

Regional District of North Okanagan MONITORING & EVALUATION REPORT

NOVEMBER 20, 2013



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EXECUTIVE SUMMARY

The Regional District of North Okanagan (RDNO), with the support of EcoPlan International (EPI) and the University of British Columbia (UBC), has developed this monitoring and evaluation program to track the progress and success of the implementation of the North Okanagan Regional Growth Strategy (RGS) and its effects on various aspects of regional growth and citizens' quality of life. The RGS is focused on managing growth and its impacts in the following nine policy areas:



Urban containment and rural protection



Agriculture and food systems



Water stewardship



Environment and natural lands



Economic development



Transportation and infrastructure



Housing



Governance and service delivery



Energy and emissions



The monitoring and evaluation program is structured around these policy areas, as well as endeavouring to assess how the quality of life of North Okanagan residents is changing more generally.

The monitoring program includes an innovative combination of quantitative monitoring indicators, and quantitative measures of public perceptions of life in the North Okanagan, in the form of a Quality of Life Survey. This combination of quantitative indicators and robust measures of public perception provides a complementary set of data that helps us understand how the region is changing from various perspectives and ensures that we have a more accurate picture of growth and its effects in the North Okanagan.

The research team finalized a list of 48 quantitative indicators (21 Primary and 27 Secondary). Data are currently available for 67% of both the Primary and Secondary indicators and function as baseline data. The RDNO expects to fill these gaps as more census data become available and will continue to work on gathering the remaining data and establishing new data sources before the RGS review in 2016.

The RDNO received a total of 1,412 surveys, including 803 online surveys and 609 paper surveys. Forty-four online and eighteen paper surveys were subsequently excluded because they were mostly incomplete. This is a high level of response that provides a somewhat representative sample of the population of the North Okanagan and a fairly high level of confidence in the results when applied to the region as a whole. It should be noted that this survey was designed to be exploratory and thus survey distribution was not random, especially in the case of paper surveys. Some sectors of the population may thus be over or under represented. This is particularly the case in smaller communities, where a statistically representative sample would have required an extremely high response rate (almost 30% in some cases). The results of the community analyses should thus be seen as suggesting trends that may require further investigation, and not as clearly established interactions. Nonetheless, this survey provides responses from a representative sample of age groups and communities in the North Okanagan and should be useful for identifying issues where the RDNO should focus additional efforts and investment.

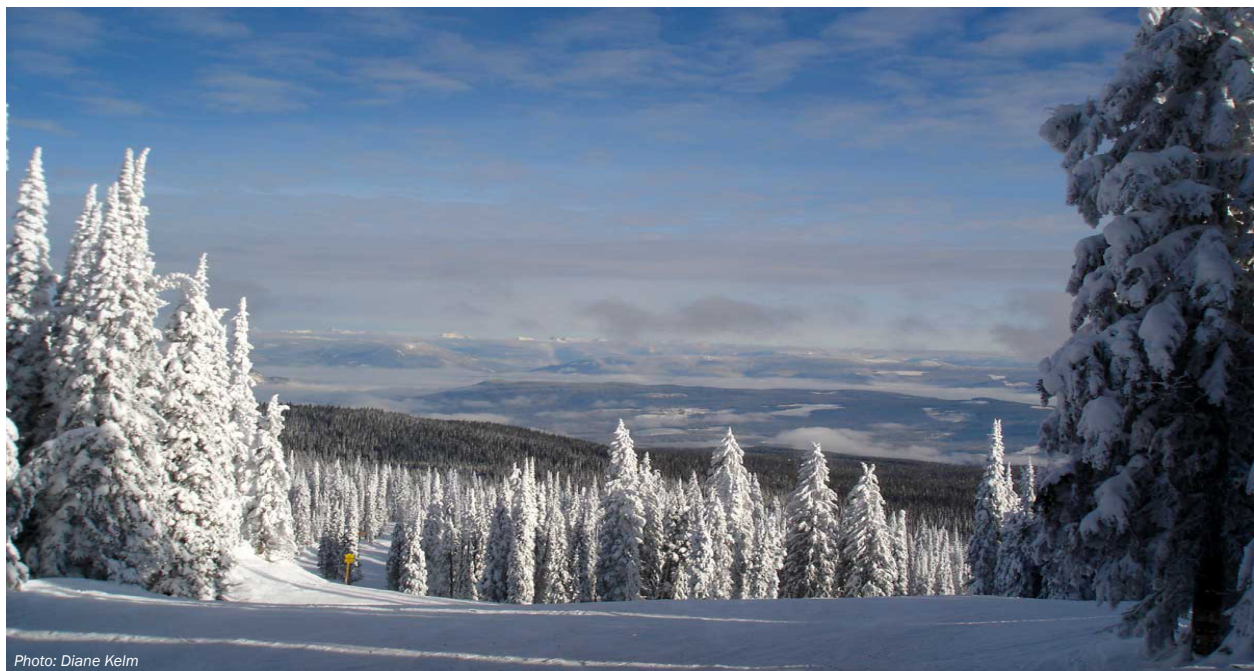


Photo: Diane Kelm

Key Results

The purpose of the RDNO Monitoring and Evaluation Program is to provide the necessary information to understand how the region is changing, and assist in identifying actions that may contribute to sustainable growth and overall quality of life. The RDNO is in the early stages of the monitoring program, which will develop and improve as time passes and more data become available. The RDNO has established a baseline and will focus on collecting and analyzing relevant data in the coming years. The RDNO and municipal partners can use the data collected to comment on the current state of the North Okanagan, and make initial recommendations on priorities and actions.

CURRENT SUCCESSES

QUALITY OF LIFE

The residents of the North Okanagan report a high quality of life, on average. They are happy to live, raise a family, and retire there, and enjoy the outdoor recreation opportunities that the region offers. The young residents of Coldstream appear to be particularly satisfied with various aspects of their quality of life.

AGRICULTURE AND FOOD SYSTEMS

As a somewhat rural region, the North Okanagan enjoys good local food access. Farming income is increasing in the region and residents are relatively satisfied with farmland protection. Regional Growth Strategy and Official Community Plan policies discourage the removal of productive agricultural land from the Agricultural Land Reserve (ALR) and encourage local food production. The region appears to be on the right track.

WATER STEWARDSHIP

The North Okanagan enjoys fairly good quality drinking water and relatively clean lakes and rivers. Residents identify lakes and water resources as important parts of what they enjoy about life in the North Okanagan. Residents consider their personal water conservation efforts to be good, suggesting satisfaction but also room for improvement. Water meters are being installed in many parts of the North Okanagan, as of 2011, and the number of water meters continues to increase. Some farming operations in the region have started using reclaimed water for irrigation, but this still represents only a small portion of the total water use. Water resource conservation efforts were not rated as highly as other aspects of water stewardship. This assists in identifying areas where improvements can be made, such as increasing the number of watershed management plans in the region, investing in the protection of water resources and expanding water conservation efforts.

ENVIRONMENT AND NATURAL LANDS

North Okanagan residents are highly satisfied with their access to recreation opportunities in the region's natural areas and somewhat satisfied with the level of environmental protection in the region. The North Okanagan has achieved the national average for conservation land and dedicated open space coverage but could likely do better in this area, particularly given residents' appreciation for natural spaces.

ENERGY AND EMISSIONS

Residents of the North Okanagan are confident that they achieve a high level of energy conservation in their personal lives, although they were less confident in the efforts of their communities to save energy. This perception is interesting, given that residential buildings and personal transportation account for the majority of energy use in the region. Personal transportation is also the highest source of CO₂ emissions in the region. This suggests that although residents are making a good effort to conserve energy in their day-to-day lives, they could further increase their contribution to energy conservation in their communities. Increased public education on energy conservation strategies could be useful in this case.

AREAS FOR IMPROVEMENT

ECONOMIC DEVELOPMENT

Although quality of life is reported to be quite high in the North Okanagan, employment and the economy were issues that arose several times during the analysis of the monitoring data. The lack of employment opportunities, and the poor match between residents' skills and available jobs, were identified as having the greatest negative effect on quality of life in the region. Although median incomes were higher in 2009 than in 2004, 2009 median incomes in the North Okanagan were still below the provincial and Central Okanagan median incomes. Survey respondents expressed low satisfaction with work opportunities in the North Okanagan and indicated that it can be difficult to find employment opportunities and fulfilling work in the region. Survey respondents also identified the poor match between available jobs and residents' skills as an area of concern. More recent income data would help us better understand whether economic hardship is indeed a reality for many North Okanagan residents and to what extent.

Employment dissatisfaction was relatively consistent in both survey groups (under 18 and 18+). Younger age groups tended to report lower levels of satisfaction with work opportunities, with employment satisfaction rising beyond the age of 59. While this may reflect a worsening job market in the North Okanagan, it is likely influenced in part by the perceptions of retired respondents who do not focus on the negative aspects of their past employment and who retired at the peak of their career.

TRANSPORTATION AND INFRASTRUCTURE

Although transportation and infrastructure received fair ratings, the lack of public transit services and infrastructure is apparent in the North Okanagan. The majority of the region's residents still use their cars as their primary mode of transportation, and survey respondents expressed dissatisfaction with public transit options. Public transit access is particularly lacking in small communities and rural areas. However, public transit ridership appears to be increasing somewhat; a focus on increasing public transit in the North Okanagan would help support sustainable regional growth. Residents considered the state of bus and cycling infrastructure to be slightly below fair, indicating another area for potential improvement.

HOUSING

Housing affordability appears to be particularly challenging in the North Okanagan. Housing affordability received a low average survey rating, coming in between poor and fair. Additionally, over 11% of the population of the North Okanagan is considered to be in core housing need, meaning they cannot access affordable, accessible housing. Young people find it particularly difficult to find available housing and have poor opportunities to own a home. Housing for young families was identified as the most pressing housing need in the North Okanagan. Housing affordability, accessibility, and opportunities for home ownership seem to be particularly poor in the Village of Lumby. Policies to increase housing affordability and accessibility would be helpful to younger age groups and families in core housing need.

GOVERNANCE AND SERVICE DELIVERY

While residents of the North Okanagan are relatively satisfied with the quality of government services, they appear to be dissatisfied with current efforts at regional collaboration. Although government services were rated between fair and good, on average, younger respondents and residents of Lumby and Enderby reported lower levels of satisfaction with government services, suggesting an area for improvement. Residents of Coldstream were the least satisfied with regional collaboration efforts.

YOUTH

Survey respondents under 18 years of age are happy with the state of the local environment but were concerned about the economy and job availability. They are happy with their opportunities to access recreational areas in their region, although youth in Vernon appear to have lower levels of access to outdoor recreation than those in smaller communities. Environmental protection was rated lower than access to outdoor recreation and indicates an area for potential improvement.

Youth seem to be most dissatisfied with employment opportunities in the North Okanagan. Both economic opportunities and skills and jobs match were rated as fair or between poor and fair. This is to be expected in an age group that is still developing its skills and education. However, increased availability of jobs for young people would likely increase their perceived quality of life in the North Okanagan.

SUMMARY

Overall, the monitoring data currently paint a picture of a region that enjoys fairly high quality of life and is doing a lot of things right. However, it is clear that economic growth, improved housing access, and sustainable forms of transportation need to be developed if residents are to continue to appreciate the region and enjoy living there.



1 INTRODUCTION

In June 2012, the Regional District of North Okanagan (RDNO), with the support of EcoPlan International (EPI) and the University of British Columbia (UBC), began work on a program to monitor and evaluate the recently adopted North Okanagan Regional Growth Strategy (referred to here, simply as the Strategy or RGS). The monitoring and evaluation program includes both quantitative and qualitative indicators selected to track the implementation of the RGS and assess its effect on North Okanagan residents' quality of life. This report discusses the process used to develop the monitoring and evaluation program, and analyzes monitoring results to date.

1.1 The North Okanagan Regional Growth Strategy

1.1.1 OVERVIEW

On September 21, 2011, the RDNO adopted the North Okanagan Regional Growth Strategy. The RGS was developed over 4 years by the RDNO in partnership with the region's member municipalities and in coordination with other government agencies, stakeholder groups and the general public. The purpose of the RGS is to guide the region's growth and direct development in such a way as to achieve the needs and objectives of the region and the member municipalities.

The vision of the RGS includes promoting:

- ✓ **Sustainable communities**
- ✓ **Protection of rural and agricultural lands**
- ✓ **Broad and sustainable employment and business opportunities**
- ✓ **Diverse housing choices**
- ✓ **Complete and vibrant neighbourhoods**
- ✓ **Protection of the region's natural environment**
- ✓ **Sustainable use and protection of the region's resources**
- ✓ **Financial sustainability and good regional governance**

The RGS is fundamentally cooperative. It was developed in partnership with the region's municipalities and it has their support. This support is necessary for the successful implementation of the strategy.

The context within which the RGS is implemented will change with time and the RGS will need to respond to these changes. The RGS may need to be revised and modified to ensure that it is meeting its stated goals. The monitoring and evaluation program is an important part of evaluating the impacts of the RGS on the North Okanagan and its municipalities and how these impacts change over time. The monitoring and evaluation program will help ensure that the RGS stays relevant over time and that the region and municipalities are taking effective action to accomplish the strategy's goals.

1.1.2 POLICY AREAS

The RGS is organized around nine policy areas that represent issues of importance to the RDNO now and in the future. These are:



Urban containment and rural protection



Transportation and infrastructure



Agriculture and food systems



Housing



Water stewardship



Governance and service delivery



Environment and natural lands



Energy and emissions



Economic development

To reflect and inform the RGS, the monitoring and evaluation program is organized around the nine policy areas.



Photo: Monique Doling

2 MONITORING AND EVALUATION

The RGS Monitoring and Evaluation Program is a requirement of the *Local Government Act*, s. 869 (1). The RGS also has an implementation provision regarding a citizen survey as an element of RGS monitoring. The Program is intended to provide information to help guide local and regional policy decisions and investments, increase understanding of complex regional issues, engage the public in regional planning and improvement, and promote transparency by measuring the progress of the RGS and providing a mechanism for public involvement and feedback. The Program is comprehensive in approach and, once fully developed, was designed to be efficient, relevant and cost-effective to maintain.

The Monitoring and Evaluation Program was developed through a participatory approach that has consisted of input from various levels of government, planners throughout the North Okanagan and elected officials through a series of workshops. The goal of this approach is to identify indicators and measures that are both reflective of RGS policy and have synergies and applicability across jurisdictional boundaries and scales.

The Monitoring and Evaluation Program consists of the following indicator types:


Priority Indicators: Effective quantitative indicators (e.g. Statistics Canada Census data) of RGS goal progress that can be easily measured and/or are already monitored. The indicators evaluate objectives within the nine policy areas of the RGS and many indicators are proxy measures, designed to reflect progress towards more than one of the RGS goals. These measures form part of the annual “RGS Implementation: Measuring Progress” report and have local, regional and, if possible, provincial applicability.

Secondary (or Complementary) Indicators: Quantitative indicators that are important measures of RGS progress and reflect the priorities of communities that may be more complex to measure. These indicators would be included within the 5-Year RGS “State of the Region” Report.

Quality of Life Indicators: These are quantitative survey data that measure the perception of North Okanagan residents on both regional livability and RGS progress. These indicators measure residents’ perspectives on RGS implementation and identify areas that may need more attention. The Quality of Life Survey also gave residents an opportunity to provide qualitative feedback in the form of comments on different RGS policy areas and quality of life measures.

The monitoring program focuses on measuring the impact of the RGS. Indicators were thus selected to measure outcomes rather than actions and compliance. However, in a few cases, indicators use actions as proxies for outcomes, given data limitations.

Although other local governments and regional districts have undertaken quality of life surveys, there has not been a quality life survey that has been linked to a RGS policy framework. Many RGS monitoring programs rely on a set of key quantitative indicators that are associated with broad strategic directions. Quantitative citizen response, through a carefully developed quality of life survey, complements the other monitoring indicator data and provides us with a more comprehensive understanding of how the RGS is influencing life in the North Okanagan and whether it is having a positive impact on residents’ quality of life.



The priority and secondary indicators will provide a quantitative assessment of the effectiveness of the RGS. The perspectives of residents provide both quantitative and qualitative assessment of the effectiveness of the RGS and of general quality of life in the North Okanagan. The Quality of Life Survey can also be used to identify areas of public concern that can be considered during RGS initiative identification and prioritization, RGS evaluation and review, and in communication strategies.

2.1 What are Monitoring and Evaluation?

2.1.1 MONITORING

Monitoring is a systematic process by which we increase our understanding of an area, population, issue, etc. Monitoring involves collecting data on various indicators to understand how they function and change over time. Monitoring can be described as a low-intensity, long-term research program that measures indicators that act as proxies for a trend we are trying to measure. Indicators can be things such as tests for heavy metals in drinking water and public evaluation of drinking water quality. Both of those measures provide quantitative data on drinking water quality and both have advantages and disadvantages.

The intensity and length of a monitoring program are determined in large part by what is being monitored. A well-designed monitoring program can help us better understand why changes are occurring and what we can do to influence these changes.

This monitoring program is designed to measure the effects of the RGS on its nine policy areas and on the quality of life of North Okanagan residents. As the monitoring program operates over the coming years, it will gather the necessary data to inform effective policy creation and ensure that the goals of the RGS are met.

2.1.2 EVALUATION

Once monitoring data have been collected, the RDNO can use these data to evaluate how indicators and the factors that they represent have changed over time. The RDNO can evaluate how well policies have performed and make changes as necessary. In this context, the RDNO can evaluate the effects that the RGS has had on various aspects of life in the North Okanagan. This will inform reviews of the RGS and will help evaluate and modify it as necessary.

2.2 Developing the Monitoring and Evaluation Program

2.2.1 QUANTITATIVE INDICATORS

Although all the monitoring indicators are quantitative, for the purposes of this report, we will refer to the Primary and Secondary Indicators as quantitative indicators as they measure objects or phenomena while the Quality of Life Survey measures public perceptions of various objects or phenomena.

The quantitative monitoring program evaluates progress in each of the RGS's nine policy areas.

Each policy area includes up to four priority indicators that are monitored annually and up to four secondary indicators that are monitored every 5 years.

The process to develop the quantitative monitoring indicators included the following steps:

- Comparative research on monitoring and evaluation programs of regional growth strategies in other regions
- Developing criteria to measure the quality of the indicators
- Drafting an initial list of indicators
- Conducting a gap analysis of the initial list of indicators
- Evaluating the quality of the indicators according to the evaluation criteria
- Final indicator evaluation by RDNO staff and municipal planners
- Indicator finalization and baseline data gathering

2.2.1.1 COMPARATIVE RESEARCH OVERVIEW

In order to benefit from monitoring and evaluation experience in other regions, the research team conducted comparative research on monitoring and evaluation programs of regional growth strategies in other regions in British Columbia (BC), Canada, and internationally. Although the most relevant comparisons would be with other regional districts in BC, the research was necessarily much broader. Well-developed monitoring and evaluation programs, in particular those linked to growth strategies, are not common and few include documented reviews of the monitoring programs and indicators. In many cases, the monitoring programs have yet to complete a full five-year cycle and program review; in some cases the programs were left incomplete and never underwent evaluation. The research team thus surveyed programs in the following regions:

In BC:

- Capital Regional District
- Regional District of Nanaimo
- Okanagan-Similkameen Regional District (South Okanagan RGS)
- Regional District of Central Okanagan

- Comox Valley Regional District
- Metro Vancouver

In Canada:

- Lower Athabasca Region, Alberta
- Peel Region, Ontario
- Region of Durham, Ontario
- Niagara Region, Ontario

In the US:

- Puget Sound Region, Washington
- Clark County, Washington
- Vancouver, Washington
- King County, Washington
- Snohomish County, Washington
- Spokane County, Washington
- Portland metropolitan area, Oregon
- San Diego Association of Government, California
- Howard County, Maryland
- Lincoln/Lancaster County, Nebraska
- Ft. Collins, Colorado



2.2.1.2 EVALUATING AND SELECTING THE INDICATORS

Multi-criteria Decision Analysis

Developing and selecting a list of indicators that successfully gather data on relevant and useful aspects of the RGS's nine policy areas required developing clear evaluation criteria, and bringing together a range of stakeholders with varied interests and experience. In order to explicitly and transparently consider how well indicators might provide insight into the performance of the RGS, the research team used multi-criteria decision analysis (MCDA) to select monitoring indicators.

MCDA is a system of decision-making that explicitly considers relevant criteria and uses weighting techniques to support the evaluation process. On a day-to-day basis, individuals usually make decisions largely based on poorly constructed, limited and unclear criteria or basic intuition. However, when making complex decisions involving multiple interests, objectives and various stakeholders, MCDA leads to a higher-quality evaluation process and supports outcomes which are more easily understandable to all involved.

Developing Indicator Evaluation Criteria

Criteria with which to evaluate each indicator were developed through research on monitoring programs and successful indicators. The evaluation criteria were reviewed and ranked by RDNO staff. The criteria are further discussed below.

The Initial Indicator List

The initial list of indicators was created using a combination of requested “wish list” indicators from RDNO and municipal planners, RGS technical working groups, as well as information obtained from the comparative research described above. Four workshops were undertaken in fall/winter 2012: three workshops with senior planners and one with the Intergovernmental Advisory Committee (including representatives from senior government, the Interior Health Authority, school districts and local government administrators). The results of these workshops were used to compile the original “wish list” of indicators.

The planners requested indicators that would be particularly useful in future local and regional planning decisions. The comparative research suggested a series of indicators that had been successfully used by other regions and addressed the policy areas of the RGS.

Gap Analysis

Once the initial list had been created, the research team conducted a gap analysis to ensure that the indicators addressed all policy areas and stated goals of the RGS. The analysis uncovered some gaps in the indicator list and additional indicators were developed to fill the gaps. All of the goals of the RGS were addressed by at least one indicator in the list.

Indicator Evaluation

The evaluation process allowed technical support committees and working groups to consider and screen for effective indicators, keeping the final indicator list manageable. The research team evaluated each selected indicator against a set of seven criteria:

1. Indicator is a good proxy for a broader trend it represents.
2. Indicator is easy to explain and understand.
3. Indicator is actionable (informs policy or action evaluation and change).
4. Reliable data exist for the indicator, which may be obtained at reasonable effort and/or cost on a regular basis.
5. Change in the indicator is measurable and meaningful over a reasonable timeframe.
6. Indicator is consistent with North Okanagan RGS vision, policy and guiding principles.
7. Where appropriate, the indicator is consistent with or comparable to broader (provincial) or local (community) indicators.

Measures were developed for the criteria and then were subjected to a series of weighting sessions with local planners and stakeholders. Some criteria were considered to be more important in determining the value of indicators than other criteria. For example, it was more important that an indicator have reliable data and be a good proxy, than be consistent with broader or local indicators. Those indicators that did not meet the majority of the criteria, or any one of the essential criteria, were eliminated from the list and added to the “cull list”, with rationale for their elimination. The cull list was an important feature which allows Regional District staff to reference criteria that did not make the final list and provide a rationale for exclusion.

The research team conducted a second gap analysis of the revised indicator list to ensure that the selected indicators addressed all policy areas and stated goals of the RGS.

Finalizing the Indicator List

To finalize the indicator list, the research team worked with local and regional government planners to eliminate non-essential indicators and indicators that did not have sufficient available data. The research team also received input from the Intergovernmental Advisory Committee on the final indicator list. Using the final list, indicators were ranked according to priority: high-priority indicators are to be evaluated annually and lower-priority indicators are to be evaluated every 5 years. There are no more than four high-priority indicators per RGS policy area.

The monitoring and evaluation program is designed to collect both historical, baseline (2011) and future data. While historical data are not always available for some indicators, all indicators should have baseline (2011) data.

2.2.1.3 IMPACT OF CHANGES TO THE LONG-FORM CENSUS

Much of the data in the RGS monitoring and evaluation program has and will come from Statistics Canada's Census. However, in 2010, the Government of Canada decided to make changes to the Census that will affect the quality of the data it provides. These changes took effect in the 2011 Census year. Changes to the Census had an important impact on the RDNO monitoring program, both in terms of quality of anticipated data and the need for collecting data through self-generated surveys (see Quality of Life Survey in s. 2.2.2).

The principal change to the Census is the replacement of the mandatory long-form census, with a combination of a mandatory short-form census and voluntary National Household Survey (NHS), the latter covering anything left out of the former. The concern is that the data from the voluntary source (the NHS) may be either:

- Skewed toward a certain group more likely to participate (leaving out the less-educated, new immigrant populations, higher-income brackets, etc.); or
- Insufficiently large to provide reliable data for smaller geographic areas (small towns, neighbourhood-level, rural populations, census tracts, etc.).

The effects of the changes are already being felt in the North Okanagan. NHS data for the Village of Lumby and Electoral Area "E" have been suppressed for data quality and confidentiality reasons. The RDNO NHS non-response rate was 28.8%. The NHS is not recommended as a data source for the monitoring and evaluation program, given issues with poor data quality and the inability to compare NHS data to census data from previous years.

The complete data set from the 2011 has been released and Statistics Canada and statistical experts have expressed concern as to the reliability of the data and our ability to compare NHS data to previous years when the mandatory long-form census was used. The policy areas most affected by the changes are likely to be the following, especially as they correlate to areas of much geographic specificity (i.e. small towns and neighbourhoods):

- Housing (dwelling type, income vs rent/mortgage)
- Transportation (mode share for commuting, working in CSD of residence)
- Economic development (work force mobility, employment status, jobs by industry, jobs by occupation)
- Population in-migration and out-migration
- Ethnic origin/visible minority status

Information now collected in the Mandatory Short-form Census includes:

- Age
- Sex
- Marital and common law status
- Household relationships
- Mother tongue
- Farmer status

Information previously collected by the mandatory long-form census questionnaire will be collected as part of the new voluntary National Household Survey (NHS). These include:

- Demography
- Activity limitations
- Citizenship and immigration
- Language, and language of work
- Ethnic origin, population group
- Aboriginal group, Registered treaty indian status, Member of a First Nation/Indian band
- Religion
- Mobility
- Place of birth of parents
- Education
- Labour market activities
- Place of work
- Work activity
- Child care and support payments
- Housing
- Income

National Household Survey:

<http://www.statcan.gc.ca/survey-enquete/household-menages/5178-eng.htm>



Photo: Mary Sanseverino, flickr.com

2.2.2 QUALITY OF LIFE SURVEY

The RDNO Quality of Life Survey was designed to give North Okanagan residents the opportunity to evaluate their quality of life, provide the RDNO with feedback on how the RGS is affecting their quality of life generally and in various policy areas, and fill gaps in the quantitative indicators, providing a more complete picture of life in the North Okanagan. The Quality of Life Survey questions are linked to specific policy areas in many cases, ensuring that the survey results can be used to inform policy.

Although the Quality of Life Survey measures qualitative perceptions of various issues, the survey provides quantitative data on public perception and how well the RDNO is addressing various issues associated with the 9 policy areas of the RGS. The survey also gave respondents the opportunity to provide qualitative feedback on various issues in the form of comments. The data provided by the Quality of Life Survey are complementary to the data collected by the quantitative monitoring indicators; together they will provide a clearer picture of the quality of life in the North Okanagan and how the region is changing as it grows.

The goals of the Quality of Life Survey include:

- Determine residents' opinions about their quality of life in the North Okanagan
- Assess residents' satisfaction with local and regional government's efforts to achieve regional planning goals
- Measure public opinion on the way in which local and regional governments are managing growth in the North Okanagan
- Establish a baseline from which to measure change in key indicators
- Add community context to the quantitative monitoring program indicators
- Assist in identifying priority action areas for RGS implementation and issues and opportunities during the next review of the RGS
- Provide opportunities for input into other planning projects related to the RGS policy areas

2.2.2.1 COMPARATIVE SURVEY RESEARCH OVERVIEW

The process to develop the Quality of Life Survey began with research on local, national, and international programs that seek to evaluate citizens' quality of life. Some programs were survey-based while others relied on indicator data to evaluate quality of life.

The research team researched the following quality of life programs and surveys:

- Previous EPI quality of life surveys
- Whistler Community Life Survey
- Social Capital Benchmark Survey (Harvard University)
- Fernie Quality of Life Survey
- Equality, Security and Community Survey (Social Sciences and Humanities Research Council of Canada)
- RDOS Citizen Survey 2012 (Regional District of Okanagan-Similkameen)
- Human Resources and Skills Development Canada (HRSDC) Indicators of Well-being in Canada

- Natural Resources Canada: The Atlas of Canada Quality of Life Maps
- Canadian Index of Well-being (University of Waterloo)

In addition, the research team conducted a review of the academic literature on quality of life and surveys designed to assess it. Based on this research and discussions with RDNO planners, the research team developed a list of topics that should be addressed when evaluating quality of life. This list included general quality of life topics and topics related to each policy area of the RGS and how they affect citizens' quality of life.

2.2.2.2 DEVELOPING AND REFINING SURVEY QUESTIONS

The initial list of questions was developed to address the identified quality of life topics generally, and as they relate to the policy areas of the RGS. Questions were designed to gather baseline data on current quality of life conditions in the North Okanagan and gauge public opinion of the importance of the various policy areas to residents' quality of life. The survey asked a diverse range of questions about quality of life, community character, and regional growth policies.

Public perception is a valuable tool for local and regional governments to measure progress on the implementation of regional plans, projects and programs. Improving residents' quality of life is an underlying principle of the RGS and Official Community Plans. The survey is one of many pieces of information collected by the Regional District to evaluate the effectiveness of the RGS and to identify regional priorities.

The survey questions were refined through review by, and discussions with, experts on survey development at UBC. Questions were reviewed for clarity, simplicity, and relevance to quality of life and the policy areas of the RGS.

The survey was then tested or trialed by 15 UBC students, staff, and faculty, between the ages of 24 and 63, and by about 100 people in the North Okanagan. In the North Okanagan, people who tested the survey and provided feedback were members of the Seniors' Action Network, Vision North Okanagan, families of regional district and municipal staff, a high school class, and the Okanagan College Student Council. The purpose of testing the survey was to ensure the clarity and comprehensibility of the questions and survey format. The research team made minor amendments to the wording and format of the survey in response to the feedback provided by survey testers.

2.2.2.3 SURVEY FORMAT

The Quality of Life Survey was relatively short (8 pages), and was available as a paper survey and online. While there are several benefits to delivering a survey online (e.g controlling response formats and ease of data entry), the paper surveys were particularly necessary in the North Okanagan where about 10% of the population does not have regular or high-speed access to the internet. This problem is most pronounced in the region's smaller communities and rural areas. For example, high-speed access is not available in most of the Electoral Areas. Delivering the survey in both paper and online formats allowed the RDNO to increase the survey coverage across communities and socio-economic groups, and helped increase the survey response rate.

2.3 Data Collection

2.3.1 QUANTITATIVE INDICATORS

The research team collected indicator data over a period of 6 months from March to August 2013. Data were gathered from various sources, as appropriate to the indicator, including Statistics Canada, provincial agencies, local utilities, and RDNO departments. Historical data were not available for most indicators and the baseline year for data collection was set at 2011, which corresponds with the adoption of the RGS.

2.3.2 QUALITY OF LIFE SURVEY

The Quality of Life Survey was open to respondents from early May to early June 2013. A total of 2,500 paper surveys were distributed, as well as 10,000 postcards directing residents to the online survey, providing coverage of 1 in 3 households in the North Okanagan. Print, radio and social media coverage were undertaken throughout the region to promote the survey.

Due to the rural nature of most of the region, an older population than the B.C. average, and limited coverage of high-speed internet service, partnerships and events were essential to maximizing participation and ensuring a more representative sample. The Regional District of North Okanagan involved many organizations, governments and individuals in the promotion of this survey, including the City of Armstrong, District of Coldstream, City of Enderby, Village of Lumby, Township of Spallumcheen, City of Vernon, all North Okanagan branches of the Okanagan Regional Library, the Social Planning Council of North Okanagan, the North Okanagan Naturalist Club, Whitevalley Community Resource Centre, Seniors' Action Network, School District #22 and # 83, Interior Health Authority, neighbourhood associations and many others.

Of special note for efforts within the region were:

1. The Salvation Army who handed out surveys with food baskets and included an extra food item with every returned survey;
2. Community Futures of the North Okanagan who requested that all participants within their employment programs fill out a survey; and
3. Clarence Fulton Secondary School (Vernon) Global Education class, and their teacher Murray Sasges. Global Education took the survey to high school classes throughout School District #22 and facilitated the completion of over 350 surveys by North Okanagan youth.

Regional District staff also attended several events to promote the survey, including Bike to Work Week events, the Vernon and Armstrong Farmers' Markets and the Mayors' and Planners' Breakfast (held by the Greater Vernon Chamber of Commerce).

Regional District and regional partners' efforts to promote the survey resulted in one of the highest response rates that the Regional District has experienced with any survey.

The RDNO plans to undertake the Quality of Life Survey prior to the 2016 RGS Review and every 5 years thereafter.

3 MONITORING RESULTS

The results of the monitoring and evaluation program are presented below, following a brief discussion of the nature of the data and analyses used. The monitoring results provide a baseline, which will be used to evaluate progress on RGS policies.

Monitoring results are presented according to policy area and include both the quantitative indicators and the Quality of Life Survey data. Further results of the Quality of Life Survey are discussed before the presentation of results in the policy areas, as the survey collected data on other aspects of quality of life that do not directly relate to the nine RGS policy areas.

3.1 Quantitative Indicators

The research team, through the evaluation process, finalized a list of 48 indicators (21 Primary and 27 Secondary). Data are currently available for 67% of both the Primary and Secondary indicators and function as baseline data. The RDNO expects to fill these gaps as more census data become available and will continue to work on gathering the remaining data and establishing new data sources before the next RGS review in 2016.

Several indicators lack historical data and it is thus currently difficult to establish trends for many of the monitoring indicators. This is to be expected at the beginning of a monitoring program and it will be resolved as data are collected over the next three years.

3.2 Quality of Life Survey

The RDNO received a total of 1,412 surveys, including 803 online surveys and 609 paper surveys. Forty-four online and 18 paper surveys were subsequently excluded because they were mostly incomplete. This is a high level of response that provides a somewhat representative sample of the population of the North Okanagan and a fairly high level of confidence in the results when applied to the region as a whole. It should be noted that this survey was designed to be exploratory and thus survey distribution was not random, especially in the case of paper surveys. Some sectors of the population may thus be over or under represented. This is particularly the case in smaller communities, where a statistically representative sample would have required an extremely high response rate (almost 30% in some cases). The results of the community analyses should thus be seen as suggesting trends that may require further investigation. Nonetheless, this survey provides responses from a representative sample of age groups and communities in the North Okanagan and should be useful for identifying issues where the RDNO should focus additional efforts and investment.

Paper surveys were more likely to contain missing data due to errors made by respondents when answering questions. However, the research team was able to include the majority of the paper survey responses in our analysis. The online survey responses were more complete due to the requirement to answer all mandatory questions before progressing to the next section. The discarded online surveys did not include usable information due to some early software issues that were resolved.

Paper surveys were more popular with organizations, groups and individuals that were:

- a) socioeconomically disadvantaged;
- b) uncomfortable with using computers;
- c) using the survey within a group setting (i.e. high school class or community training session); and
- d) did not have access to high-speed internet.

