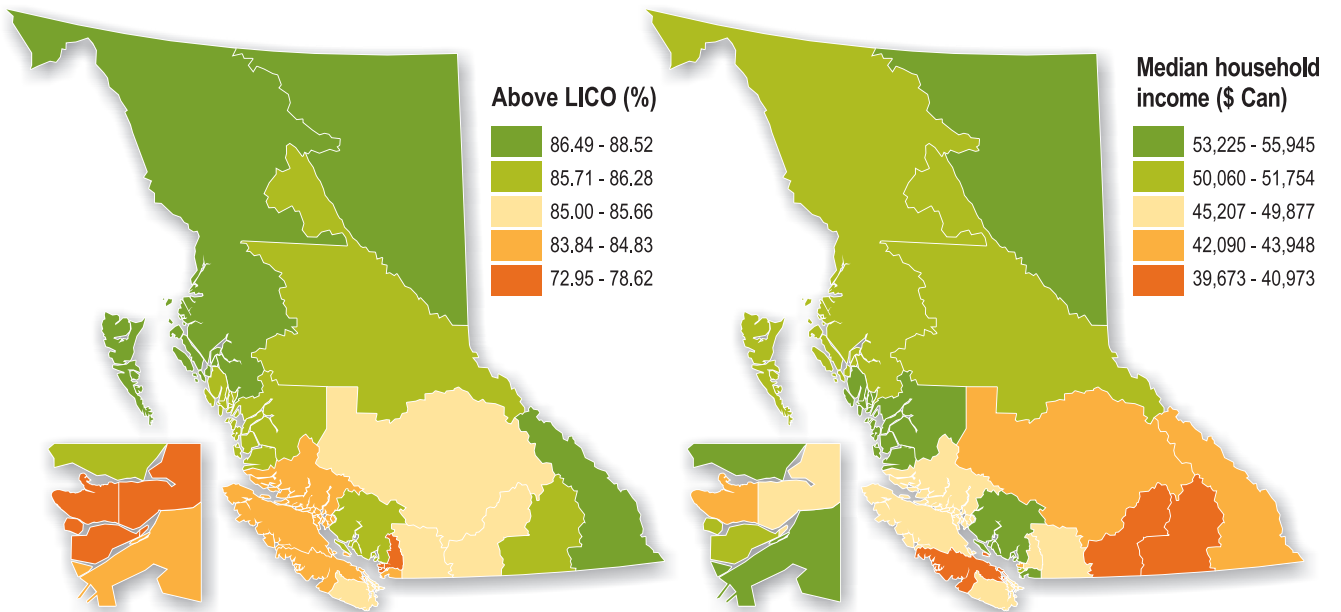
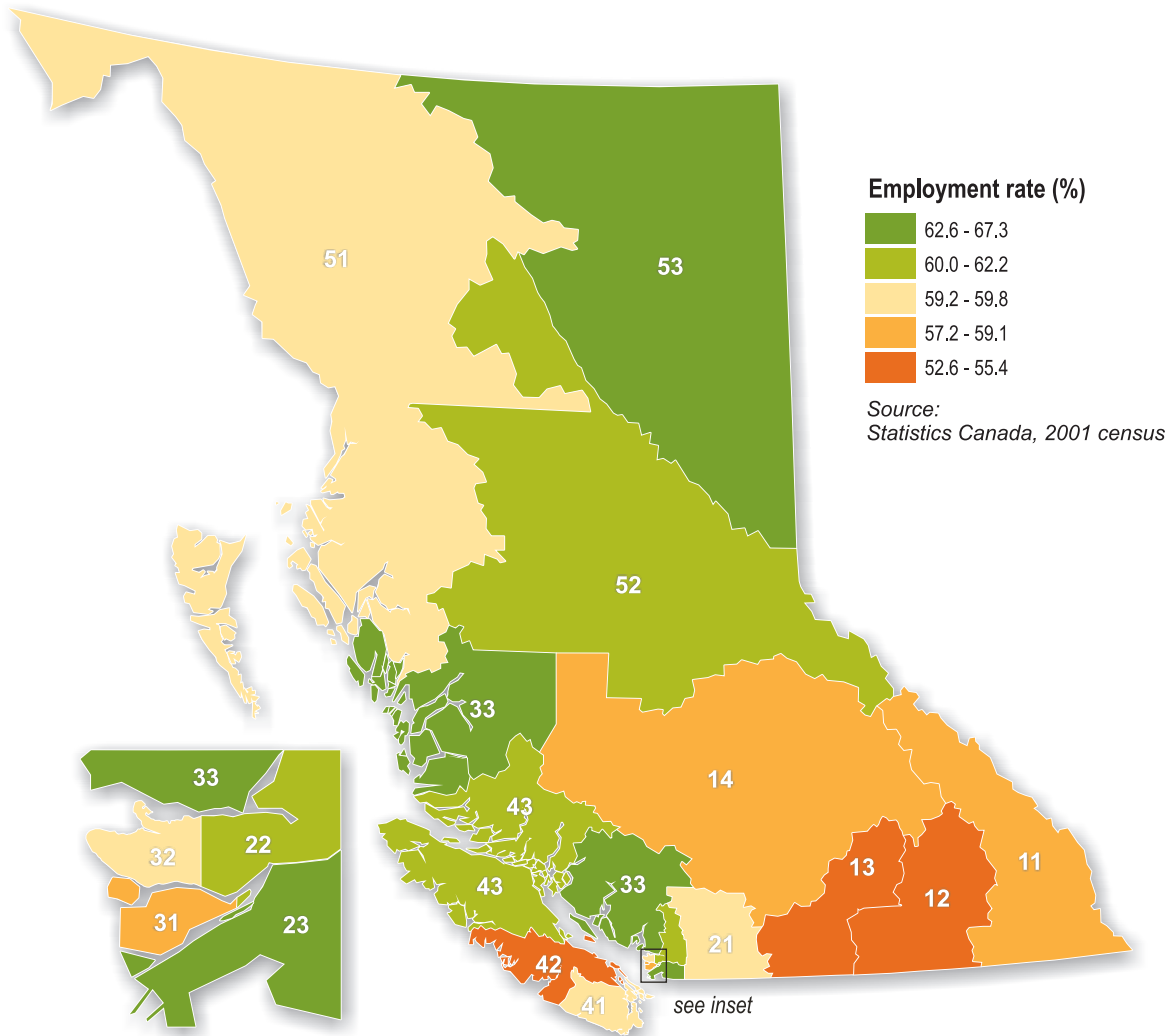
More than four out of every five families lived above the low income cut-off (LICO) level in 2001. There were major regional variations, however, with much of the northern half and southeast parts of the province being well above the average, while several HSDAs in the lower mainland had relatively fewer families living above the LICO level set for that year. Vancouver, Richmond, and Fraser North were relatively low, all with less than 79% of households above the LICO level.

Median annual family income

For BC as a whole, the median annual family income in 2001 was \$46,802, but there was quite a range throughout the province. The higher median family income areas were in the lower mainland and the northern half of the province. Fraser South, with a median family income of nearly \$56,000, was the highest, followed by its neighbour North Shore/Coast Garibaldi at over \$54,000. The northern HSDAs were all above \$50,000, as was Richmond in the southwest. Kootenay Boundary, Okanagan, and Central Vancouver Island all had median household incomes below \$41,000.

Health Service Delivery Area	Employment rate (%)	Above LICO (%)	Median income (\$ Can)
053 Northeast	67.30	88.52	53225
023 Fraser South	63.20	84.46	55945
033 North Shore/Coast Garibaldi	62.60	86.28	54128
052 Northern Interior	62.20	85.71	50134
022 Fraser North	61.70	78.62	49877
043 North Vancouver Island	60.00	84.83	46055
051 Northwest	59.80	86.49	51754
032 Vancouver	59.60	72.95	42090
021 Fraser East	59.40	85.42	45207
041 South Vancouver Island	59.20	85.66	45733
011 East Kootenay	59.10	86.93	43948
031 Richmond	58.80	76.14	50060
014 Thompson Cariboo Shuswap	57.20	85.00	42879
012 Kootenay Boundary	55.40	85.92	39673
013 Okanagan	53.60	85.49	40002
042 Central Vancouver Island	52.60	83.84	40973
999 Province	59.60	82.25	46802

Family economics



Selected housing characteristics

Three indicators related to housing provide information that shows the percentage of the population exhibiting certain housing characteristics based on the 2001 census. The three indicators, which are mapped opposite, are as follows: a measure of those who moved in the 12 month period immediately prior to the census, owner occupied housing, and households spending more than 30% of their income on accommodation.

Moved in the past year

Stability of residence is significant in terms of developing social capital and cohesive neighbourhoods and communities. It is also important for learning outcomes for children (Kershaw et al., 2005). In the 12 months prior to the census, 16.39% of households moved. The most stable HSDAs were in the southwest (Richmond and Fraser South) and southeast (Kootenay Boundary) parts of the province. Households in Northeast, Vancouver, and South Vancouver Island were the most likely to have moved.

Owner occupied dwelling

Home ownership is an important desire of most individuals and families. It provides security and stability. Stability helps to build strong and healthy neighbourhoods as well as healthy communities, one of the objectives of ActNow BC initiatives. In 2001 in BC, nearly two-thirds of households (66.31%) owned their own accommodation, indicating a reasonable amount of stability and security for the population. It also indicated an important financial investment that families make for the future.

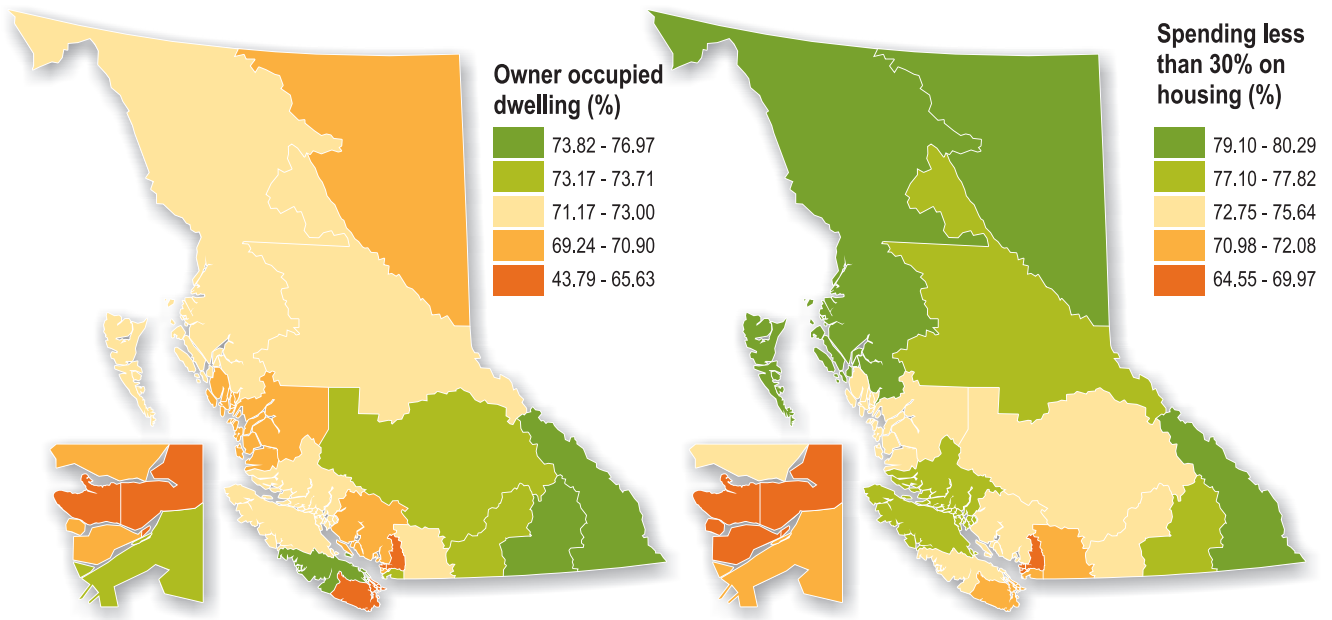
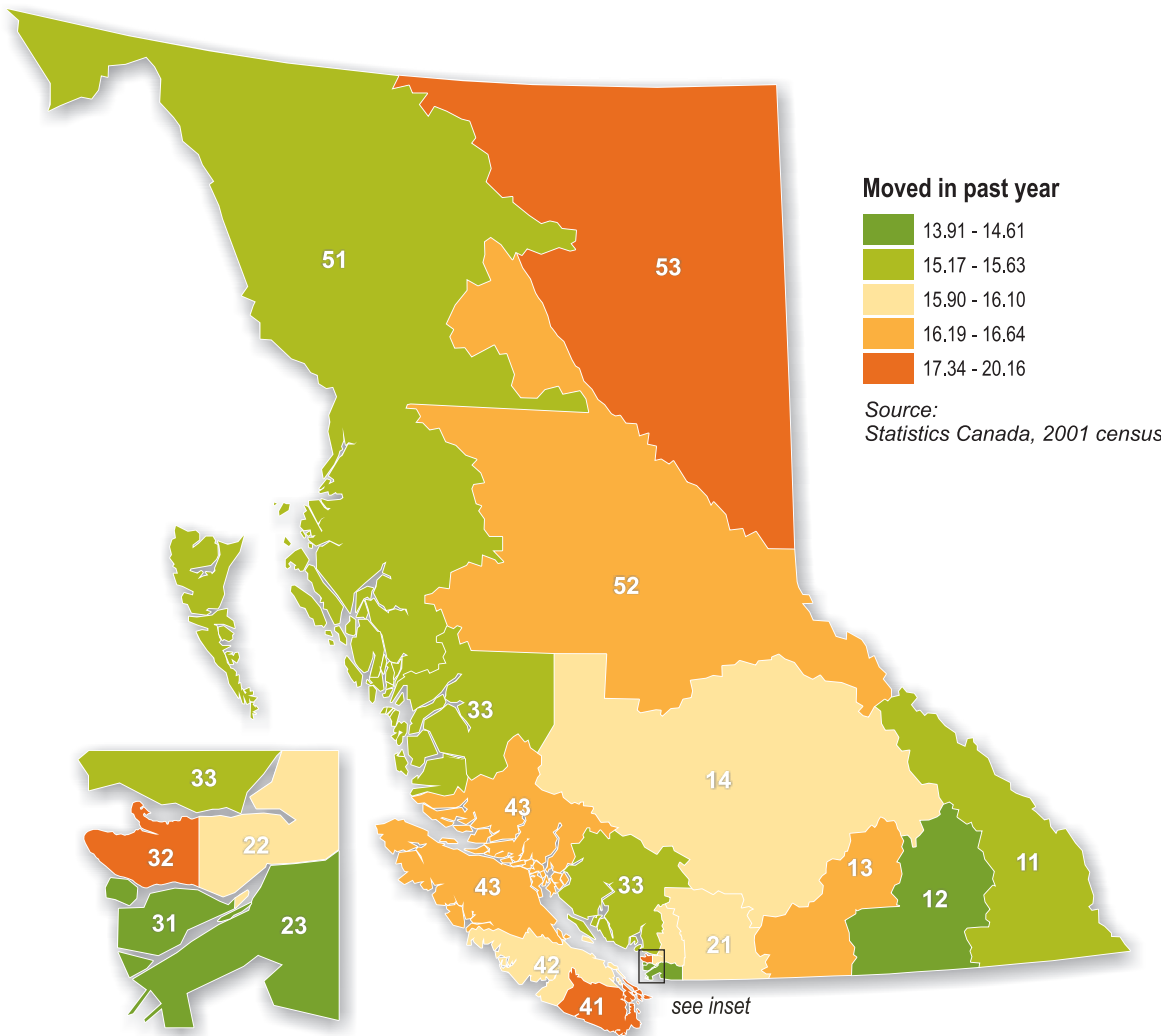
Home ownership varied dramatically by HSDA throughout the province, as shown on the map opposite. Home ownership was greatest in the southeast part of the province (more than three-quarters of households in Kootenay Boundary and East Kootenay owned their own accommodation) and there were ownership rates above the provincial average throughout most of the province. Rates for the southwest lower mainland, particularly Vancouver and Fraser North, were below the provincial rate, as was South Vancouver Island. These HSDAs are also where much of the province's population resides.

Health Service Delivery Area	Moved in past year (%)	Owner occ. dwelling (%)	Less than 30% on housing (%)
012 Kootenay Boundary	13.91	76.97	77.10
031 Richmond	14.18	70.90	68.97
023 Fraser South	14.61	73.71	71.28
011 East Kootenay	15.17	76.59	79.34
033 North Shore/Coast Garibaldi	15.37	69.24	72.75
051 Northwest	15.63	71.17	79.10
014 Thompson Cariboo Shuswap	15.90	73.58	75.64
042 Central Vancouver Island	15.96	73.82	74.28
022 Fraser North	15.96	63.71	69.97
021 Fraser East	16.10	71.51	70.98
052 Northern Interior	16.19	73.00	77.82
043 North Vancouver Island	16.61	71.54	77.64
013 Okanagan	16.64	73.17	72.99
041 South Vancouver Island	17.34	65.63	72.08
032 Vancouver	19.73	43.79	64.55
053 Northeast	20.16	70.30	80.29
999 Province	16.39	66.31	71.52

Spending less than 30% on housing

Spending less than 30% of the household income on housing is viewed as a desirable goal. More than this amount and households have to reduce expenditures on other necessities, such as food. Within BC in 2001, more than 7 out of every 10 households (71.52%) spent less than the 30% "limit" on their accommodation. Most of the province, geographically, was above the provincial average, and much of the northern and interior parts of the province had rates in excess of 75% spending less than 30% of household income on housing. The urban southwest of the province, however, had rates below 70%, and in Vancouver, less than two-thirds of households were within the 30% limit. It is worth noting that, since 2001, the average residential price in BC has jumped from almost \$221,000 to more than \$390,000 in 2006, and costs are especially high in the lower mainland, lower Vancouver Island, and Okanagan. These costs continue to climb.

Selected housing characteristics



Family connectedness for youth

The family connectedness scale used here includes 11 items from the McCreary Adolescent Health Survey. The questions ask about the extent to which students feel their family understands them, pays attention to them, and has fun together. It includes separate items about their relationships with mothers and fathers, such as how close they feel and how much they feel cared about by their mother or their father, how much their mothers or fathers are warm and loving towards them, how satisfied they are with their relationships with their mother or father, and so on. Students who have only one parent or who live with other relatives can still receive a score if they have responded to a minimum of three questions in the scale. The Family Connectedness score is created by averaging the responses of the questions answered, standardized on a scale of 0 to 1, with 1 being the highest connectedness and 0 being the lowest (Saewyc, 2007). The scores here have been multiplied by 100.

Overall, youth in BC had a connectedness score of 78.02 (out of a possible score of 100) in 2003. While the range went from a high of 79.65 to a low of 76.34, several HSDAs were significantly different statistically from the provincial score. The lower mainland HSDAs of North Shore/Coast Garibaldi and Fraser North, along with South Vancouver Island, all had scores of 79 or higher. At the other extreme, Vancouver had a statistically significantly lower than average score, as did Northern Interior. Geographically, there was no clear macro regional pattern observable throughout the province. (Note that school districts in three HSDAs are not represented as they did not participate in this survey, and so the middle “quintile” has only one HSDA.)