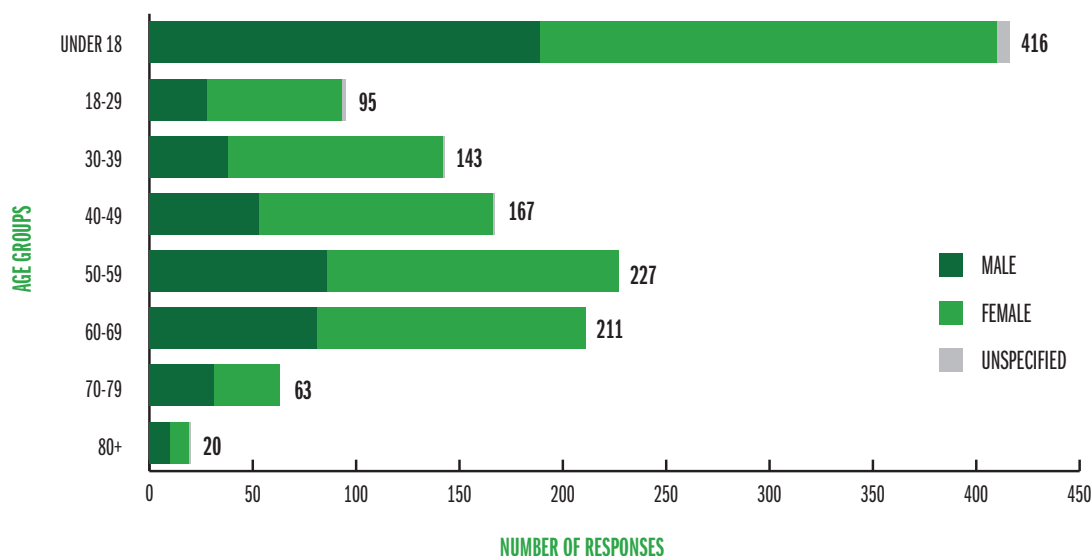
3.2.1 NOTES ON ANALYSIS

The results of this survey are particularly interesting, given that a large proportion of the respondents were under the age of 18 (see Figure 1), likely due to paper survey distribution in high schools. Given the high number of under 18 respondents, and the methods used to administer the survey in high school, survey data for the under 18 age group are analyzed and presented here separately (see Appendix A: Youth). This separation also reflects the lack of knowledge this age group has of some of the issues addressed in the survey, and gives us the opportunity to better appreciate how school-age youth understand their quality of life and what issues are particularly important to future generations.

The data were analyzed using descriptive statistics and multivariate and univariate general linear models (analysis of variance). General linear models are commonly used when comparing samples of unequal sizes, as the model does not weight sample means according to sample size. Although sample sizes for all variables examined were generally high, the sample sizes were somewhat low in the case of some of the smaller communities, depending on the factor being examined. Analyses of the effects of community of residence on survey responses should be viewed with the understanding that the data from smaller communities may be less reliable than from larger communities.

The graphs of interactions between factors are presented below as graphs of the estimated marginal means of each category. Estimated marginal means are the mean response for each factor, adjusted for other variables in the general linear model. They are similar to the observed means of the data.

Figure 1. Number of survey responses by age and gender.



3.3 Quantitative Monitoring Results and Survey Results for Respondents 18-70+

This section presents the results of the Quality of Life Survey for respondents aged 18 to 70+. After a more general discussion of the survey results, we present the results of the quantitative indicators and the Quality of Life Survey together for each of the RGS's nine policy areas. The policy area analysis is followed by a short discussion of community and housing priorities examined in the Quality of Life Survey.

3.3.1 DESCRIPTION OF RESPONDENTS

A total of 934 residents between the ages of 18 and 70+ returned completed surveys. This provided a sample that represented 1.45% of the regional population aged 18 and above. Please see Table 1 for sample size and percent representation by community for survey respondents aged 18 and over and survey respondents under 18 years of age. Survey results for respondents under 18 years old are discussed in Appendix A: Youth. Given the small sample sizes in the Electoral Areas, statistical analyses of the results was conducted on an amalgamated group of all 5 Electoral Areas and communities defined as "Other".

Table 1. Sample size and percent representation by community.

COMMUNITY	POPULATION	SAMPLE SIZE (18+)	SAMPLE SIZE (<18)	PERCENT
<i>Armstrong</i>	4,815	95	7	2.12
<i>Enderby</i>	2,932	44	2	1.57
<i>Vernon</i>	38,150	441	253	1.82
<i>Coldstream</i>	10,314	121	94	2.08
<i>Spallumcheen</i>	5,055	53	8	1.21
<i>Lumby</i>	1,731	39	38	4.45
<i>B</i>	3,046	26	0	0.85
<i>C</i>	3,872	21	3	0.62
<i>D</i>	2,848	17	0	0.60
<i>E</i>	939	17	0	1.81
<i>F</i>	3,938	23	1	0.61
<i>Other</i>	5,412	37	10	0.87
TOTAL	83,052	934	416	1.63

It should be noted that many more women than men responded to the survey in this age category (Figure 2). The majority of respondents described their employment status as fulltime and many respondents described themselves as retired (see Figure 3).

Figure 2. Number of respondents by gender (male=332, female=596, no response=5).

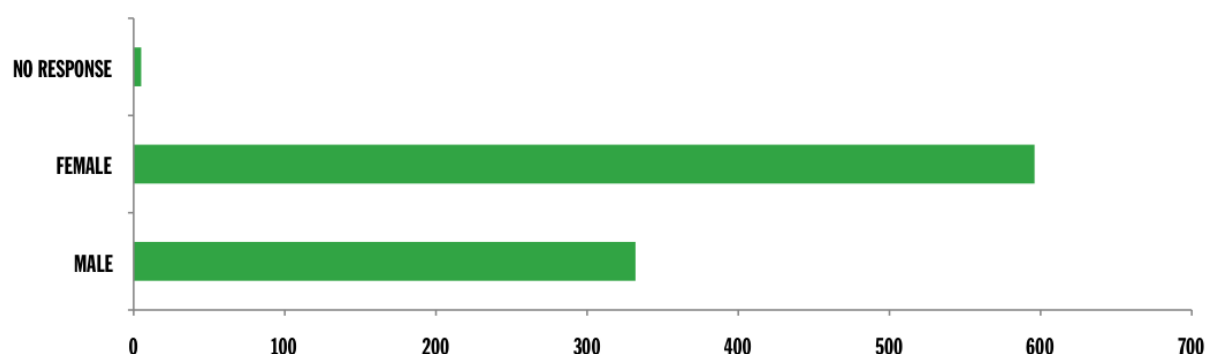
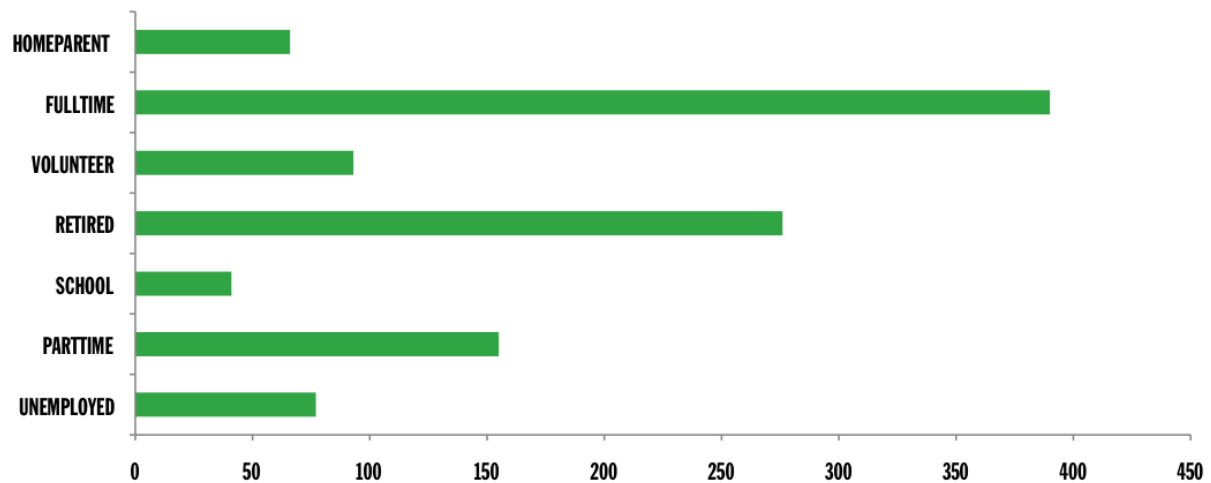


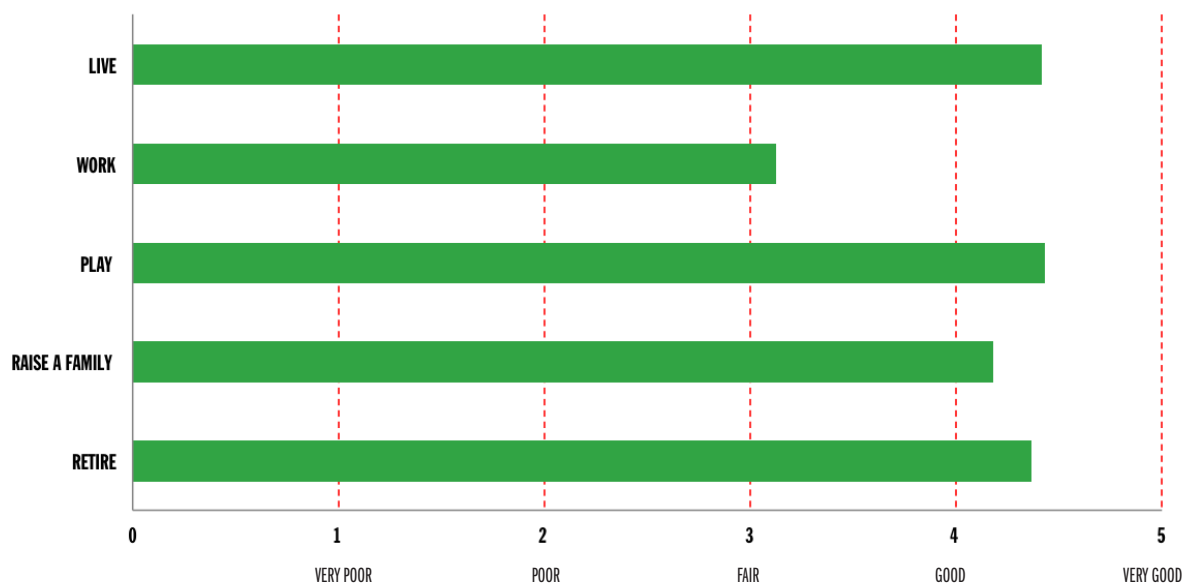
Figure 3. Number of respondents by employment status.



3.3.2 QUALITY OF LIFE

Survey respondents were asked to rate their quality of life in the North Okanagan according to five categories: the quality of the North Okanagan as a place to live, work, play, raise a family, and retire. On average, respondents rated their quality of life as good to very good in all categories except work, which was rated just above fair (Figure 4).

Figure 4. Average rating of the North Okanagan as a place to live, work, play, raise a family, and retire.



Both the age of the respondents and their community of residence affected how they rated their quality of life. The quality of the North Okanagan as a place to live was rated significantly lower by younger respondents, and perceived quality of life increased as age increased $F(5,883)=2.68$, $p<0.05$ (Figure 5). The perceived quality of the North Okanagan as a place to work was also rated lower by respondents aged 18-49, with respondents' satisfaction increasing as their age increased past 50 years $F(5,883)=3.66$, $p<0.01$ (Figure 6). The perception of the North Okanagan as a place to raise a family was significantly more negative among respondents aged 30-49 $F(5,883)=2.33$, $p<0.05$, with the eldest respondents expressing the highest level of satisfaction (Figure 7). It should be noted that although the interactions discussed here are statistically significant, they do not represent very strong effects.

Figure 5. Estimated marginal means of the effect of age on the quality of the North Okanagan as a place to live.

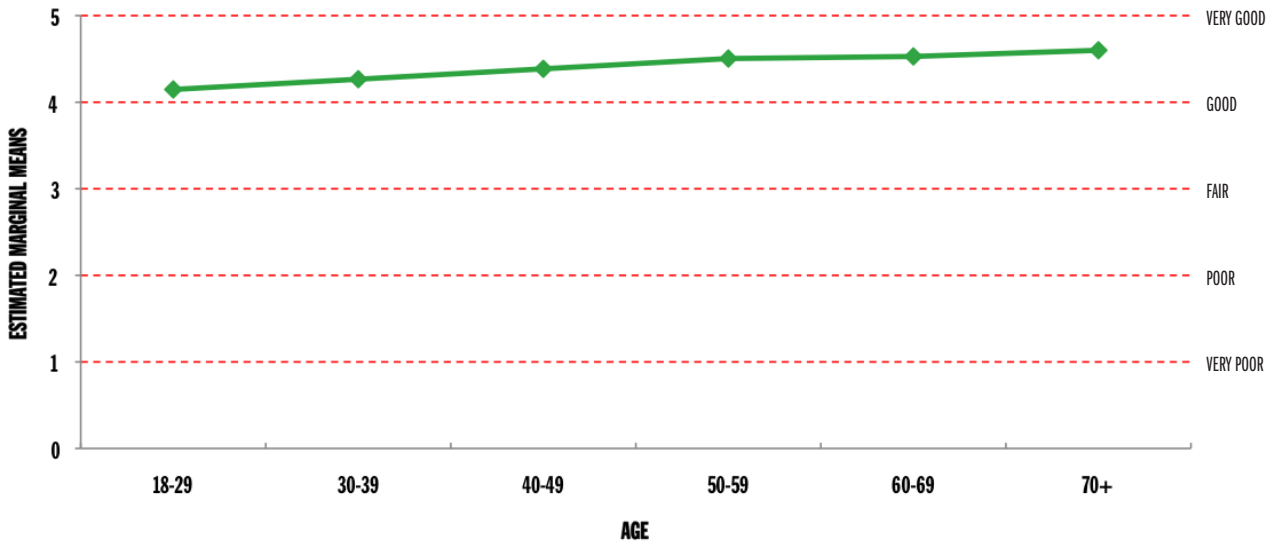


Figure 6. Estimated marginal means of the effect of age on the quality of the North Okanagan as a place to work.

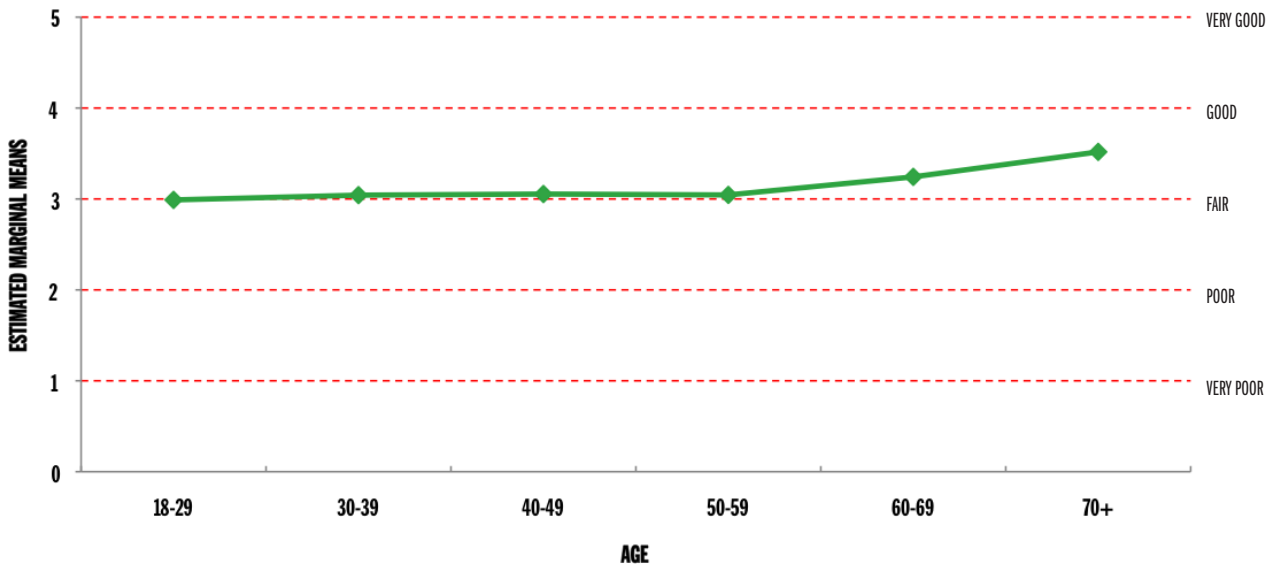
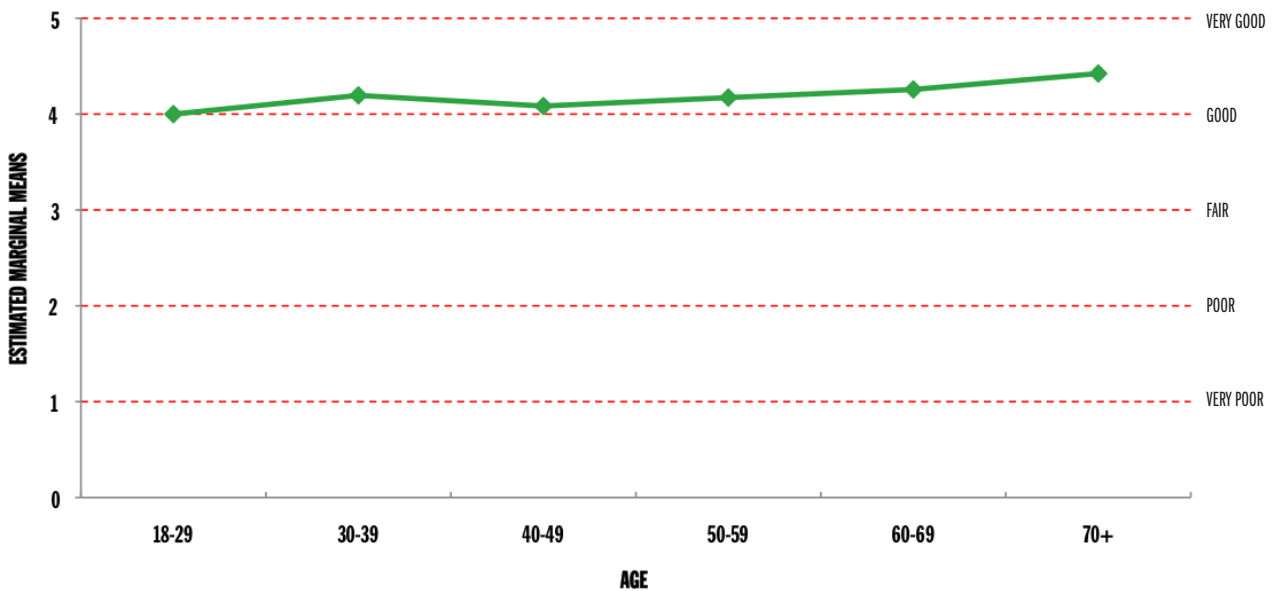


Figure 7. Estimated marginal means of the effect of age on the quality of the North Okanagan as a place to raise a family.



The respondents' community of residence had a significant effect on the perceived quality of the North Okanagan as a place to play and raise a family. Although on average respondents from all communities rated their opportunities for play in the North Okanagan between good and very good, respondents from Lumby rated their play opportunities significantly lower than those from other communities $F(6,883)=3.05$, $p<0.01$ (Figure 8). Similarly, although on average respondents from all communities rated the North Okanagan as a good place to raise a family, respondents from Lumby were significantly less satisfied with this aspect of their quality of life, as compared to residents of Armstrong $F(6,883)=2.37$, $p<0.05$ (Figure 9).

Figure 8. Estimated marginal means of the effect of community on the quality of the North Okanagan as a place to play.

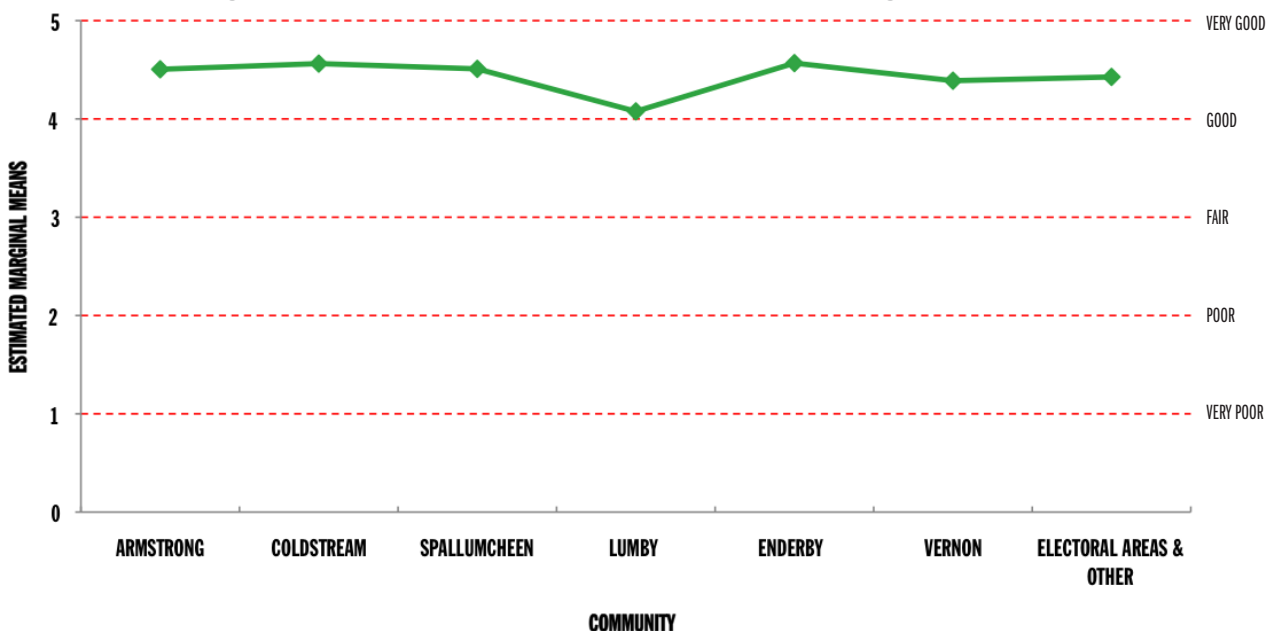
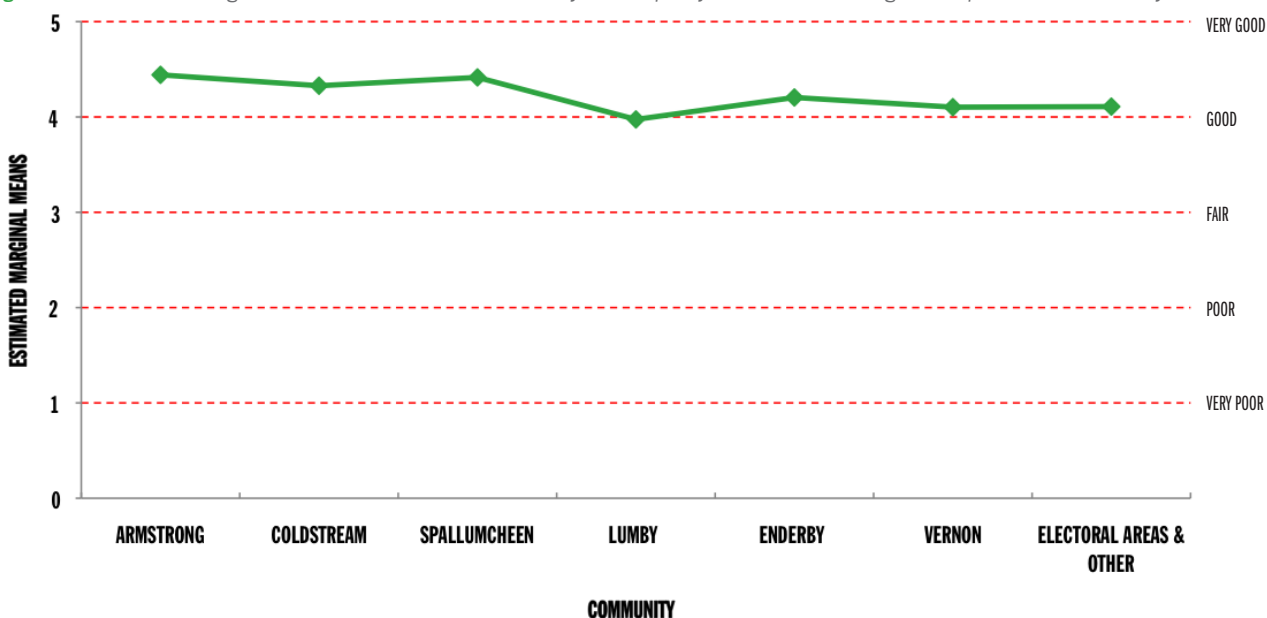
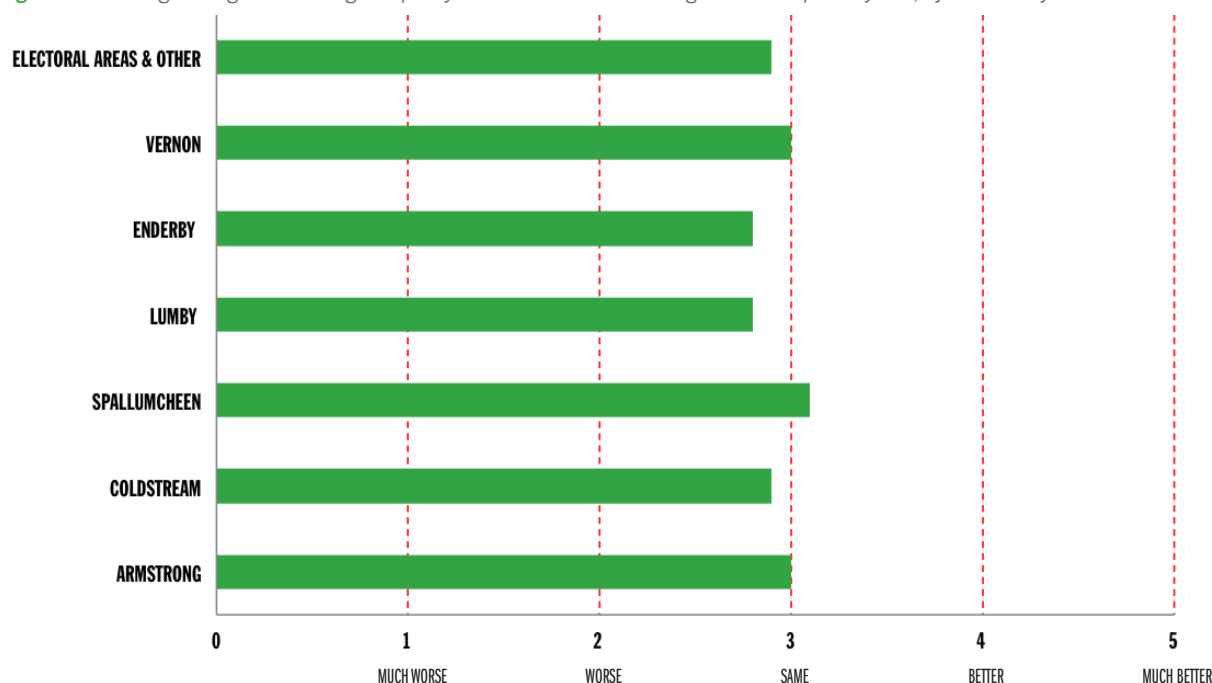


Figure 9. Estimated marginal means of the effect of community on the quality of the North Okanagan as a place to raise a family.



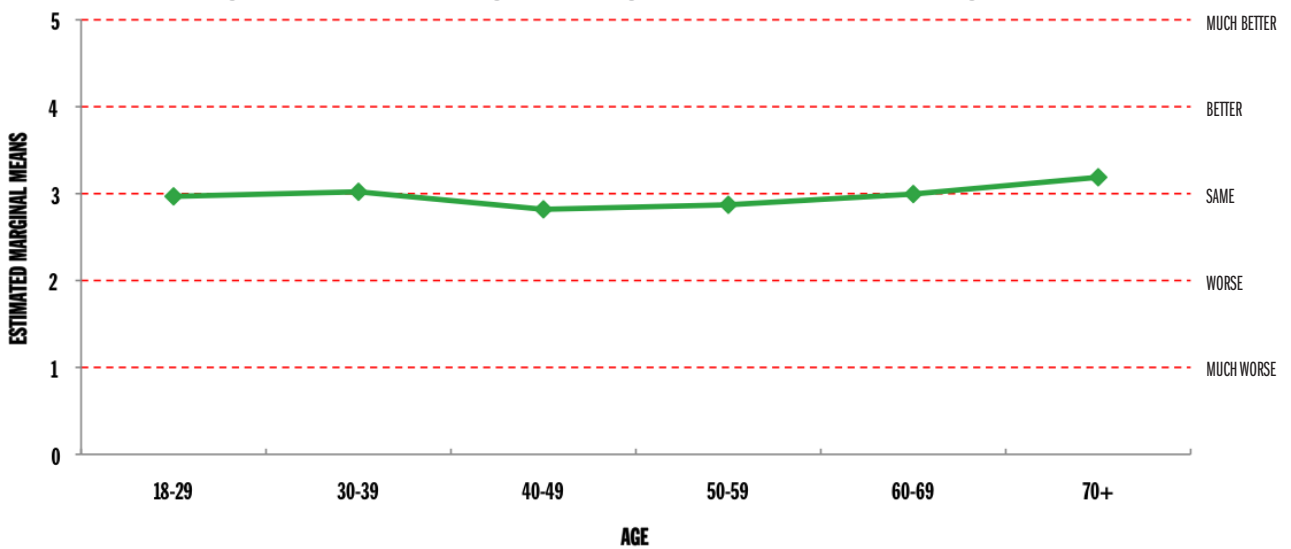
When respondents were asked to rate how life in the North Okanagan had changed over the past five years, the average response was 2.95, or just below “About the same”. The change in quality of life was rated slightly lower in Enderby, Lumby and the Electoral Areas than in other communities (Figure 10), but these differences were not significant.

Figure 10. Average rating of the change in quality of life in the North Okanagan over the past 5 years, by community.



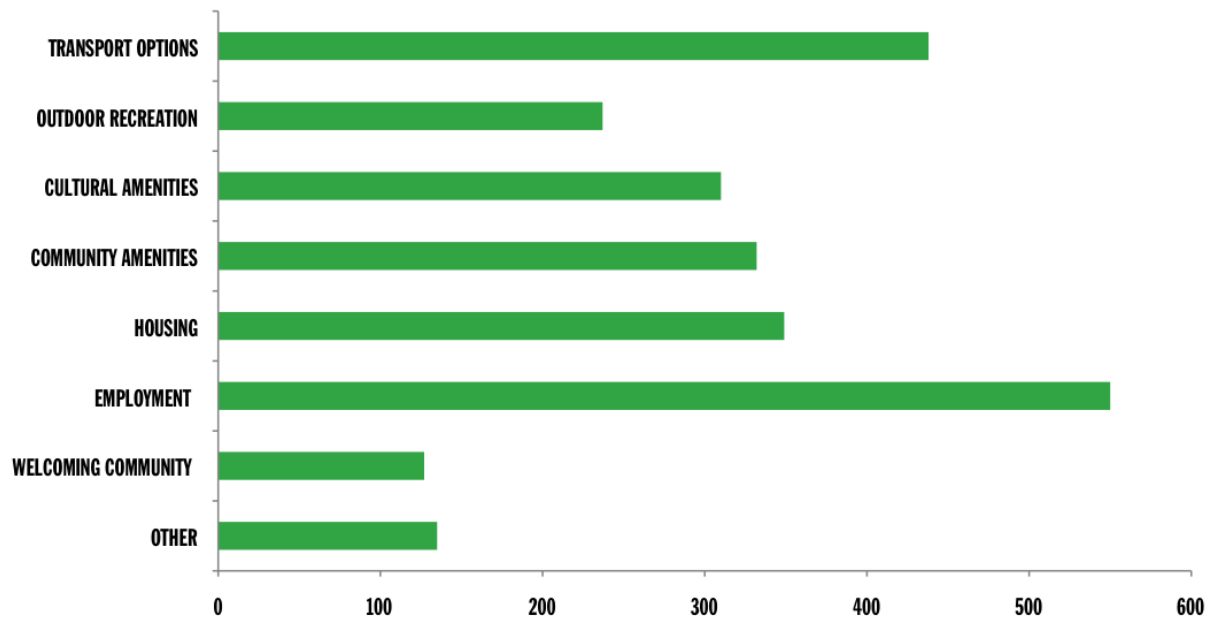
Interestingly, most age groups considered that quality of life in the North Okanagan had decreased somewhat or remained the same over the past five years, with the significant exception of the 70+ age group, which considered quality of life to have increased slightly $F(5,883)$, $p<0.05$ (Figure 11).

Figure 11. Estimated marginal means of the effect of age on the change in quality of life in the North Okanagan over the past 5 years.



When asked to choose which factors would improve the quality of life in the North Okanagan, the majority of respondents chose “employment”, followed closely by “transportation options” (Figure 12). Housing, community amenities, and cultural amenities were also considered to be important factors in overall quality of life in the North Okanagan.

Figure 12. Number of respondents who chose each of the factors that they considered would increase their quality of life. Respondents were able to choose more than one factor in their response.



3.3.4 POLICY AREAS

Survey respondents rated most policy areas as fair to good (Figure 15). The worst performing policy area was Economic Development, followed by Transportation and Infrastructure, Housing, and Government and Service Delivery. The best performing policy area was Environment and Natural Lands, followed by Agriculture and Food Systems, Water Stewardship and Energy and Emissions. In this report, a policy area is considered to have been poorly rated if ratings in at least one metric of that policy area fall below “fair”. Likewise, a policy area is considered to have been well rated if ratings in at least one metric of that policy area fall above “good”.

In reflection of the average policy area ratings, respondents indicated that Economic Development was the policy area that required the most attention from the RDNO, followed by Transportation and Infrastructure (Figure 16). Interestingly, respondents believed that Agriculture and Food Systems required a high level of attention, despite rating that policy area relatively well. It should be noted that survey respondents indicated that all policy areas require somewhat more attention.

Figure 15. Average rating by policy area.

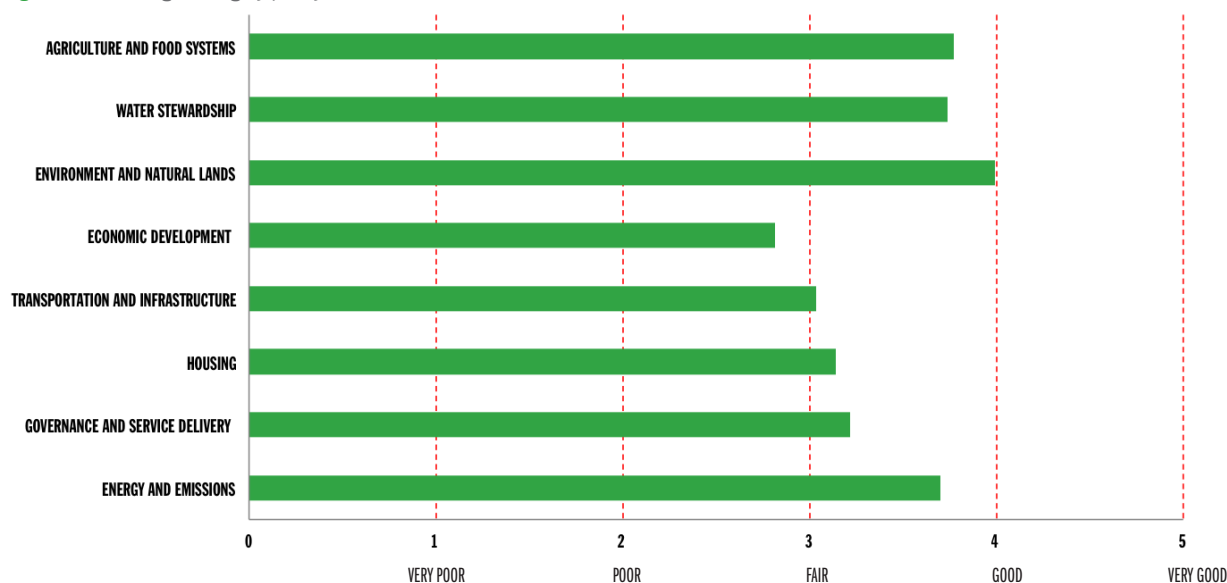
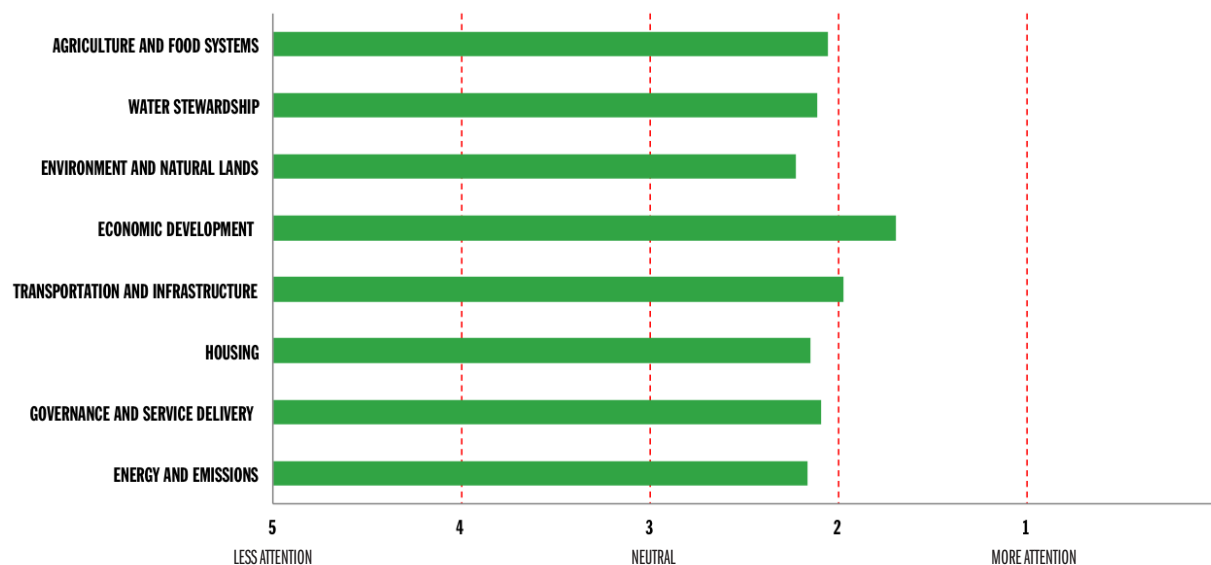


Figure 16. Average rating of attention needed by policy area. Lower numbers indicate more attention needed, while higher numbers indicate less attention needed (scale 1-5).



3.3.4.1 CONTEXT INDICATORS

The monitoring and evaluation program collects information on context indicators to help us better understand the context within which the RGS is being implemented. These indicators include population size and growth rate.

The population of the North Okanagan has increased steadily since 1991, reaching 81,237 people in 2011 (Figure 17). Population growth rates were relatively high in the early 1990s, with growth rates declining beginning in 1996. The region's population has been growing by about 1% per year since 2001, and this trend is projected to remain fairly constant over the next two decades (Figure 18).

Figure 17. Total and projected population of the North Okanagan from 1991 to 2031.

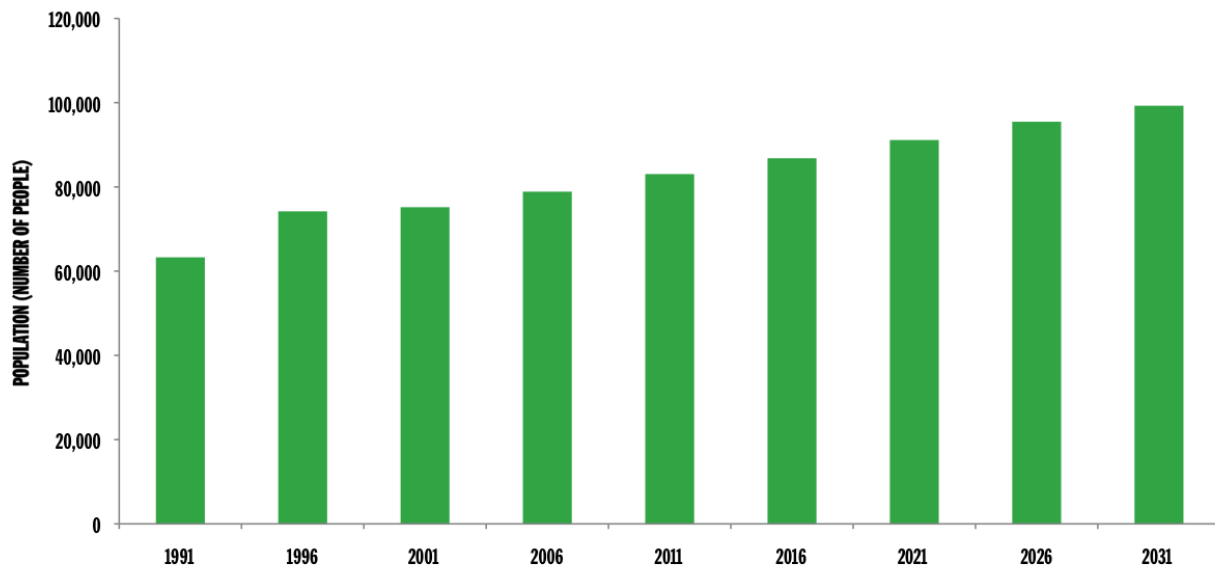
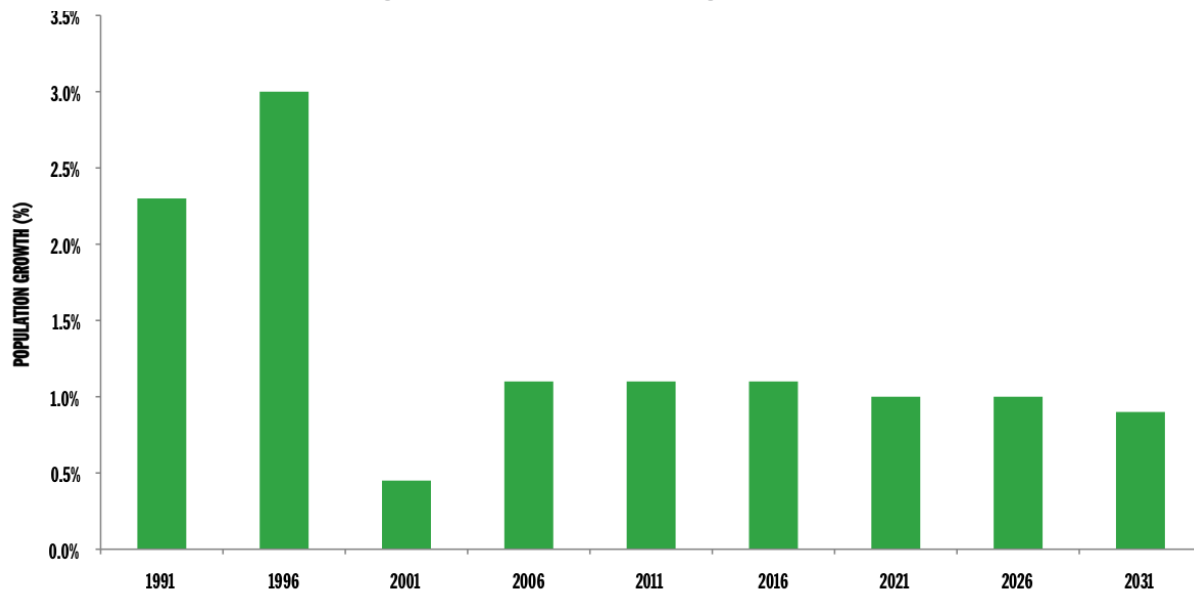


Figure 18. Total and projected population growth rates (%) in the North Okanagan from 1991 to 2031.





3.3.4.2 URBAN CONTAINMENT AND RURAL PROTECTION

Residential density within the total Growth Area and Rural Protection area were 4.22 and 0.01 dwelling units per hectare (du/ha) in 2011 (Figure 19). Projected residential density in the Growth Area is between 4.5 and 5 du/ha over the next two decades and is between 0.3 and 0.4 du/ha in the Future Growth Area (Figure 20). Projected residential density in the Rural Protection Area is 0.01 du/ha over the same time period (Figure 20).

Figure 19. Residential density (du/ha) in the Growth Area and Rural Protection Area in 2011.

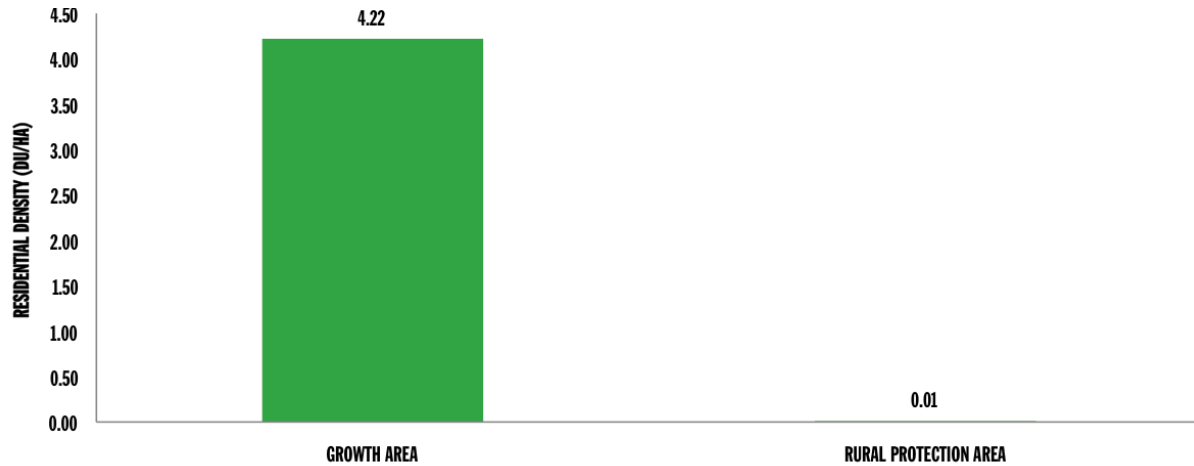
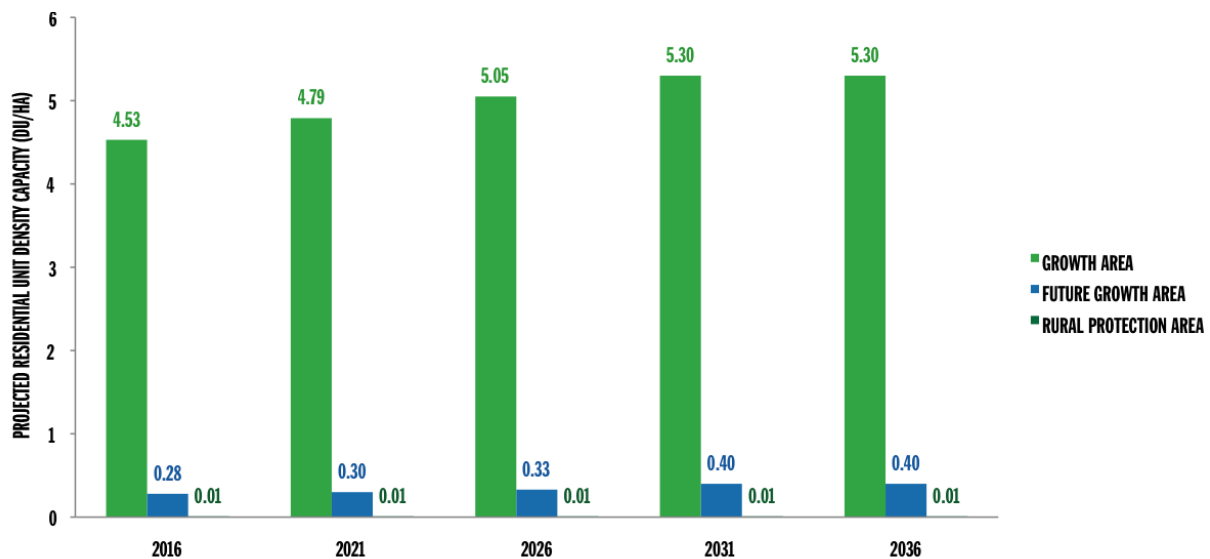


Figure 20. Projected residential density (du/ha) in the Growth Area, the Future Growth Area, and the Rural Protection Area from 2016 to 2036.



When asked to describe the North Okanagan, the majority of survey respondents chose to describe the region as a neutral balance between urban and rural, or slightly more rural than urban (Figure 21). Many respondents identified the region’s small town feel and rural character as reasons they choose to live in the North Okanagan (Figure 22). However, although the majority of respondents replied that the North Okanagan does not need more or fewer urban experience opportunities, the second most common response was that the North Okanagan needs many more urban experience opportunities (Figure 23).

Figure 21. Responses to the question “How would you describe the North Okanagan today?”

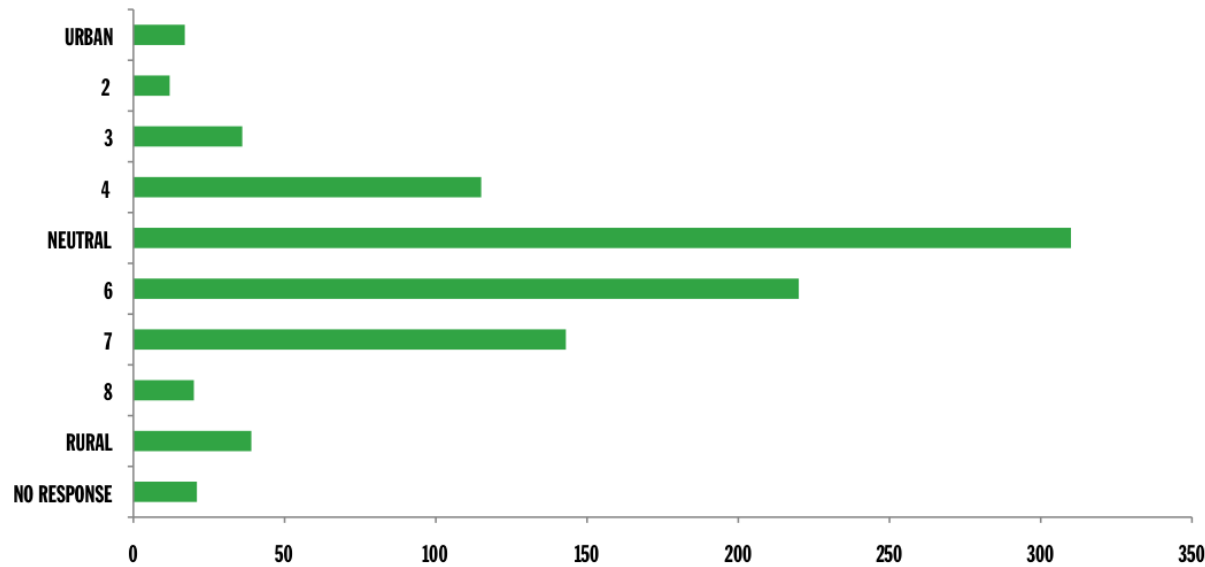


Figure 22. Responses to the statement “The North Okanagan’s small town feel and rural character is one of the main reasons you live in your community.”

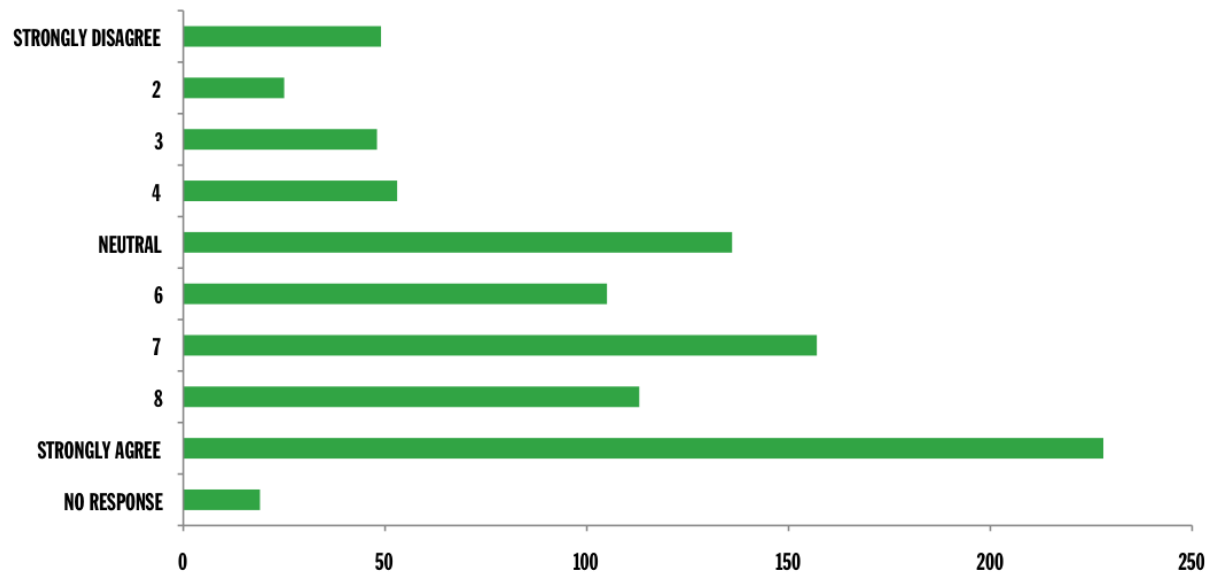
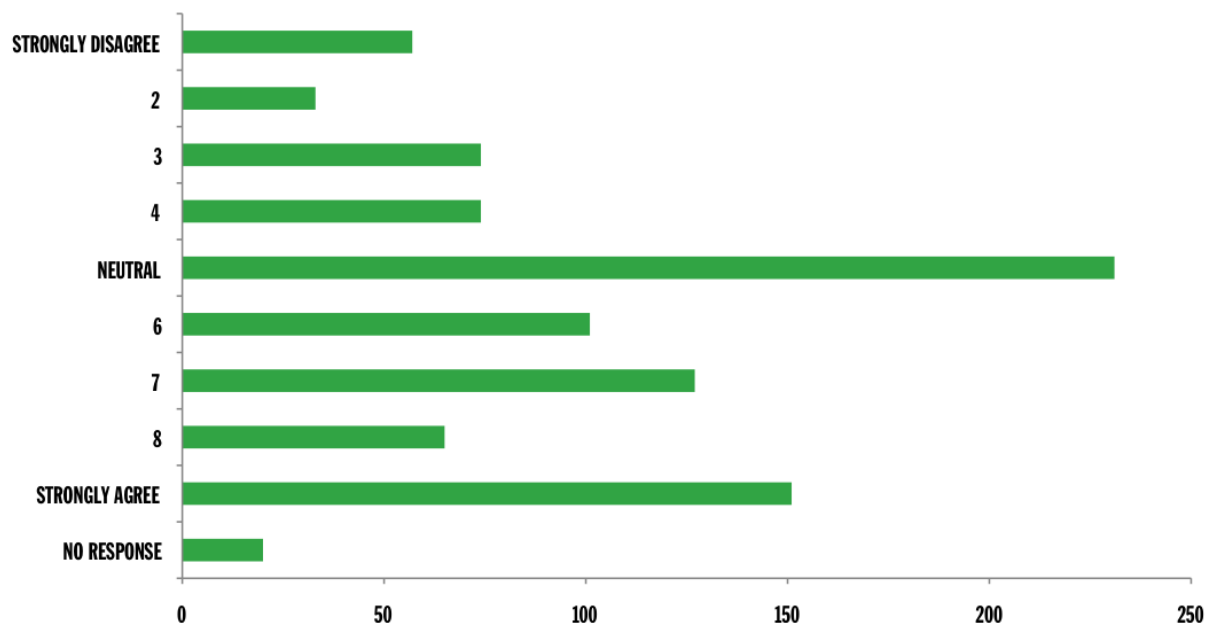


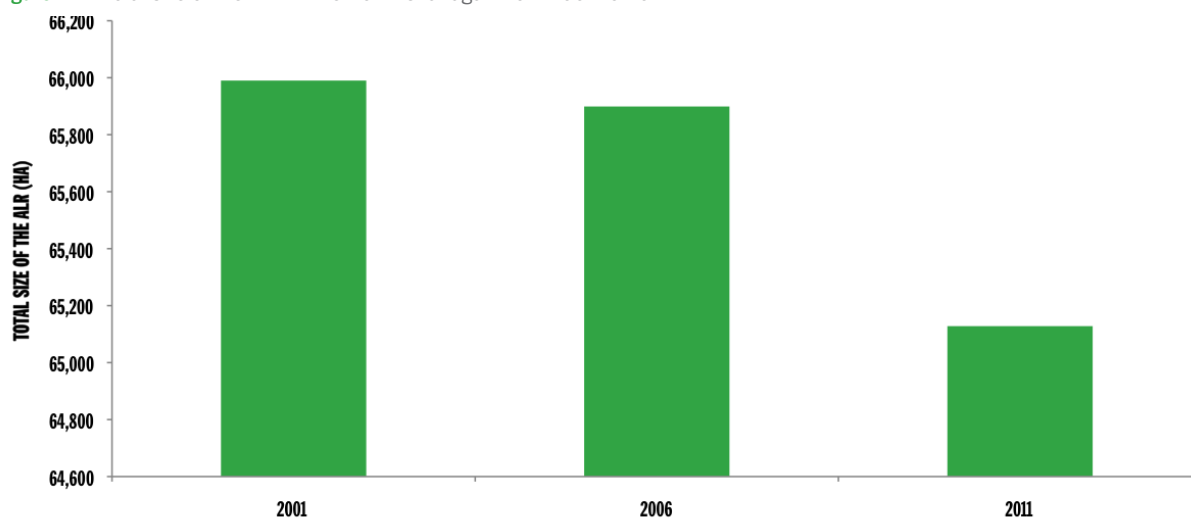
Figure 23. Responses to the statement “The North Okanagan needs more urban experience opportunities (such as entertainment, dining, arts, culture).”



3.3.4.3 AGRICULTURE AND FOOD SYSTEMS

The total size of the Agricultural Land Reserve (ALR) in the North Okanagan has decreased by a little more than 800 hectares since 2001, mostly due to Electoral Area ALR Boundary Reviews that were completed in 2001 (Electoral Areas D and E) and 2009 (Electoral Areas B, C and F) (Figure 24). The average age of farmers has increased from below 53 years of age in 2001 to over 57 in 2011 (Figure 25). This trend is consistent with what is occurring throughout BC and Canada. Although the average age of operators has been increasing, the number of farm operators has remained stable in the North Okanagan, with a slight increase in the number of female operators over the last ten years (Figure 26). Total gross farm receipts have increased by almost 60% (or \$50 million) since 1996 (Figure 27).

Figure 24. Total size of the ALR in the North Okanagan from 2001 to 2011.¹



¹ The reduction in the area of the ALR was a result of two Electoral Area ALR Boundary Reviews (1999-2001 and 2006-2009), undertaken by the RDNO in partnership with the ALC. These reviews were a refinement of the ALR, taking into consideration more recent soil capability mapping.

Figure 25. Average age of farmers in the North Okanagan from 2001 to 2011.

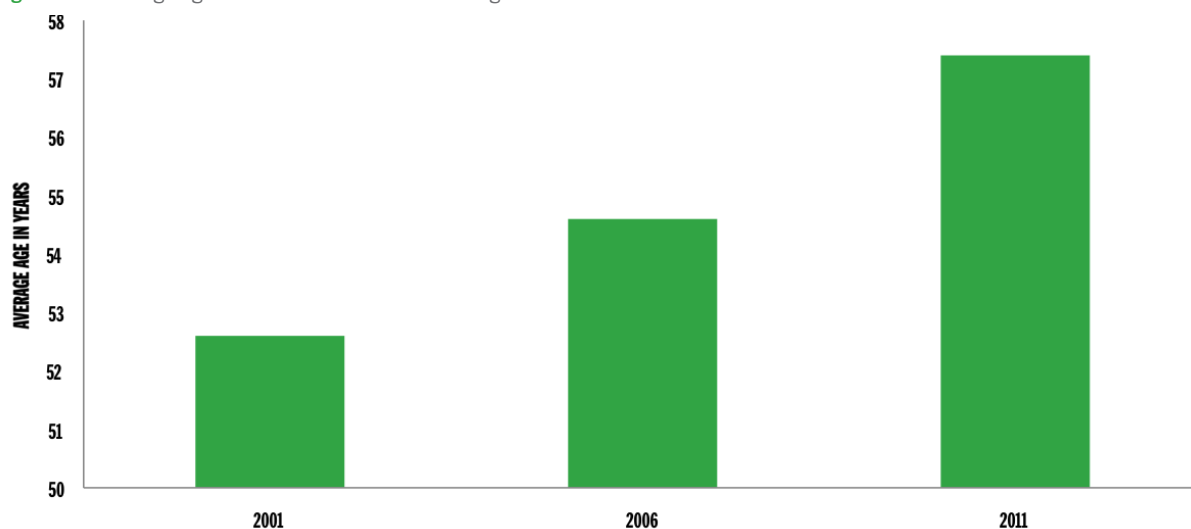


Figure 26. Total number of farm operators in the North Okanagan by gender from 2001 to 2011.

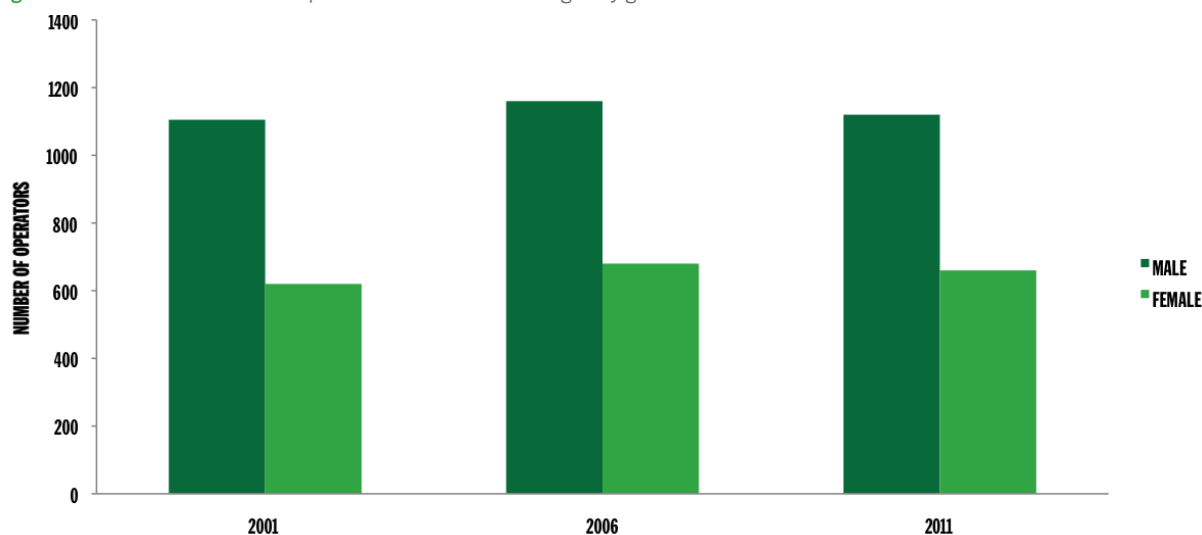
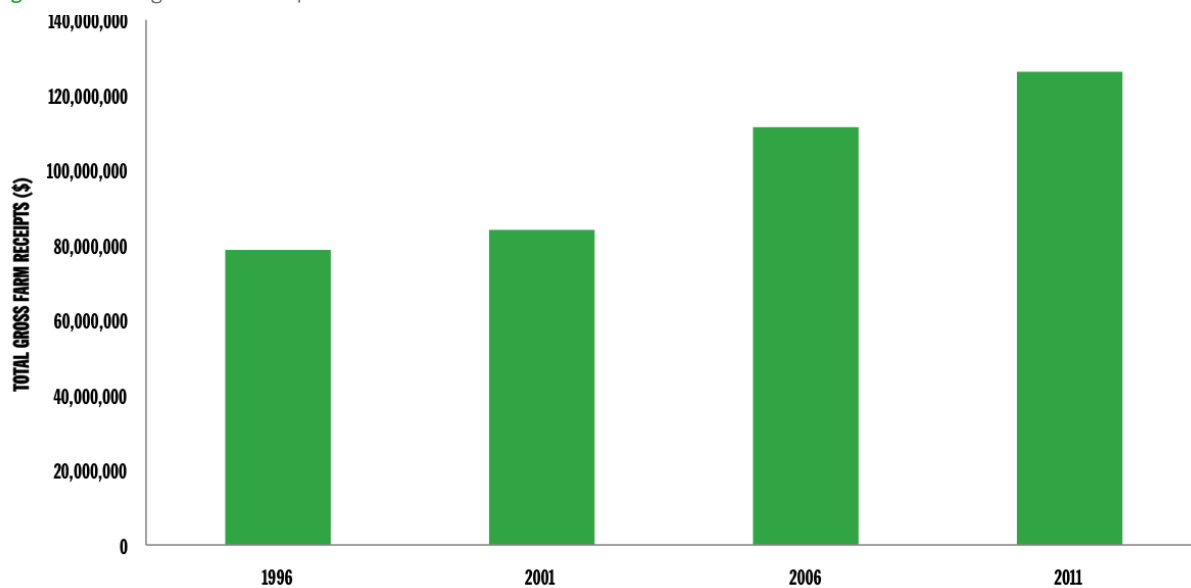
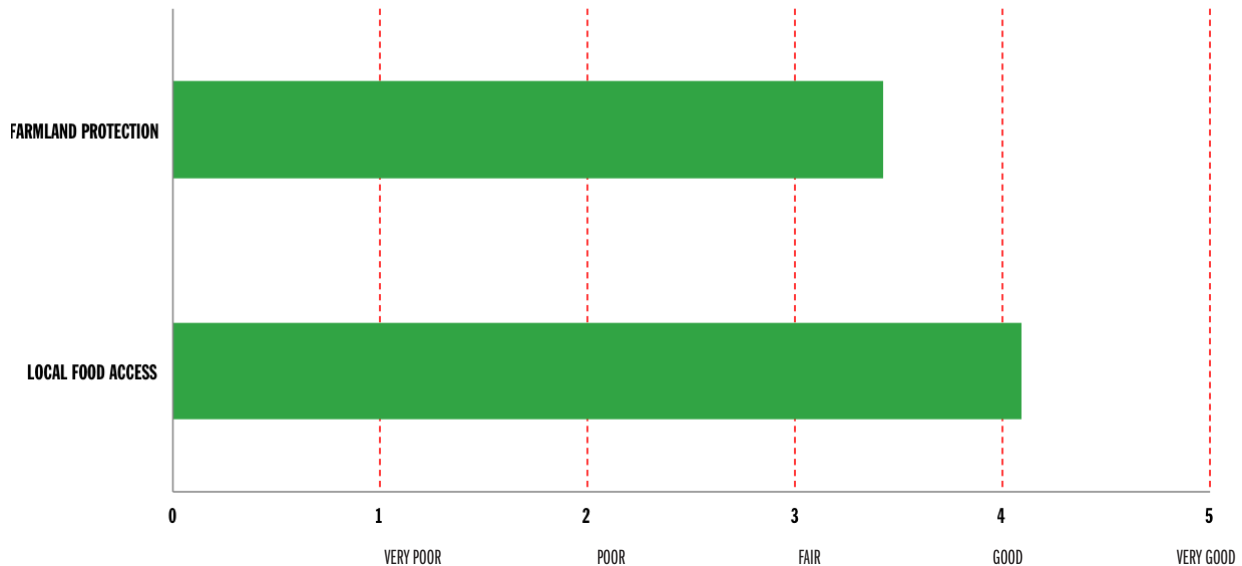


Figure 27. Total gross farm receipts from 1996 to 2011.



On average, survey respondents considered their local food access to be just above good (Figure 28), although respondents indicated that this issue needs somewhat more attention than it currently receives. Satisfaction with local food access was anticipated, given that local farmer and public markets take place within most North Okanagan municipalities, and local green grocers have begun to market more produce from BC's Southern Interior. Farmland protection was rated somewhat lower than local food access, with an average response between fair and good (Figure 28). Respondents felt that this issue should also receive somewhat more attention than it does currently.

Figure 28. Average ratings of local food access and farmland protection in the North Okanagan.



Younger respondents were significantly more likely to rate their local food access lower than older age groups $F(5,231)=2.51$, $p<0.05$ (Figure 29). Respondents from Lumby were significantly more likely to rate their local food access lower than those from other communities $F(6,844)=5.84$, $p<0.001$ (Figure 30).

Figure 29. Estimated marginal means of the effect of age on ratings of local food access in the North Okanagan.