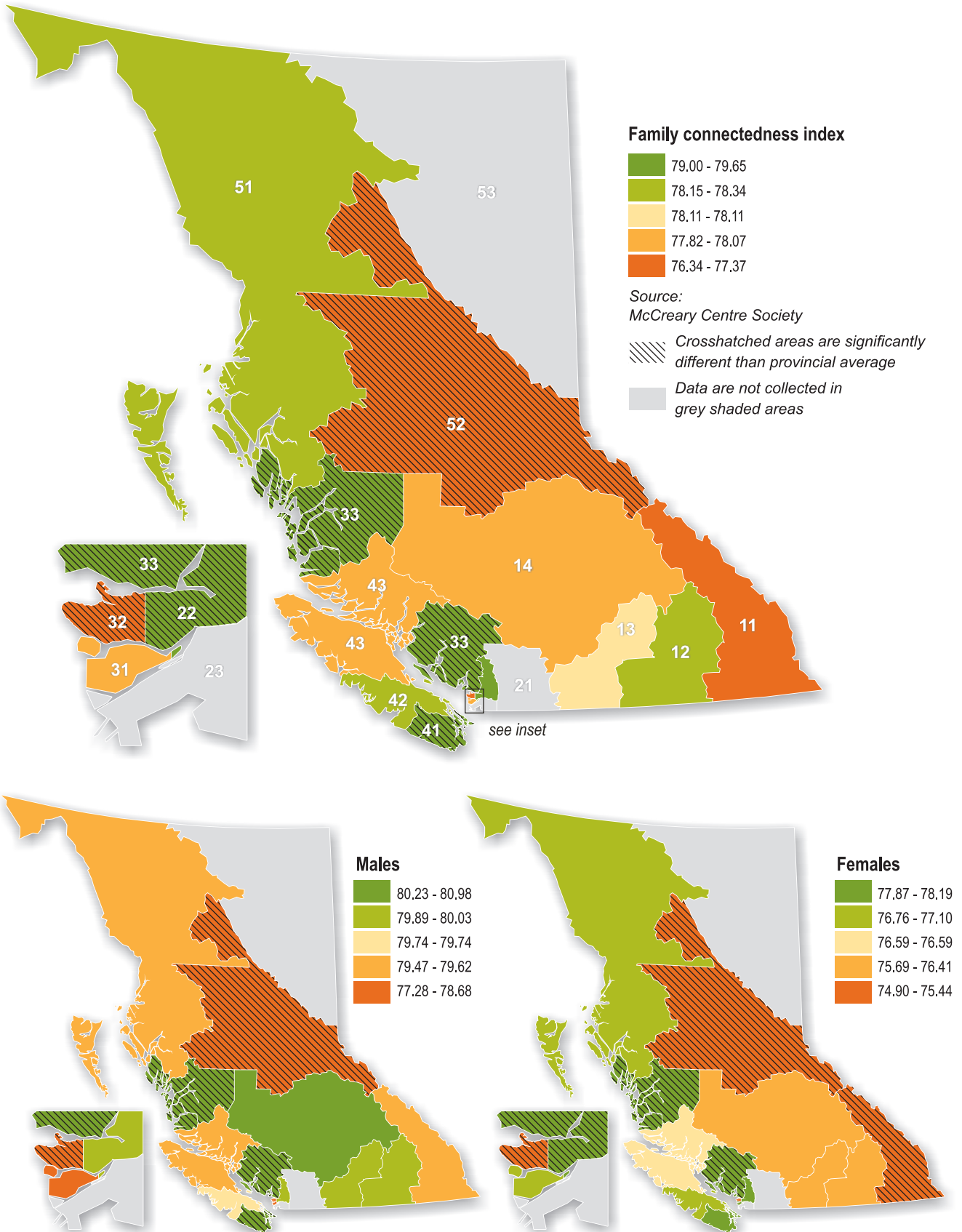
There were significant differences between genders. Males (with a score of 79.30) had statistically significantly stronger family connectedness than females (score of 76.76). Not only was this difference observed for the province as a whole, but eight of the HSDAs had statistically significant differences between the genders.

Geographically, North Shore/Coast Garibaldi and South Vancouver Island were statistically significantly higher for males, and Vancouver and Northern Interior were statistically significantly lower. For females, North Shore/Coast Garibaldi and Fraser North were statistically significantly higher than the provincial average for female students, while East Kootenay, Northern Interior, and Vancouver were statistically significantly lower.

Health Service Delivery Area	Family connectedness index	Males	Females
033 North Shore/Coast Garibaldi	79.65	80.98†	78.19†
041 South Vancouver Island	79.39	80.92†	77.87†
022 Fraser North	79.00	79.89	78.04
051 Northwest	78.34	79.62	77.10
042 Central Vancouver Island	78.20	79.74†	76.76†
012 Kootenay Boundary	78.15	80.03†	76.37†
013 Okanagan	78.11	80.02†	76.41†
043 North Vancouver Island	78.07	79.47	76.59
014 Thompson Cariboo Shuswap	77.85	80.23†	75.69†
031 Richmond	77.82	78.68	76.89
011 East Kootenay	77.37	79.60†	74.90†
052 Northern Interior	76.70	78.11†	75.44†
032 Vancouver	76.34	77.28	75.41
021 Fraser East	F	F	F
023 Fraser South	F	F	F
053 Northeast	F	F	F
999 Province	78.02	79.30†	76.76†

† Males differ significantly from females.
F Data not available.

Family connectedness for youth



School connectedness for youth

A school connectedness indicator has been developed based on the McCreary Adolescent Health Survey. It is comprised of seven items that assess the extent to which students feel teachers care about them, they feel like they are part of their school, they feel happy to be at school, they feel safe at school, they get along with teachers and students, and they feel that teachers treat them fairly. Students received a school connectedness score if they answered 75% of the questions in the scale. The score is created by averaging the responses to the number of questions answered, standardized on a scale of 0 to 1, with a higher score denoting greater connectedness (Saewyc, 2007). The score has been multiplied by 100 for analysis purposes.

For Grade 7 to 12 students in BC, the level of school connectedness falls from Grade 7 through to Grade 10 and then rises again (McCreary Centre Society, 2004). Overall, for these grades, the average school connectedness score was 66.72 (out of a possible 100) in 2003. There were clear geographical variations between the 13 HSDAs included in the survey. Lower mainland HSDAs had statistically significantly higher than average scores (Richmond, Fraser North, and North Shore/Coast Garibaldi), while East Kootenay and Thompson Cariboo Shuswap in the interior, Northern Interior in the north, and North Vancouver Island all had statistically significantly lower than provincial average values.

Females (provincial score of 68.29) had a statistically significantly higher score than males (score of 65.11). This is a reversal from family connectedness, discussed previously. Not only was this the case provincially, but 10 of the 13 HSDAs were significantly higher, statistically, for females than for males.

Among males, Richmond, Fraser North, and North Shore/Coast Garibaldi had statistically significantly higher school connectedness scores, while Central and North Vancouver Island, Kootenay Boundary and East Kootenay in the southeast, Thompson Cariboo Shuswap in the interior, and Northern Interior in the north all had significantly lower scores, statistically, than the province.

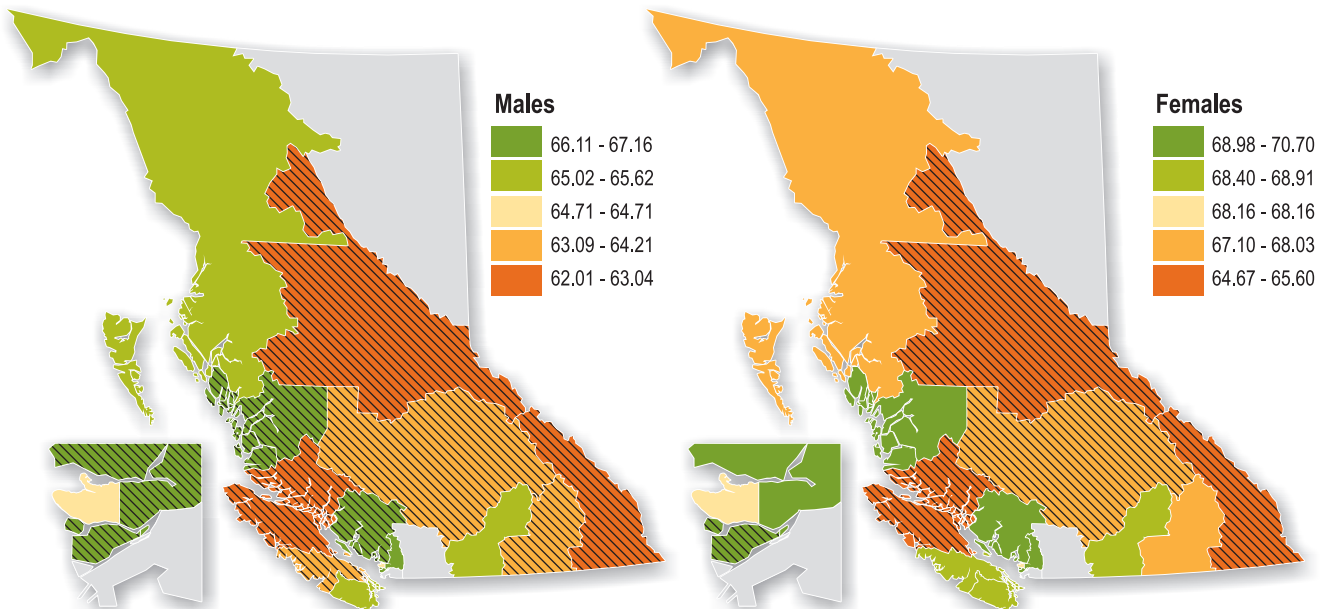
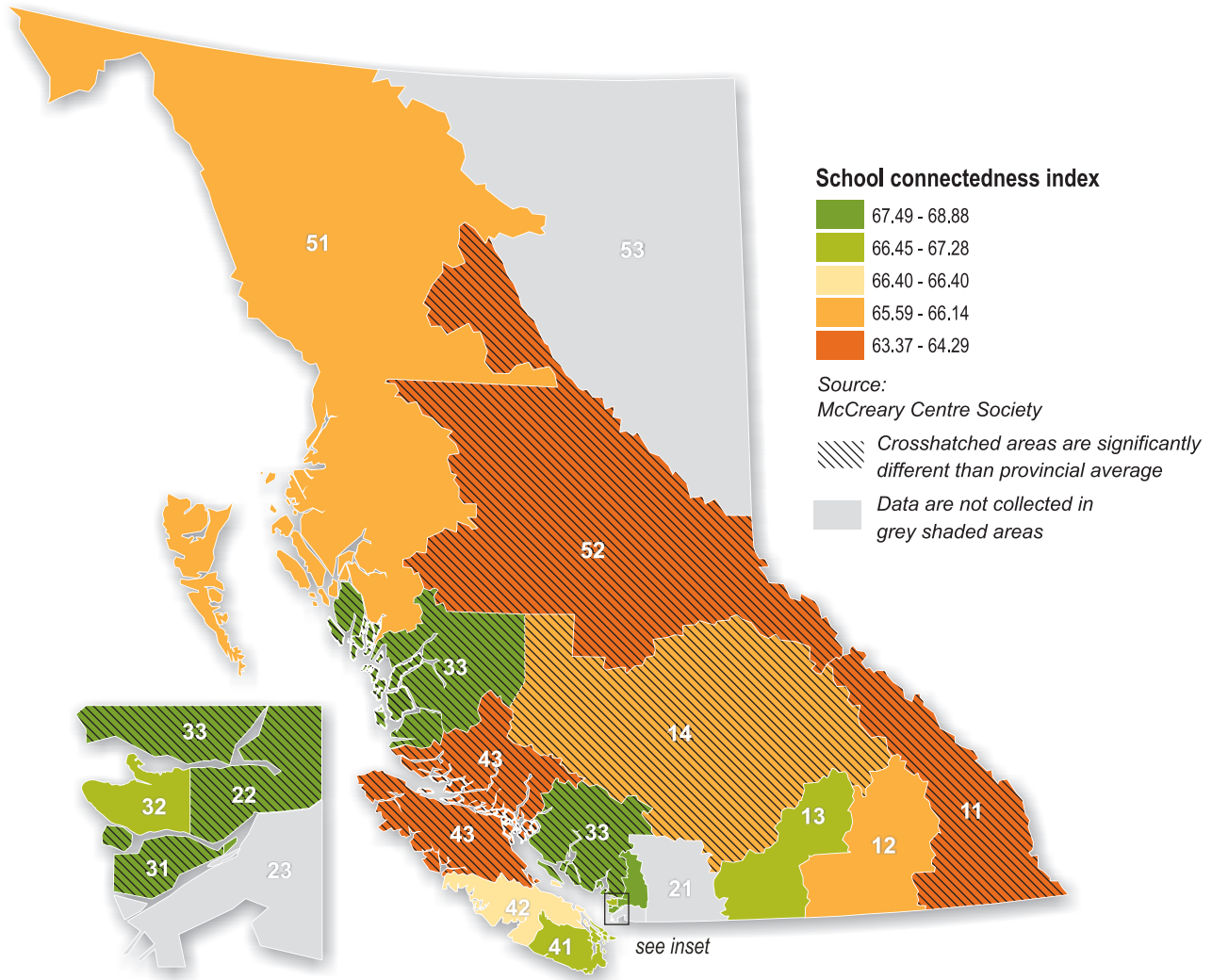
Among females, only Richmond had a significantly higher score than the provincial average for females, while Thompson Cariboo Shuswap, North Vancouver Island, Northern Interior, and East Kootenay all had significantly lower values than the provincial score.

Health Service Delivery Area	School connectedness		
	index	Males	Females
031 Richmond	68.88	67.16†	70.70†
022 Fraser North	67.84	66.55†	69.24†
033 North Shore/Coast Garibaldi	67.49	66.11†	68.98†
041 South Vancouver Island	67.28	65.62†	68.91†
013 Okanagan	67.20	65.53†	68.69†
032 Vancouver	66.45	64.71†	68.16†
042 Central Vancouver Island	66.40	64.21†	68.40†
051 Northwest	66.14	65.02	67.21
012 Kootenay Boundary	65.66	63.09†	68.03†
014 Thompson Cariboo Shuswap	65.59	63.90†	67.10†
043 North Vancouver Island	64.29	63.04	65.60
052 Northern Interior	63.43	62.01†	64.68†
011 East Kootenay	63.37	62.17	64.67
021 Fraser East	F	F	F
023 Fraser South	F	F	F
053 Northeast	F	F	F
999 Province	66.72	65.11†	68.29†

† Males differ significantly from females.

F Data not available.

School connectedness for youth



Sense of belonging to local community

Sense of belonging to one's local community is a measure of the degree of connection that individuals have built up within their neighbourhood or community. This may be achieved through membership in local organizations or through helping others out when needed and vice versa. The CCHS asked respondents: "How would you describe your sense of belonging to your local community? Would you say it is very strong, somewhat strong, somewhat weak, or very weak?"

More than two-thirds (67.32%) of BC respondents indicated that they felt a very strong or somewhat strong connection to their local community. This was significantly higher statistically than the response for Canadians overall (62.36%). The BC Aboriginal response was lower than for BC residents as a whole, but not statistically significantly so (64.64%).

For all respondents combined, there was a 16 percentage point spread in responses between the lowest and highest HSDAs, depicting important geographic variations across the province. The Northwest, Kootenay Boundary, and Thompson Cariboo Shuswap regions were all statistically significantly greater than the BC provincial average. Each had more than 74% of respondents indicating a strong attachment to their local community. (The use of the word significantly throughout the description of all CCHS data refers to statistically significant, which means there is a real difference between the HSDA/region and the average value for the indicator provincially.) While not statistically significantly different, the lower mainland HSDAs showed lower attachments than their interior counterparts.

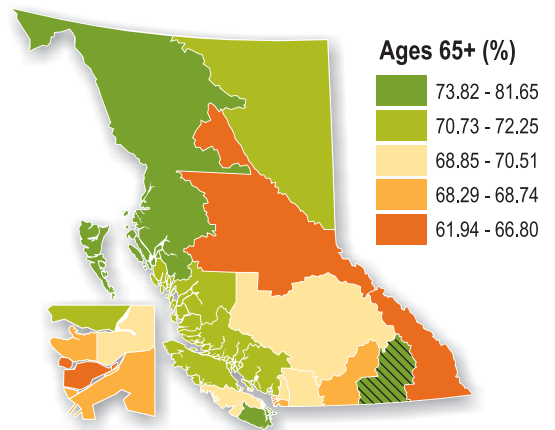
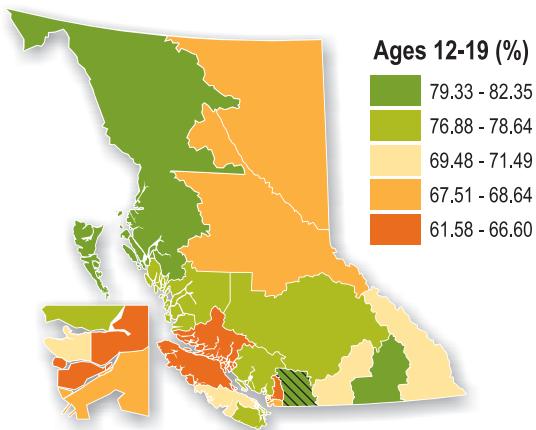
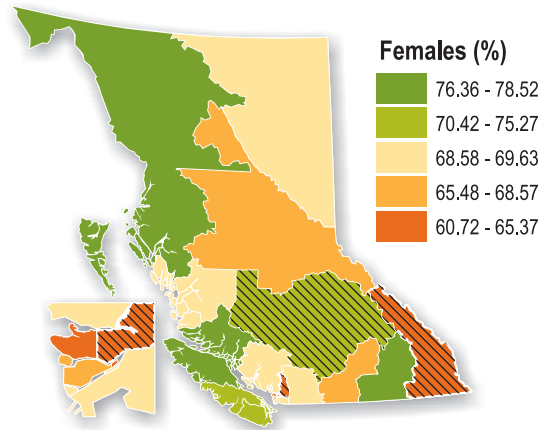
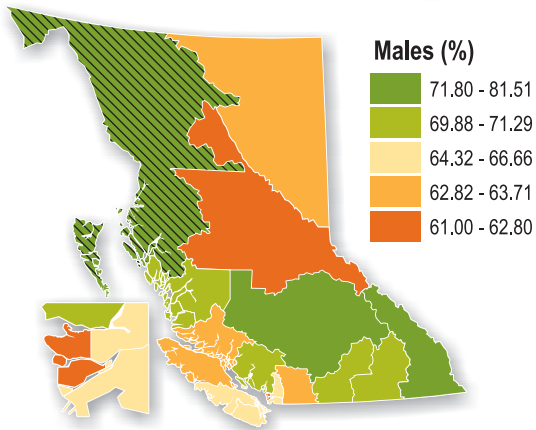
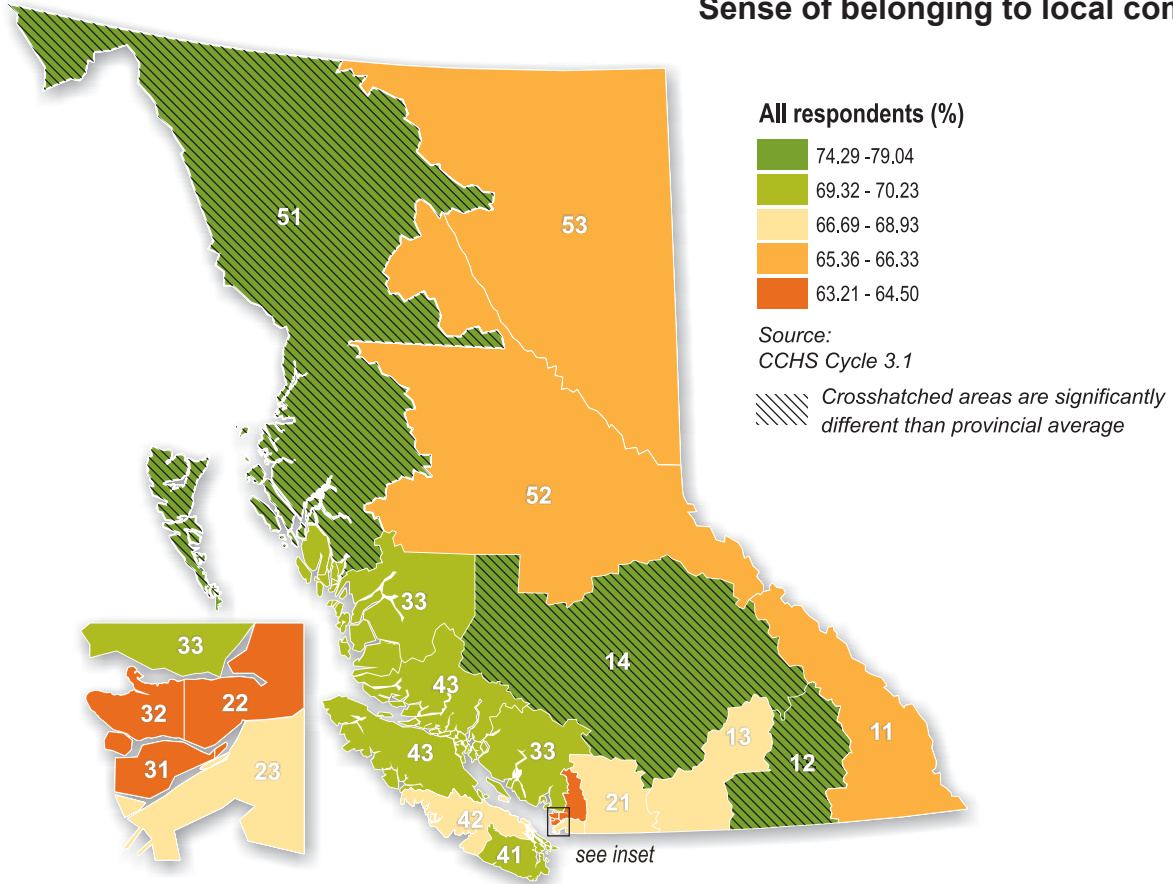
There was no significant difference between genders, although for males, Northwest (81.51%) was significantly higher than for males as a whole. Among females, several HSDAs had significant differences from the female average. Thompson Cariboo Shuswap females were significantly higher (75.27%), and East Kootenay (60.72%) and Fraser North (62.53%) were significantly lower than the female provincial average.