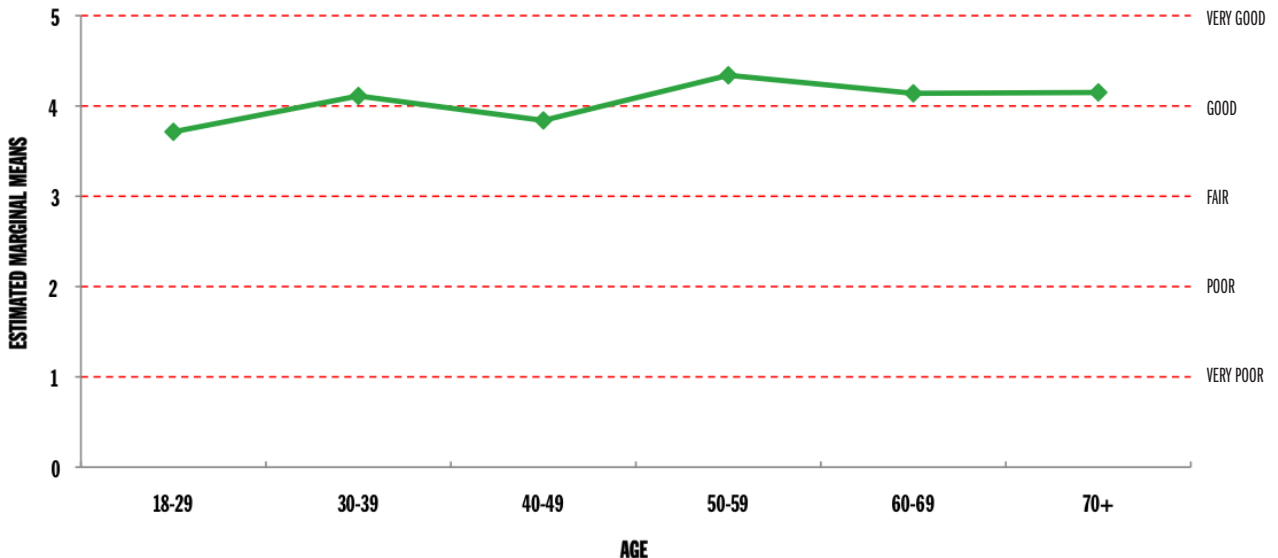
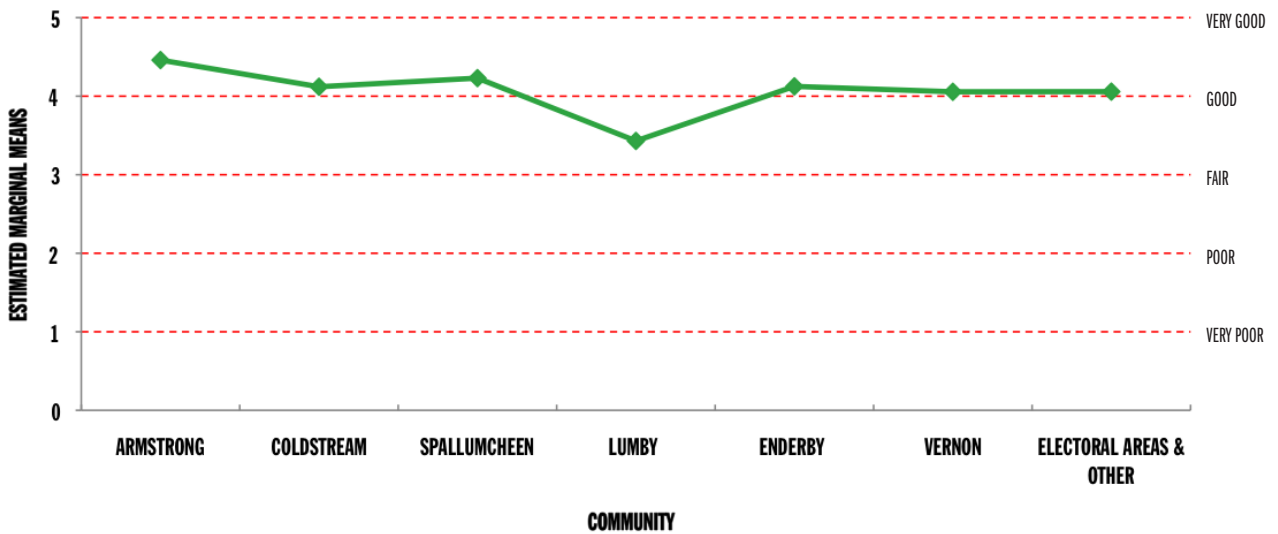
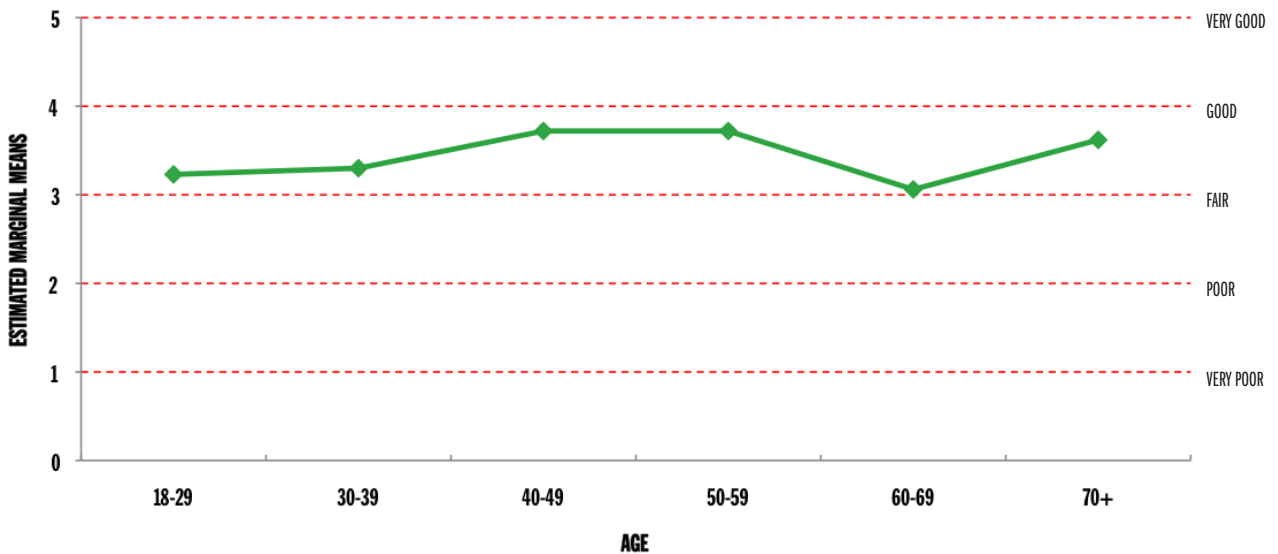


Figure 30. Estimated marginal means of the effect of community on ratings of local food access in the North Okanagan.



Older aged respondents (60-69 years) were significantly more likely to rate farmland protection lower than respondents aged 40-59 $F(5,231)=3.21$, $p<0.01$ (Figure 31).

Figure 31. Estimated marginal means of the effect of age on ratings of farmland protection in the North Okanagan.





3.3.4.4 WATER STEWARDSHIP

As of 2011, water metering was mostly restricted to the Greater Vernon Water Utility and some small Regional District water systems. Groundwater use is not currently regulated, although this may change with the introduction of the Water Sustainability Act. As a result, 2011 water usage data are restricted to the Greater Vernon Area. Water utility usage information will continue to improve. Since 2011, the City of Armstrong, the City of Enderby, and the Village of Lumby have begun water metering programs.

In Greater Vernon, the majority of water use occurs in the City of Vernon (Figure 32). Although information is still being gathered on the amount of water used for irrigation, the data show that only a small portion of the irrigated area in the North Okanagan uses reclaimed water (Figure 33).

Figure 32. Total water use by area in 2011.

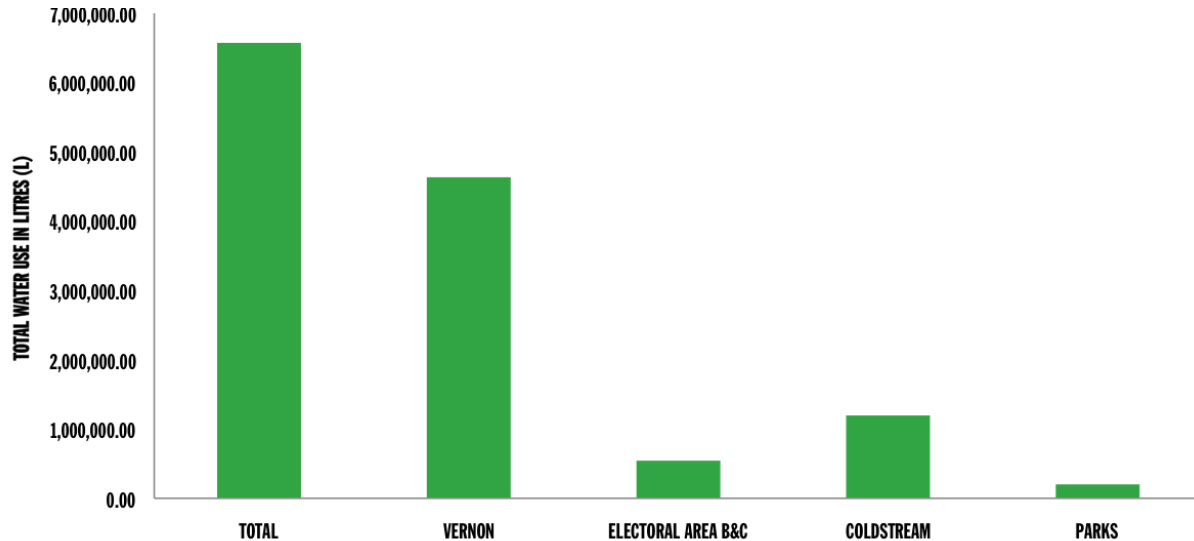
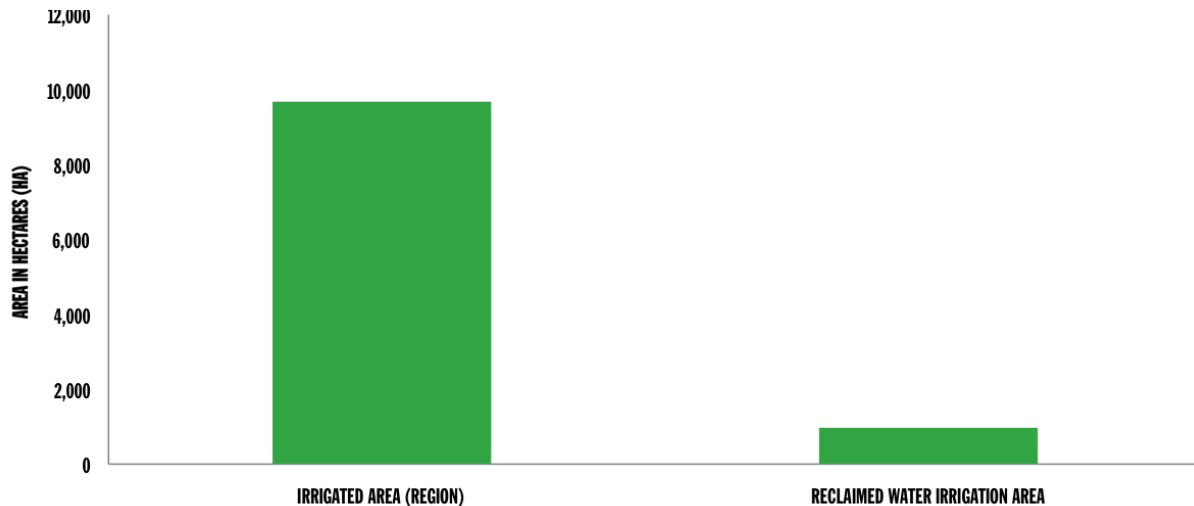
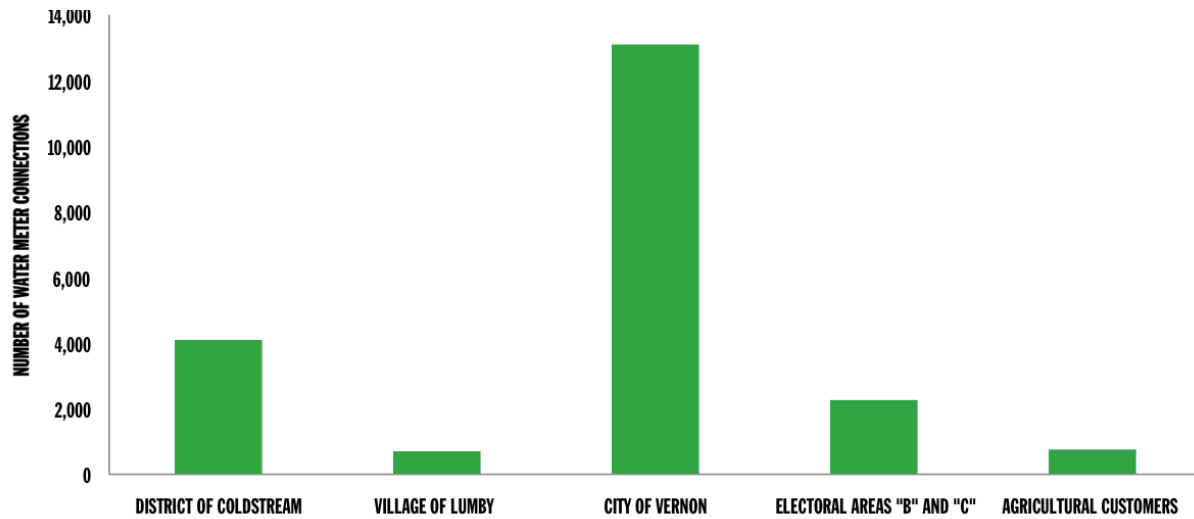


Figure 33. Total Greater Vernon irrigated area and area irrigated using reclaimed water in hectares (ha) in 2011.



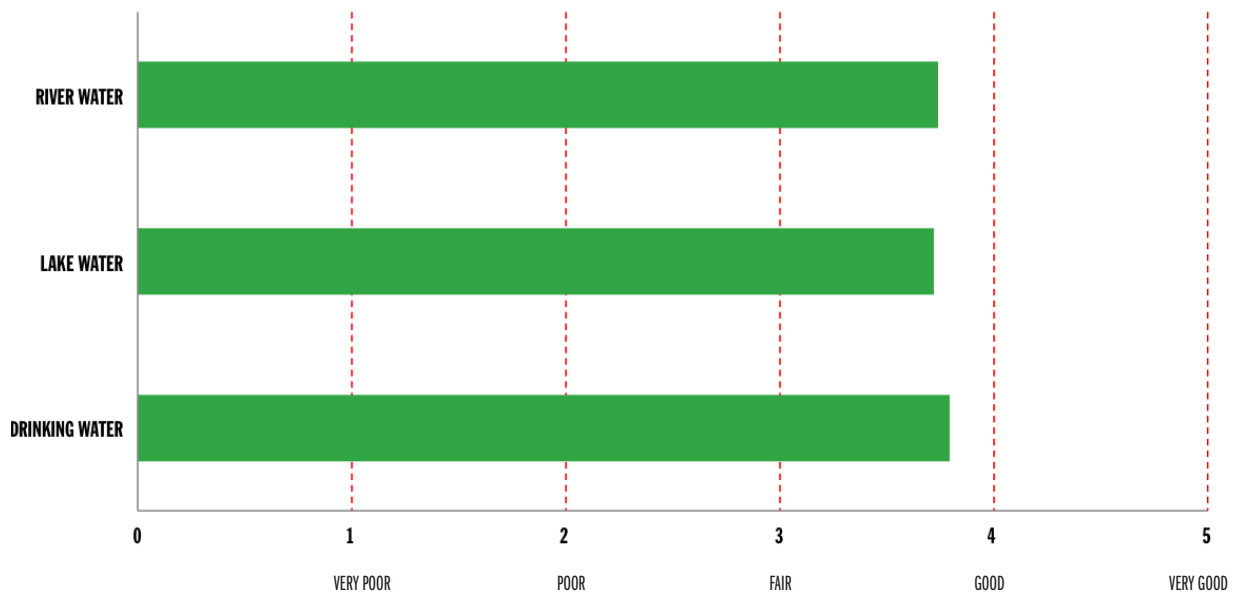
In an effort to improve water conservation, water meters are gradually being installed in the North Okanagan. The majority of water meters are currently installed in the City of Vernon, with some installed in the smaller communities and Electoral Areas (Figure 34). Agricultural customers are also starting to install water meters.

Figure 34. Number of water meter connections by area in 2011.



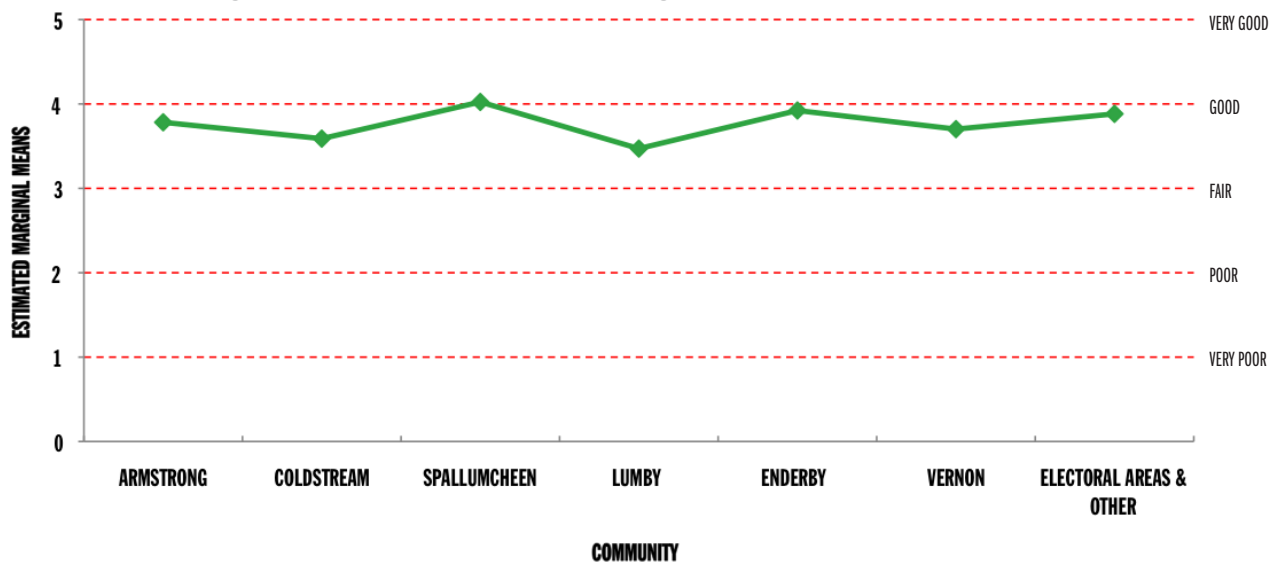
The majority of survey respondents rated their drinking water quality positively, with an average response of just below good (Figure 35). Respondents considered that drinking water requires somewhat more attention than it currently receives. Lake and river water quality were rated between fair and good, on average (Figure 35), and both issues require somewhat more attention. This suggests that while respondents trust the quality of their drinking water somewhat, they may have experienced low levels of pollution in lakes and rivers in the North Okanagan.

Figure 35. Average ratings of drinking water, lake water and river water quality in the North Okanagan.



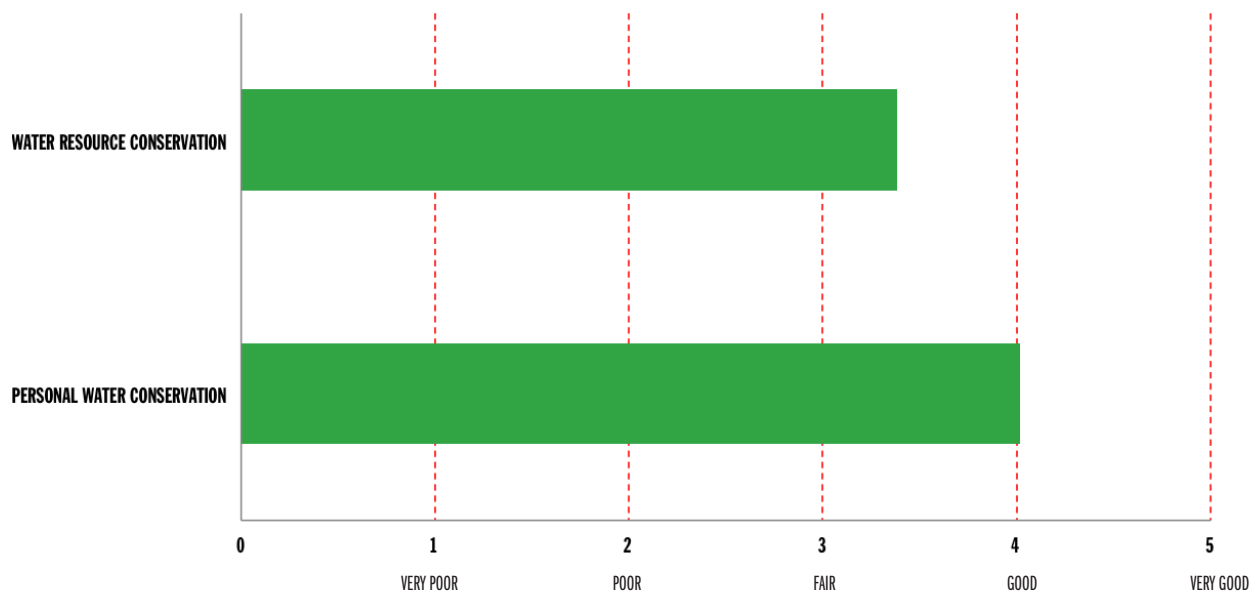
Respondents from Lumby were more likely to rate their river water quality slightly lower than respondents from other communities, while respondents from Spallumcheen and Enderby were more likely to rate it higher ($F(6,768)=2.60$, $p<0.05$ (Figure 36).

Figure 36. Estimated marginal means of the effect of community on ratings of river water quality.



Personal water conservation was rated as good on average, while water resource conservation was considered to be slightly above fair (Figure 37). Both issues require somewhat more attention.

Figure 37. Average ratings of personal water conservation and water resource conservation in the North Okanagan.

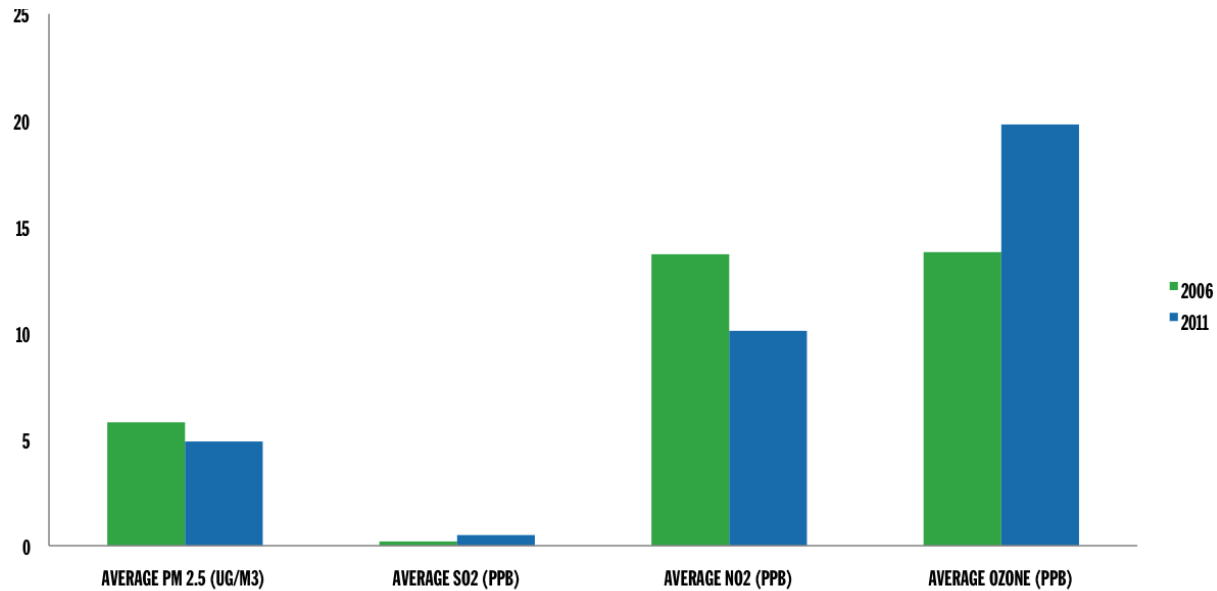




3.3.4.5 ENVIRONMENT AND NATURAL LANDS

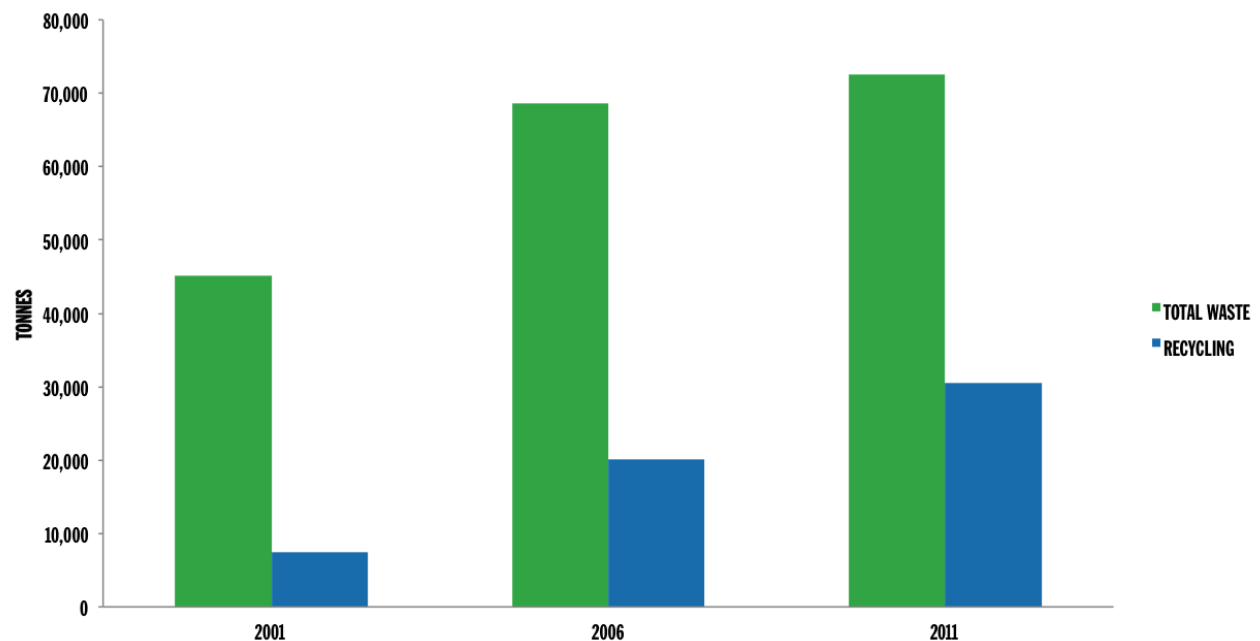
Air quality in the North Okanagan has improved since 2006 according to some measures (e.g. particulate matter and NO₂) (Figure 38). However, average levels of ground-level ozone increased quite substantially from 2006 to 2011.²

Figure 38. Air quality in the North Okanagan in 2006 and 2011.



Waste generation has increased by almost 30,000 tonnes since 2001 (Figure 39). Interestingly, recycling has increased substantially over the same period, with three times as much waste being recycled in 2011 as in 2001 (Figure 39).

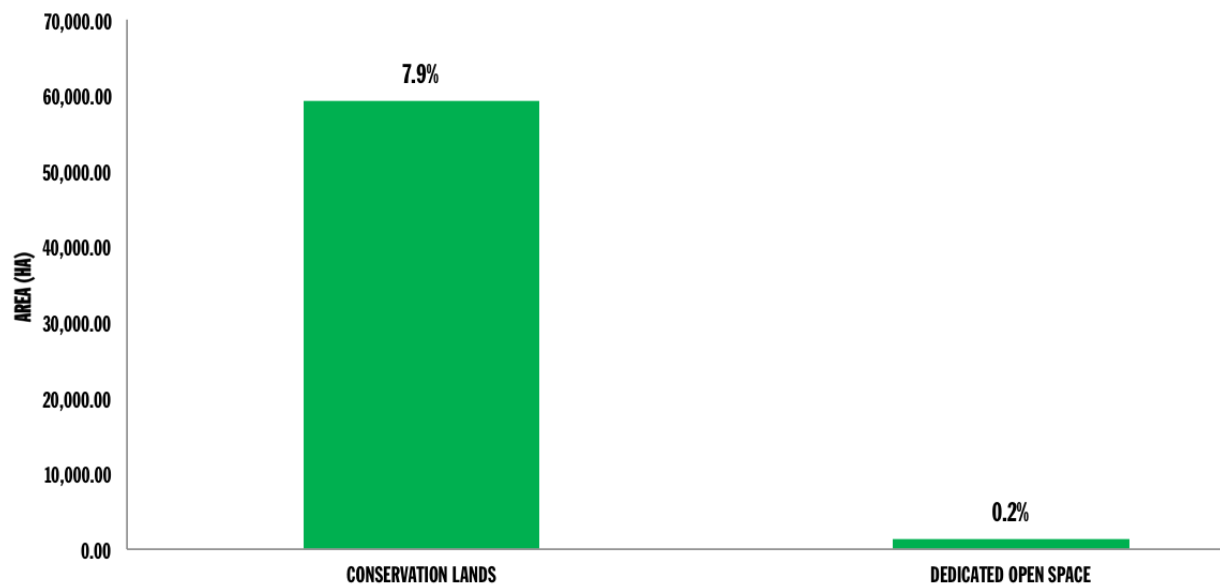
Figure 39. Total waste generated and recycled in 2001, 2006 and 2011.



² Ground-level ozone is a colourless and highly irritating gas that forms just above the earth's surface. It is called a "secondary" pollutant because it is produced when two primary pollutants react in sunlight and stagnant air. These two primary pollutants are nitrogen oxides (NO_x) and volatile organic compounds (VOCs), which can be generated by the combustion of hydrocarbon fuels.

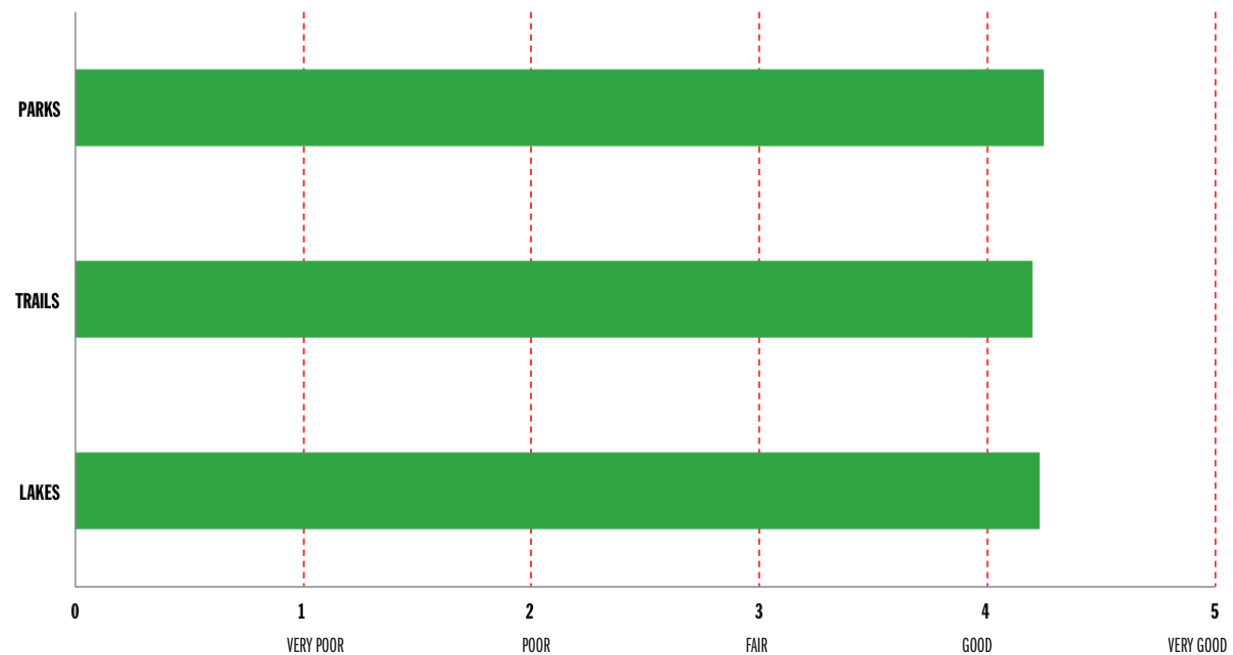
The North Okanagan has designated 7.9% of its land as conservation lands while 0.2% is classified as dedicated open space (Figure 40). This level of conservation is close to the national average but is lower than the coverage required to maintain local biodiversity in most cases

Figure 40. Area (ha) and percent coverage of conservation lands and dedicated open space in the North Okanagan in 2011.



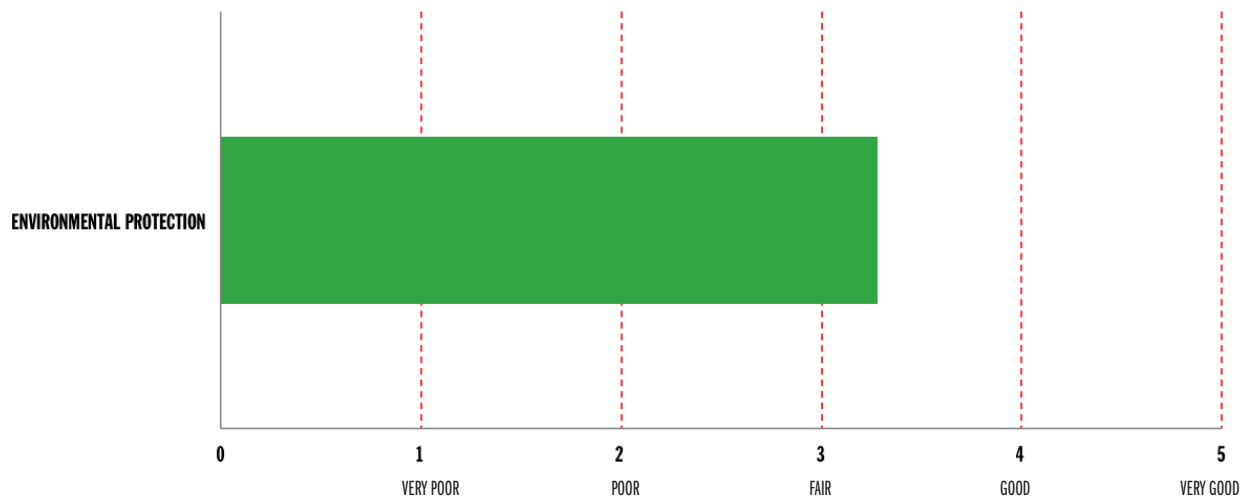
Survey respondents rated their recreational access to lakes, trails and parks slightly above good (Figure 41). Respondents considered that these issues required somewhat more attention than they currently receive.

Figure 41. Average rating of recreational access to lakes, trails and parks in the North Okanagan.



Survey respondents rated the quality of environmental protection slightly lower, with an average rating slightly higher than fair (Figure 42). In reflection of this greater level of concern, respondents considered that this issue should receive more attention than the other environmental issues discussed in the survey.

Figure 42. Average rating of environmental protection in the North Okanagan.

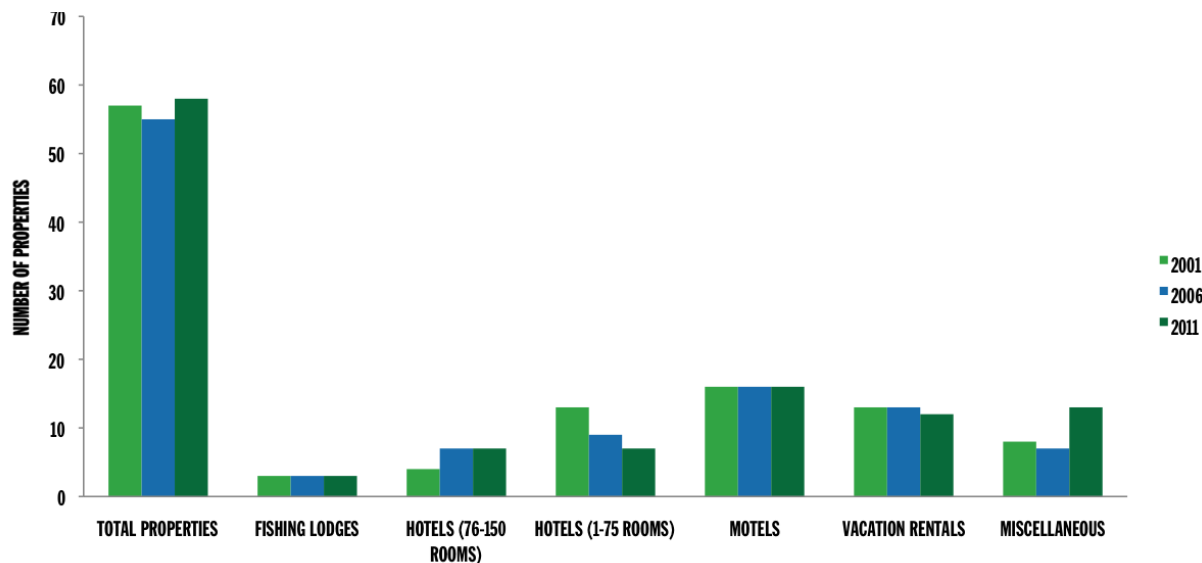


3.3.4.6 ECONOMIC DEVELOPMENT

The employment and economy statistics that have been presented in the National Household Survey (released in 2013) are considered to be unreliable, due to a high non-response rate. As a result, recent information on the state of employment and the regional economy are not available at this time. More reliable and accurate sources of employment and economic information are under investigation.

The number and type of tourism properties in the North Okanagan has changed very little since 2001 (Figure 43). Motels are the most common type of tourism property, followed by vacation rentals and small hotels (75 rooms or less).

Figure 43. Number of tourism properties by type, in 2001, 2006 and 2011.



Median income in the North Okanagan increased by about 20% between 2004 and 2009, the latest date for which data are available (Figure 44). Over the same time period, the percent of the population with incomes in lower income brackets decreased while it increased in higher income brackets (Figure 45), suggesting economic improvements in the region, at least until 2009. More recent income data would help us better understand the current state of the economy in the North Okanagan

Figure 44. Median income in the North Okanagan in 2004 and 2009.

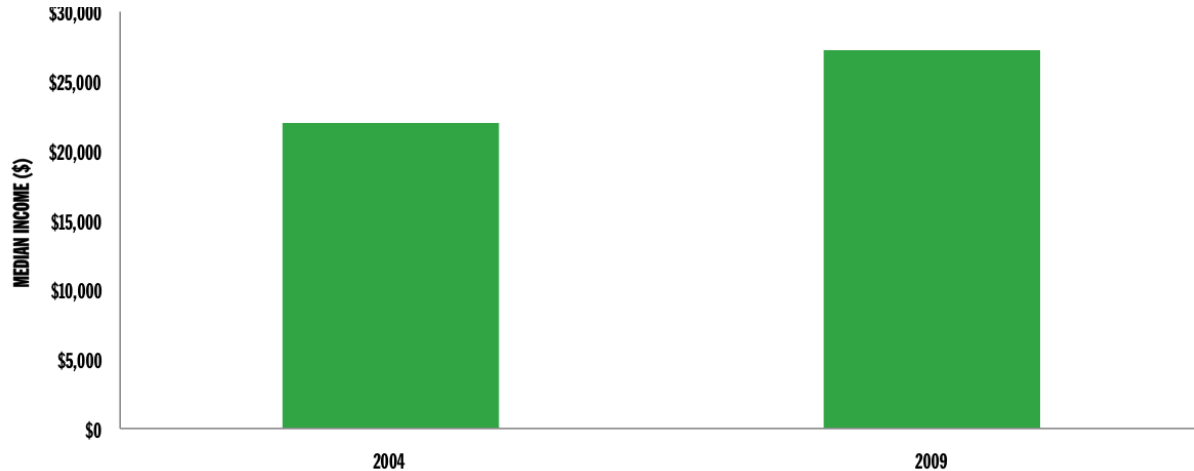
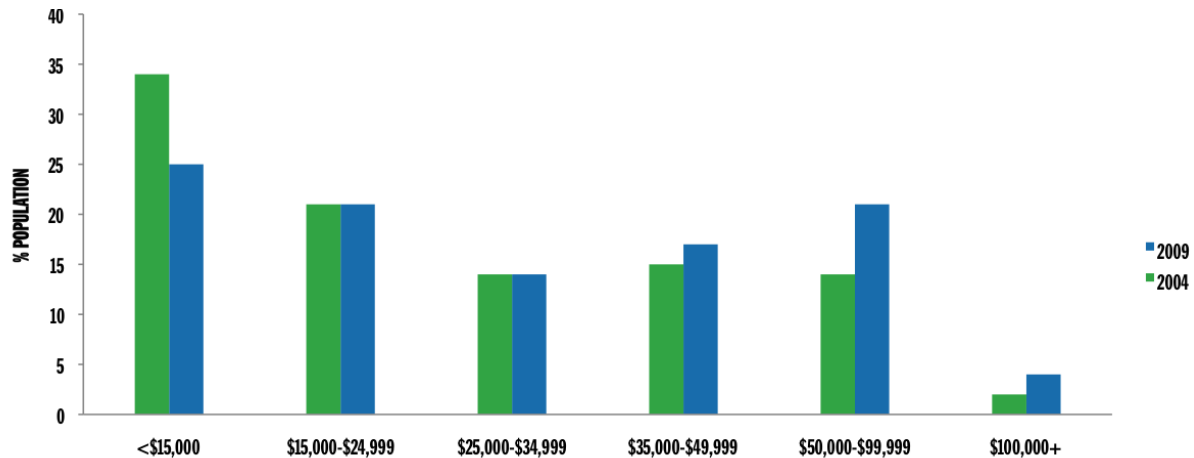
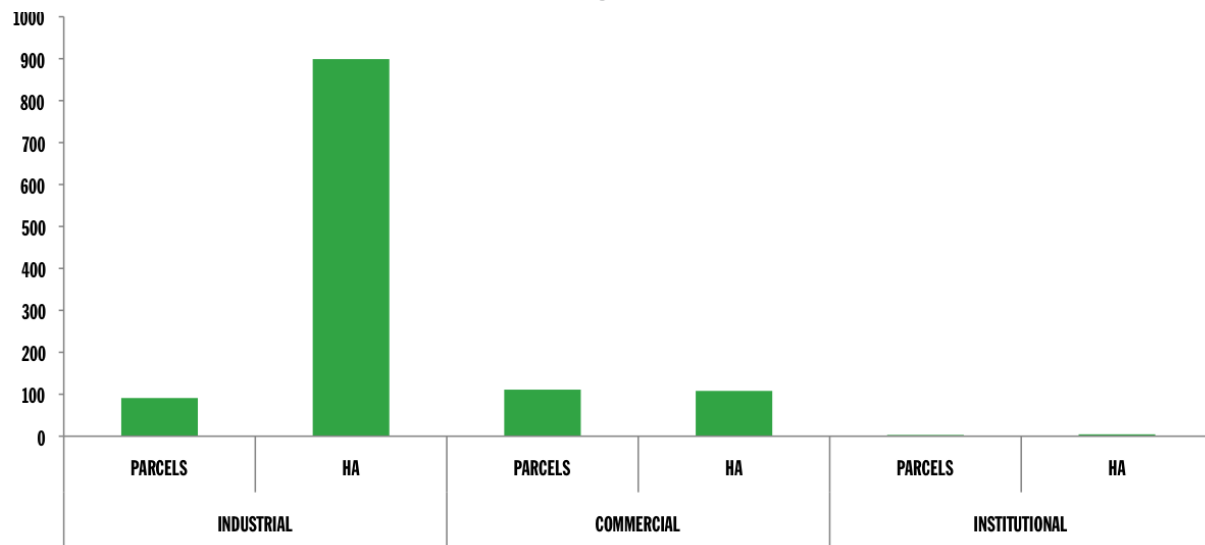


Figure 45. Median incomes as a % of the North Okanagan population in 2004 and 2009.



Vvacant land is a measure of potential future economic growth and current economic activity. Regionally, the North Okanagan has very low institutional land vacancy, some commercial land vacancy, and high levels of industrial land vacancy (Figure 46). The majority (85%) of vacant and industrial lands are not currently serviced and/or would not be available for development in the mid- to long-term.

Figure 46. Land vacancy (parcels and hectares) by land use designation in 2011.



Economic development received the lowest ratings of all the policy areas addressed in the survey. Economic opportunities and skills and jobs match were both rated similarly, receiving average scores of 2.8 and 2.9 respectively, just below fair (Figure 47). Both issues were identified by respondents as needing more attention than they currently receive. Community of residence showed a significant effect on respondents' assessments of economic opportunities $F(6,705)=3.16$, $p<0.01$. Economic opportunities were more likely to be rated lower by respondents from Lumby and Enderby than respondents from Spallumcheen (Figure 48).

Figure 47. Average rating of economic opportunities and skills and jobs match.

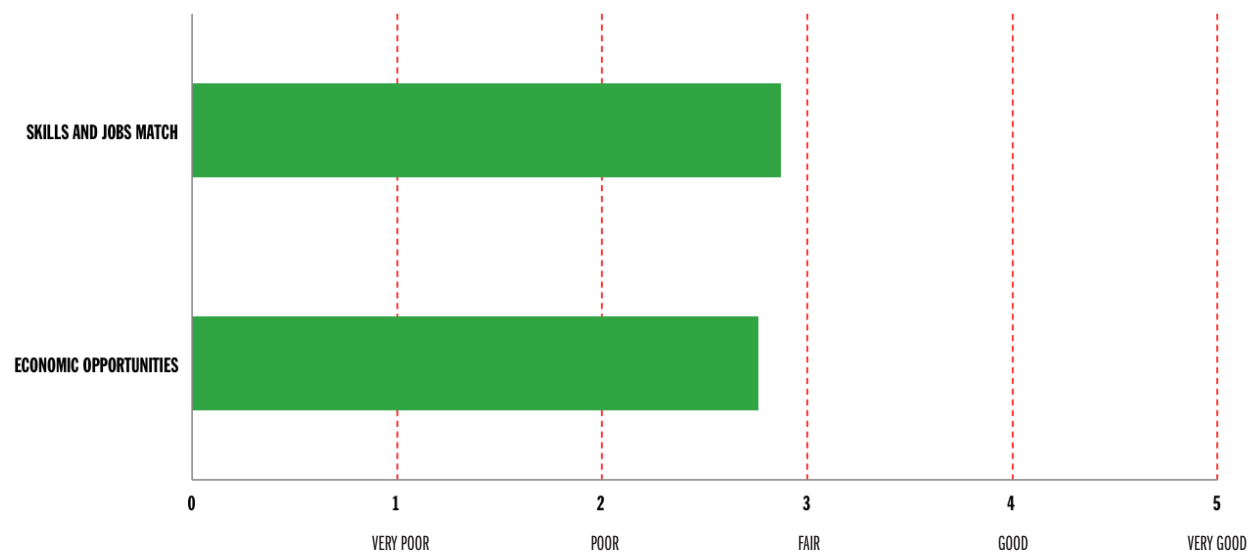
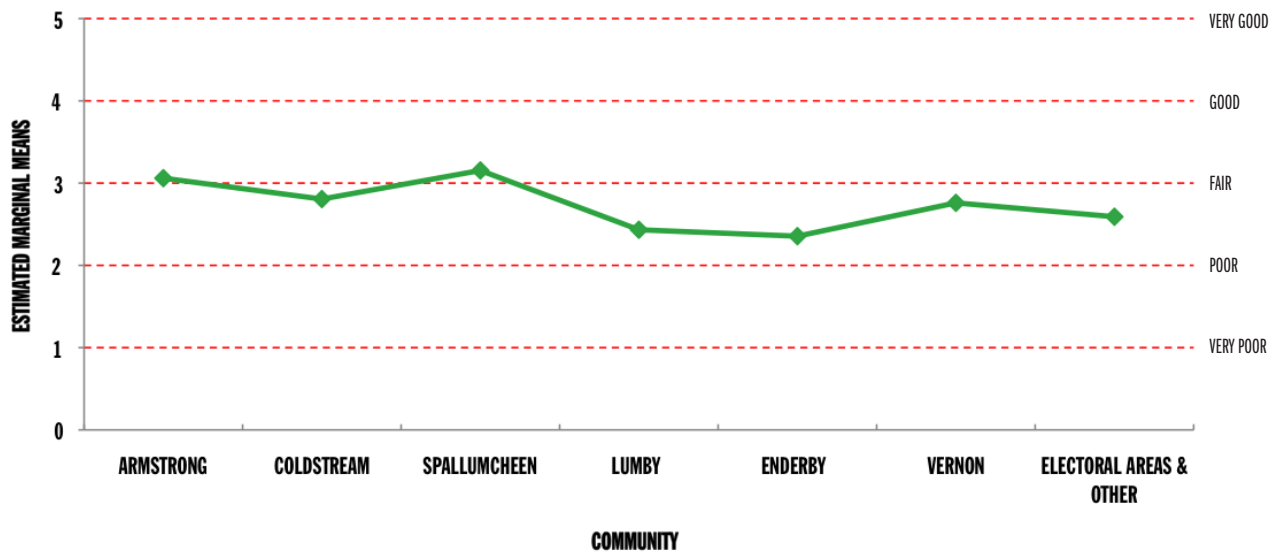


Figure 48. Estimated marginal means of the effect of community of residence on ratings of economic opportunities.



3.3.4.7 TRANSPORTATION AND INFRASTRUCTURE

The North Okanagan is a region of heavy car use. In 2007, almost 90% of total travel trips were made by car (Figure 49). However, annual transit trips on Vernon Regional Transit increased by almost 40% from 2006 to 2011, suggesting a trend towards more frequent transit use (Figure 50).

Figure 49. Percent of total annual travel trips by mode in 2007.

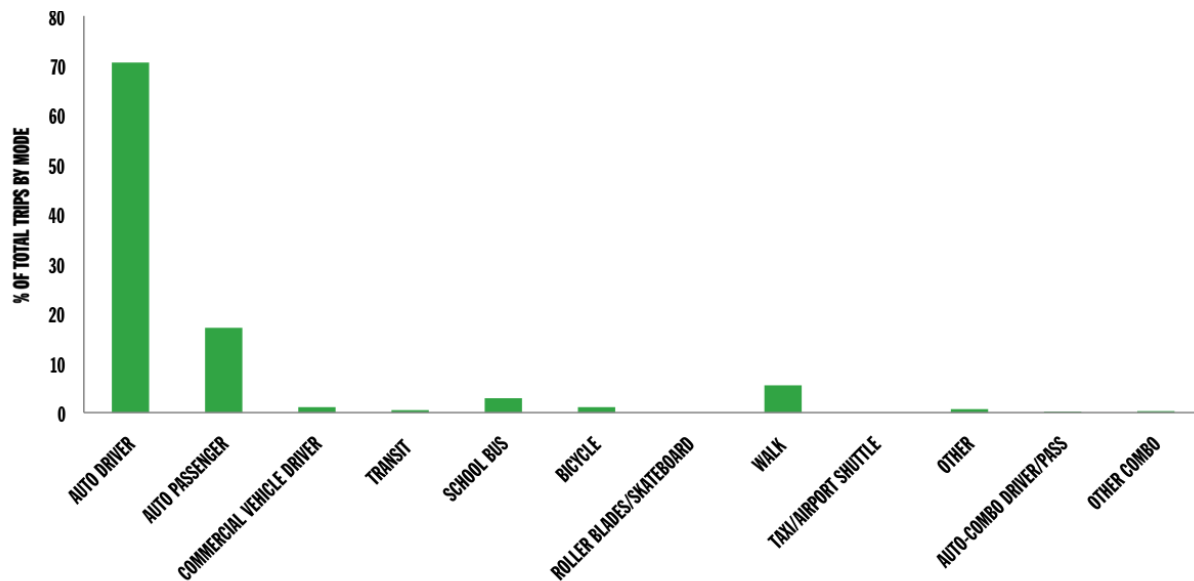
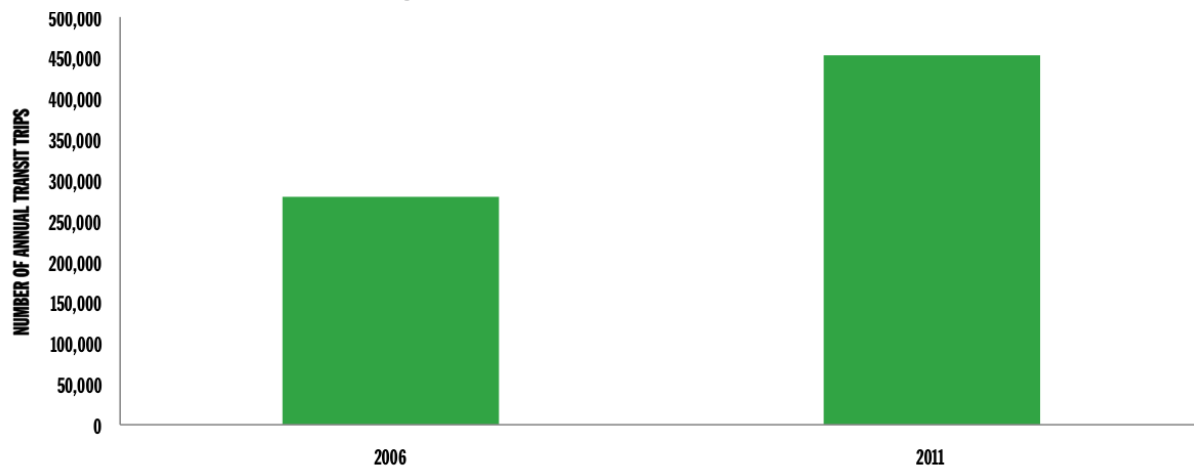


Figure 50. Annual transit trips on Vernon Regional Transit in 2006 and 2011.



Reflecting the low incidence of transit use in the North Okanagan, survey respondents rated their opportunities to use public transit between poor and fair (Figure 51). Respondents rated their opportunities to cycle and walk slightly above fair (Figure 51). These issues were identified as needing more attention than they currently receive. Community of residence had a significant effect on respondents' ratings of opportunities to walk $F(6,736)=13.14$, $p<0.001$, cycle $F(6,713)=7.94$, $p<0.001$, and take public transit $F(6,695)=6.79$, $p<0.001$. Opportunities to walk were rated lower by residents who live in more rural areas, such as the Township of Spallumcheen and the Electoral Areas (Figure 52). Opportunities to cycle were rated lower by respondents from Enderby and the Electoral Areas (Figure 53), and opportunities to take public transit were rated higher by residents of Armstrong and Vernon (Figure 54).

Figure 51. Average ratings of opportunities to use alternative forms of transportation (take the bus, cycle or walk) in the North Okanagan.

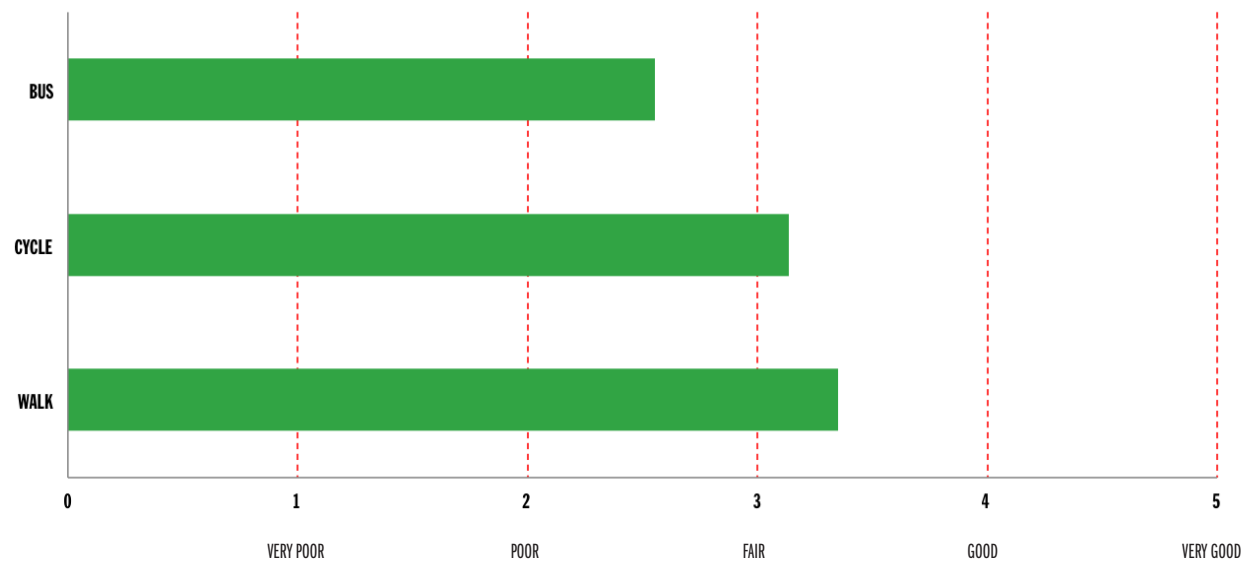


Figure 52. Estimated marginal means of the effect of community of residence on ratings of opportunities to walk.

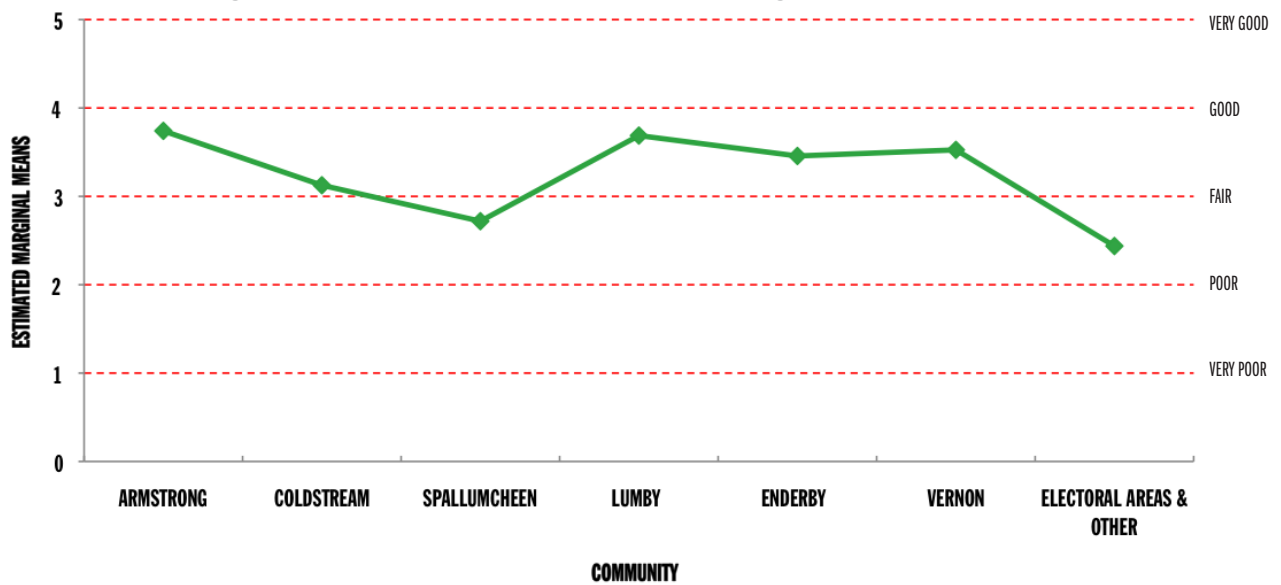


Figure 53. Estimated marginal means of the effect of community of residence on ratings of opportunities to cycle.

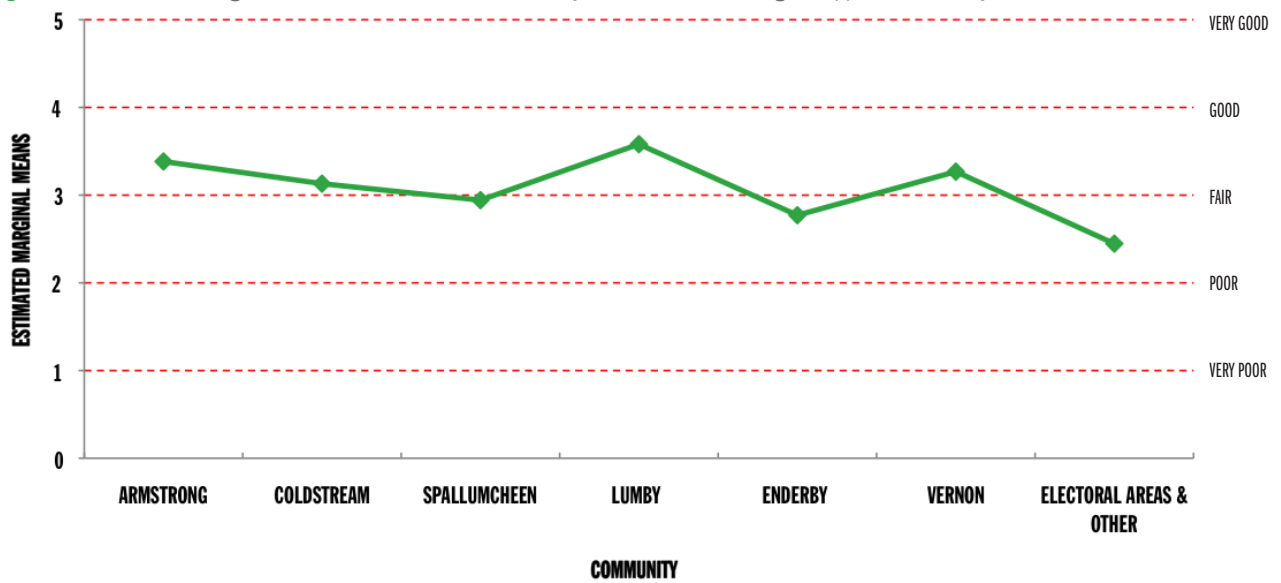
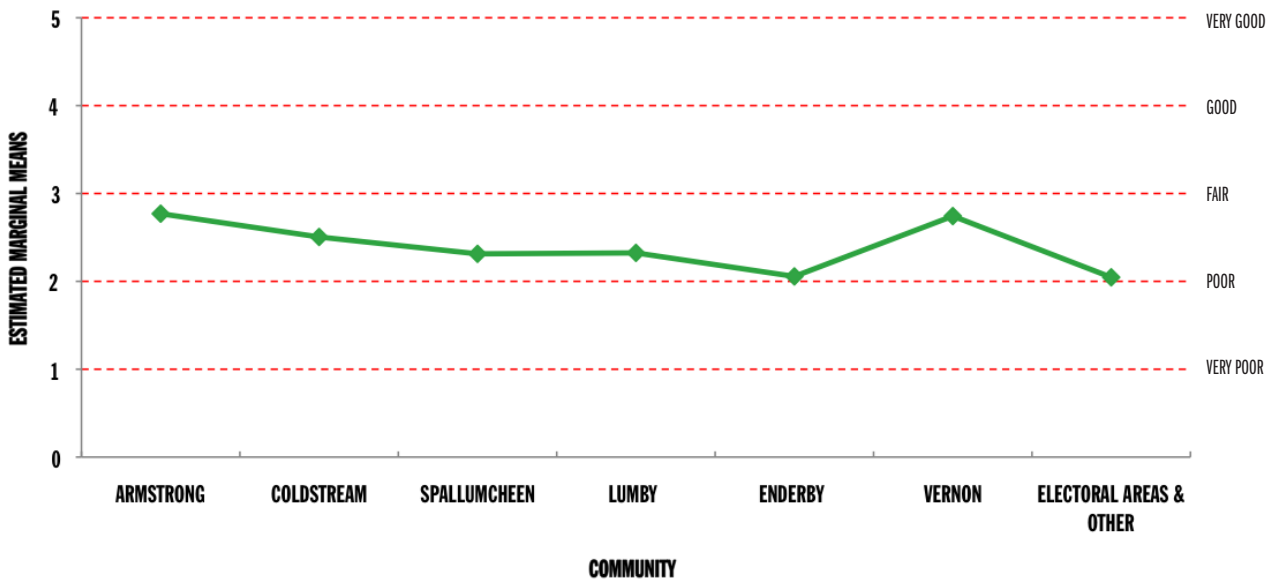


Figure 54. Estimated marginal means of the effect of community of residence on ratings of opportunities to take public transit.



Transportation infrastructure was rated slightly higher than alternative transportation opportunities but all transportation infrastructure was rated just below or just above fair (Figure 55). Public transit and cycling infrastructure was rated lower than other infrastructure types, each receiving average scores of 2.9, or just below fair. Community showed a significant effect on ratings of road $F(6,836)=7.18$, $p<0.001$, cycle lane $F(6,743)=10.50$, $p<0.001$, and transit infrastructure $F(6,694)=8.58$, $p<0.001$. Road infrastructure was more likely to be rated lower by residents of Lumby than by residents of Armstrong and Spallumcheen (Figure 56), cycle lanes were more likely to be rated higher by residents of Vernon and Coldstream (Figure 57), and public transit infrastructure was more likely to be rated lower by residents of Lumby and Enderby and higher by residents of Vernon, Armstrong and Spallumcheen (Figure 58).

Figure 55. Average ratings of transportation infrastructure in the North Okanagan.

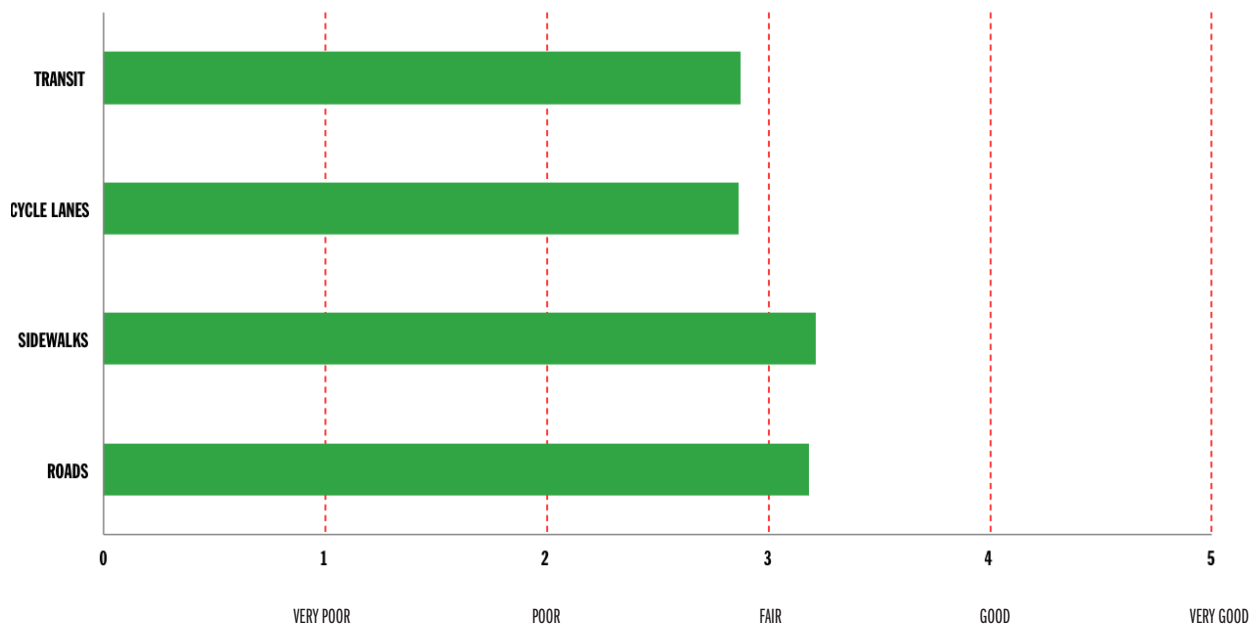


Figure 56. Estimated marginal means of the effect of community of residence on ratings of road infrastructure.

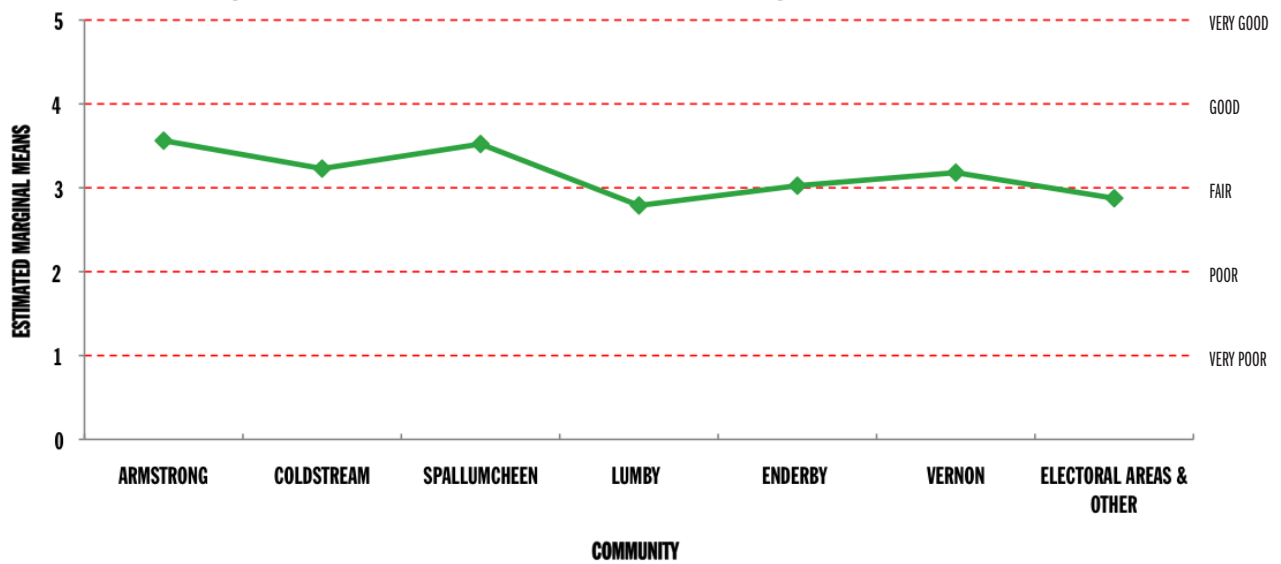


Figure 57. Estimated marginal means of the effect of community of residence on ratings of cycle lanes.