Health Service Delivery Area	All respondents (%)	Male (%)	Female (%)	Ages 12-19 (%)	Ages 20-64 (%)	Ages 65+ (%)
051 Northwest	79.04	81.51	76.36	81.06	78.68	78.54
012 Kootenay Boundary	74.89	71.29	78.52	79.33	72.37	81.65
014 Thompson Cariboo Shuswap	74.29	73.32	75.27	78.64	74.53	69.84
043 North Vancouver Island	70.23	62.82	77.57	61.58	71.47	72.17
041 South Vancouver Island	70.04	65.85	73.83	76.88	68.02	73.82
033 North Shore/Coast Garibaldi	69.32	70.10	68.58	77.23	67.45	72.25
013 Okanagan	68.93	69.88	68.04	69.93	68.81	68.74
042 Central Vancouver Island	68.58	66.66	70.42	70.31	67.69	70.51
021 Fraser East	66.71	63.71	69.63	82.35†	63.01	68.85
023 Fraser South	66.69	64.32	69.01	67.51	66.26	68.29
011 East Kootenay	66.33	71.80	60.72	69.48	65.65	66.80
053 Northeast	66.09	63.09	69.30	68.64	65.01	70.73
052 Northern Interior	65.36	62.31	68.57	68.33	64.62	66.48
022 Fraser North	64.50	66.52	62.53	64.66	63.65	69.49
031 Richmond	64.19	62.80	65.48	66.60	64.29	61.94
032 Vancouver	63.21	61.00	65.37	71.49	61.83	68.43
999 Province	67.32	66.02	68.59	71.34†	66.14	69.84†

† Age group differs significantly from 20-64 group.

A stronger sense of belonging was evident among teens or youth (12- to 19-year-olds) and seniors (65 and over) when compared to the middle age cohort (20 to 64 years). This difference was significant statistically. Fraser East teens had a higher sense of belonging to their community than other teens around the province, and this sense of belonging was also statistically significantly higher than the 20 to 64 age group in their region. Kootenay Boundary seniors had a significantly greater sense of belonging to their community than other seniors in the province.

Sense of belonging to local community



Social support index

The CCHS developed an index based on the response to four questions: “Do you have someone to: have a good time with; get together with for relaxation; do things to get mind off things; and, do something enjoyable with?” The index measures the degree of social support that an individual has available to them. It has a scale from 0 to 16, with higher scores denoting greater social supports. We have focused our work on mapping those whose overall score was 15 to 16. Altogether, 48.76% of BC respondents scored in this

range. The score for Canada as a whole is a little higher at 50.53%, and this is significant statistically. Not all provinces and territories participated in these questions, and so extreme caution is required in interpreting this difference. In BC, 43.71% of Aboriginal respondents scored in the 15 to 16 range, but this value was not significantly different from the provincial average for all respondents.

The range in index scores was nearly 18 percentage points, indicating major geographical differences throughout the province. The lowest scores were in the urban areas of the southwest. Both Vancouver and Richmond were significantly lower statistically than the provincial average. The regions with the highest percentage scoring 15 to 16 on the social support index tended to be in the interior regions, which are more rural in nature. Okanagan (55.25%) was significantly higher than the provincial average.

Geographically, for males, only Richmond (34.72%) and Vancouver (38.70%) were significantly different (lower) from the average for males. For females, Northern Interior (58.56%) was higher and, as was the case for males, Vancouver and Richmond were lower than the average for females overall. These differences were significant statistically.

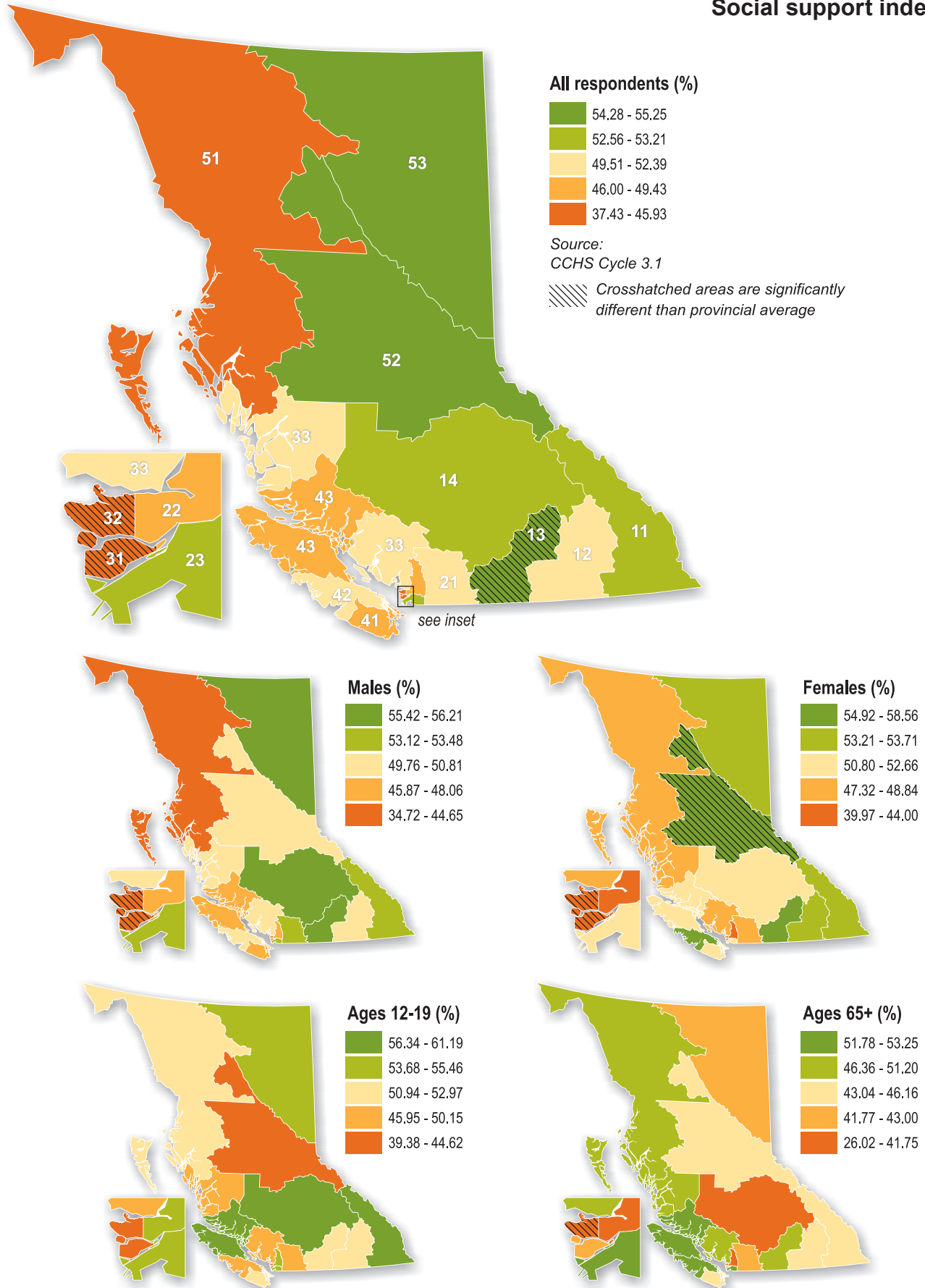
Youth and the 20- to 64-year-olds had relatively similar values overall, provincially, but there were differences for some HSDAs. Northern Interior youth had significantly lower social supports than the 20- to 64-year-olds in their HSDA. The middle age group had a similar pattern

Health Service Delivery Area	All respondents (%)	Males (%)	Females (%)	Ages 12-19(%)	Ages 20-64(%)	Ages 65+(%)
013 Okanagan	55.25	55.42	55.09	52.97	56.94	51.20
053 Northeast	54.81	56.21	53.31	55.46	56.06	43.00
052 Northern Interior	54.28	50.22	58.56	39.38‡	58.35	46.16
014 Thompson Cariboo Shuswap	53.21	55.64	50.80	56.34	55.29	41.75‡
011 East Kootenay	53.17	53.12	53.21	61.19	53.58	44.51
023 Fraser South	52.56	53.32	51.82	53.68	52.50	51.78
042 Central Vancouver Island	52.39	49.76	54.92	45.95	53.50	52.61
012 Kootenay Boundary	52.15	50.61	53.71	50.94	54.71	43.04
021 Fraser East	51.13	53.48	48.84	47.97	53.73	42.41
033 North Shore/Coast Garibaldi	49.51	50.81	48.27	50.15	49.54	48.87
041 South Vancouver Island	49.43	45.87	52.64	51.16	50.19	45.53
043 North Vancouver Island	49.43	46.17	52.66	56.54	47.20	53.25
022 Fraser North	46.00	48.06	44.00	54.42	46.49	35.50‡
051 Northwest	45.93	44.65	47.32	50.96	44.83	46.36
032 Vancouver	39.58	38.70	40.44	44.62	41.49	26.02‡
031 Richmond	37.43	34.72	39.97	41.19	36.08	41.77
999 Province	48.76	48.57	48.94	50.74	49.52	43.60‡

‡ Age group differs significantly from 20-64 group.

to that for all respondents combined, although Northern Interior was significantly high. Seniors, provincially, had significantly lower percentages on this index than 20- to 64-year-olds. Three HSDAs, Thompson Cariboo Shuswap, Fraser North, and Vancouver, had significantly lower values statistically than their younger counterparts. Among seniors, Vancouver had significantly lower social supports (26.02%) than other HSDAs.

Social support index



Emotional or informational support index

A second index developed from a variety of CCHS questions measures emotional and informational support available to individuals. As the earlier reviews on wellness and determinants in the Atlas suggest, this is an important wellness asset and determinant. The index is made up of the results from eight individual questions as follows: *“Do you have someone to: listen; receive advice about a crisis; help understand a problem; confide in; give advice; share most private worries and fears; turn to for suggestions for personal problems; and, who understands problems.”*

The results of these eight questions were amalgamated to create the index, which has a score from 0 to 32, with the higher score depicting greater emotional or informational support. The data used for the maps and table here are based on the percentage of the respondents who scored between 29 and 32. For BC, 48.23% of respondents fell into this category. For Aboriginal respondents in the province, 39.87% scored between 29 and 32. While lower, this difference was not statistically significant.

For all respondents combined, the range between the highest and lowest regions (HSDAs) was nearly 16 percentage points. Two HSDAs, Richmond (37.65%) and Vancouver (41.05%), had significantly lower values than the provincial average. Higher value areas tended to be concentrated in interior HSDAs.

The difference between the average for males and females was significant statistically, with females having greater support. For males, the pattern was quite similar to that for the population as a whole, and only Vancouver was significantly different. The range for females, at 21 percentage points, was higher than that for males. Females in the Northern Interior (59.36%) had significantly greater support than the average for females in the province, while Richmond and Vancouver were significantly lower.

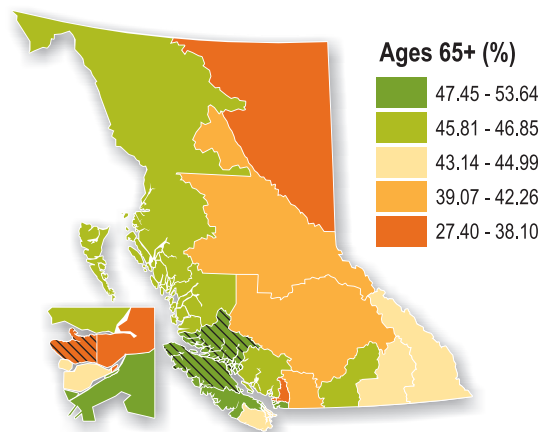
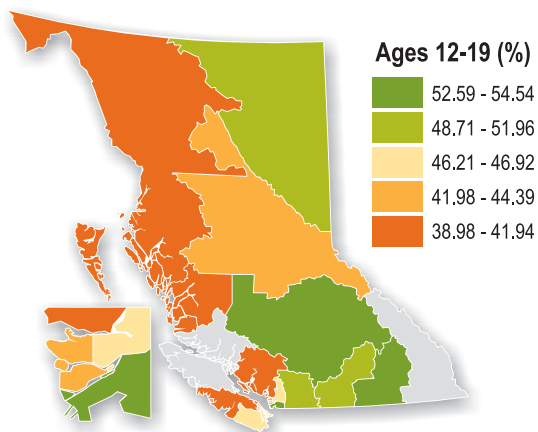
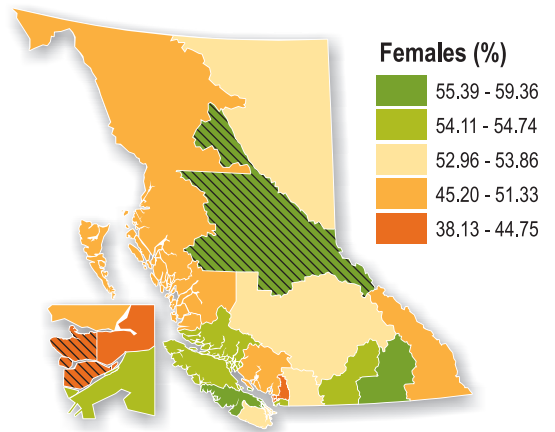
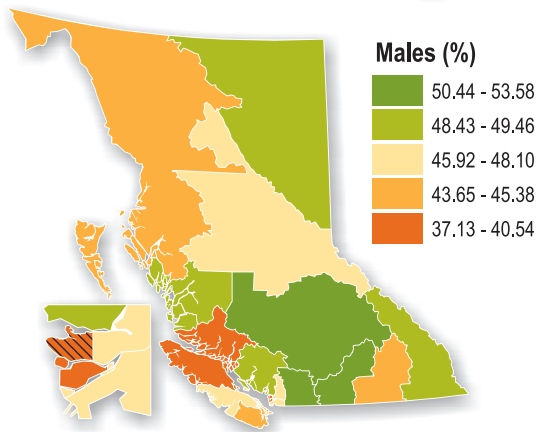
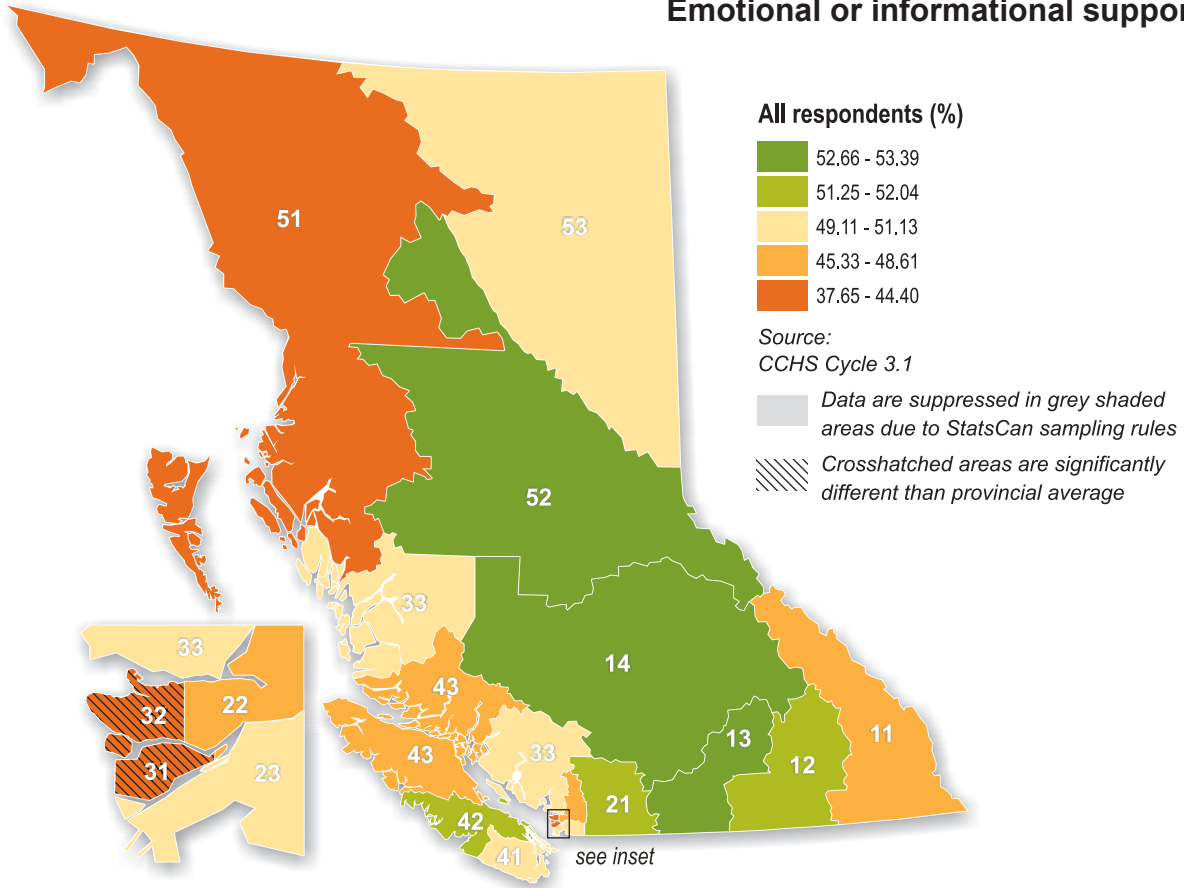
There was no significant difference between teens or youth (12 to 19 years) and the middle (20 to 64 years) cohort. Two HSDAs had too few data to report

Health Service Delivery Area	All respondents (%)	Males (%)	Females (%)	Ages 12-19 (%)	Ages 20-64 (%)	Ages 65+ (%)
014 Thompson Cariboo Shuswap	53.39	53.58	53.20	54.54	56.48	39.10‡
052 Northern Interior	52.77	46.51	59.36	41.98	56.35	42.26
013 Okanagan	52.66	50.44	54.74	51.96	54.92	45.87
021 Fraser East	52.04	51.09	52.96	50.40	55.28	39.07‡
042 Central Vancouver Island	51.81	48.10	55.39	41.74	54.96	47.45
012 Kootenay Boundary	51.25	45.38	57.14	52.59	52.61	44.99
023 Fraser South	51.13	48.10	54.11	52.63	51.10	49.81
053 Northeast	50.87	48.43	53.48	48.71	53.31	33.82‡
033 North Shore/Coast Garibaldi	50.39	49.40	51.33	38.98	52.94	46.85
041 South Vancouver Island	49.11	43.86	53.86	46.21	50.69	44.81
011 East Kootenay	48.61	49.46	47.74	F	50.48	43.45
043 North Vancouver Island	47.43	40.54	54.25	F	46.82	53.64
022 Fraser North	45.33	45.92	44.75	46.92	46.29	38.10
051 Northwest	44.40	43.65	45.20	41.94E	44.72	45.81
032 Vancouver	41.05	39.55	42.52	43.53	43.25	27.40‡
031 Richmond	37.65	37.13	38.13	44.39	35.66	43.14
999 Province	48.23	46.13†	50.28†	47.30	49.52	42.19‡

‡ Age group differs significantly from 20-64 group.
 † Males differ significantly from females.
 E Interpret data with caution (16.77< coefficient of variation <33.3).
 F Data suppressed due to Statistics Canada sampling rules.

the results for the teen group. Seniors (age 65 and over) in the province, however, had significantly fewer emotional supports than the middle age cohort. Four regions (HSDAs) had significantly lower support than the younger groups. These were Thompson Cariboo Shuswap, Fraser East, Northeast, and Vancouver. North Vancouver Island had significantly higher support, and Vancouver significantly lower support than seniors provincially.