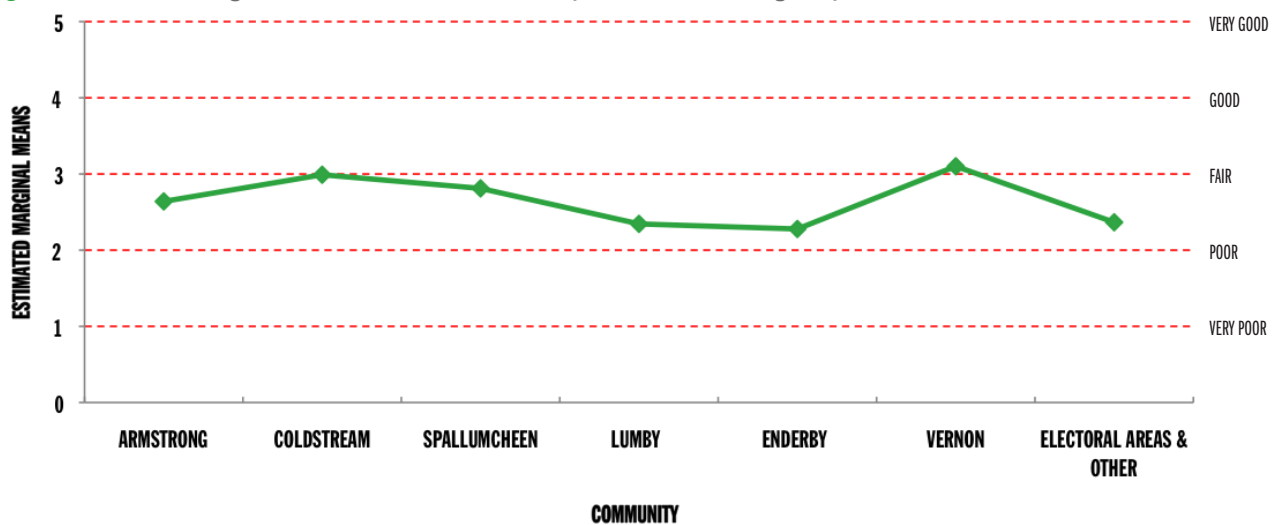
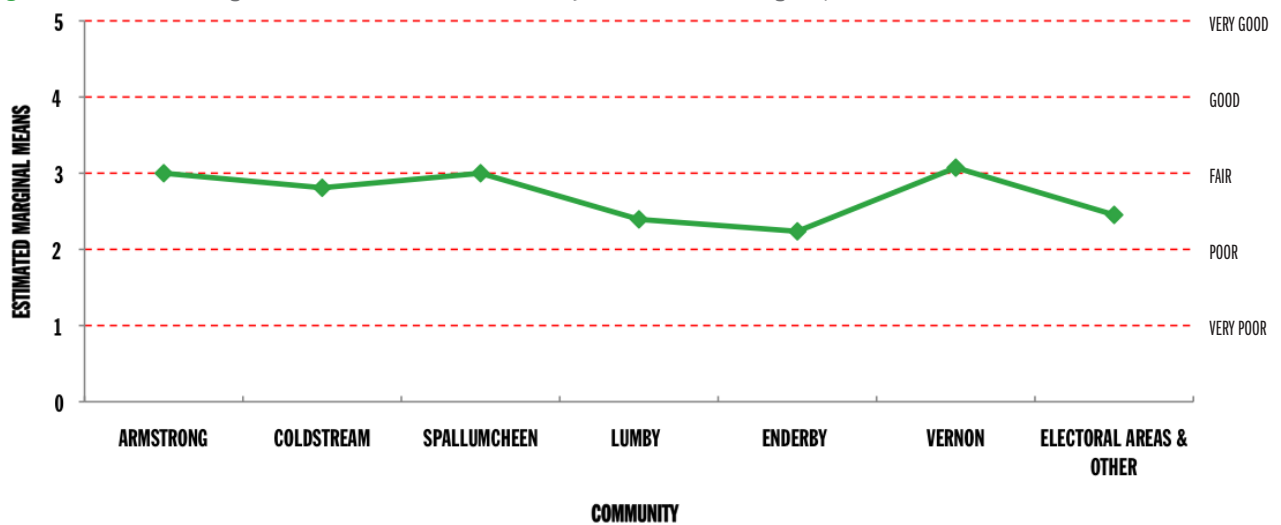


Figure 58. Estimated marginal means of the effect of community of residence on ratings of public transit infrastructure.





3.3.4.8 HOUSING

The large majority of residents of the North Okanagan live in single-family detached homes while a small percentage lives in apartment buildings of less than 5 stories (Figure 59). Just over 11% of the population of the North Okanagan is considered to be in core housing need. This means that they cannot access affordable, attainable or accessible housing. The majority of the population in core housing need lives in rental properties (Figure 60).

Figure 59. Percent of total housing units by dwelling type in 2006 and 2011.

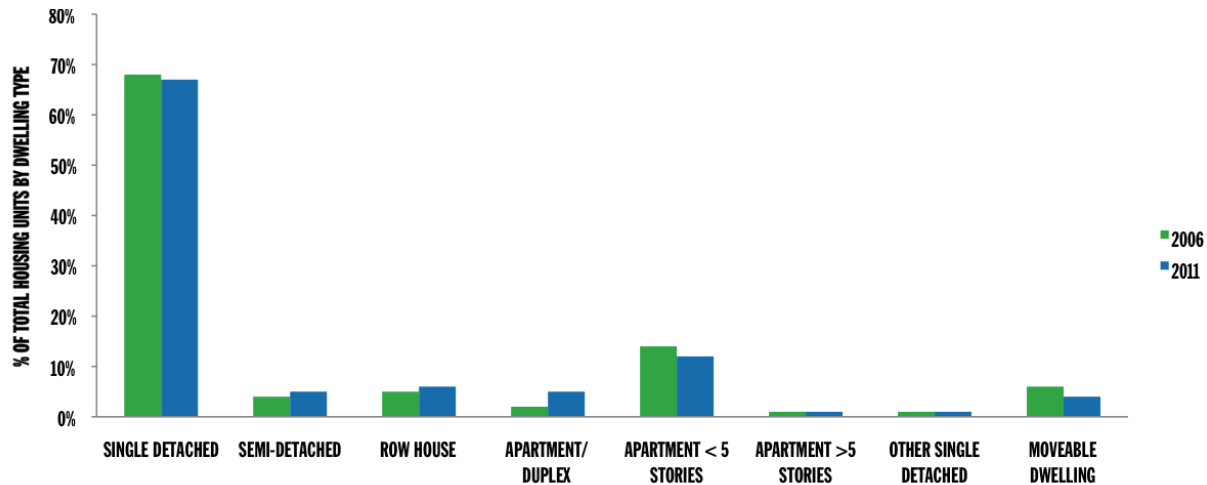
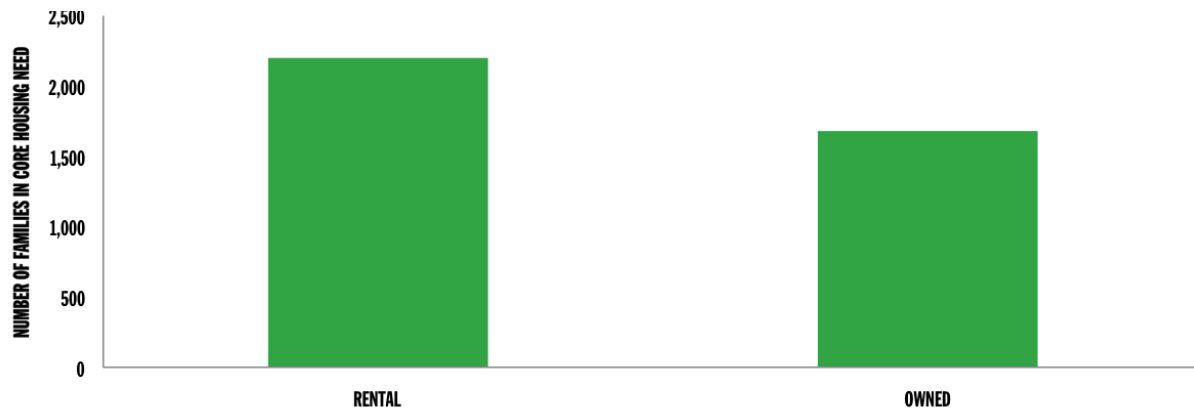
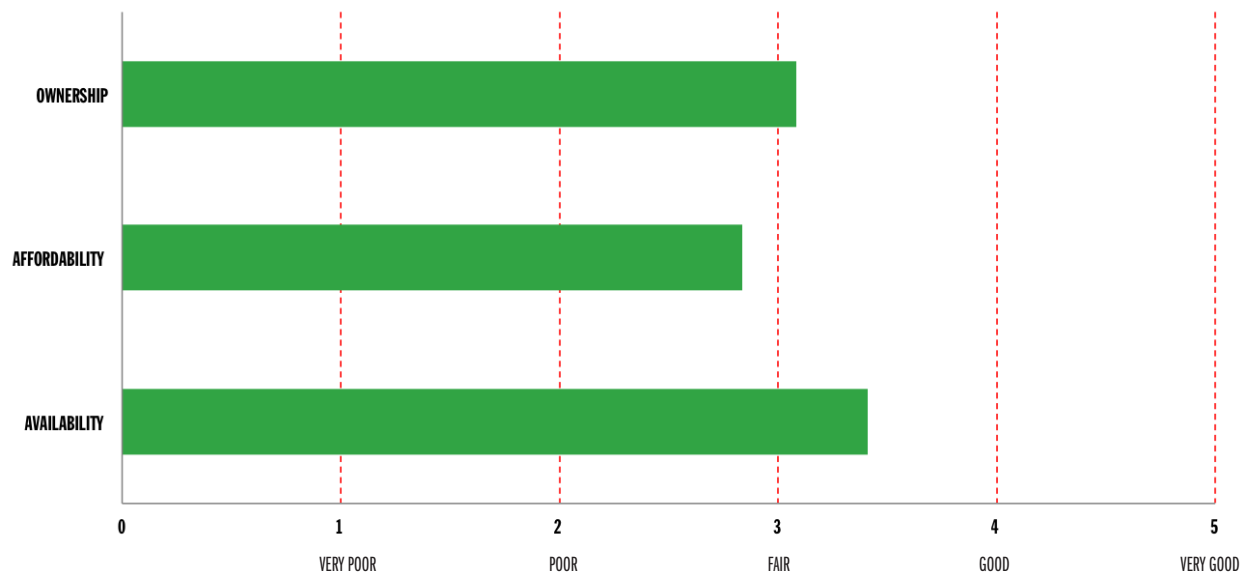


Figure 60. Number of families in core housing need by home ownership status in 2011.



Survey respondents indicated that housing affordability is an issue in the North Okanagan. The average rating for housing affordability was below fair (Figure 61). Opportunities for home ownership and housing availability were rated higher but both were still considered to be only slightly higher than fair (Figure 61). Respondents indicated that all three issues need more attention than they currently receive.

Figure 61. Average ratings of housing availability, housing affordability, and home ownership in the North Okanagan.



Housing availability showed a significant interaction with the age of survey respondents $F(5,231)=3.51$, $p<0.01$, as did opportunities for home ownership $F(5,231)=5.01$, $p<0.001$. Younger respondents were more likely to rate housing availability (Figure 62) and opportunities for home ownership (Figure 63) lower than older respondents. This relationship was particularly linear in the case of opportunities for home ownership.

Figure 62. Estimated marginal means of the effect of age on ratings of housing availability.

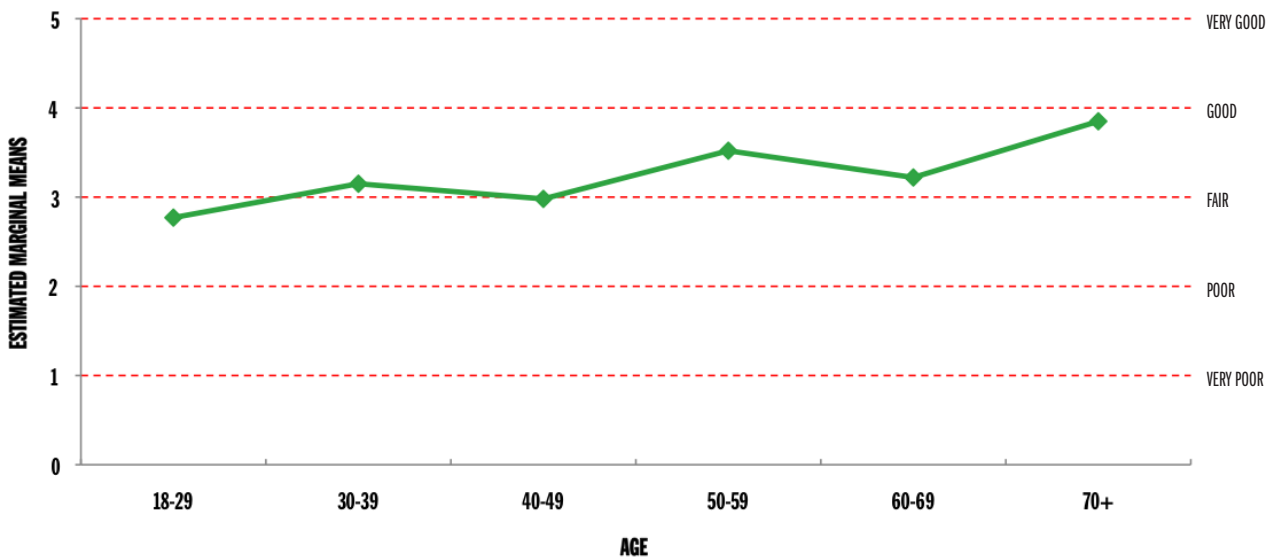
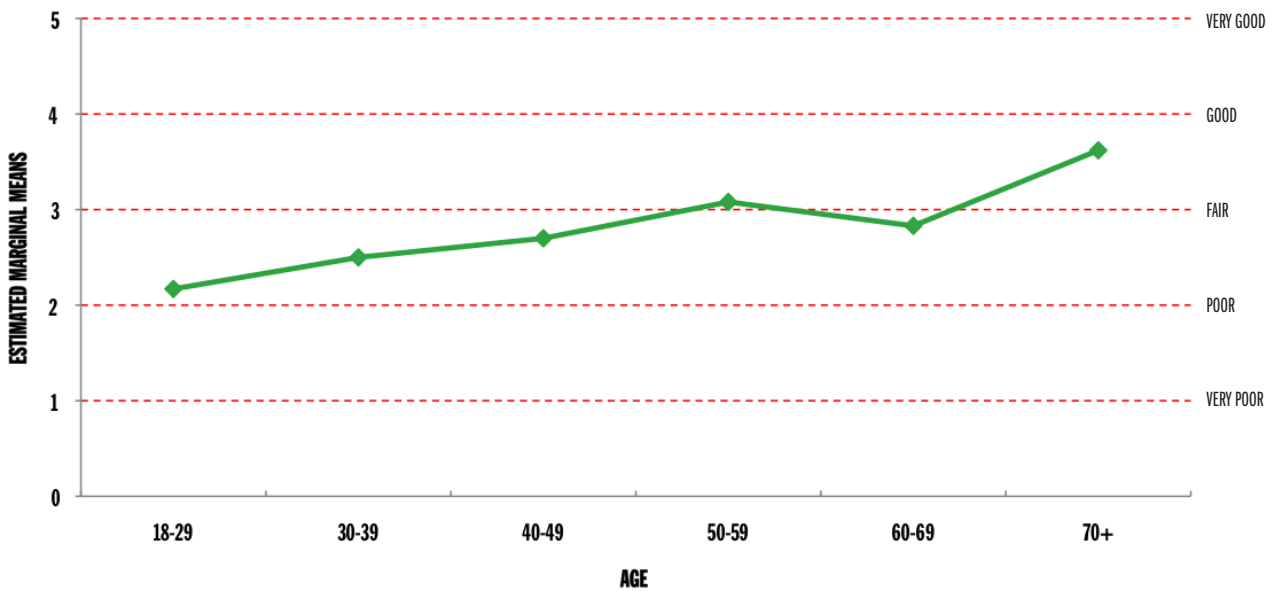


Figure 63. Estimated marginal means of the effect of age on ratings of opportunities for home ownership.



Community of residence also showed a significant effect on ratings of housing availability $F(6,749)=3.91$, $p<0.001$ and opportunities for home ownership $F(6,741)=2.33$, $p<0.05$. The effect of community of residence was particularly strong on housing availability, with a partial η^2 of 0.109. Housing availability (Figure 64), and opportunities for home ownership (Figure 65) were more likely to be rated higher by residents of Armstrong, Coldstream and Spallumcheen, and lower by residents of Lumby.

Figure 64. Estimated marginal means of the effect of community of residence on ratings of housing availability.

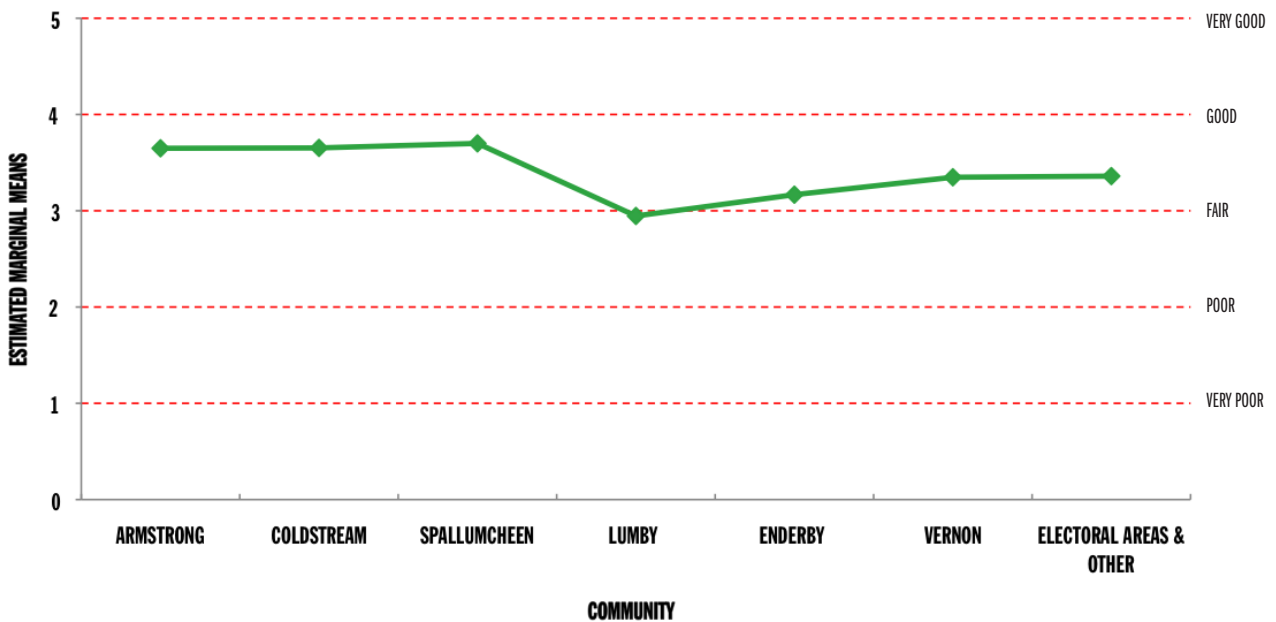
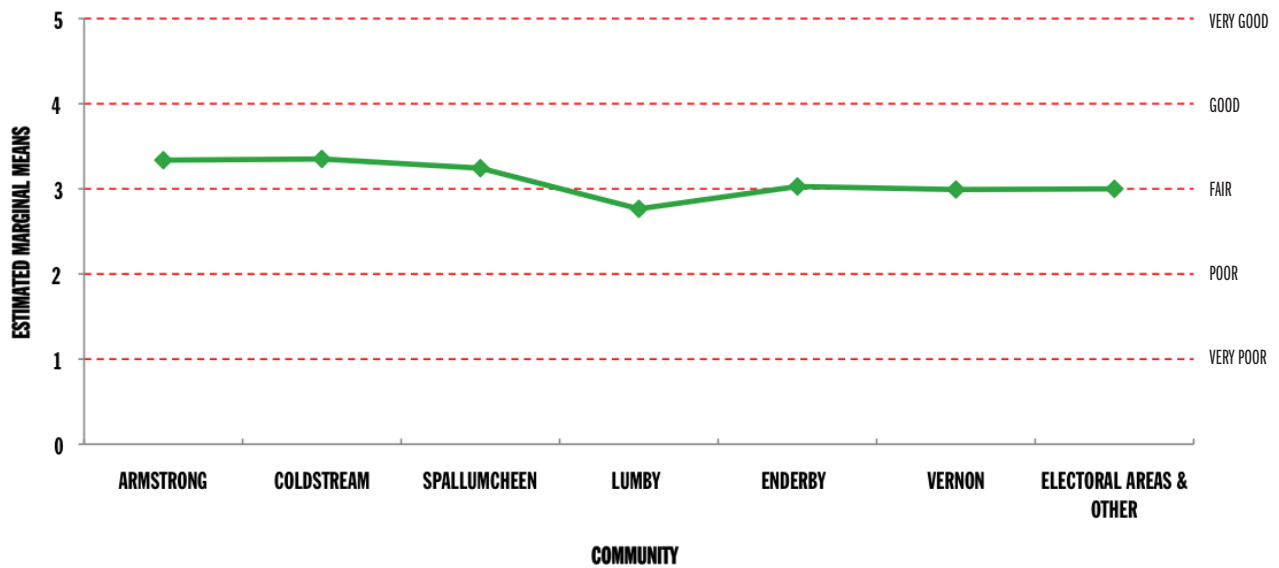


Figure 65. Estimated marginal means of the effect of community of residence on ratings of opportunities for home ownership.

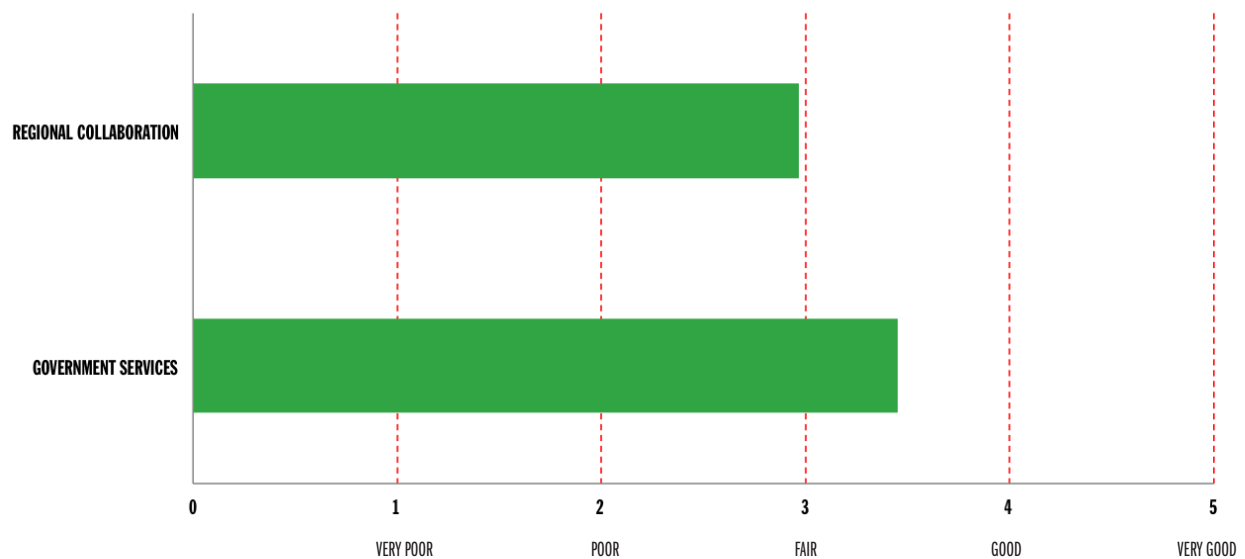


3.3.3.9 GOVERNANCE AND SERVICE DELIVERY

The quantitative indicator data in this policy area are currently incomplete. The RDNO is working to access additional data in this area.

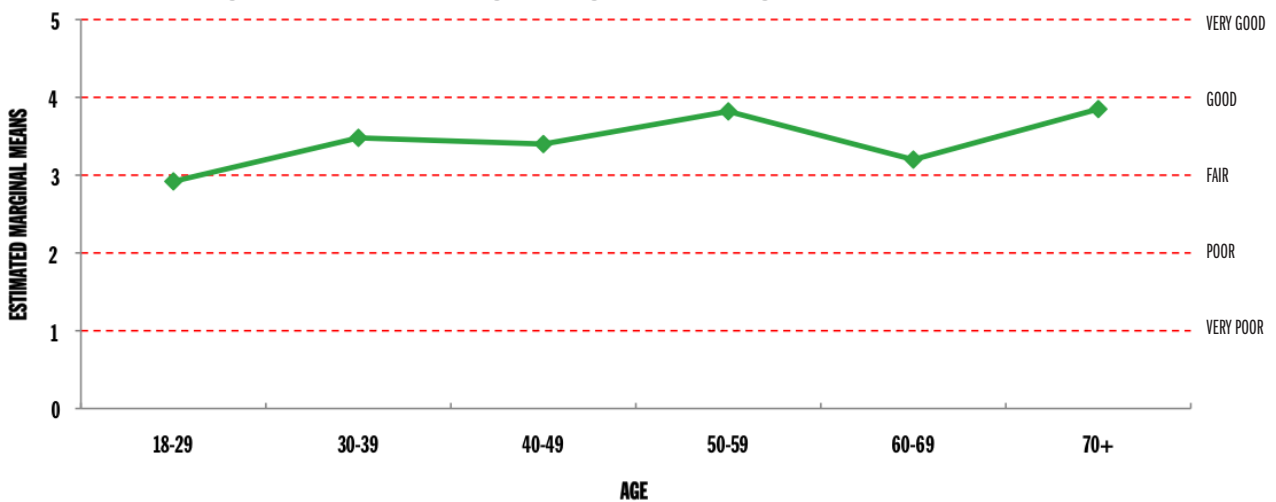
The quality of government services was rated between fair and good by survey respondents (Figure 66). Regional collaboration efforts were rated just lower than fair (Figure 66).

Figure 66. Average ratings of the quality of government services and regional collaboration efforts.



Age showed a significant effect on ratings of the quality of government services $F(5,231)=4.64$, $p<0.001$. Younger respondents were more likely to rate government services lower than older respondents, except for respondents in the 60-69 year old category (Figure 67).

Figure 67. Estimated marginal means of the effect of age on ratings of the quality of government services.



Community of residence showed a significant effect on ratings of the quality of government services $F(6,801)=3.91$, $p<0.001$ and regional collaboration $F(6,744)=3.02$, $p<0.01$. Government services were more likely to be rated lower by residents of Lumby and Enderby (Figure 68). Regional collaboration was more likely to be rated lower by residents of Coldstream than by residents of Spallumcheen (Figure 69).

Figure 68. Estimated marginal means of the effect of community of residence on ratings of the quality of government services.

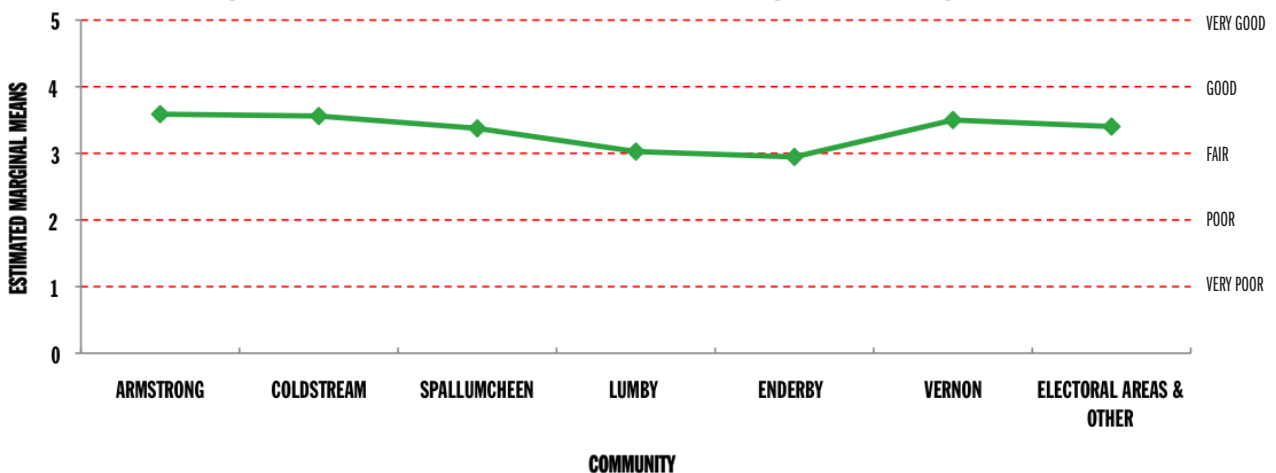
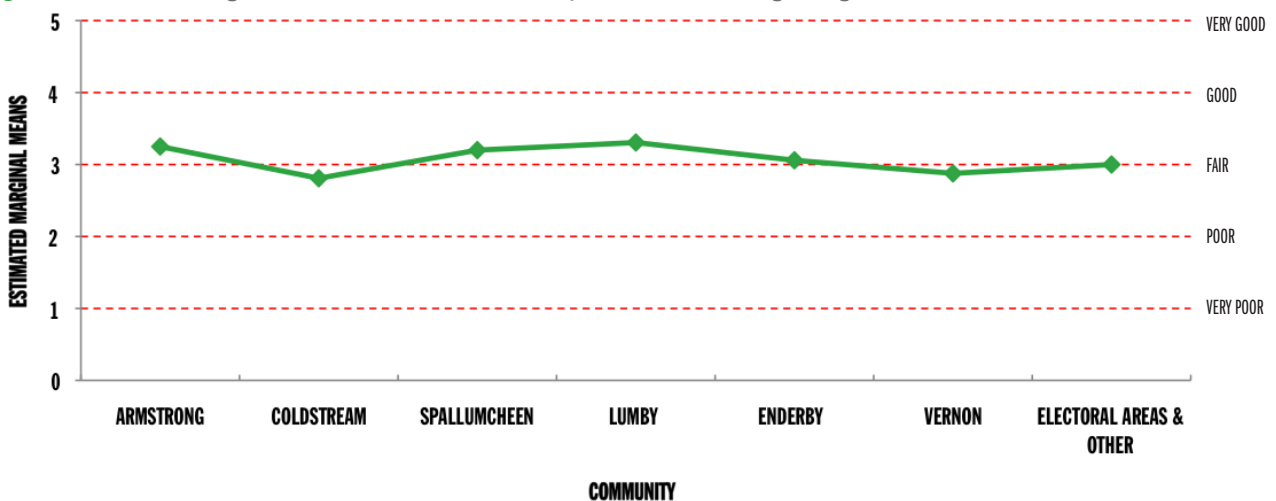


Figure 69. Estimated marginal means of the effect of community of residence on ratings of regional collaboration.





3.3.4.10 ENERGY AND EMISSIONS

Residential buildings and personal transportation used more energy than their commercial equivalents in 2007 in the North Okanagan (Figure 70). This is somewhat reflected in the region's greenhouse gas emissions for the same period. The biggest greenhouse gas producer in the North Okanagan in 2007 was personal transportation, followed by commercial transportation and residential buildings (Figure 71).

Figure 70. Energy use per capita by building and transportation type in 2007.

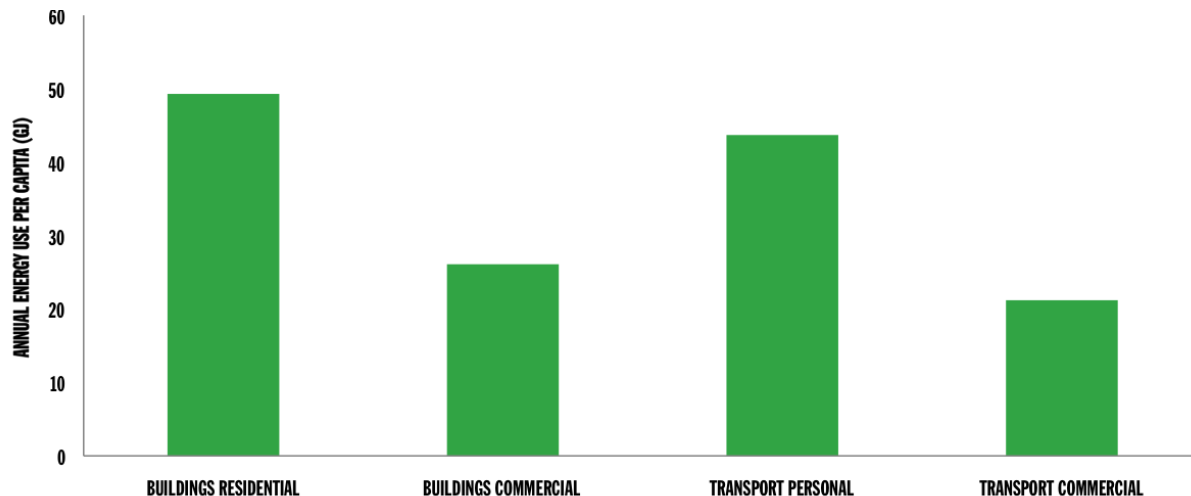
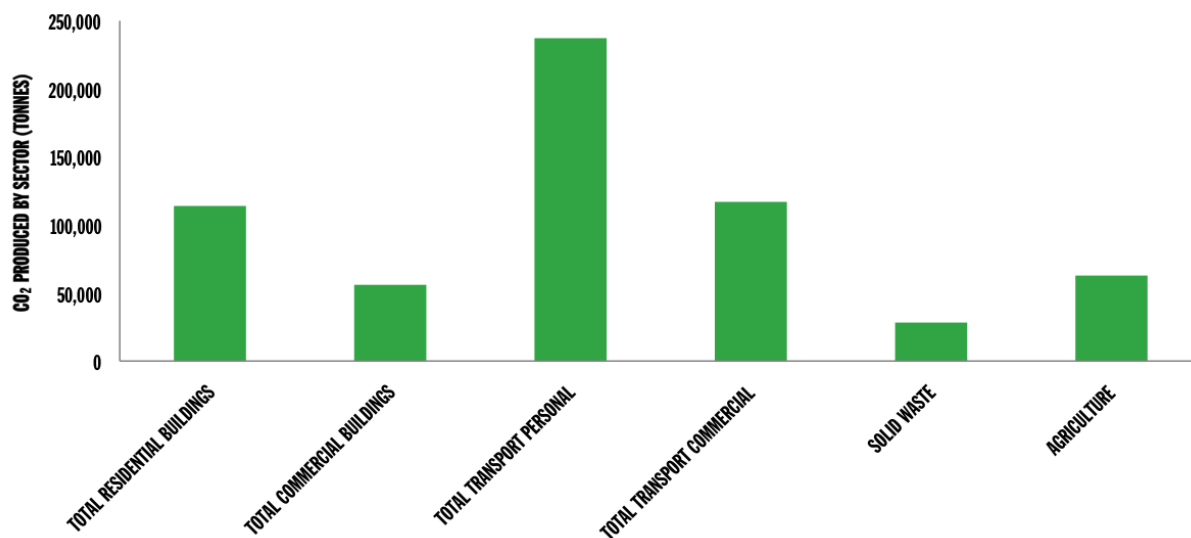
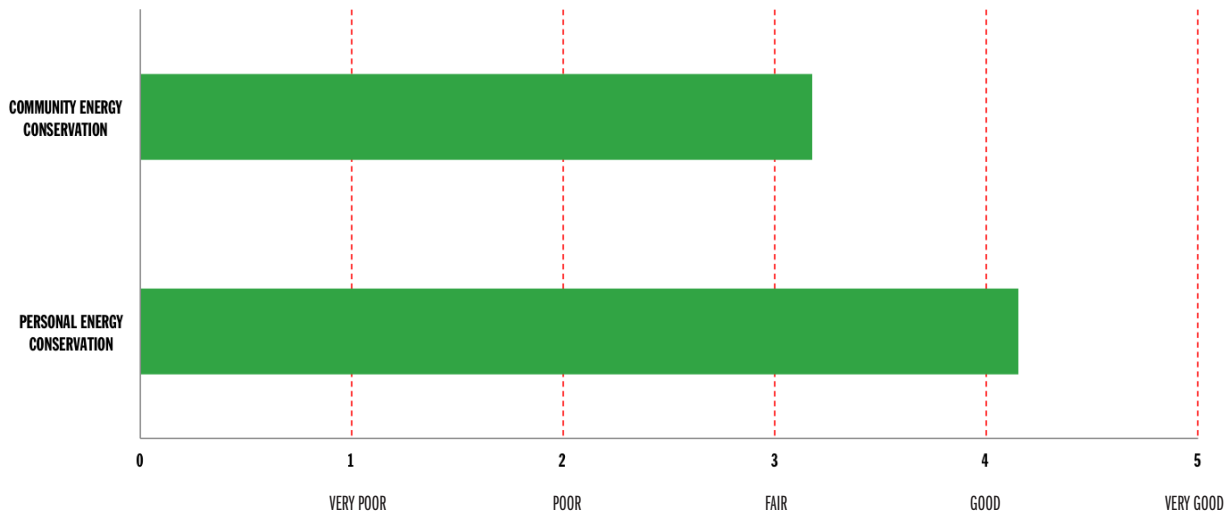


Figure 71. Total CO₂ emissions by source in 2007.



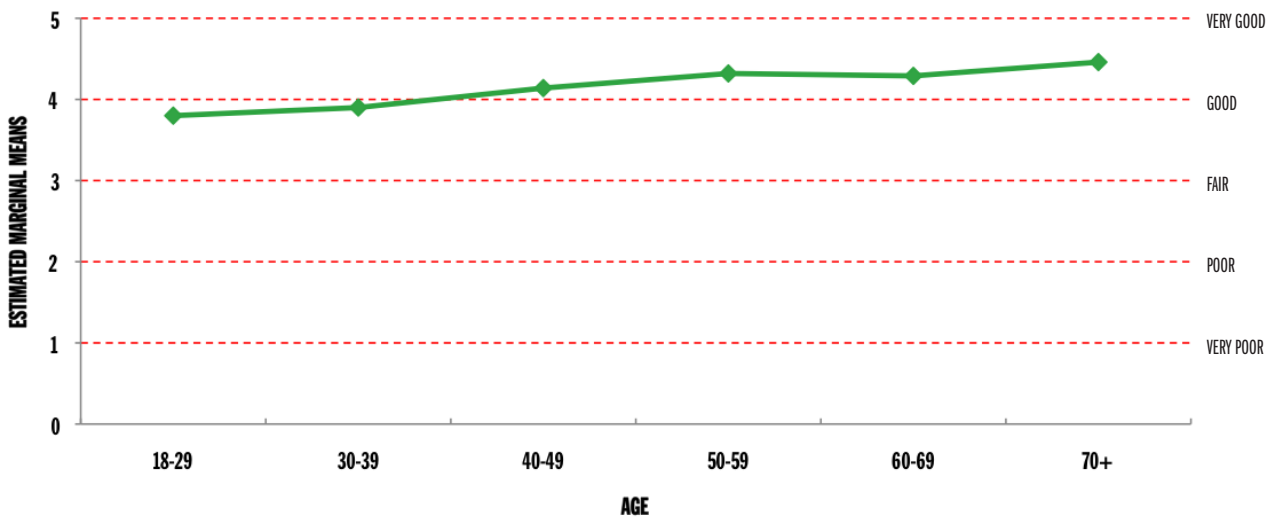
Survey respondents consistently rated their personal energy conservation efforts much higher than the efforts of their community to conserve energy (Figure 72). Personal energy conservation received an average score of 4.2 or just above good, while community energy conservation was rated as 3.2, just above fair.

Figure 72. Average ratings of personal and community energy conservation efforts.



The age of respondents had a significant effect on their ratings of personal energy conservation $F(5,231)=3.11$, $p<0.01$. Younger respondents were more likely to rate their personal energy conservation lower than older respondents (Figure 73).

Figure 73. Estimated marginal means of the effect of age on ratings of personal energy conservation efforts.



3.3.5 COMMUNITY AND HOUSING

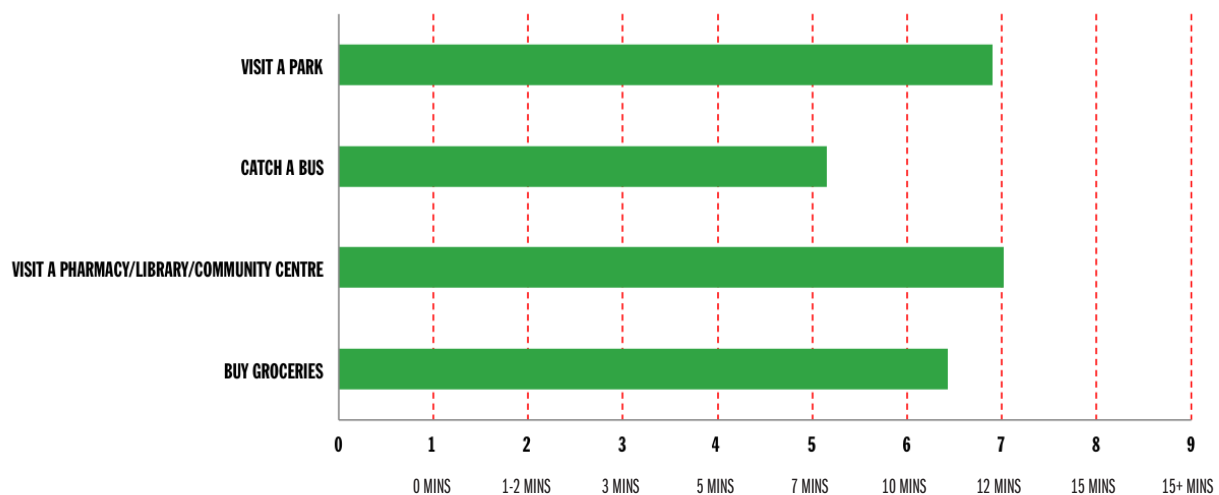
The Quality of Life Survey asked residents about their preferred community characteristics and housing preferences, to help us plan our growth to meet residents' needs. The following is a selection of results related to these issues.

3.3.5.1 COMMUNITY

Planning healthy neighbourhoods involves planning for accessible community amenities that meet the needs and interests of local residents. Survey respondents were asked to indicate how far they would walk to buy groceries, visit amenities such as a pharmacy, library or community centre, catch a bus, or visit a park.

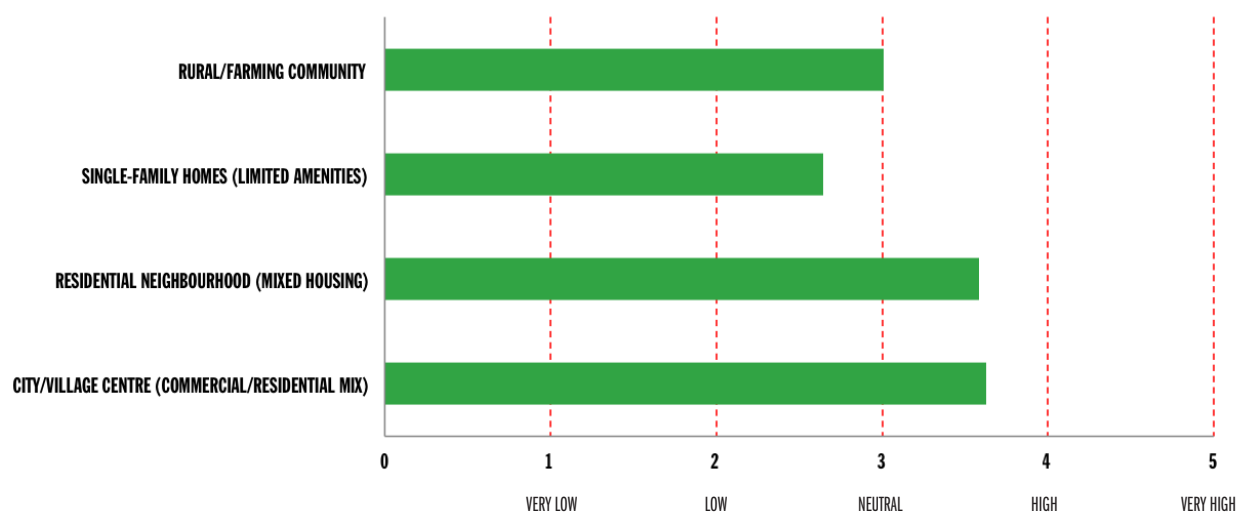
Respondents were willing to walk 12 minutes to visit a park or pharmacy/library/community centre on average. Respondents preferred to walk shorter distances to buy groceries (about 11 minutes), and did not want to walk more than about 7 minutes, on average, to catch a bus (Figure 74).

Figure 74. Average times respondents were willing to walk to various locations in their neighbourhoods.



When asked what kind of neighbourhood they would prefer to live in, the majority of respondents indicated that they would prefer to live in a city or village centre with a mix of commercial and residential properties, or a residential neighbourhood with mixed housing types and some community amenities (Figure 75).

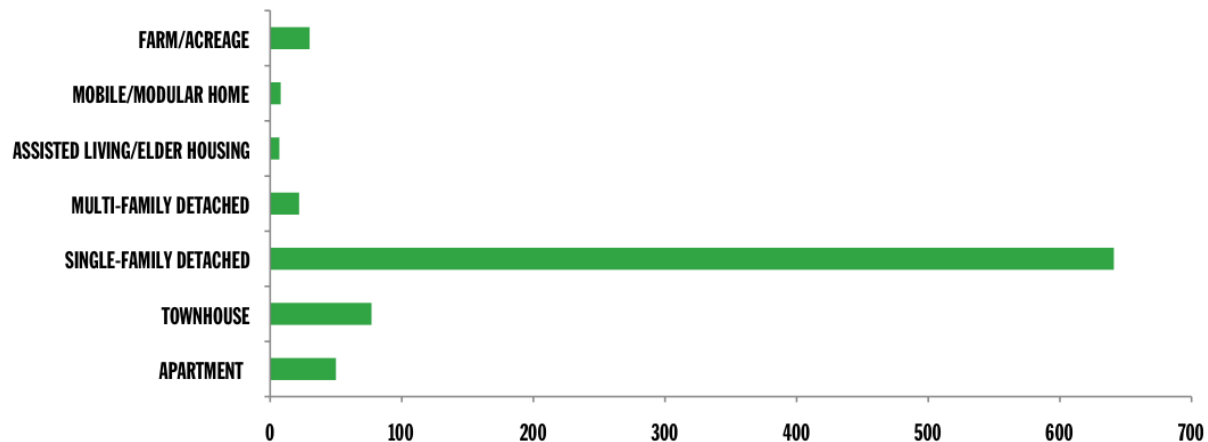
Figure 75. Average preference for neighbourhood/community types.



3.3.5.2 HOUSING

The majority of survey respondents currently live in single-family detached homes (about 60%). When asked what type of home they would prefer to live in, about 75% of respondents indicated that they would prefer to live in a single-family detached home (Figure 76). “Townhouse” was a distant second choice. Although this would seem to be at odds with respondents’ preferences for neighbourhoods, it suggests that respondents would like the amenities of a centrally-located home, with the space or privacy of a single-family residence.

Figure 76. Housing type preferences.



Survey respondents seem to prefer smaller single-family detached homes. The average number of bedrooms preferred by respondents was 3. This was true in general, across communities and age groups. The preference for small houses seems to reflect family/household size. Households in most communities (Figure 77) and in most age groups (Figure 78) are between two and three people. Smaller houses would thus be adequate for these families.

Figure 77. Mean preferred number of bedrooms and household size by community

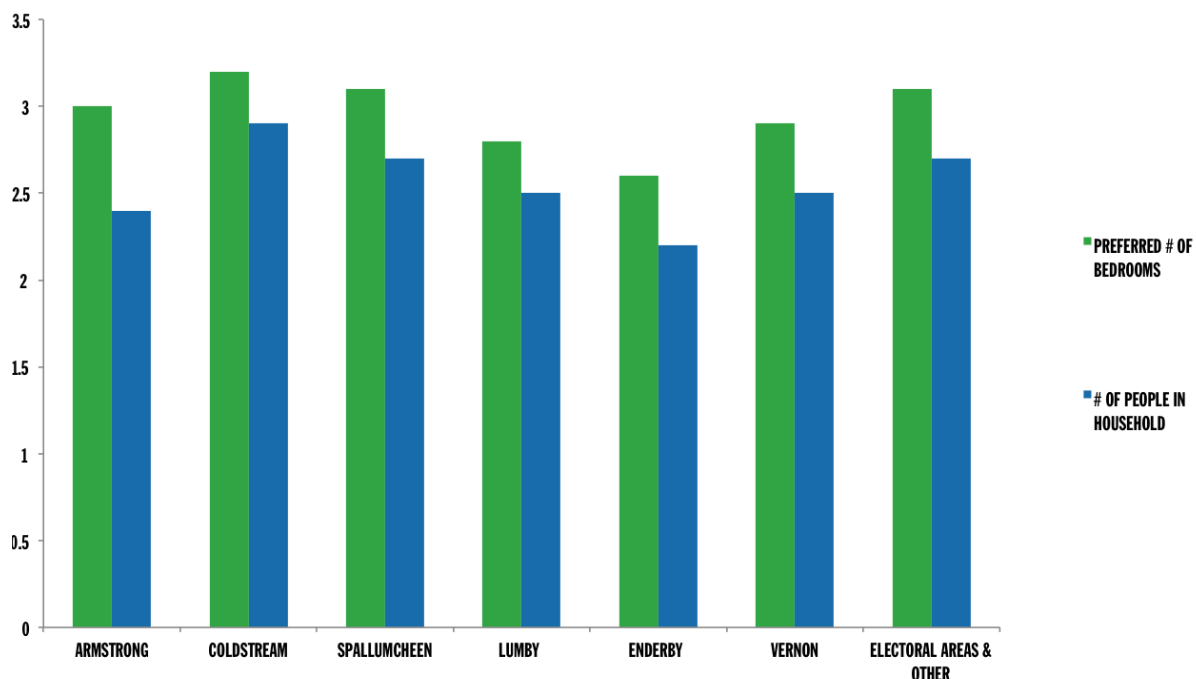
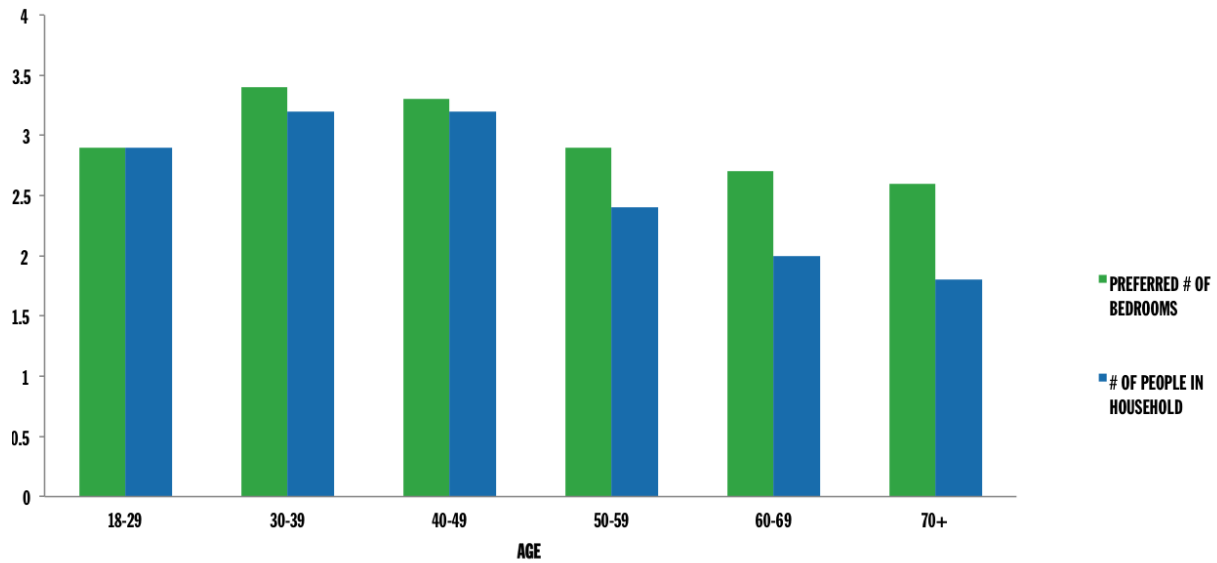
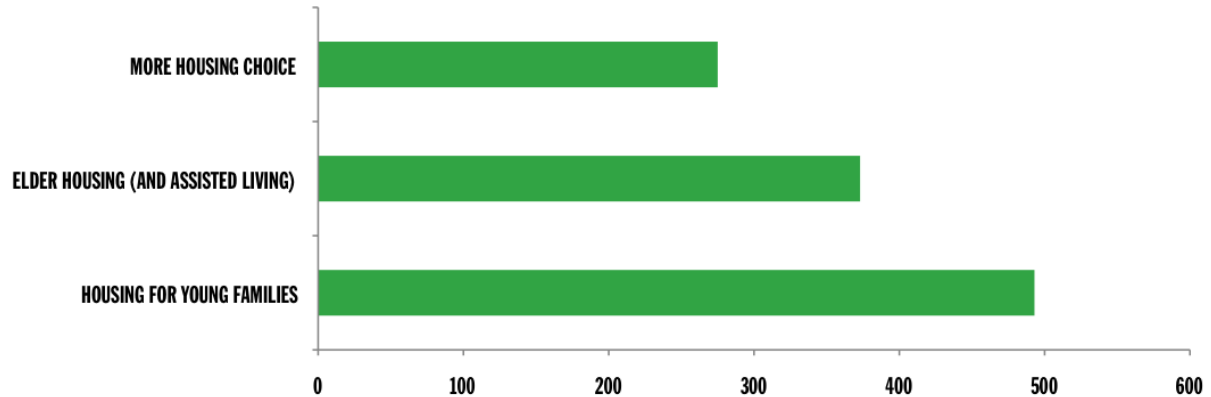


Figure 78. Mean preferred number of bedrooms and household size by age.



Respondents identified the three most pressing housing needs in the region as 1. Housing for young families, 2. Elder housing (including assisted living), and 3. More housing choice (Figure 79).

Figure 79. Top 3 most pressing housing needs in the North Okanagan.



4 DISCUSSION AND POLICY IMPLICATIONS

The purpose of the RDNO Monitoring and Evaluation Program is to provide the necessary information to understand how the region is changing, and what can be done to ensure that growth is sustainable and that residents' quality of life is maintained and even improved. The RDNO is in the early stages of the monitoring program. The program will develop and improve as time passes and more data become available. The RDNO has established a baseline and will continue to focus on collecting and analyzing relevant data in the coming years. However, the data collected to date can be used to assess the current state of the North Okanagan and make initial recommendations on priorities and potential actions.

4.1 Current Successes

4.1.1 QUALITY OF LIFE

The residents of the North Okanagan report a high quality of life, on average. They are happy to live, raise a family, and retire there, and enjoy the outdoor recreation opportunities that the region offers. The young residents of Coldstream appear to be particularly satisfied with various aspects of their quality of life.

4.1.2 AGRICULTURE AND FOOD SYSTEMS

As a somewhat rural region, the North Okanagan enjoys good local food access. Farming income is increasing in the region and residents are relatively satisfied with farmland protection. Regional Growth Strategy and Official Community Plan policies discourage the removal of productive agricultural land from the Agricultural Land Reserve (ALR) and encourage local food production. The region appears to be on the right track.

4.1.3 WATER STEWARDSHIP

The North Okanagan enjoys fairly good quality drinking water and relatively clean lakes and rivers. Residents identify lakes and water resources as important parts of what they enjoy about life in the North Okanagan. Residents consider their personal water conservation efforts to be good, suggesting satisfaction but also room for improvement. Water meters are being installed in many parts of the North Okanagan, as of 2011, and the number of water meters continues to increase. Some farming operations in the region have started using reclaimed water for irrigation, but this still represents only a small portion of the total water use. Water resource conservation efforts were not rated as highly as other aspects of water stewardship. This assists in identifying areas where improvements can be made, such as increasing the number of watershed management plans in the region, investing in the protection of water resources and expanding water conservation efforts.

4.1.4 ENVIRONMENT AND NATURAL LANDS

North Okanagan residents are highly satisfied with their access to recreation opportunities in the region's natural areas and somewhat satisfied with the level of environmental protection in the region. The North Okanagan has achieved the national average for conservation land and dedicated open space coverage but could likely do better in this area, particularly given residents' appreciation for natural spaces.

4.1.5 ENERGY AND EMISSIONS

Residents of the North Okanagan are confident that they achieve a high level of energy conservation in their personal lives, although they were less confident in the efforts of their communities to save energy. This perception is interesting, given that residential buildings and personal transportation account for the majority of energy use in the region. Personal transportation is also the highest source of CO₂ emissions in the region. This suggests that although residents are making a good effort to conserve energy in their day-to-day lives, they could further increase their contribution to energy conservation in their communities. Increased public education on energy conservation strategies could be useful in this case.

4.2 Areas for Improvement

4.2.1 ECONOMIC DEVELOPMENT

Although quality of life is reported to be quite high in the North Okanagan, employment and the economy were issues that arose several times during the analysis of the monitoring data. The lack of employment opportunities, and the poor match between residents' skills and available jobs, were identified as having the greatest negative effect on quality of life in the region. Although median incomes were higher in 2009 than in 2004, 2009 median incomes in the North Okanagan were still below the provincial and Central Okanagan median incomes. Survey respondents expressed low satisfaction with work opportunities in the North Okanagan and indicated that it can be difficult to find employment opportunities and fulfilling work in the region. Survey respondents also identified the poor match between available jobs and residents' skills as an area of concern. More recent income data would help us better understand whether economic hardship is indeed a reality for many North Okanagan residents and to what extent.

Employment dissatisfaction was relatively consistent in both survey groups (under 18 and 18+). Younger age groups tended to report lower levels of satisfaction with work opportunities, with employment satisfaction rising beyond the age of 59. While this may reflect a worsening job market in the North Okanagan, it is likely influenced in part by the perceptions of retired respondents who do not focus on the negative aspects of their past employment and who retired at the peak of their career.

4.2.2 TRANSPORTATION AND INFRASTRUCTURE

Although transportation and infrastructure received fair ratings, the lack of public transit services and infrastructure is apparent in the North Okanagan. The majority of the region's residents still use their cars as their primary mode of transportation, and survey respondents expressed dissatisfaction with public transit options. Public transit access is particularly lacking in small communities and rural areas. However, public transit ridership appears to be increasing somewhat; a focus on increasing public transit in the North Okanagan would help support sustainable regional growth. Residents considered the state of bus and cycling infrastructure to be slightly below fair, indicating another area for potential improvement.

4.2.3 HOUSING

Housing affordability appears to be particularly challenging in the North Okanagan. Housing affordability received a low average survey rating, coming in between poor and fair. Additionally, over 11% of the population of the North Okanagan is considered to be in core housing need, meaning they cannot access affordable, accessible housing. Young people find it particularly difficult to find available housing and have poor opportunities to own a home. Housing for young families was identified as the most pressing housing need in the North Okanagan. Housing affordability, accessibility, and opportunities for home ownership seem to be particularly poor in the Village of Lumby. Policies to increase housing affordability and accessibility would be helpful to younger age groups and families in core housing need.

4.2.4 GOVERNANCE AND SERVICE DELIVERY

While residents of the North Okanagan are relatively satisfied with the quality of government services, they appear to be dissatisfied with current efforts at regional collaboration. Although government services were rated between fair and good, on average, younger respondents and residents of Lumby and Enderby reported lower levels of satisfaction with government services, suggesting an area for improvement. Residents of Coldstream were the least satisfied with regional collaboration efforts.

4.3 Youth (see Appendix for results)

Survey respondents under 18 years of age are happy with the state of the local environment but were concerned about the economy and job availability. They are happy with their opportunities to access recreational areas in their region, although youth in Vernon appear to have lower levels of access to outdoor recreation than those in smaller communities. Environmental protection was rated lower than access to outdoor recreation and indicates an area for potential improvement.

Youth seem to be most dissatisfied with employment opportunities in the North Okanagan. Both economic opportunities and skills and jobs match were rated as fair or between poor and fair. This is to be expected in an age group that is still developing its skills and education. However, increased availability of jobs for young people would likely increase their perceived quality of life in the North Okanagan.

5 CONCLUSIONS

The RDNO has developed an innovative monitoring and evaluation program that will help provide high quality data and evidence to inform policy creation in the coming years. As the monitoring program continues, and more data are collected, the power of the data and the utility of the program will increase. Long term data on life in the North Okanagan and how the region is managing growth will be critical to ensuring that development progresses in a way that encourages economic growth while maintaining a high quality of life for residents.

Although this monitoring report presents an analysis of the initial data set only, it clearly points to areas of success and areas where improvements can and should be made. The region and its member municipalities will have to work together to address these issues and ensure that changes are made that support sustainable development and a high quality of life for all citizens of the North Okanagan.



APPENDIX A: YOUTH

Quality of Life Survey Results for Respondents <18

This section discusses the results of the Quality of Life Survey for respondents under 18 years of age (school age). We received a very large sample size from youth respondents, giving us an opportunity to examine the views and perceptions of the younger citizens of the North Okanagan, a group that represents the future of the region yet is traditionally excluded from policy discussions and regional decision-making.

DESCRIPTION OF RESPONDENTS

A total of 416 residents of the North Okanagan under the age of 10 returned completed surveys. This provided a sample that represented 0.5% of the population in that age group. Please see Table A1 for sample size and percent representation by community. Given the small sample sizes in many communities for under 18 respondents, statistical analyses of the results were only conducted on responses from the communities of Vernon, Coldstream, and Lumby.

Table A1. Sample size and percent representation by community.

COMMUNITY	POPULATION	SAMPLE SIZE (18+)	SAMPLE SIZE (<18)	PERCENT
<i>Armstrong</i>	4,815	95	7	2.12
<i>Enderby</i>	2,932	44	2	1.57
<i>Vernon</i>	38,150	441	253	1.82
<i>Coldstream</i>	10,314	121	94	2.08
<i>Spallumcheen</i>	5,055	53	8	1.21
<i>Lumby</i>	1,731	39	38	4.45
<i>B</i>	3,046	26	0	0.85
<i>C</i>	3,872	21	3	0.62
<i>D</i>	2,848	17	0	0.60
<i>E</i>	939	17	0	1.81
<i>F</i>	3,938	23	1	0.61
<i>Other</i>	5,412	37	10	0.87
TOTAL	83,052	934	416	1.63

In this age group, slightly more women than men responded to the survey (Figure A1). The majority of respondents described themselves as students, although many also had part time jobs (Figure A2).

Figure A1. Number of respondents by gender.

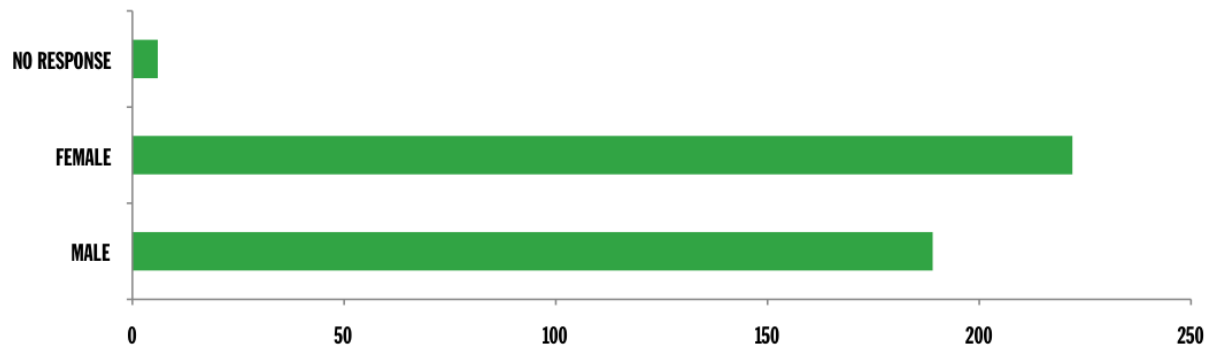
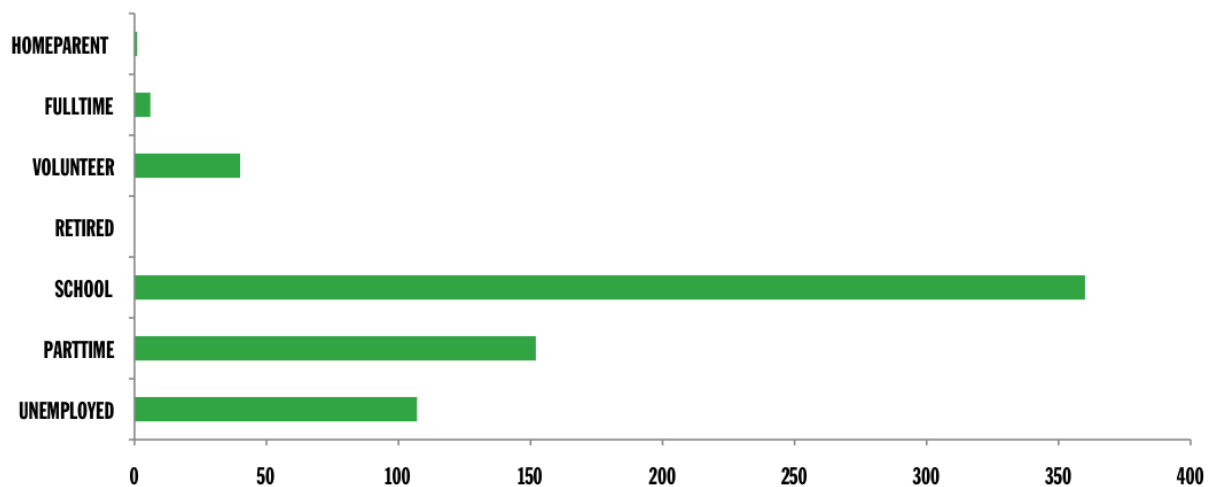


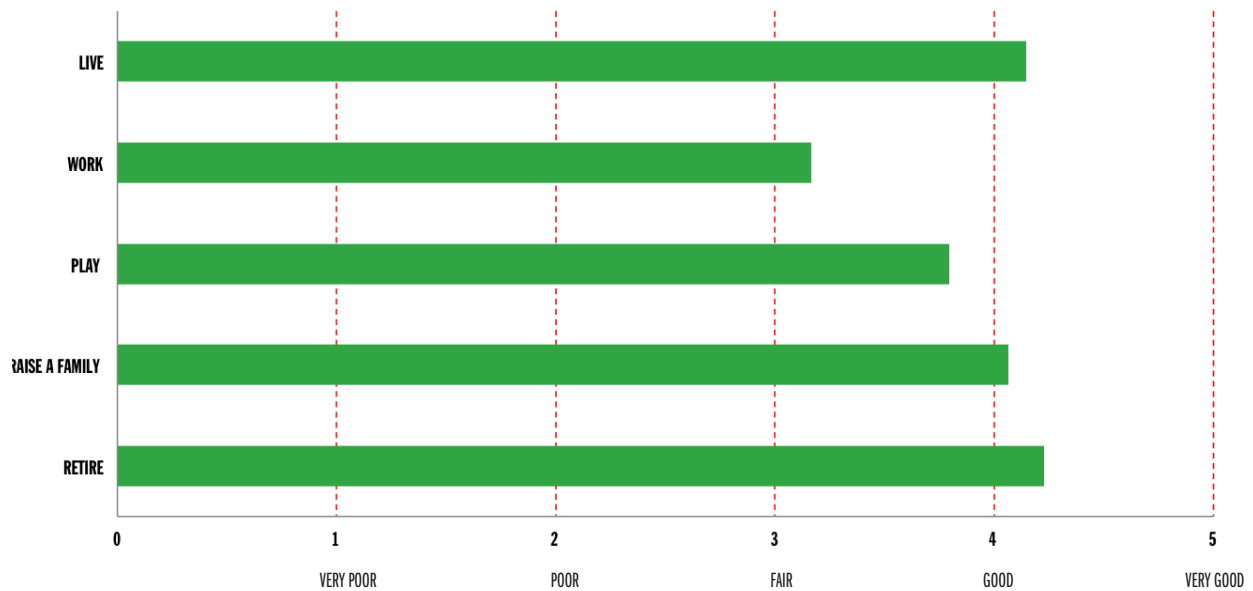
Figure A2. Number of respondents by employment status.



QUALITY OF LIFE

Survey respondents were asked to rate their quality of life in the North Okanagan according to five categories: the quality of the North Okanagan as a place to live, work, play, raise a family, and retire. On average, respondents rated their quality of life as fair to good in all categories (Figure A3). Work was rated the lowest of the quality of life factors, with an average rating of slightly above fair. When asked to evaluate how the quality of life in the North Okanagan had changed over the past five years, the average response was “about the same”.

Figure A3. Average rating of the North Okanagan as a place to live, work, play, raise a family, and retire.



Community of residence had a significant effect on all aspects of quality of life ratings in the North Okanagan (as a place to live, work, play, raise a family and retire). Coldstream was rated as a better place to live than both Vernon and Lumby $F(2,357)=11.16$, $p<0.001$ (Figure A4), as a better place to work than both Coldstream and Lumby $F(2,357)=8.55$, $p<0.001$ (Figure A5), and as a better place to retire than both Vernon and Lumby $F(2,357)=6.62$, $p<0.01$ (Figure A6). Coldstream was rated as a better place to play than Vernon $F(2,357)=9.74$, $p<0.001$ (Figure A7), and as a better place to raise a family $F(2,357)=6.30$, $p<0.01$ (Figure A8).

Figure A4. Estimated marginal means of the effect of community on ratings of the quality of the North Okanagan as a place to live.

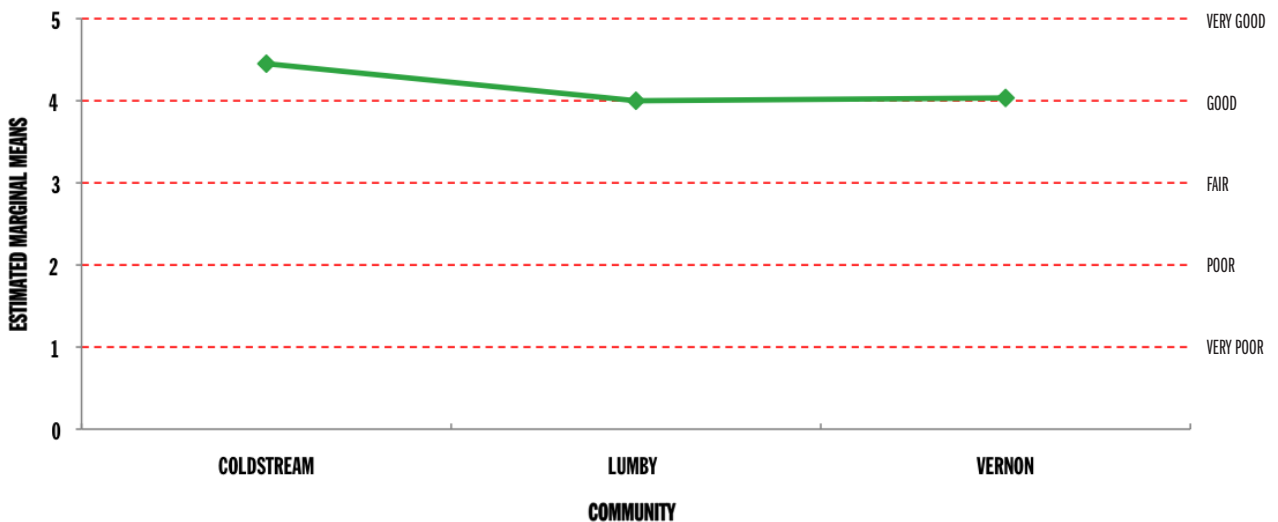


Figure A5. Estimated marginal means of the effect of community on ratings of the quality of the North Okanagan as a place to work.