Emotional or informational support index



Readiness to learn

Getting a good start in life is a key determinant of health and wellness. Prenatal and early childhood events and experiences have been shown to have major impacts on later health and wellness (Canadian Institute for Health Information, 2004). In BC, an Early Development Instrument (EDI), which is a population-based tool, assesses the state of child development for kindergarten students throughout the province. This checklist covers five domains: physical health and well-being; social competence; emotional maturity; language and cognitive development; and communication skills and general knowledge. On average, 10% of students perform below developmental expectations and are considered to be vulnerable in each domain (Kershaw et al., 2005).

The approach taken here is to map the results by school district for kindergarten students based on the percentage who are not vulnerable. These maps differ from those developed elsewhere, which have been based on the percentage of kindergarten students who are vulnerable in specific domains (Hertzman et al., 2002; Kershaw et al., 2005; more information and maps are available at www.earlylearning.ubc.ca/).

Readiness to learn

On average, only three out of every four students (73.67%) were developing in a satisfactory manner in all of the five domains. The students in the highest performing school districts were found in the southeast of the province and in the lower mainland and Vancouver Island. At the other end of the spectrum, several school districts had less than 60% of their students with no vulnerabilities. They tended to be coastal communities. The range in values was from 86.86% to 42.86%, indicating major geographical variations throughout the province.

Physical health and well-being

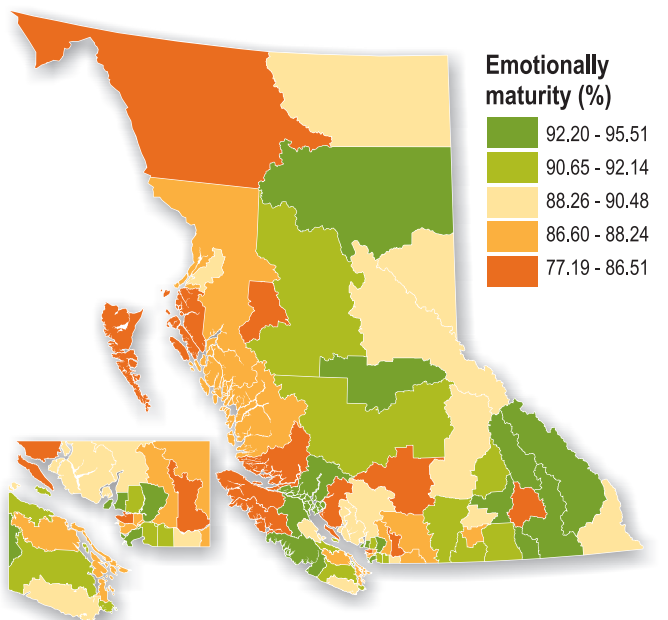
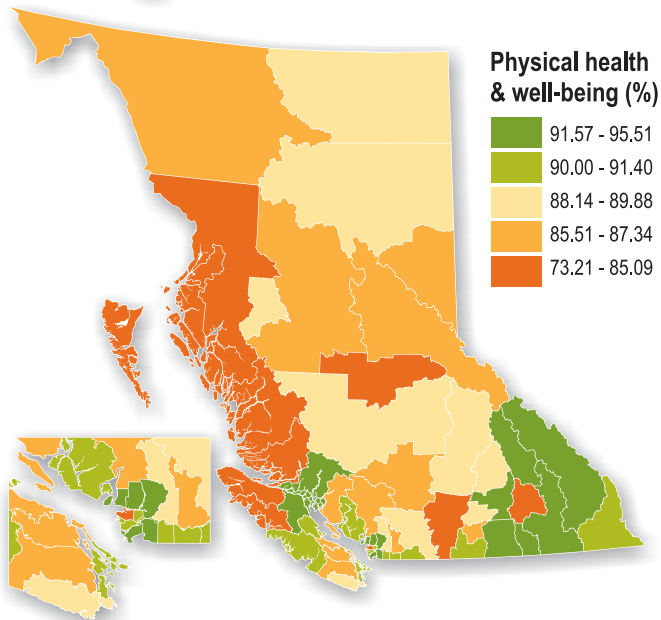
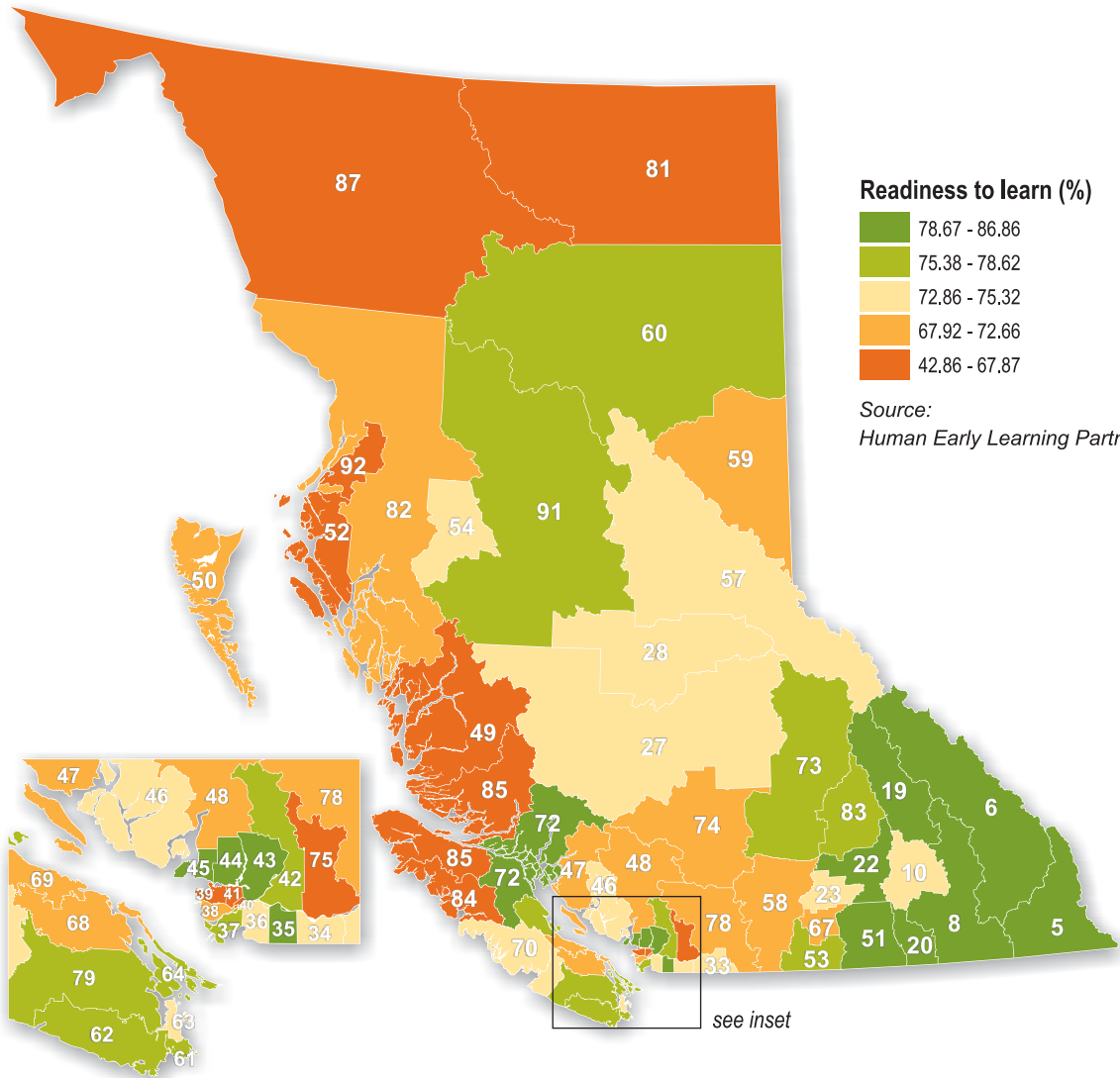
The pattern for this domain was quite similar to that for the first map. The range was from 95.51% for Revelstoke to 73.21% for Prince Rupert.

Emotional maturity

The range in values for this domain went from a high of 95.51% (West Vancouver) to a low of 77.19% (Stikine). The geographical pattern was again similar to the other two maps.

School District	Readiness to learn (%)	Physical health & well-being (%)	Emotional maturity (%)
045 West Vancouver	86.86	94.23	95.51
020 Kootenay-Columbia	84.76	95.17	92.57
006 Rocky Mountain	83.44	93.36	94.69
072 Campbell River	81.75	92.94	93.78
019 Revelstoke	80.90	95.51	94.38
022 Vernon	80.82	91.96	95.00
035 Langley	80.56	90.35	92.10
051 Boundary	80.54	95.11	91.89
008 Kootenay Lake	80.35	91.57	92.51
044 North Vancouver	79.79	93.35	90.89
043 Coquitlam	79.23	91.59	92.77
005 Southeast Kootenay	78.67	90.74	90.48
083 North Okanagan-Shuswap	78.62	89.88	92.14
037 Delta	77.66	92.17	92.21
062 Sooke	76.66	89.57	89.93
060 Peace River North	76.34	89.02	92.20
079 Cowichan Valley	76.33	86.29	91.82
064 Gulf Islands	76.00	90.00	87.94
091 Nechako Lakes	76.00	86.91	91.67
042 Maple Ridge-Pitt Meadows	75.70	88.14	87.64
061 Greater Victoria	75.59	89.32	91.23
053 Okanagan Similkameen	75.59	90.29	90.81
073 Kamloops/Thompson	75.57	89.07	90.27
071 Comox Valley	75.38	90.72	88.26
054 Bulkley Valley	75.32	88.54	84.81
057 Prince George	75.13	87.03	90.25
010 Arrow Lakes	75.00	82.50	82.50
070 Alberni	74.69	90.05	92.38
063 Saanich	74.57	91.40	86.80
046 Sunshine Coast	74.57	90.04	89.61
036 Surrey	74.26	91.86	91.15
033 Chilliwack	74.05	90.13	87.71
028 Quesnel	73.82	85.09	95.26
023 Central Okanagan	73.39	88.42	89.64
034 Abbotsford	73.35	90.49	89.29
027 Cariboo-Chilcotin	72.86	88.21	91.44
069 Qualicum	72.66	85.51	90.65
067 Okanagan Skaha	72.53	86.49	87.70
074 Gold Trail	72.03	85.59	84.62
038 Richmond	70.42	91.30	87.18
078 Fraser-Cascade	69.63	89.20	87.26
068 Nanaimo-Ladysmith	69.45	86.95	87.06
059 Peace River	69.09	87.34	88.61
082 Coast Mountains	69.06	84.46	87.34
050 Haida Gwaii/Queen Charlotte	68.85	81.97	85.25
058 Nicola-Similkameen	68.75	84.38	91.25
047 Powell River	68.08	87.30	86.32
048 Howe Sound	67.92	87.06	89.40
040 New Westminster	67.87	88.43	86.60
041 Burnaby	67.31	90.15	87.43
075 Mission	67.23	86.96	86.51
081 Fort Nelson	67.12	89.04	89.04
085 Vancouver Island North	65.68	82.63	82.98
087 Stikine	63.16	85.96	77.19
052 Prince Rupert	59.82	73.21	84.30
084 Vancouver Island West	59.38	78.13	84.38
039 Vancouver	59.06	81.47	85.64
049 Central Coast	47.06	76.47	88.24
092 Nisga'a	42.86	82.14	88.29
999 Province	73.67	89.23	89.89

Readiness to learn



Age-appropriate grade

If a child is of the age normally associated with a particular grade no earlier than September 1st of the year before they start that grade, they are considered to be age-appropriate. For example, a student entering Grade 1 in 2005 could have been born as early as September 1, 1998. Birthdates and maximum ages for age-related grade levels are given below. Accelerated children, or children who are considered young for their grade level, are still considered to be in an age-appropriate grade. All students and grades are combined for each school district to provide the percentage of students who are in an age-appropriate grade. Generally, students in lower grades are more likely to be age-appropriate than students in the higher grades. There is a rapid drop off in age-appropriate grade beyond Grade 7, especially for relatively disadvantaged students, such as those from income assistance families, children in the care of the state, and Aboriginal students, and after Grade 9 for other students (Danderfer, Wright, and Foster, 2006).

Grade	Earliest birthdate to be considered age-appropriate	Maximum grade-related age on September 1, 2005
1	9/1/1998	7
2	9/1/1997	8
3	9/1/1996	9
4	9/1/1995	10
5	9/1/1994	11
6	9/1/1993	12
7	9/1/1992	13
8	9/1/1991	14
9	9/1/1990	15
10	9/1/1989	16
11	9/1/1988	17
12	9/1/1987	18

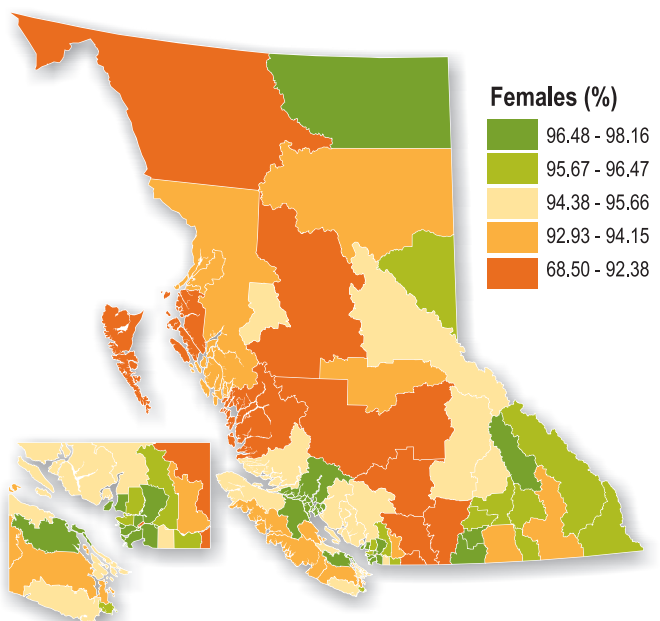
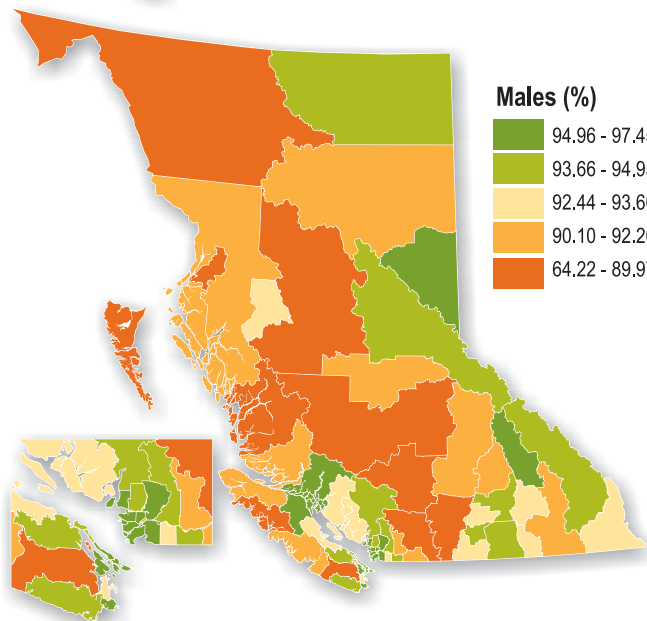
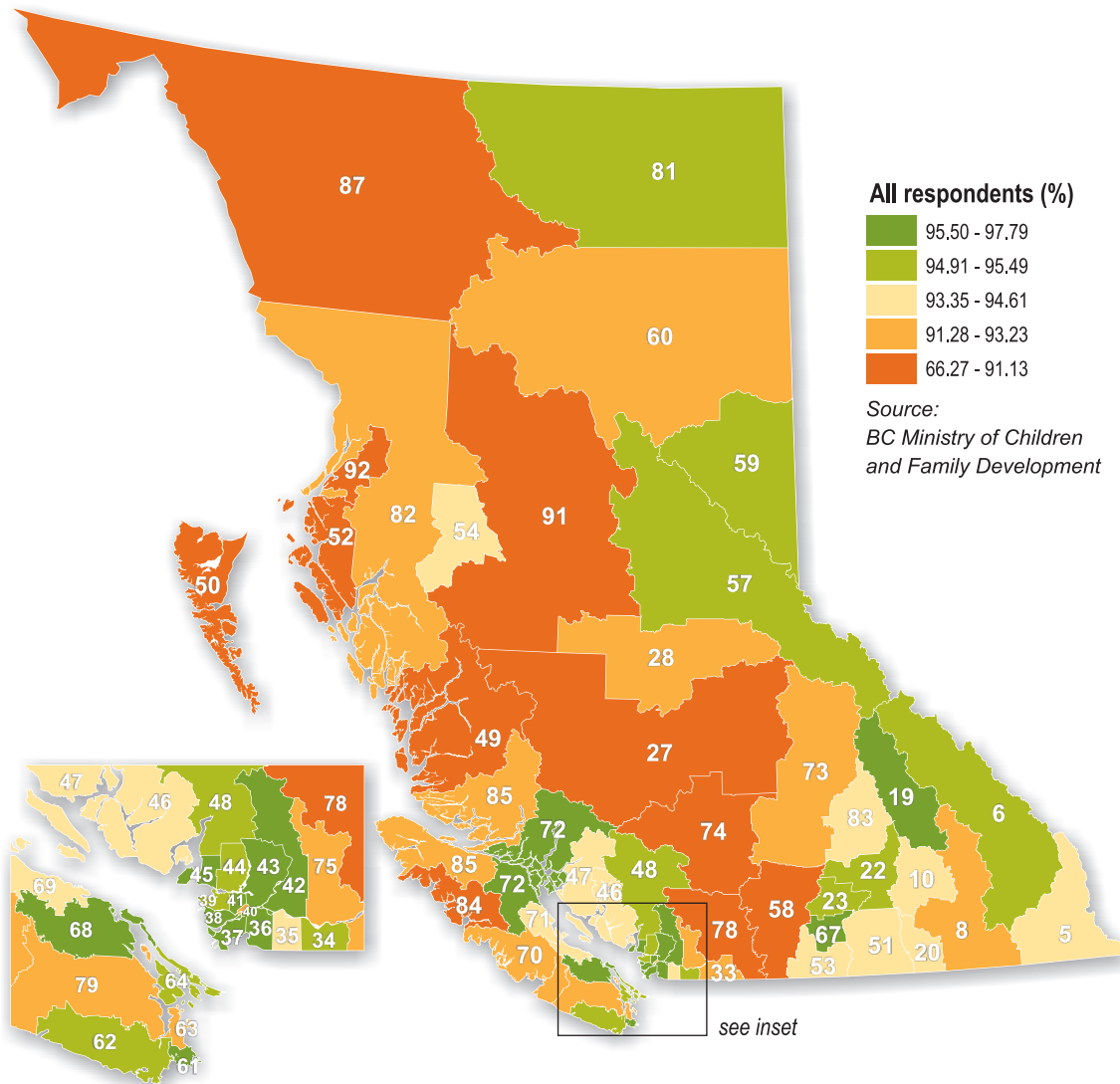
For the province as a whole, 94.56% of public school students were at the age-appropriate grade in 2005/6, but there was a range of over 30 percentage points between the school districts with the highest and lowest values. Overall, Conseil Scolaire Francophone, which is not a geographically based school district, had the highest value, with 97.85% of students at the age-appropriate grade. Coquitlam, Delta, West Vancouver, Surrey, Burnaby, and Maple Ridge-Pitt Meadows in the lower mainland also rated highly, as did Revelstoke in the southeast, Okanagan Skaha in the southern interior, and Greater Victoria, Campbell River, and Nanaimo-Ladysmith on Vancouver Island. Many of the interior and northern districts were in the lower two quintiles for age-appropriate grades.

There is a difference in the provincial average between boys and girls. For the province as a whole, girls (95.31%) are more likely to be in the age-appropriate grade than boys (93.84%).

School District	All respondents (%)	Males (%)	Females (%)
043 Coquitlam	97.79	97.45	98.16
037 Delta	97.51	96.96	98.10
038 Richmond	96.92	96.26	97.62
019 Revelstoke	96.82	96.93	96.70
045 West Vancouver	96.60	96.17	97.05
036 Surrey	96.14	95.64	96.67
041 Burnaby	95.95	95.18	96.79
061 Greater Victoria	95.83	95.41	96.25
067 Okanagan Skaha	95.77	94.58	96.98
072 Campbell River	95.73	95.01	96.48
042 Maple Ridge-Pitt Meadows	95.61	94.95	96.31
068 Nanaimo-Ladysmith	95.50	94.46	96.60
039 Vancouver	95.49	95.11	95.89
081 Fort Nelson	95.39	94.31	96.57
064 Gulf Islands	95.35	95.14	95.56
059 Peace River South	95.32	94.96	95.70
044 North Vancouver	95.13	94.56	95.75
006 Rocky Mountain	95.09	94.22	95.98
034 Abbotsford	95.08	94.53	95.67
057 Prince George	95.01	94.41	95.66
023 Central Okanagan	94.99	93.60	96.47
048 Howe Sound	94.96	94.36	95.63
062 Sooke	94.94	94.31	95.62
022 Vernon	94.91	94.07	95.78
005 Southeast Kootenay	94.61	93.38	95.93
020 Kootenay-Columbia	94.60	93.57	95.74
053 Okanagan Similkameen	94.51	92.44	96.72
010 Arrow Lakes	94.45	93.10	95.92
046 Sunshine Coast	93.98	93.42	94.54
047 Powell River	93.94	92.95	95.05
054 Bulkley Valley	93.90	93.44	94.38
035 Langley	93.79	92.94	94.69
051 Boundary	93.69	93.66	93.73
069 Qualicum	93.49	92.52	94.52
083 North Okanagan-Shuswap	93.36	92.20	94.57
071 Comox Valley	93.35	92.99	93.71
063 Saanich	93.23	93.29	93.17
085 Vancouver Island North	93.11	91.70	94.66
073 Kamloops/Thompson	93.08	91.59	94.64
075 Mission	92.93	91.77	94.15
008 Kootenay Lake	92.44	91.49	93.42
082 Coast Mountains	92.34	91.33	93.46
028 Quesnel	92.08	90.25	94.02
060 Peace River North	92.07	91.20	92.93
070 Alberni	91.80	90.40	93.27
033 Chilliwack	91.51	90.69	92.38
079 Cowichan Valley	91.43	89.97	92.94
040 New Westminster	91.28	91.15	91.42
052 Prince Rupert	91.13	90.10	92.23
092 Nisga'a	91.07	88.89	93.33
027 Cariboo-Chilcotin	90.46	89.70	91.23
084 Vancouver Island West	90.29	87.55	93.18
091 Nechako Lakes	90.03	89.12	90.96
050 Haida Gwaii/Queen Charlotte	88.99	86.94	91.33
078 Fraser-Cascade	88.68	87.18	90.34
058 Nicola-Similkameen	85.88	85.28	86.48
049 Central Coast	84.50	83.02	86.10
074 Gold Trail	83.74	80.80	86.74
087 Stikine	66.27	64.22	68.50
999 Province	94.56	93.84	95.31

This difference was fairly consistent throughout the province, with girls out-performing boys on this measure in most school districts. Geographically, the overall patterns for both males and females were quite similar to the pattern for both sexes combined.

Age-appropriate grade



Age-appropriate grade for Aboriginal students

Research shows that Aboriginal students do not fare as well as the general population on most educational indicators (Ministry of Education, 2001; Cowley and Easton, 2006). This results in poorer average lifetime achievements for this group of students.

The age-appropriate grade indicator was no exception to this trend. Only 88.81% of Aboriginal students were in an age-appropriate grade provincially. This compares with 94.56% for all students combined.

Aboriginal students in some school districts did quite well compared to the provincial average. For example, Aboriginal students in Conseil Scolaire Francophone (not shown), Richmond, Delta, Arrow Lakes, Coquitlam, Maple Ridge-Pitt Meadows, and Campbell River all did better than the provincial average of 94.56% for all students combined (see previous page).

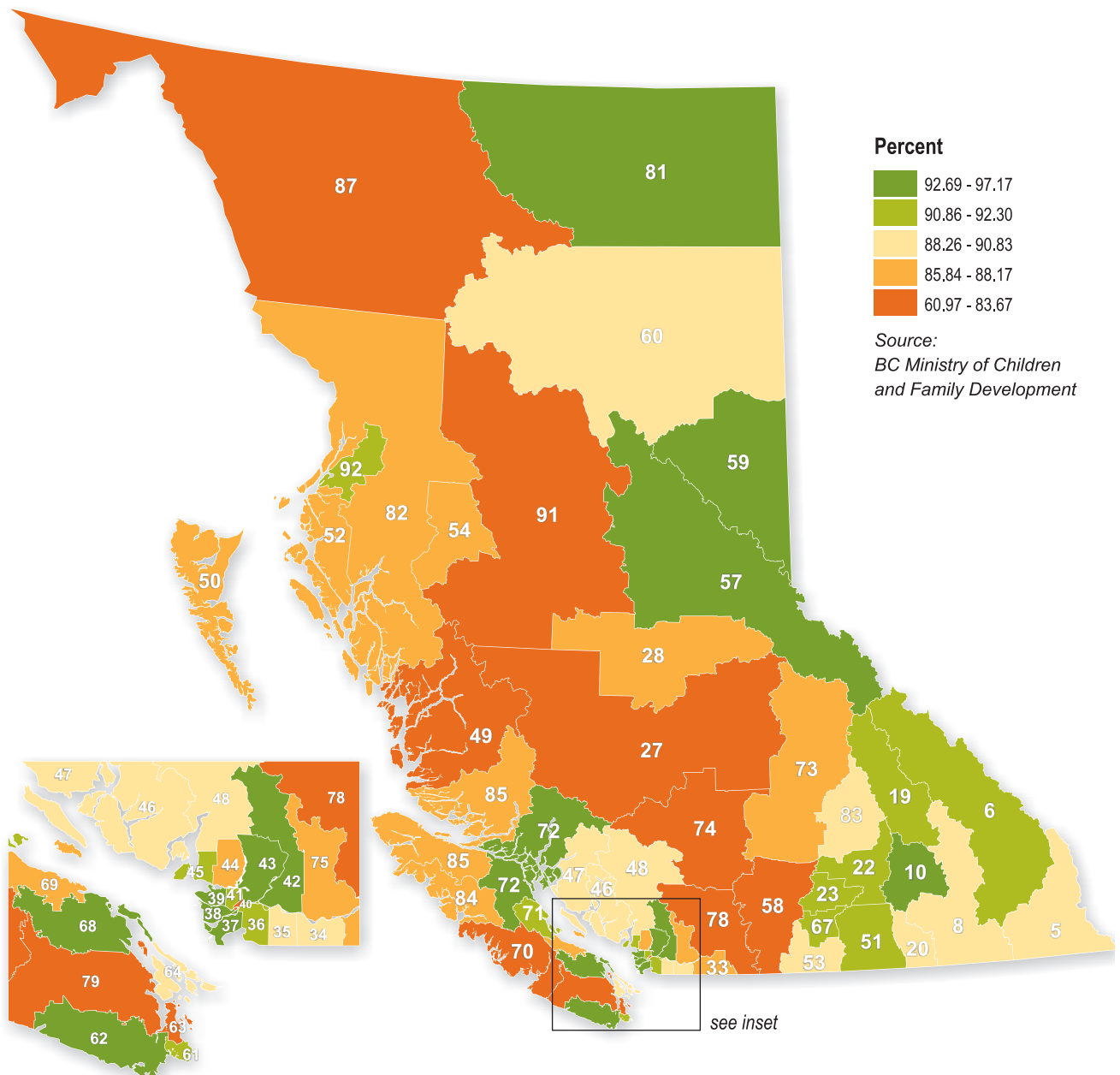
In a few cases, Aboriginal students did better than the school district average for all students combined (see, for example, Conseil Scolaire Francophone, Richmond, and Arrow Lakes). In most cases, however, Aboriginal student performance rates were, at best, equivalent to the lowest performing quintile school districts for the general student population.

There was great variation between school districts in the percentage of Aboriginal children that were in an age-appropriate grade. The difference between the highest and the lowest was more than 37 percentage points. This compares with over 30 percentage points for all students combined.

Geographically, Aboriginal students tended to do better in the urban lower mainland school districts and less well in the north and interior districts. Fort Nelson, Prince George, and Peace River South in the northeast, and Arrow Lakes in the southeast were exceptions to this pattern. In an ideal world of equality of opportunity, there would be no variation between either school districts or population groups.

School District	Percent
038 Richmond	97.17
037 Delta	96.68
010 Arrow Lakes	96.67
043 Coquitlam	95.61
042 Maple Ridge-Pitt Meadows	95.36
072 Campbell River	94.80
059 Peace River South	94.25
039 Vancouver	94.03
081 Fort Nelson	93.54
062 Sooke	93.45
057 Prince George	92.92
068 Nanaimo-Ladysmith	92.69
041 Burnaby	92.30
067 Okanagan Skaha	92.05
061 Greater Victoria	91.99
023 Central Okanagan	91.93
045 West Vancouver	91.80
019 Revelstoke	91.67
071 Comox Valley	91.28
051 Boundary	91.14
006 Rocky Mountain	91.12
022 Vernon	91.08
092 Nisga'a	91.05
036 Surrey	90.86
035 Langley	90.83
008 Kootenay Lake	90.67
083 North Okanagan-Shuswap	89.90
034 Abbotsford	89.84
064 Gulf Islands	89.83
046 Sunshine Coast	89.41
047 Powell River	89.04
005 Southeast Kootenay	88.77
048 Howe Sound	88.39
053 Okanagan Similkameen	88.38
020 Kootenay-Columbia	88.36
060 Peace River North	88.26
085 Vancouver Island North	88.17
069 Qualicum	87.71
075 Mission	87.59
082 Coast Mountains	87.54
084 Vancouver Island West	87.21
033 Chilliwack	87.02
052 Prince Rupert	86.63
044 North Vancouver	86.50
073 Kamloops/Thompson	86.17
050 Haida Gwaii/Queen Charlotte	86.04
054 Bulkley Valley	85.87
028 Quesnel	85.84
070 Alberni	83.67
058 Nicola-Similkameen	83.52
063 Saanich	82.97
091 Nechako Lakes	82.61
027 Cariboo-Chilcotin	82.52
049 Central Coast	82.39
040 New Westminster	81.25
079 Cowichan Valley	81.13
074 Gold Trail	78.84
078 Fraser-Cascade	78.11
087 Stikine	60.97
999 Province	88.81

Age-appropriate grade for Aboriginal students



High school graduation

Numerous studies have shown how health and wellness improve with the level of education (Canadian Institute for Health Information, 2004; also see Chapter 2).

Within BC for 2004/5, nearly four out of every five students (79%) in Grade 12 successfully graduated from high school.

There was a very large range in rates by school district throughout the province, depicting major geographical variation between the regions. The highest percentage of students graduating was 92.95% in Richmond, while the lowest was 58.80% for Vancouver Island West, a range of more than 34 percentage points.

The highest rates were achieved in two regions of the province. The urban lower mainland in the southwest of the province had several school districts achieving graduation rates above 83% (Richmond, West Vancouver, Coquitlam, Burnaby, and Delta). In the southeast of the province, Southeast Kootenay, Kootenay-Columbia, Rocky Mountain, and Revelstoke all achieved rates above 83%, as did neighbouring school districts Boundary and Vernon. Arrow Lakes in the southeast is somewhat of an anomaly in that its graduation rates are considerably lower than its neighbouring school districts.

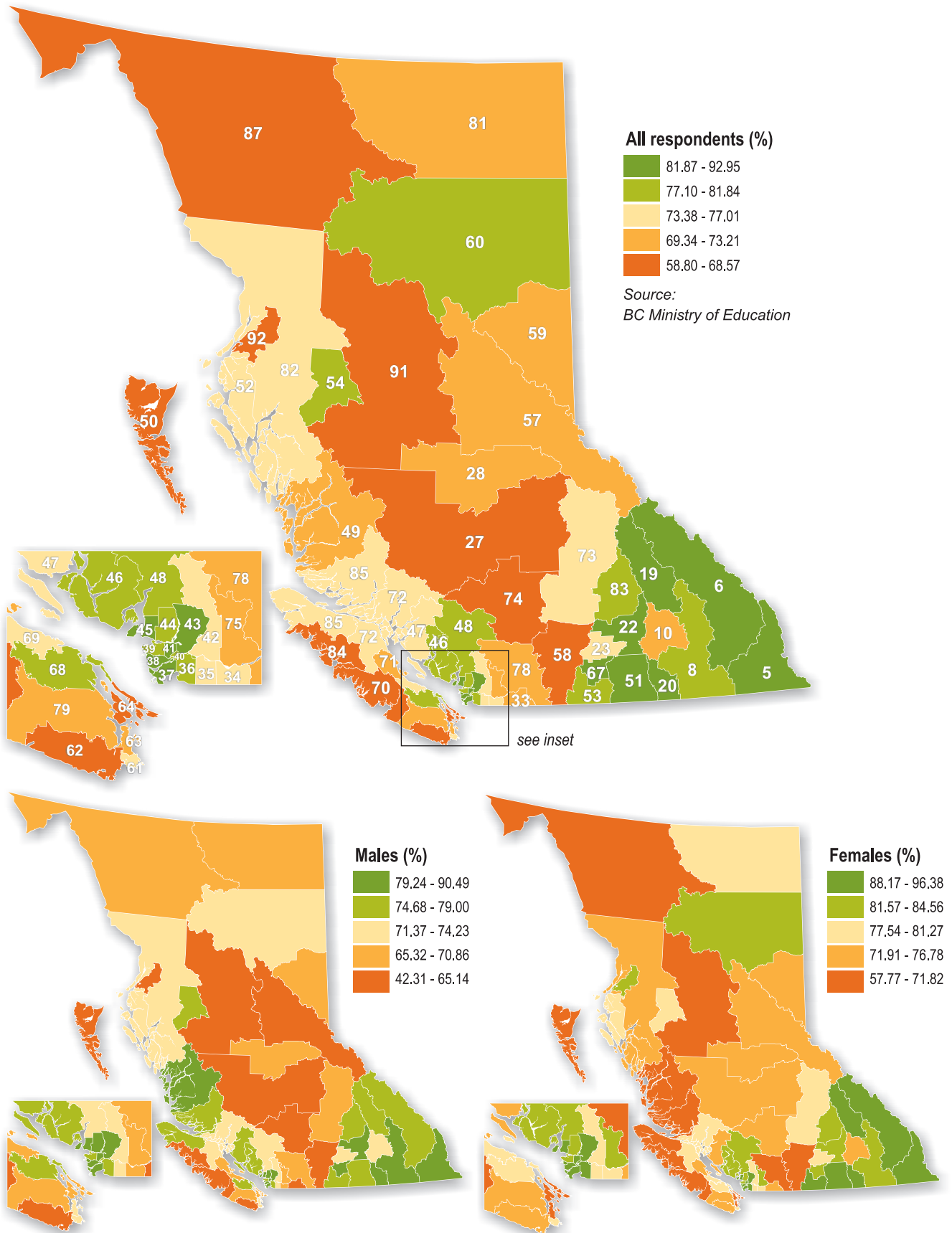
Graduation rates were much lower among several school districts on Vancouver Island, particularly Vancouver Island West, Alberni, and Sooke, all with rates of 65% or lower. Low graduation rates were also evident throughout northern and interior school districts. For example, Gold Trail, Nicola-Similkameen, Stikine, Nisga'a, Nechako Lakes, and Haida Gwaii/Queen Charlotte all had rates of less than 65%. Peace River North and Bulkley Valley, both northern school districts, out-performed their neighbouring school districts.

Provincially, and for all but five school districts, girls had much higher graduation rates than boys (82% compared to 75%). For Nisga'a, girls graduated at a rate of 83.33% compared to only 42.31% for boys.

The range of 48 percentage points between the highest and lowest districts for boys was much greater than for girls, at 38 percentage points. Both genders showed major geographical variations in graduation rates individually, although patterns were quite similar for the genders combined. The five school districts where boys out-performed girls in graduation rates were all small (Vancouver Island North, Central Coast, Fraser-Cascade, Haida Gwaii/Queen Charlotte, and Stikine). In Central Coast, boys had a rate of 81.15% compared to only 57.77% for girls.

School District	All respondents (%)	Males (%)	Females (%)
038 Richmond	92.95	89.78	96.38
045 West Vancouver	90.95	90.49	91.42
043 Coquitlam	87.73	85.48	90.32
005 Southeast Kootenay	87.07	83.79	90.70
020 Kootenay-Columbia	86.56	82.90	90.02
041 Burnaby	85.65	81.69	89.88
051 Boundary	85.01	78.20	92.60
037 Delta	84.84	81.06	89.08
006 Rocky Mountain	83.98	79.00	89.95
019 Revelstoke	83.69	78.15	89.80
022 Vernon	83.24	82.23	84.36
067 Okanagan Skaha	81.87	79.43	84.56
036 Surrey	81.84	76.05	88.17
053 Okanagan Similkameen	81.25	75.36	88.50
044 North Vancouver	81.09	79.24	83.08
008 Kootenay Lake	80.98	79.57	82.37
046 Sunshine Coast	80.42	77.35	83.44
083 North Okanagan-Shuswap	80.20	78.72	82.01
039 Vancouver	80.07	75.99	84.31
060 Peace River North	78.98	74.23	84.48
054 Bulkley Valley	77.99	75.94	80.79
068 Nanaimo-Ladysmith	77.40	75.25	79.71
048 Howe Sound	77.22	71.41	84.07
040 New Westminster	77.10	72.36	82.11
035 Langley	77.01	73.84	80.23
042 Maple Ridge-Pitt Meadows	76.36	71.68	81.27
072 Campbell River	75.83	72.04	80.11
052 Prince Rupert	75.80	71.37	79.78
047 Powell River	75.68	74.68	76.78
023 Central Okanagan	75.64	72.59	78.96
073 Kamloops/Thompson	75.64	70.86	80.86
061 Greater Victoria	75.53	73.61	77.54
082 Coast Mountains	74.49	72.88	76.27
034 Abbotsford	73.88	70.55	77.79
069 Qualicum	73.50	68.84	78.20
085 Vancouver Island North	73.38	78.30	68.05
075 Mission	73.21	66.02	81.57
010 Arrow Lakes	72.80	72.16	73.19
081 Fort Nelson	72.62	66.52	79.20
063 Saanich	71.70	71.59	71.82
071 Comox Valley	70.69	69.53	71.91
049 Central Coast	70.62	81.15	57.77
028 Quesnel	70.51	66.68	74.53
078 Fraser-Cascade	69.88	70.69	69.19
059 Peace River South	69.84	66.36	73.96
033 Chilliwack	69.42	64.59	74.63
079 Cowichan Valley	69.38	66.22	72.65
057 Prince George	69.34	63.99	74.97
027 Cariboo-Chilcotin	68.57	64.06	74.00
064 Gulf Islands	67.70	67.70	67.71
062 Sooke	65.09	59.34	71.93
050 Haida Gwaii/Queen Charlotte	63.26	65.14	60.64
091 Nechako Lakes	63.03	62.35	63.79
070 Alberni	63.02	62.80	63.25
092 Nisga'a	62.98	42.31	83.33
087 Stikine	61.87	65.32	58.77
058 Nicola-Similkameen	60.03	53.73	66.44
074 Gold Trail	59.98	45.35	73.93
084 Vancouver Island West	58.80	49.19	69.69
999 Province	79.00	75.00	82.00

High school graduation



High school graduation for Aboriginal students

Graduation rates for Aboriginal students were substantially lower than for the Grade 12 student population as a whole. Less than half (48%) of all Aboriginal students graduated from high school in 2004/5, thus putting them at a severe developmental disadvantage over their life course when compared to the large majority of students in the province. It must be remembered that we are dealing with small numbers and it is not possible to show the percentage graduation rates for several school districts because of these small numbers (Arrow Lakes and West Vancouver for both genders, Stikine for males, and Gulf Islands for females).

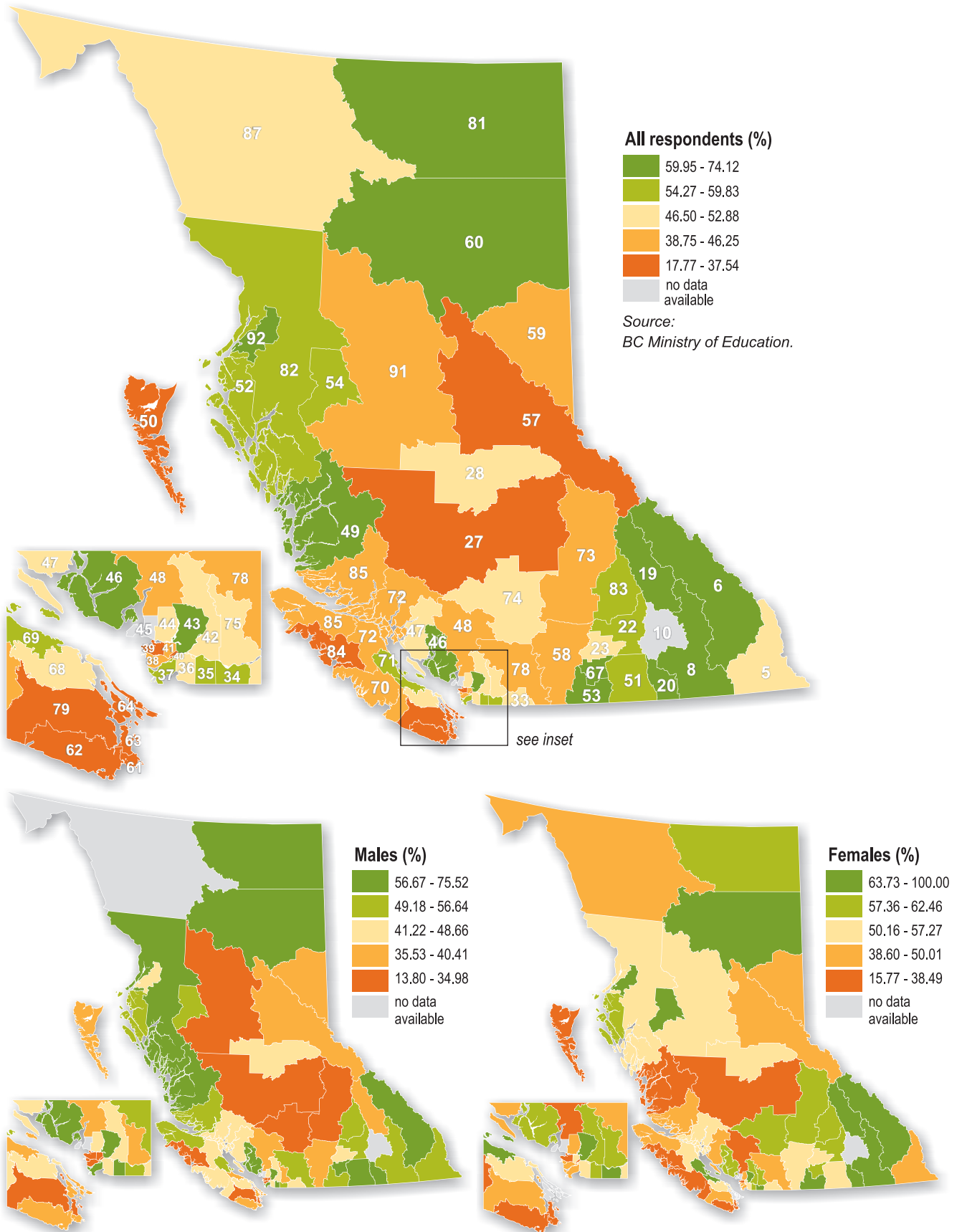
There was major geographic variation in graduation rates, and a range among school districts of nearly 60 percentage points. The highest rate was 74.12% in Revelstoke, which would put it in the bottom part of the middle quintile for provincial students as a whole. The graduation rates for all but four school districts (Revelstoke, Kootenay-Columbia, Rocky Mountain, and Peace River North) would be in the lowest quintile group of school districts when compared with the provincial Grade 12 graduation rates for all students.

School districts with graduation rates above 60% were in the northeast and southeast parts of the province, with outliers in the southern Okanagan (Okanagan Similkameen and Okanagan Skaha), central (Central Coast) and north coast (Nisga'a), and southwest (Sunshine Coast and Coquitlam). On Vancouver Island, only Comox Valley and Nanaimo-Ladysmith had graduation rates above 50%.

As for all Grade 12 students in the province, Aboriginal girls out-performed Aboriginal boys provincially (51% compared to 44%). All Aboriginal females in Revelstoke graduated, while only 15.77% graduated in New Westminster. For 13 school districts, boys out-performed girls in graduation rates. The range among school districts for boys was 55 percentage points, with Okanagan Skaha graduating nearly 70% of Aboriginal boys and Vancouver Island North graduating only 13.80%.

School District	All respondents (%)	Males (%)	Females (%)
019 Revelstoke	74.12	37.39	100.00
020 Kootenay-Columbia	73.05	67.10	79.57
006 Rocky Mountain	72.06	66.73	79.91
060 Peace River North	68.61	61.88	75.19
053 Okanagan Similkameen	65.85	55.96	71.47
067 Okanagan Skaha	64.67	69.75	61.15
043 Coquitlam	63.09	56.67	73.58
046 Sunshine Coast	62.39	65.52	57.91
092 Nisga'a	61.58	42.31	81.94
008 Kootenay Lake	61.44	50.28	72.85
049 Central Coast	60.84	75.52	36.20
081 Fort Nelson	59.95	61.41	58.94
071 Comox Valley	59.83	56.64	63.73
035 Langley	59.27	57.68	60.90
022 Vernon	59.17	56.45	61.63
051 Boundary	57.66	60.34	54.83
034 Abbotsford	57.17	51.10	65.13
083 North Okanagan-Shuswap	56.98	52.61	60.24
052 Prince Rupert	56.71	50.76	62.46
054 Bulkley Valley	56.17	49.18	67.32
069 Qualicum	55.80	35.91	74.96
082 Coast Mountains	55.25	57.28	53.05
037 Delta	54.27	62.07	46.28
005 Southeast Kootenay	52.88	55.36	49.26
087 Stikine	51.87	Msk	42.78
068 Nanaimo-Ladysmith	51.47	48.66	54.37
042 Maple Ridge-Pitt Meadows	51.15	44.70	57.36
036 Surrey	49.51	47.39	51.37
075 Mission	49.16	35.53	60.82
023 Central Okanagan	48.98	41.22	57.27
047 Powell River	48.92	47.88	50.01
033 Chilliwack	47.75	44.62	51.13
074 Gold Trail	47.49	34.96	60.26
044 North Vancouver	46.59	45.17	47.79
028 Quesnel	46.50	42.25	52.47
072 Campbell River	46.25	41.61	52.05
085 Vancouver Island North	46.24	50.21	41.04
078 Fraser-Cascade	46.01	53.03	42.11
058 Nicola-Similkameen	44.86	39.69	50.22
073 Kamloops/Thompson	44.42	31.46	58.19
091 Nechako Lakes	43.22	34.98	50.16
038 Richmond	42.52	34.86	48.98
041 Burnaby	42.29	34.51	52.79
059 Peace River South	41.81	38.40	45.89
048 Howe Sound	38.81	40.41	37.13
070 Alberni	38.75	48.17	31.72
057 Prince George	37.54	36.52	38.60
061 Greater Victoria	37.40	36.76	38.30
050 Haida Gwaii/Queen Charlotte	37.34	37.37	37.30
062 Sooke	36.06	37.07	35.19
027 Cariboo-Chilcotin	35.29	33.08	38.49
079 Cowichan Valley	35.25	31.77	39.16
064 Gulf Islands	33.33	37.51	Msk
039 Vancouver	31.21	28.60	33.10
063 Saanich	27.97	25.44	30.32
084 Vancouver Island West	23.82	13.80	37.41
040 New Westminster	17.77	19.65	15.77
010 Arrow Lakes	Msk	Msk	Msk
045 West Vancouver	Msk	Msk	Msk
999 Province	48.00	44.00	51.00

High school graduation for Aboriginal students



Adult educational achievement

People not completing high school are more likely to rate their health only fair or poor, to report problems with functional health, and to be smokers (Canadian Institute for Health Information, 2004). Completion of post-secondary education goes a long way to getting a good, well-paying job, which also improves health and wellness. “The effects of education extend beyond the economic sphere. Most agree that the total benefits to society from education are greater than the sum of what individuals earn as a result of their educational attainment...the schooling system is the primary agent of socialization in modern societies” (Desjardins and Schuller, 2006, p. 11). Higher levels of schooling contribute to better levels of civic and social engagement, both important wellness assets (Campbell, 2006).

The two maps opposite provide information on key educational achievements related to graduation from high school and completion of post-secondary education. Both sets of data are from the 2001 Canada Census.

High school graduates

For BC as a whole, more than four out of every five residents (82.84%) between the ages of 25 and 54 had successfully completed their high school education in 2001. There were major regional differences throughout the province, however, and the range between the highest and lowest levels of completion was 16 percentage points. The lower mainland and South Vancouver Island regions had the highest completion rates: North Shore/Coast Garibaldi, South Vancouver Island, Fraser North, Vancouver, and Richmond all had more than 85% high school completion rate among their residents aged 25 to 54. By contrast, the northern HSDAs and interior areas of the province were lower than the provincial average completion rates. Northeast had only 73.44% of its population with high school completion, while Northwest, North Vancouver Island, and Northern Interior all had rates below 76%.

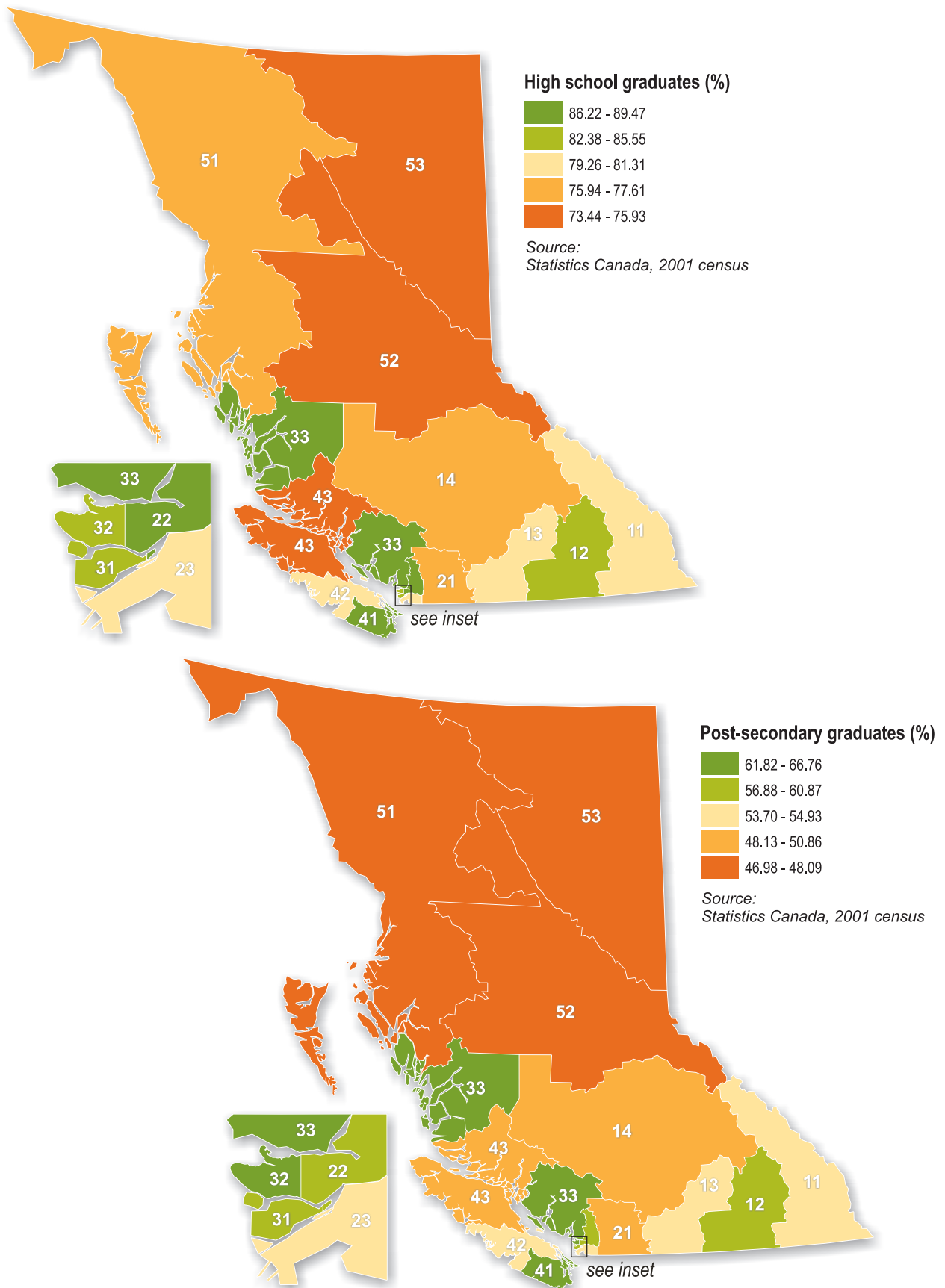
Post-secondary graduates

For the province as a whole, more than half of the population (57.7%) between the ages of 25 and 54 had completed some type of post-secondary education in 2001. The range between the highest and lowest

Health Service Delivery Area	High school graduates (%)	Post-secondary graduates (%)
033 North Shore/Coast Garibaldi	89.47	66.76
041 South Vancouver Island	86.59	61.82
022 Fraser North	86.22	60.87
032 Vancouver	85.55	64.96
031 Richmond	85.25	60.54
012 Kootenay Boundary	82.38	56.88
023 Fraser South	81.31	53.93
013 Okanagan	80.89	54.93
042 Central Vancouver Island	80.67	54.05
011 East Kootenay	79.26	53.70
014 Thompson Cariboo Shuswap	77.61	50.86
021 Fraser East	76.65	48.93
051 Northwest	75.94	48.09
043 North Vancouver Island	75.93	48.13
052 Northern Interior	75.60	46.98
053 Northeast	73.44	47.54
999 Province	82.84	57.70

regions was 19 percentage points. Similar to the pattern for high school completion, the highest rates for post-secondary completion occurred in the lower mainland, North Shore/Coast Garibaldi, Vancouver, Fraser North, and Richmond, as well as South Vancouver Island. All had rates in excess of 60% with post-secondary education completion in their population aged 25 to 54. Again, the northern HSDAs, Northern Interior, Northeast, and Northwest, and North Vancouver Island, had the lowest rates (around 48% or less). This is 10 percentage points or more below the provincial average.

Adult educational achievement



Composite learning index: Lifelong learning

Learning affects all areas of life, including physical, emotional, and spiritual components of living. A Composite Learning Index (CLI) developed by the Canadian Council on Learning combines several data sets to develop a single score that represents the state of lifelong learning for 2006. Four key elements, described below, are combined to create a composite learning index (see www.ccl-cca.ca/ccl for more information). Each of the four elements has a value of five for Canada as a whole. For mapping purposes, only three divisions are used, rather than the normal quintile range. This is because there are only eight economic development regions.

Economic Development Region	Overall CLI score	Learning to know	Learning to do	Learning to live together	Learning to be
1 Vancouver Island and Coast	80	5.1	6.7	5.5	5.7
2 Lower Mainland-Southwest	79	5.9	6.8	4.4	5.0
4 Kootenay	72	4.4	6.5	4.5	5.0
3 Thompson-Okanagan	70	4.5	6.4	4.5	4.3
5 Cariboo	70	4.3	6.3	3.5	5.6
8 Northeast	61	2.8	6.4	3.3	4.9
6 North Coast	61	2.7	6.4	3.4	5.0
7 Nechako	60	2.7	6.3	3.6	4.3

Overall CLI score

The overall range in values of the Index was from 60 for the Nechako economic development region to a high of 80 (out of a possible score of 100) for the Vancouver Island and Coast region. Generally, the north and interior parts of the province scored lower than the lower mainland and Vancouver Island. By comparison, the highest value across Canada was Calgary, with a value of 88, and the lowest were Campbellton-Miramichi in New Brunswick and Gaspesie-Iles-de-la-Madeleine in Quebec, both with a value of 47. For Canada overall, the index had a value of 73.0 for 2006, with BC's score of 76.6 second only to Alberta at 80.1.

Learning to know

This element is based on developing a foundation of knowledge and skills that are required to function in today's world, including literacy, numeracy, general knowledge, and the ability for critical thinking. Key components are: student skills in reading, math, and problem solving; high school drop out rates; young adults' participation in post-secondary education; and post-secondary achievement among working age adults. The scores within BC ranged from 5.9 for Lower Mainland-Southwest to 2.7 for Nechako and North Coast. Across Canada, Montreal had the highest value at 6.4, while Yorkton, Saskatchewan had a low of 2.1.

Learning to do

Included in this aspect is acquisition of applied skills, involving technical as well as "hands on" skills and

knowledge, which is closely related to employment success. Key components are job-related training, availability of employment training, and access to learning institutions. Overall, there was little geographical variation, with Lower Mainland-Southwest scoring 6.8 (highest of all economic regions in Canada), while Nechako and Cariboo scored 6.3; this compares with the lowest value across Canada of 3.0 for both South Coast-Burin Peninsula in Newfoundland and Gaspesie-Iles-de-la-Madeleine in Quebec.

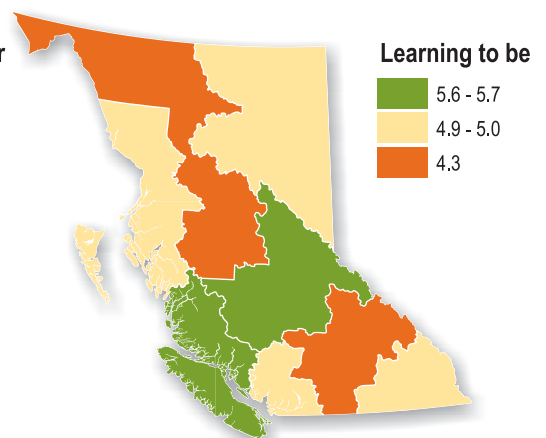
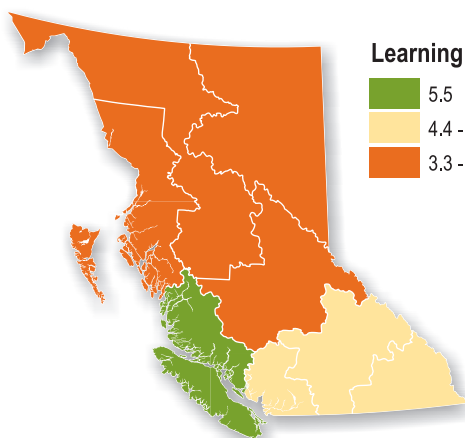
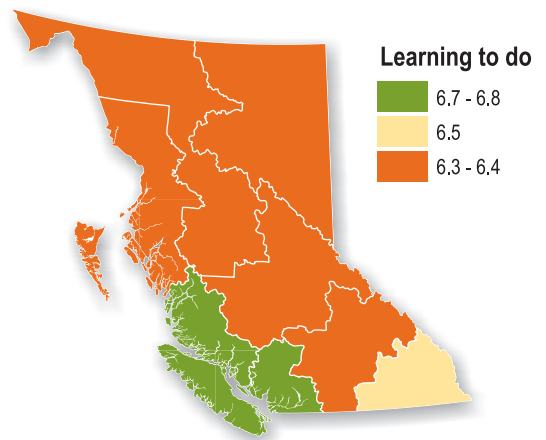
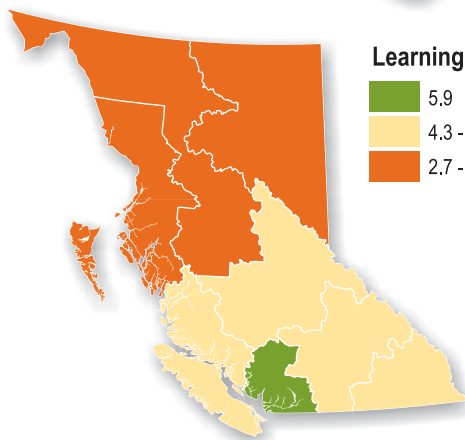
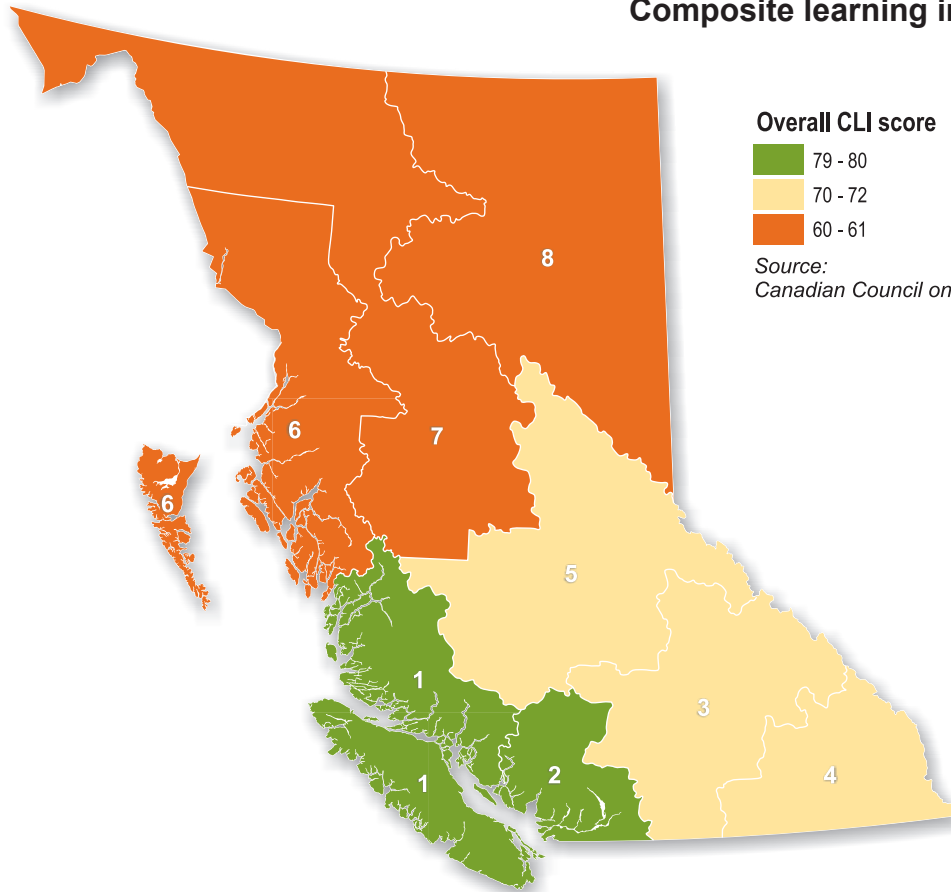
Learning to live together

The development of values of respect and concern for others around us are the basis of this element. It involves the acquisition of social and interpersonal skills and an appreciation of diversity within society. It helps develop and support a cohesive society. Attributes include charitable giving, volunteerism, participation in social and other organizations, and access to community institutions. BC values ranged from a high of 5.5 for Vancouver Island and Coast to 3.3 for Northeast. By contrast, the high and low scores across Canada were 7.5 for Regina-Moose Mountain in Saskatchewan and 1.9 for the North region in Manitoba.

Learning to be

Learning to be helps develop the whole individual—mind, body, and spirit—and involves personal discovery, self-awareness, creativity, and a healthy and well-balanced life. Key attributes include exposure to media, sports and recreation, cultural events and activities, festivals, performing arts, and resources such as libraries. The range across the province was from 5.7 for Vancouver Island Coast to 4.3 for Thompson-Okanagan and Nechako. Across Canada, Calgary with a score of 6.9 and Bas-Saint-Laurent in Quebec with 1.3 are the highest and lowest regions.

Composite learning index: Lifelong learning



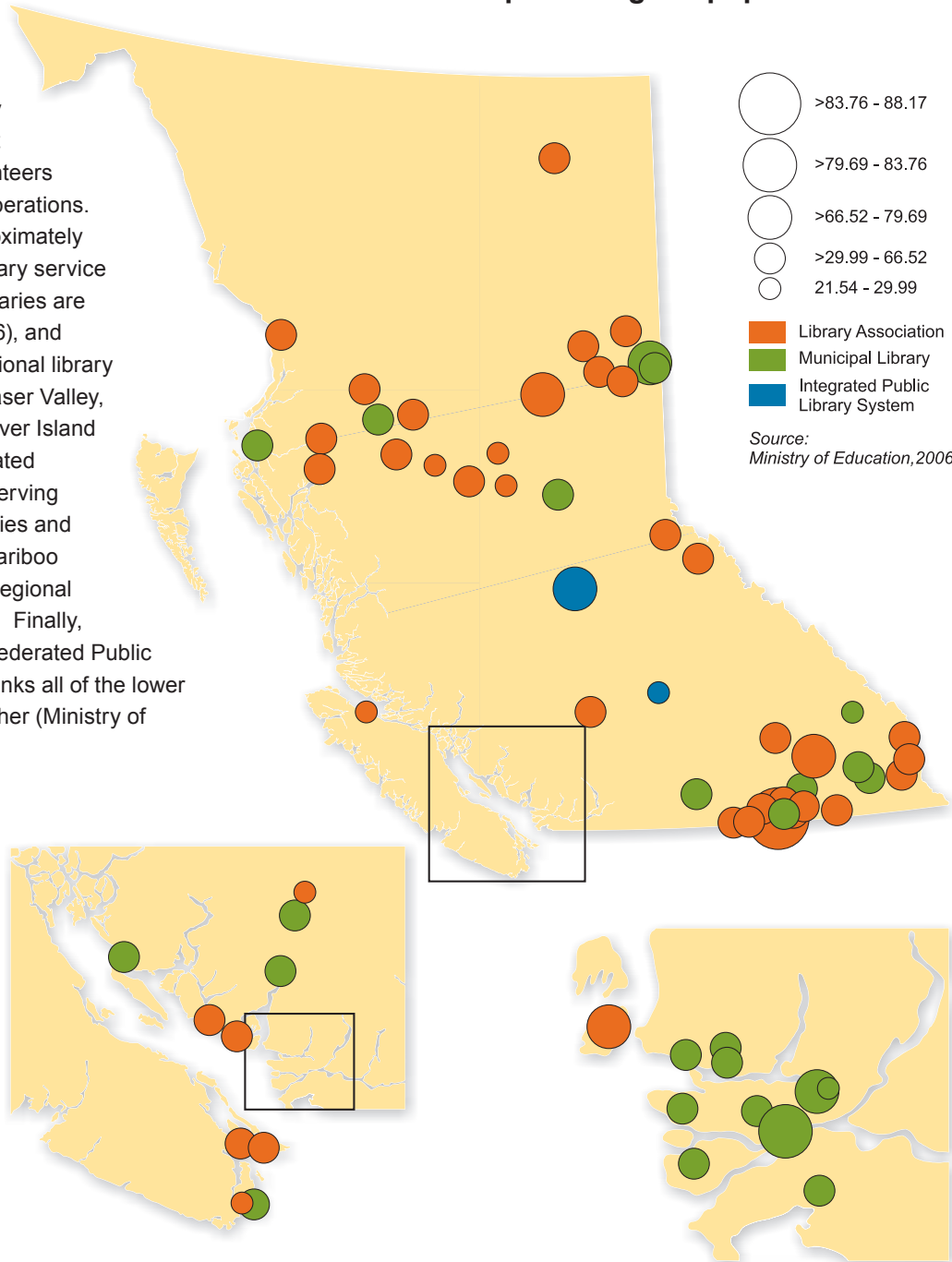
Libraries and literacy

There are 31 public library systems in BC, each of which has a number of branches. In addition, there are 40 small libraries run by library associations that rely on over 1,200 volunteers to assist in their daily operations. Overall, there are approximately 240 separate public library service outlets. The largest libraries are run by municipalities (26), and there are also three regional library systems serving the Fraser Valley, Okanagan, and Vancouver Island regions, and two integrated public library systems serving participating municipalities and electoral areas in the Cariboo and Thompson-Nicola regional districts of the province. Finally, there is the InterLINK Federated Public Library System, which links all of the lower mainland libraries together (Ministry of Education, 2006).

Libraries vary greatly in terms of the resident cardholders as a percentage of the population served. For the province as a whole, in 2005-2006, approximately 53% of the population served were resident cardholders of libraries. Rossland in the southeast of the province had the highest percentage of population

served as resident cardholders (88.17%). Others with high percentages included New Westminster (83.76%), Bowen Island (79.69%), and Port Moody (70.44%) in the lower mainland of the province, Dawson Creek (72.82%)

BC public libraries: Resident cardholders as a percentage of population served



Source:
Ministry of Education, 2006

in the northeast, Cariboo (74.99%) and Mackenzie (73.68%) in the interior, and Kaslo and District (77.35%) in the southeast. Several systems had relatively few resident cardholders as a percentage of population

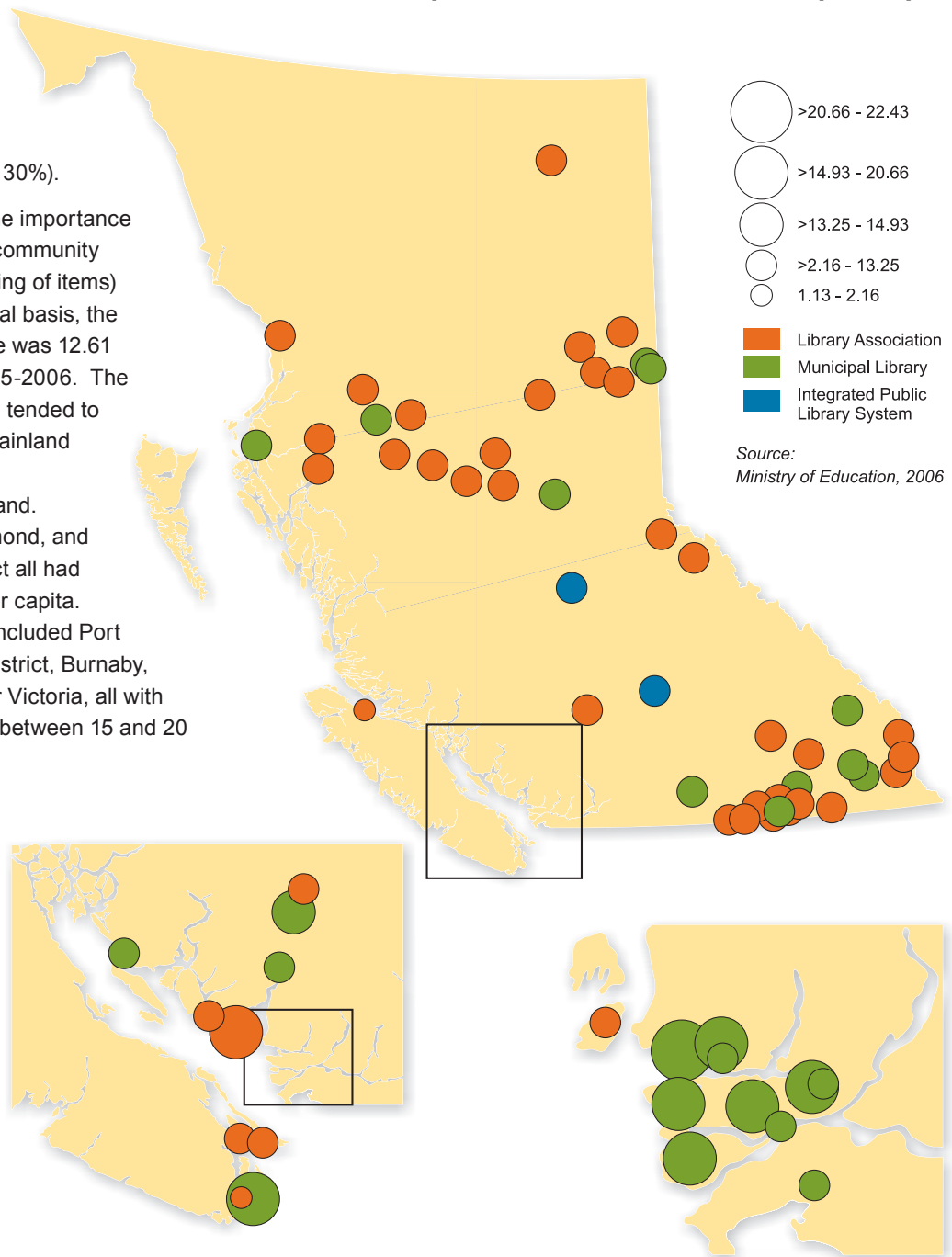
BC public libraries: Circulation per capita

served: Vanderhoof, View Royal, Burns Lake, Pemberton and District, Fort St. James, Alert Bay, Thompson-Nicola, Coquitlam, and Invermere (all less than 30%).

A second measure of the importance of a library to the local community is circulation (or borrowing of items) per capita. On an annual basis, the average for the province was 12.61 items per capita for 2005-2006. The highest circulation rates tended to be in the urban lower mainland part of the province and southern Vancouver Island. West Vancouver, Richmond, and North Vancouver District all had rates in excess of 20 per capita. Others with high rates included Port Moody, Gibson's and District, Burnaby, Vancouver, and Greater Victoria, all with annual borrowing rates between 15 and 20 per capita.

Higher levels of literacy are associated with greater involvement with community groups, better employment prospects, and better income and overall health and wellness. 2010 Legacies Now is supporting a series of Literacy Now projects around the province. The focus is on community development

strategies to stimulate literacy initiatives, alliances, and planning within communities. Pilot projects around the province reflect the diversity of BC, and in 2006 there were more than 50 literacy task groups around the province representing more than 100 communities.



Feels safe at school

The BC Ministry of Education defines safe schools as “ones in which members of the school community are free of the fear of harm, including potential threats from inside or outside the school” (Ministry of Education, 2004, p. 11). In order to measure feelings of safety, the School Satisfaction Survey asks students in Grades 3/4, 7, 10, and 12 the simple question “Do you feel safe at school?”. The three maps included here provide a picture of the percentage of students by school district who answered “many times, or always” for all of the four grades combined. Maps for males and females are also provided.

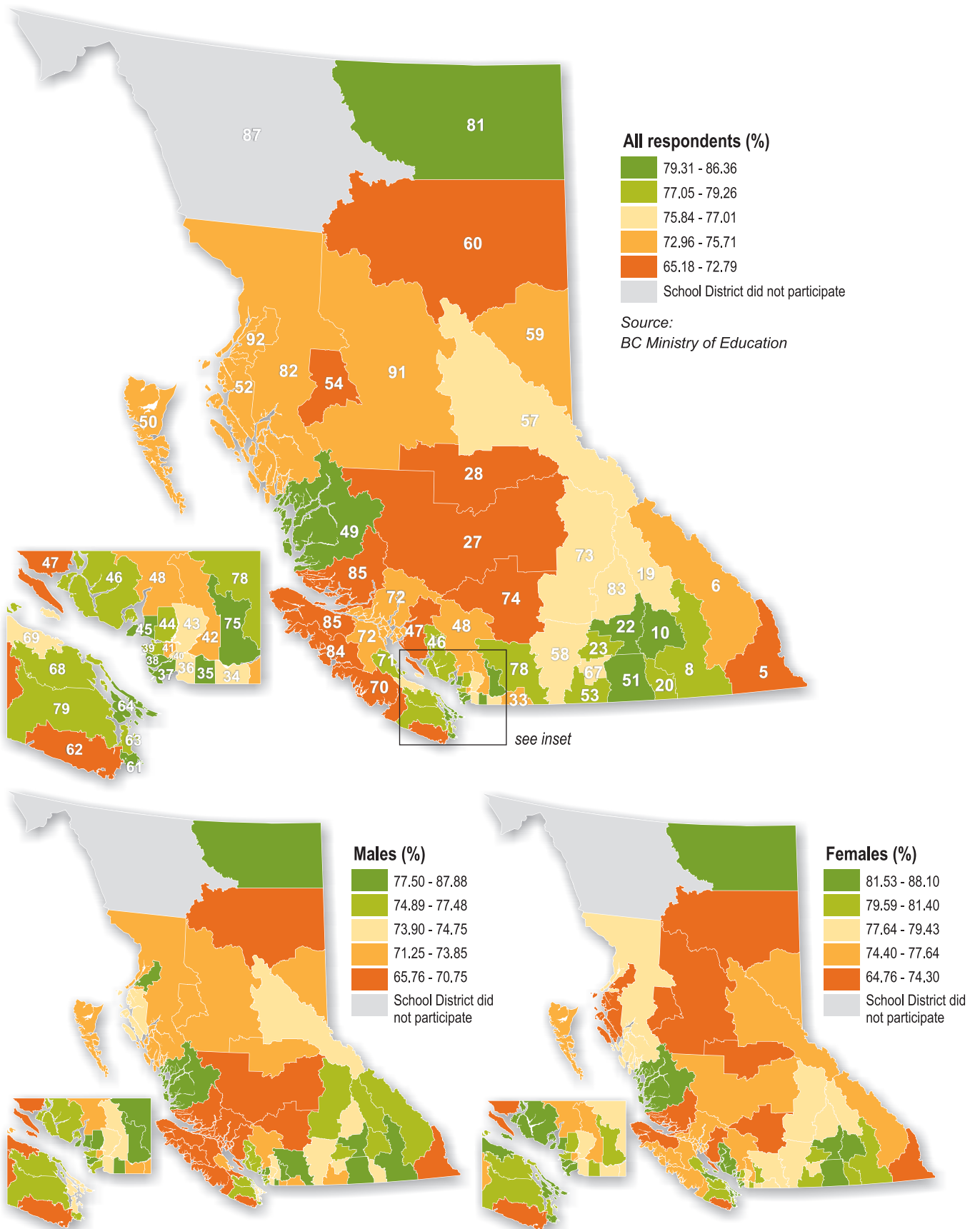
Overall, only 77% of all students in the sampled grades felt safe at school in the 2005-2006 survey (a percentage that has remained fairly consistent over the 5 years that the survey has been used), although there was a relatively large variation (more than 20 percentage points) among school districts. There were several groupings within the province with higher percentages of feeling safe. These included a group of school districts in the lower mainland and the southern part of Vancouver Island, as well as in the southern interior of the province. Geographical outliers included the smaller Central Coast and Fort Nelson school districts. Those scoring lower on the safety scale were located in the northern and western part of Vancouver Island and in the central part of the province, with outliers in the extreme southeast.

By gender, females generally had a higher percentage of students feeling safe compared to males, although this was not the case for every school district. For example, the Nisga'a school district had a much higher percentage of males feeling safe than females (80.49% compared with 68.97%). The geographical patterns were quite similar to those for the sampled students as a whole.

While not mapped here, among the four grade groups, Grades 3/4 felt the safest (83%), followed by Grade 7 (78%), Grade 12 (76%), and Grade 10 (70%). Rates showed a very modest improvement over time (except for Grades 3/4), with the largest improvement occurring for Grade 7, which went from 64% feeling safe in 2001-2002 to 70% in 2005-2006.

School District	All respondents (%)	Males (%)	Females (%)
049 Central Coast	86.36	87.88	84.85
045 West Vancouver	85.44	82.92	88.10
051 Boundary	81.71	81.19	82.27
081 Fort Nelson	81.61	80.41	82.67
038 Richmond	81.01	78.60	83.46
010 Arrow Lakes	80.38	77.48	83.67
075 Mission	80.35	79.90	80.81
022 Vernon	80.33	78.02	83.14
037 Delta	79.91	76.63	83.23
035 Langley	79.46	77.98	80.98
064 Gulf Islands	79.41	74.75	84.39
061 Greater Victoria	79.31	77.13	81.53
008 Kootenay Lake	79.26	77.74	80.99
046 Sunshine Coast	78.77	74.89	82.36
044 North Vancouver	78.77	77.50	80.12
023 Central Okanagan	78.64	76.65	80.59
078 Fraser-Cascade	78.48	78.67	78.22
079 Cowichan Valley	78.45	76.94	79.76
068 Nanaimo-Ladysmith	78.05	76.38	79.59
039 Vancouver	77.82	75.63	80.28
020 Kootenay-Columbia	77.52	74.32	81.40
053 Okanagan Similkameen	77.36	73.85	80.54
063 Saanich	77.16	74.26	80.14
071 Comox Valley	77.05	73.18	81.03
073 Kamloops/Thompson	77.01	76.22	77.79
067 Okanagan Skaha	76.90	74.34	79.33
069 Qualicum	76.82	70.75	83.22
043 Coquitlam	76.61	74.20	79.08
019 Revelstoke	76.56	75.27	77.84
036 Surrey	76.31	73.90	78.91
083 North Okanagan-Shuswap	76.24	74.45	78.43
040 New Westminster	76.22	75.65	76.83
058 Nicola-Similkameen	76.20	74.05	78.43
057 Prince George	76.07	74.65	77.64
034 Abbotsford	75.84	72.55	79.43
092 Nisga'a	75.71	80.49	68.97
006 Rocky Mountain	75.64	75.00	76.89
082 Coast Mountains	75.62	72.58	78.08
042 Maple Ridge-Pitt Meadows	75.42	74.62	76.51
048 Howe Sound	74.93	72.59	77.27
033 Chilliwack	74.81	72.07	77.64
091 Nechako Lakes	73.72	73.32	74.30
052 Prince Rupert	73.64	74.41	72.78
041 Burnaby	73.60	71.96	75.43
050 Haida Gwaii/Queen Charlotte	73.58	71.25	75.64
059 Peace River South	73.25	71.46	75.33
072 Campbell River	72.96	70.09	76.01
028 Quesnel	72.79	72.44	73.01
027 Cariboo-Chilcotin	72.75	69.46	76.33
054 Bulkley Valley	72.54	72.27	72.78
060 Peace River North	71.10	70.32	71.80
070 Alberni	70.63	67.55	74.40
062 Sooke	70.55	69.52	71.44
005 Southeast Kootenay	70.22	70.53	70.19
084 Vancouver Island West	70.21	66.67	76.47
074 Gold Trail	69.70	70.44	68.15
047 Powell River	68.54	68.97	68.06
085 Vancouver Island North	65.18	65.76	64.76
087 Stikine	N/A	N/A	N/A
999 Province	76.97	74.92	79.13

Feels safe at school



Crime rates

Communities with lower crime rates are generally healthier communities. Three different indicators of crime are included here, expressed as the 3 year average of the number of offences per 1,000 population for 2002-2004. The change in the crime rate is the percentage change in the serious crime rate average for the 3 year period 2002-2004 over the rate for the previous 3 year period (1999-2001). The serious violent crime rate is based on reporting within the crime categories of homicide, attempted murder, sexual and non-sexual assault resulting in bodily harm, and robbery and abduction. The serious property crime rate includes breaking and entering, but excludes motor vehicle theft, bicycle theft, and pick-pocketing.

Health Service Delivery Area	Change in total serious crime (%)	Serious violent crime	Serious property crime
032 Vancouver	-15.7	5.5	17.2
041 South Vancouver Island	-12.1	2.3	7.7
023 Fraser South	-9.2	2.9	12.3
043 North Vancouver Island	-7.6	2.5	11.8
013 Okanagan	-7.3	2.0	11.3
042 Central Vancouver Island	-6.6	1.8	11.3
033 North Shore/Coast Garibaldi	-4.5	1.8	9.6
014 Thompson Cariboo Shuswap	-3.2	2.3	12.2
011 East Kootenay	-2.2	1.3	9.4
022 Fraser North	1.5	3.1	13.4
012 Kootenay Boundary	3.9	1.2	7.5
052 Northern Interior	6.3	3.6	15.3
051 Northwest	6.7	3.0	11.2
021 Fraser East	11.1	2.4	14.9
031 Richmond	11.4	1.7	11.5
053 Northeast	17.9	3.7	13.6
999 Province	-5.1	2.9	12.6

Change in total serious crime rate

Overall, the province-wide serious crime rate decreased by 5.1% between the 1999-2001 and 2002-2004 periods. Most of this reduction is related to property crimes, which were 5.9% lower in the latter period, compared to only a 1.8% reduction for violent crime. Geographically, the reduction was far from even. The greatest decreases occurred in Vancouver, South Vancouver Island, and Fraser South, which all saw reductions of close to 10% or more. However, large increases occurred in several HSDAs. Northeast, Richmond, and Fraser East all saw increases in excess of 10%. For the Northeast and Fraser East, this increase was equally distributed between violent and property crimes. For Richmond, there was a much greater increase in violent crime (16.4%) than in property crime (10.7%).

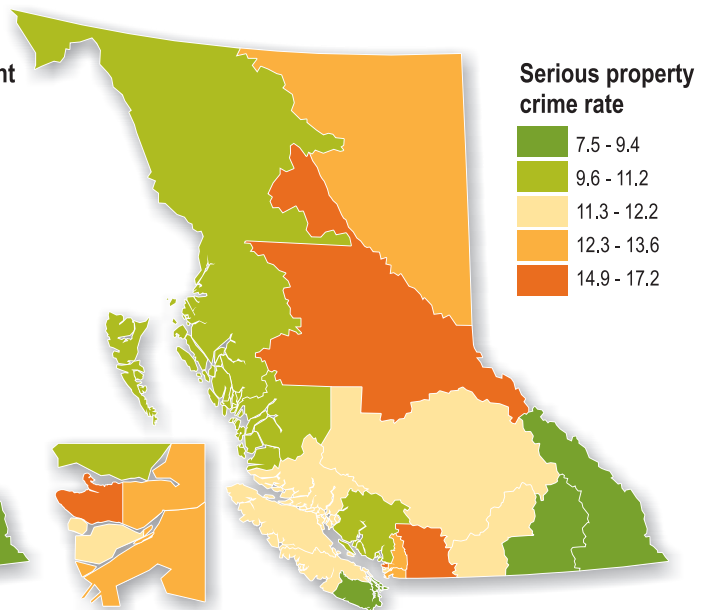
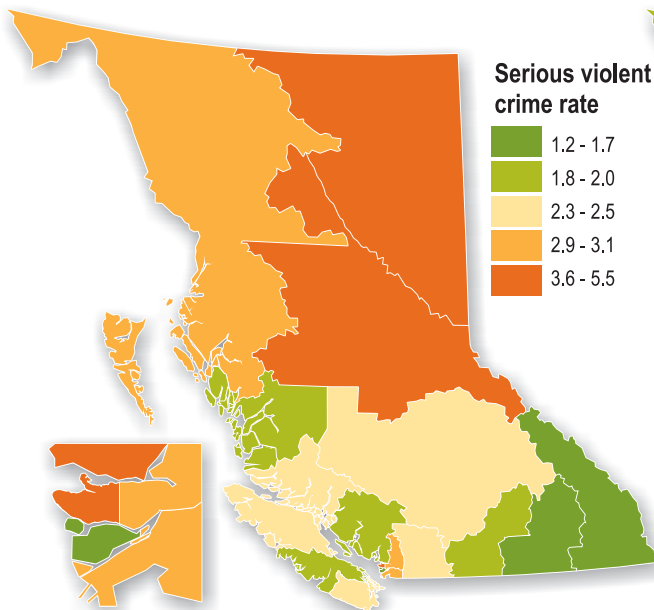
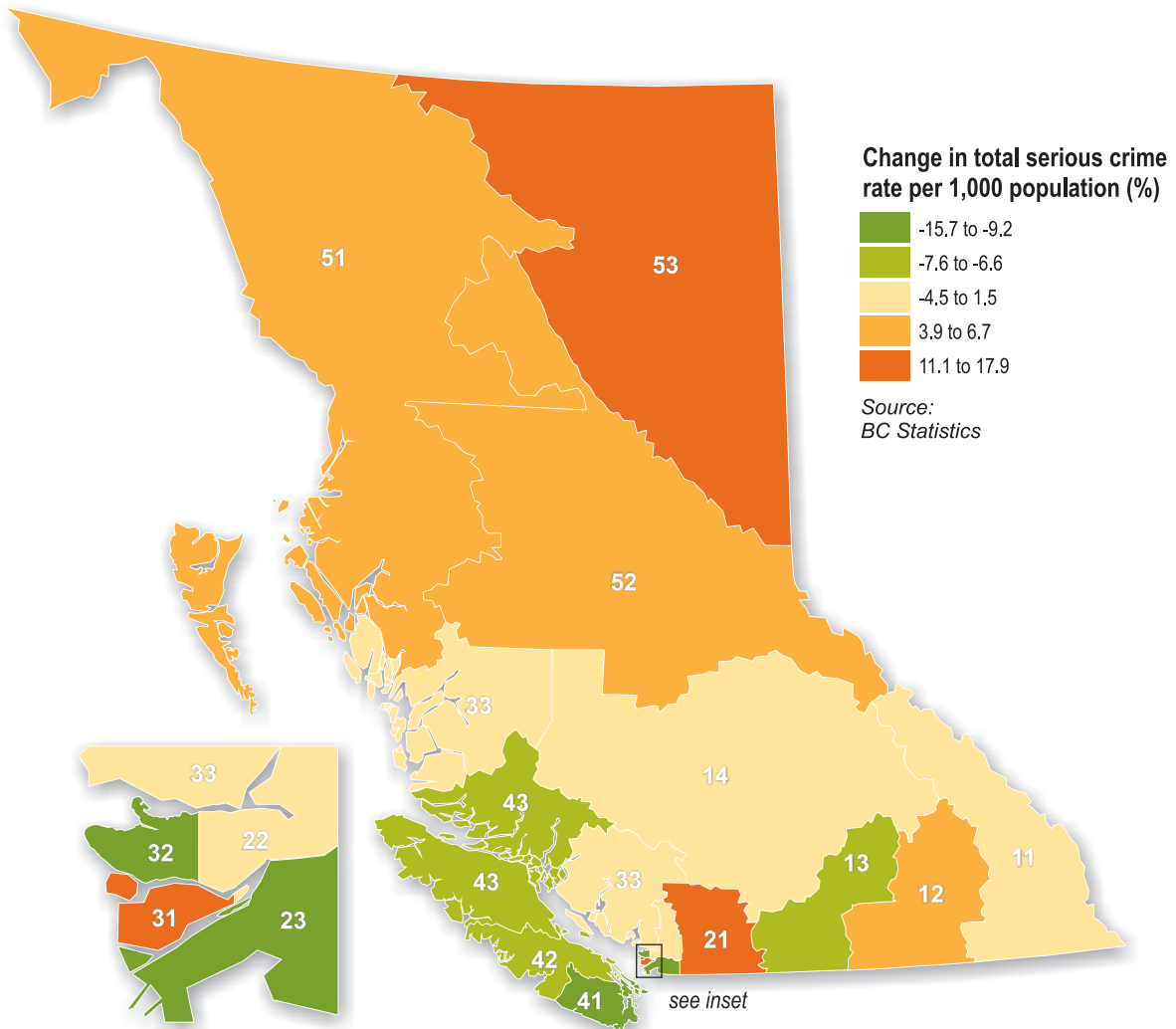
Serious violent crime rate

For the province as a whole, the rate for violent crime was quite low when compared to other types of crime, at 2.9 per 1,000 population. Vancouver, at 5.5, was nearly twice the provincial average, while high rates also occurred in Northeast and Northern Interior. The lowest crime rates were in the southeast of the province, East Kootenay and Kootenay Boundary both with rates less than half the provincial average. Despite the recent large percentage increase in violent crime rates in Richmond, it still had one of the lowest rates in the province at 1.7 per 1,000 population. Overall, the southeast part of the province had the lowest rates, while the north had the highest, along with Vancouver in the south.

Serious property crime rate

Serious property crimes outnumbered violent crimes by a factor of more than four to one. The highest rates occurred in Vancouver (17.2 per 1,000), Northern Interior, and Fraser East. Other lower mainland HSDAs had higher than average rates (Fraser North and South). The HSDAs with the lowest rates were again in the southeast of the province (East Kootenay and Kootenay Boundary) and on South Vancouver Island.

Crime rates



Civic engagement: Voting in the 2005 BC provincial election

Not all individuals who can vote, provincially, actually register to vote, so the data presented here probably over-estimate the percent of individuals voting who can vote. Voting has properties of civic and political engagement and is a measure of interest in, trust of, and the desire to influence civil institutions that affect public policies and our way of living. For many, voting is viewed as a civic obligation (Campbell, 2006).

The map opposite provides the pattern of voter turnout for the May, 2005 provincial election. It should be noted that, overall, there are 79 ridings for which these data are available. Data were obtained at the poll station level and converted to HSDAs so that there would be an opportunity for users of the Atlas to compare this measure with other measures of wellness that are available at the HSDA level.

For the province as a whole in the 2005 provincial election, nearly 6 out of every 10 registered voters (58.19%) actually voted. As with many of the other variables included in this section of the Atlas, there are major regional differences in the percentage of registered voters who turned out to vote in the last provincial election. The three HSDAs on Vancouver Island had the highest voter turnout, all with rates in excess of two-thirds of registered voters. Other HSDAs with relatively high turnout rates included North Shore/Coast Garibaldi and Fraser South in the lower mainland, and Thompson Cariboo Shuswap in the interior of the province.

Much lower rates were evident in the extreme northeast (Northeast) and southeast (East Kootenay) of the province, along with Richmond and Vancouver in the lower mainland, all of which had turnout rates of about 56% or less.

Health Service Delivery Area	Registered voters that voted (%)
042 Central Vancouver Island	67.70
041 South Vancouver Island	67.67
043 North Vancouver Island	67.35
033 North Shore/Coast Garibaldi	65.23
023 Fraser South	62.80
014 Thompson Cariboo Shuswap	62.62
022 Fraser North	61.13
052 Northern Interior	59.90
012 Kootenay Boundary	59.14
013 Okanagan	58.84
021 Fraser East	57.66
051 Northwest	57.08
032 Vancouver	56.41
011 East Kootenay	55.50
031 Richmond	53.93
053 Northeast	51.63
999 Province	58.19

Civic engagement: Voting in the 2005 BC provincial election