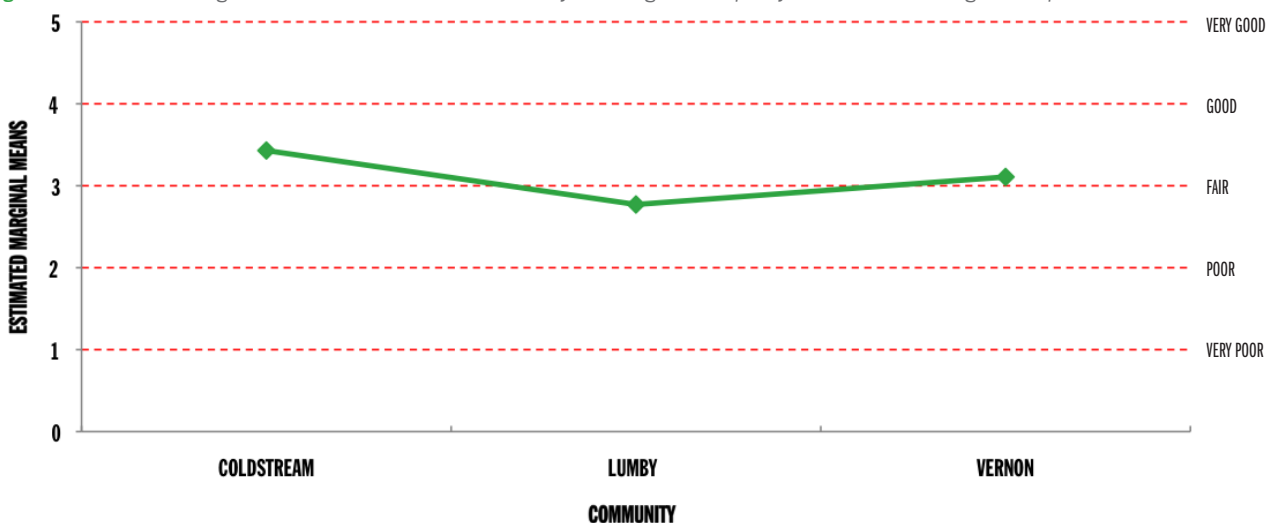


Figure A6. Estimated marginal means of the effect of community on ratings of the quality of the North Okanagan as a place to retire.

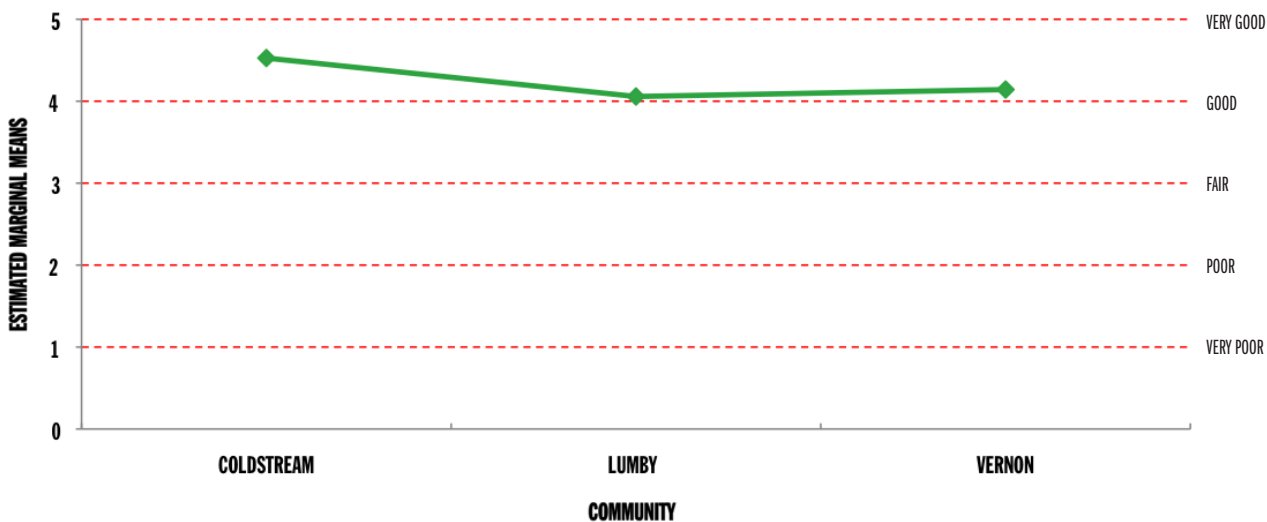


Figure A7. Estimated marginal means of the effect of community on ratings of the quality of the North Okanagan as a place to play.

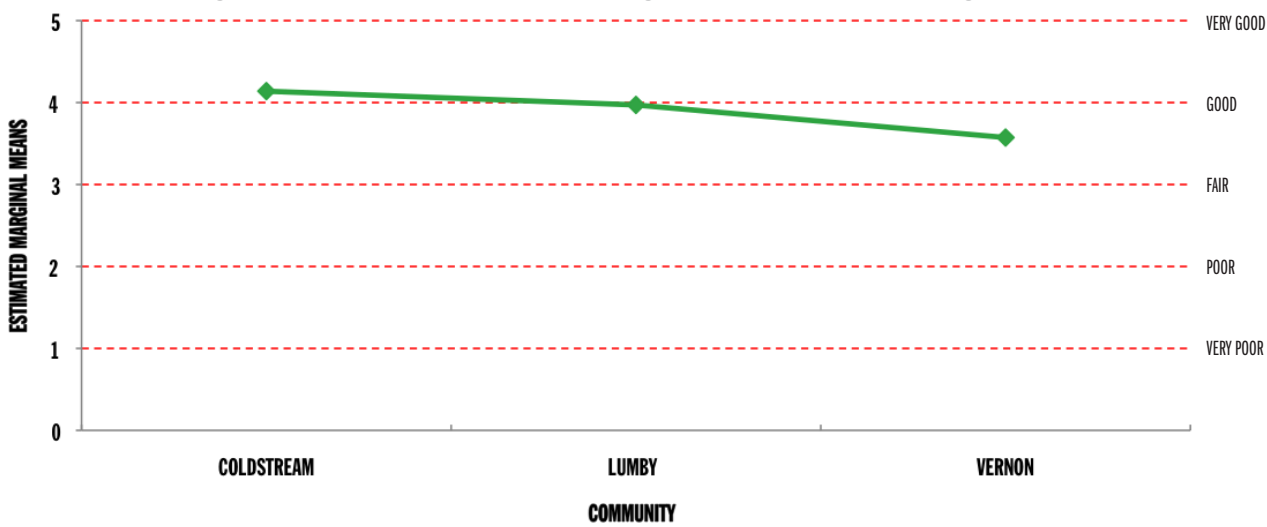
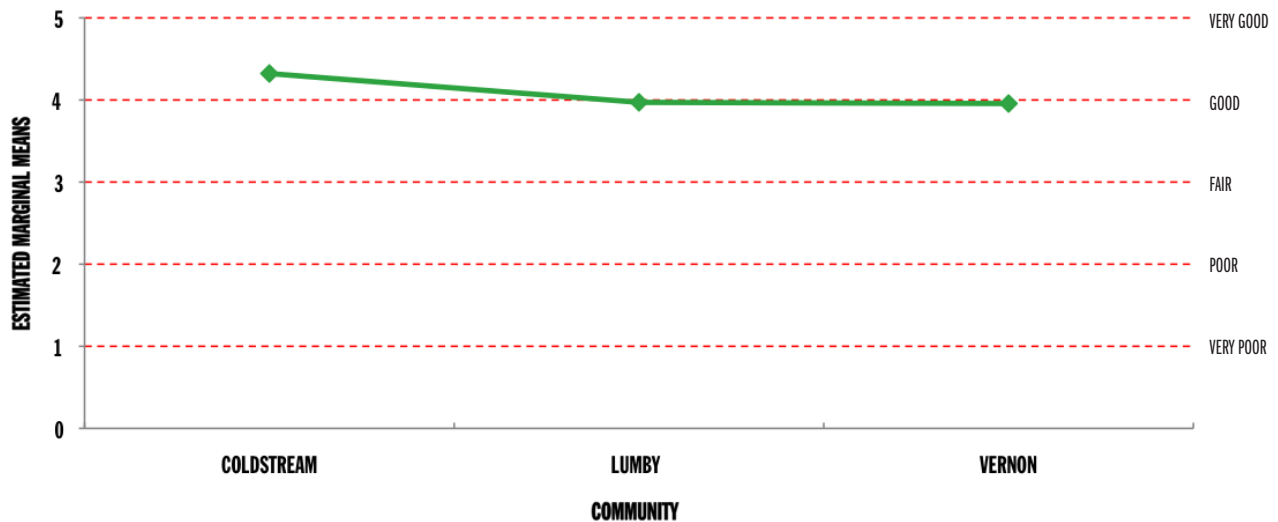
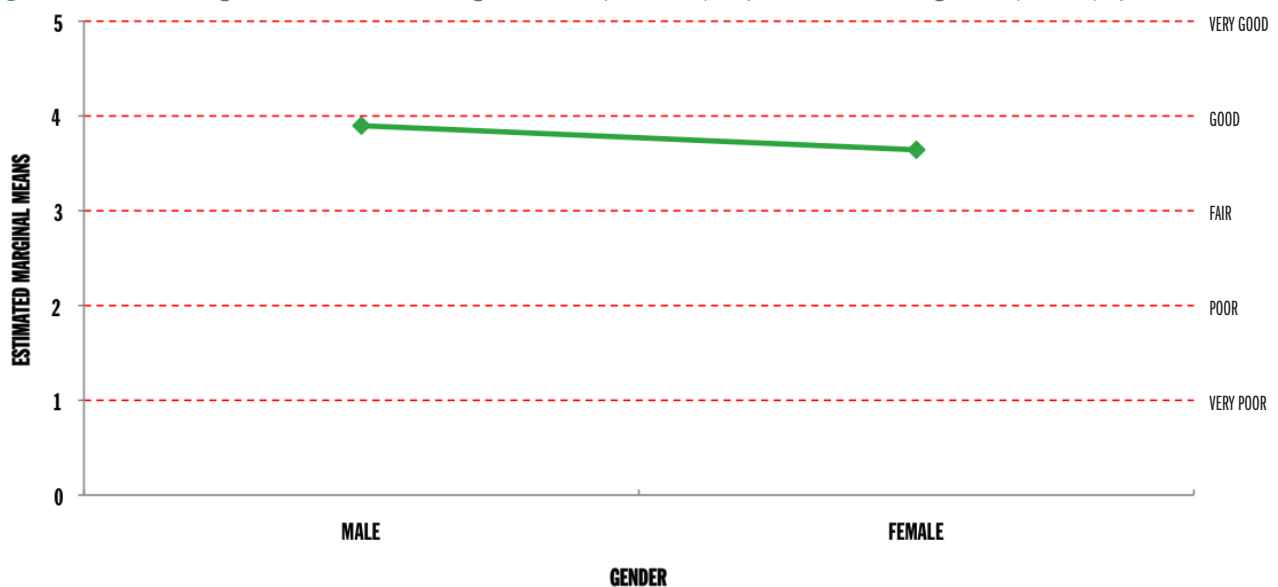


Figure A8. Estimated marginal means of the effect of community on ratings of the quality of the North Okanagan as a place to raise a family.



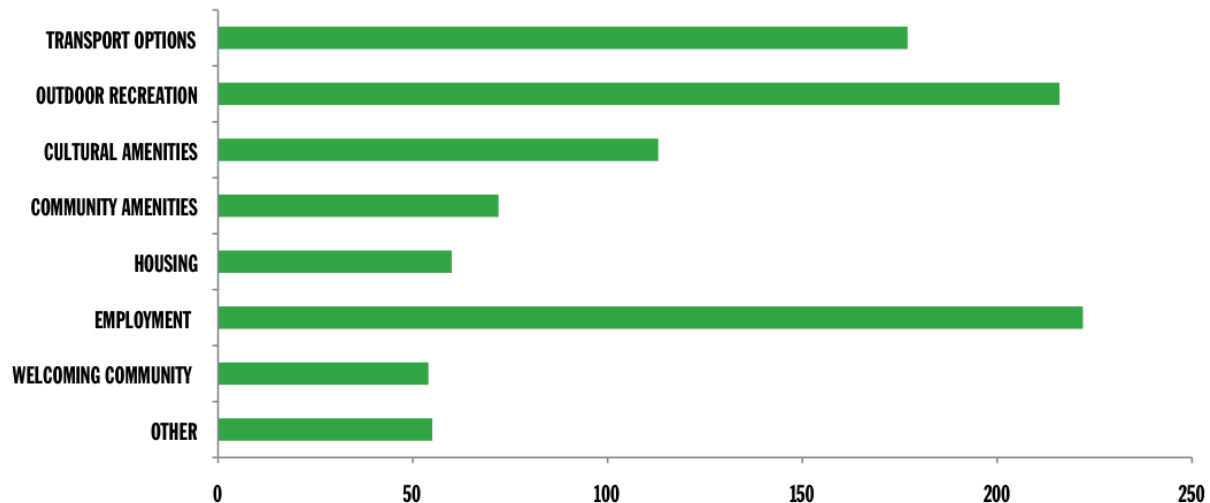
Gender also showed a significant effect on the quality of the North Okanagan as a place to play $F(1,354)=4.61$, $p<0.05$, with male respondents rating this factor higher than females (Figure A9).

Figure A9. Estimated marginal means of the effect of gender on the perceived quality of the North Okanagan as a place to play.



When asked to choose which factors would improve the quality of life in the North Okanagan, the majority of respondents chose “employment”, followed closely by “outdoor recreation” and “transportation options” (Figure A10). Housing, community amenities, and cultural amenities were also considered to be somewhat important factors in overall quality of life in the North Okanagan.

Figure A10. Number of respondents who chose each of the quality of life factors. Respondents were able to choose more than one factor in their response.



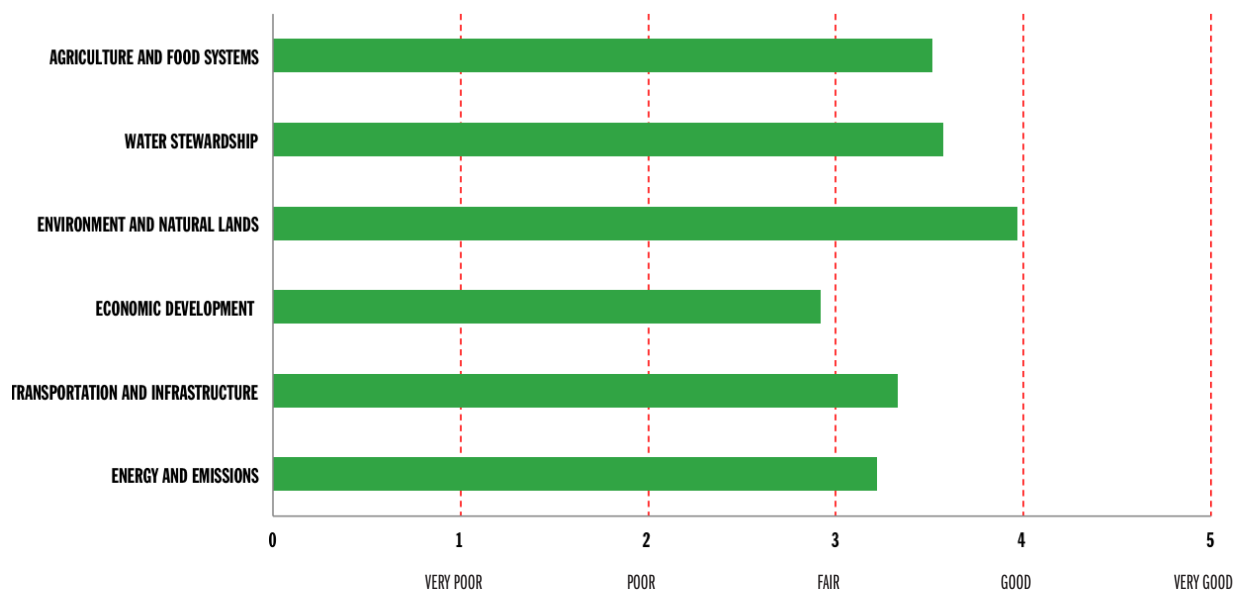
Respondents were generally somewhat proud to live in their communities, with an average response of 3.8 (slightly less than “agree”) when asked if they agreed with the statement “I feel proud to tell people I live in my community”. Although respondents were somewhat proud of where they lived, the majority of respondents indicated that they did not expect to live in the North Okanagan in 5 years, often because they planned to pursue post-secondary education elsewhere.

POLICY AREAS

Given low response rates and the lack of experience that younger respondents have in some policy areas, this report presents the results of those policy areas where young people have experience and where there was a sufficiently high response rate for statistical analysis.

Survey respondents rated most policy areas between fair and good (Figure A11), with the exception of Economic Development, which was rated below fair.

Figure A11. Average rating by policy area.





URBAN CONTAINMENT AND RURAL PROTECTION

When asked to describe the North Okanagan, the majority of survey respondents chose to describe the region as a neutral balance between urban and rural, with the remaining responses evenly distributed between more urban and more rural (Figure A12). Most respondents did not identify the region's small town feel and rural character as reasons they choose to live in the North Okanagan and returned a neutral response (Figure A13). This may be because younger respondents did not choose where they live, but rather live where their parents live. Many respondents felt that the North Okanagan needs more urban experience opportunities (Figure A14).

Figure A12. Responses to the question "How would you describe the North Okanagan today?"

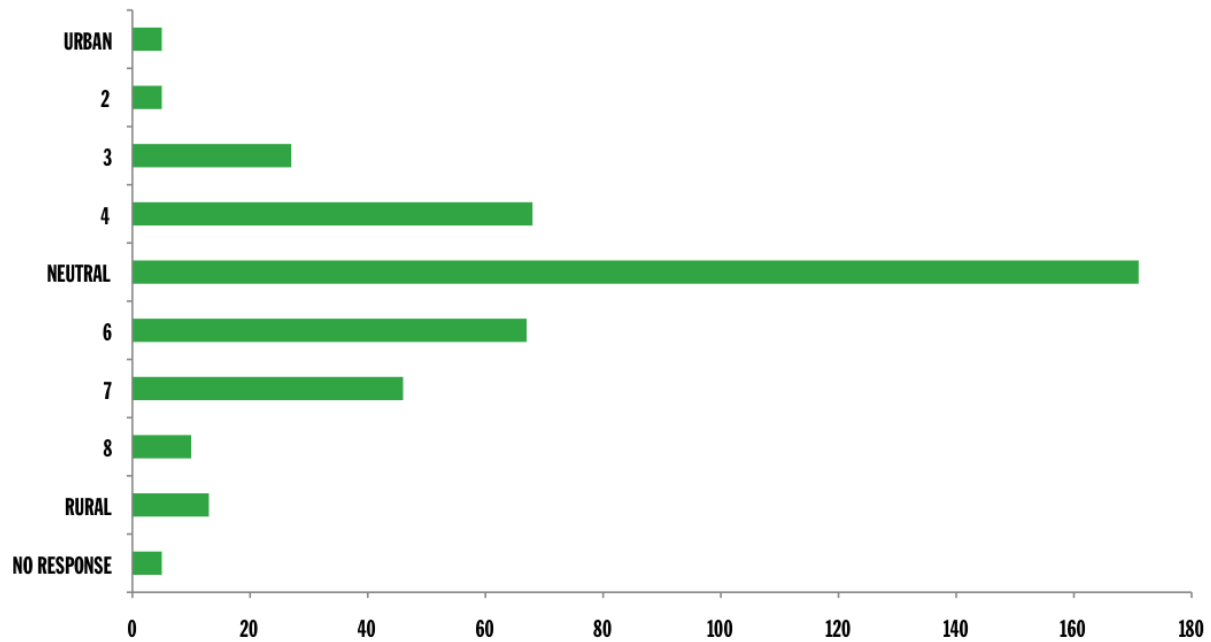


Figure A13. Responses to the statement "The North Okanagan's small town feel and rural character is one of the main reasons you live in your community."

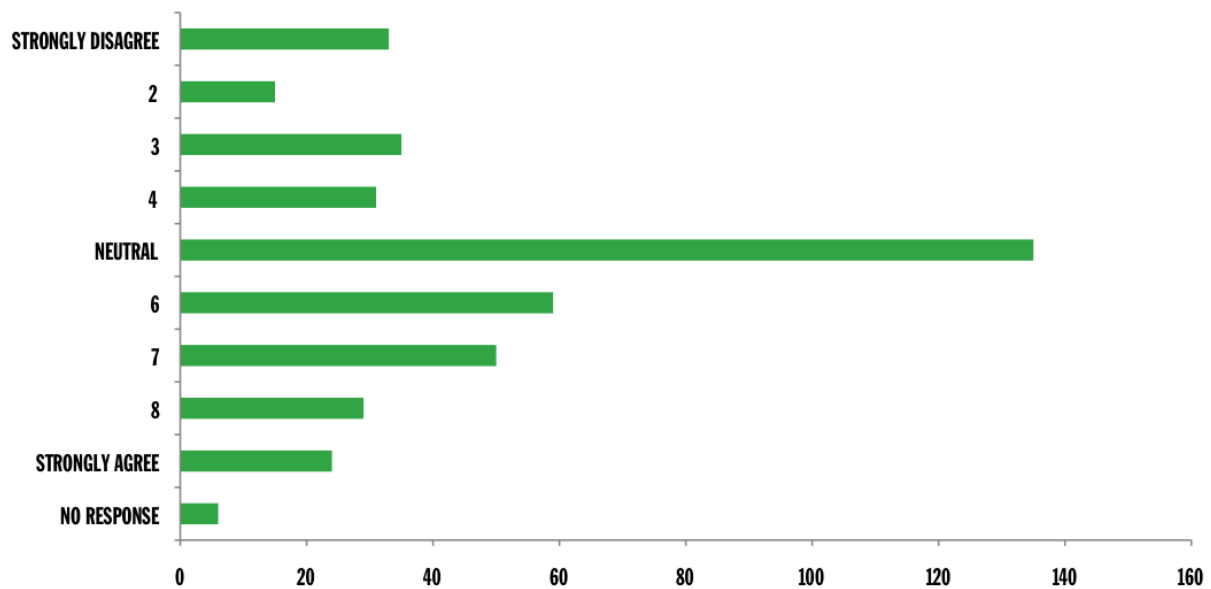
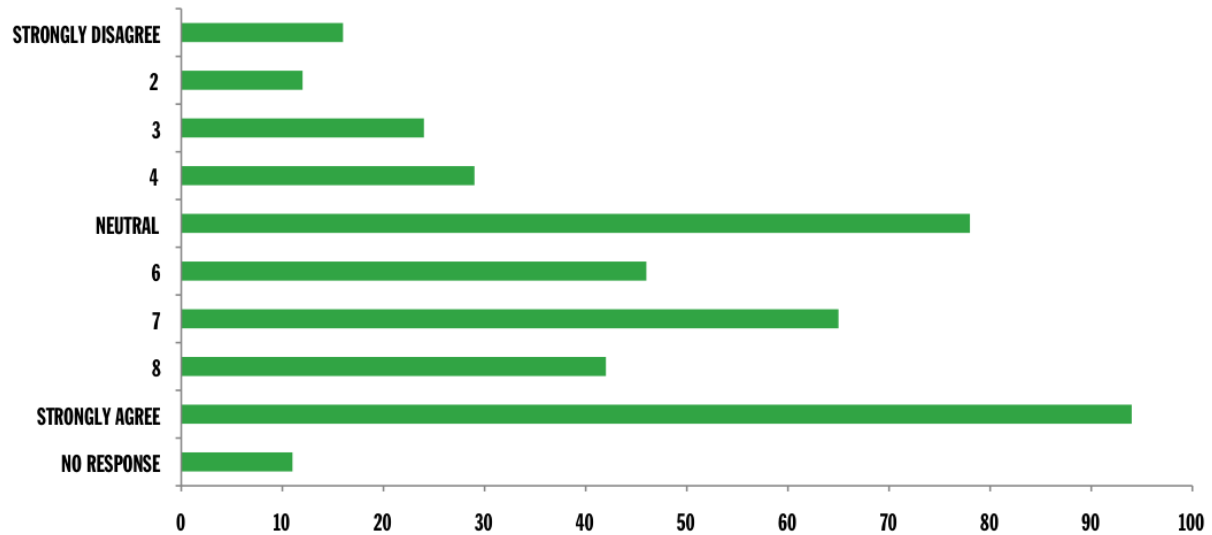


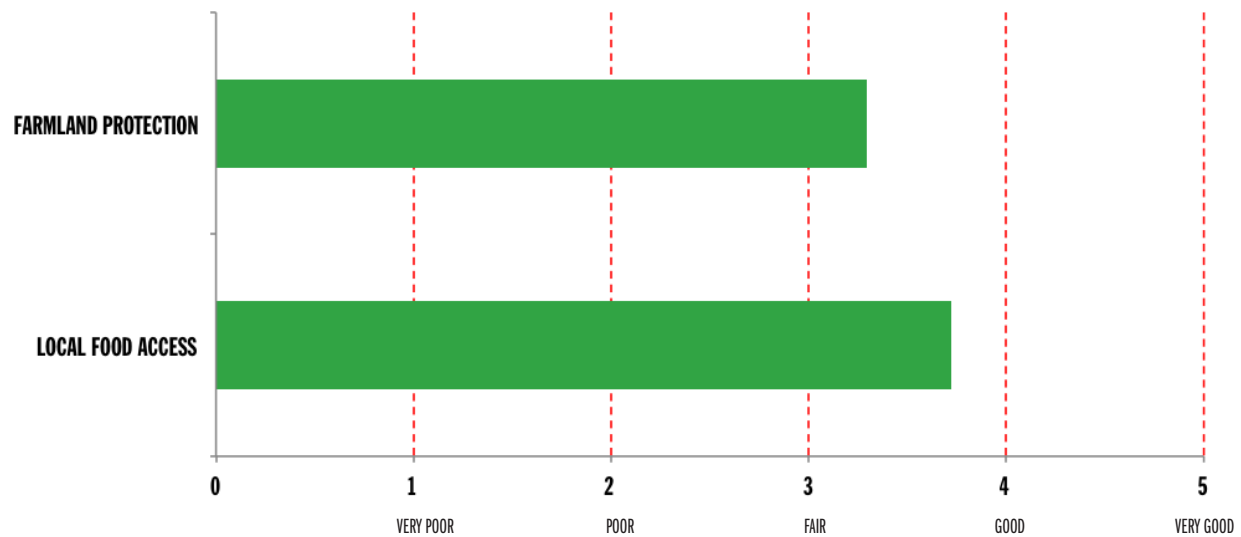
Figure A14. Responses to the statement “The North Okanagan needs more urban experience opportunities (such as entertainment, dining, arts, culture).”



AGRICULTURE AND FOOD SYSTEMS

On average, survey respondents rated their local food access between fair and good, and farmland protection slightly above fair (Figure A15).

Figure A15. Average ratings of local food access and farmland protection in the North Okanagan.

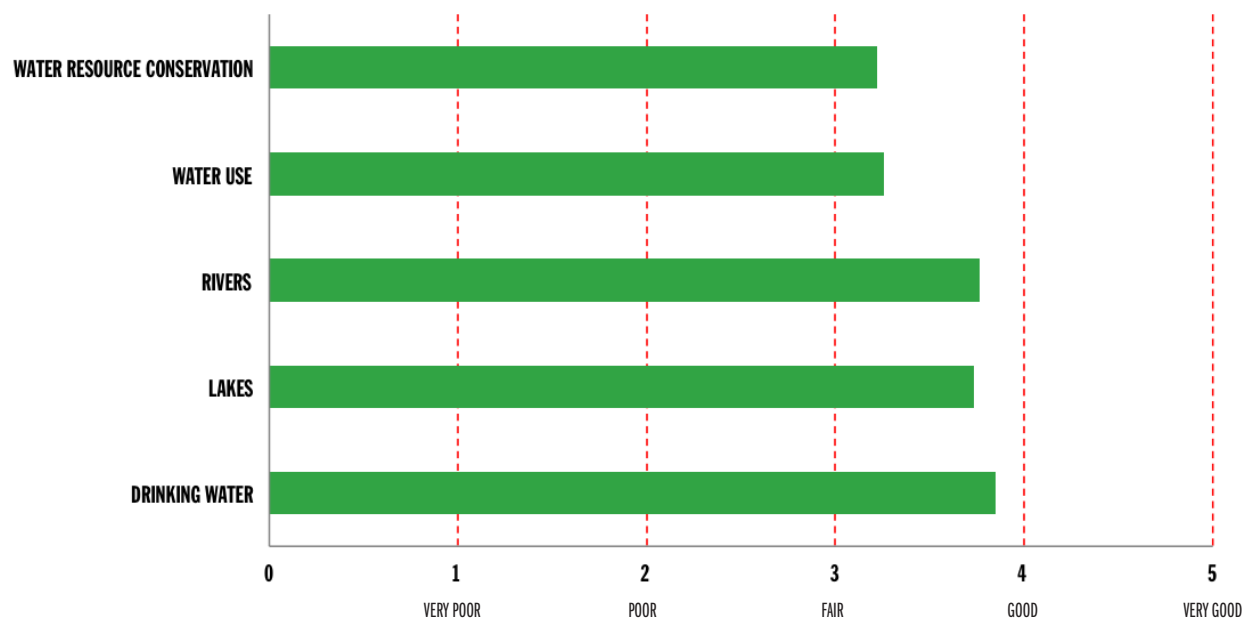




WATER STEWARDSHIP

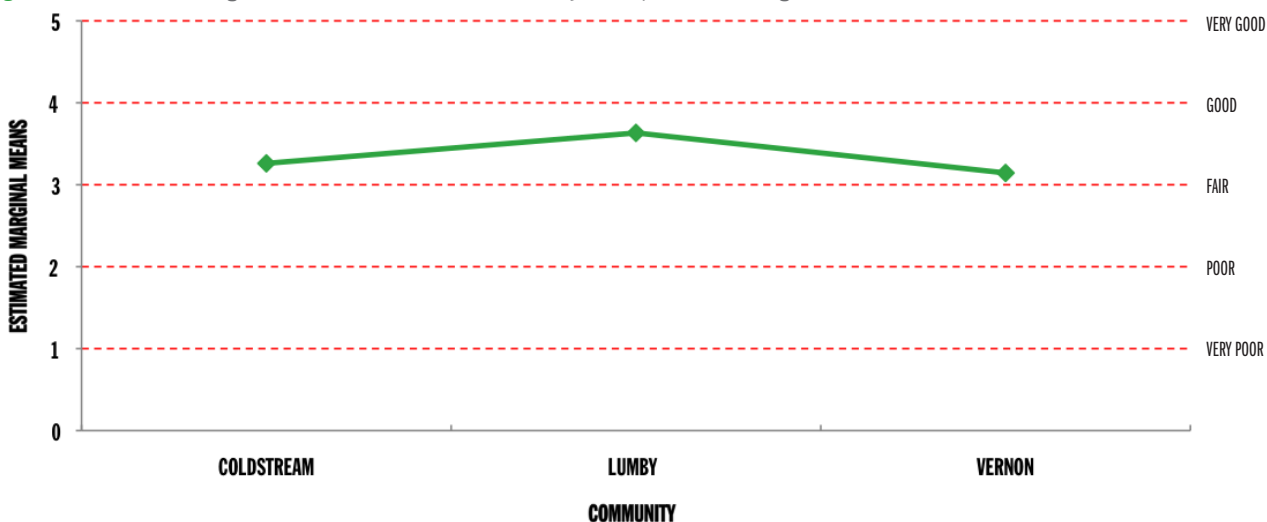
Drinking water was rated slightly below good, on average, while lake and river water quality were rated between fair and good (Figure A16). Personal water conservation efforts and water resource conservation were rated just higher than fair (Figure A16). This suggests that although lake and river water quality are currently fairly good, water quality may worsen in the future if water resource conservation does not improve.

Figure A16. Average ratings of drinking water quality, lake and river water quality, personal water use, and water resource conservation.



Community of residence had a significant effect on respondents' ratings of water resource conservation $F(2,344)=4.32$, $p<0.05$. Water resource conservation was considered to be better in Lumby than in Vernon (Figure A17).

Figure A17. Estimated marginal means of the effect of community on respondents' ratings of water resource conservation.

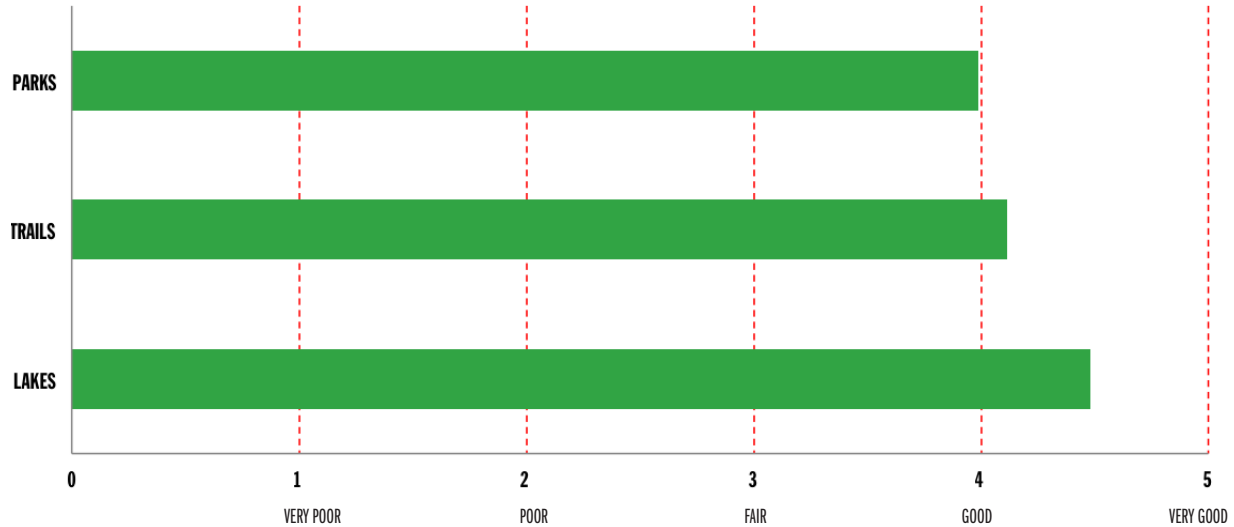




ENVIRONMENT AND NATURAL LANDS

Survey respondents rated their recreational access to lakes between good and very good, and access to trails and parks around good (Figure A18). Environmental protection was rated slightly lower, with an average rating of 3.3 or slightly higher than fair.

Figure A18. Average rating of recreational access to lakes, trails and parks in the North Okanagan.



Community of residence had a significant effect on respondents' perception of recreational access to trails $F(2,369)=9.92$, $p<0.001$, and parks $F(2,368)=8.12$, $p<0.001$. Access to trails was considered to be better in Coldstream than in Vernon (Figure A19), and access to parks was considered to be better in Coldstream than in both Lumby and Vernon (Figure A20).

Figure A19. Estimated marginal means of the effect of community of residence on ratings of access to trails.

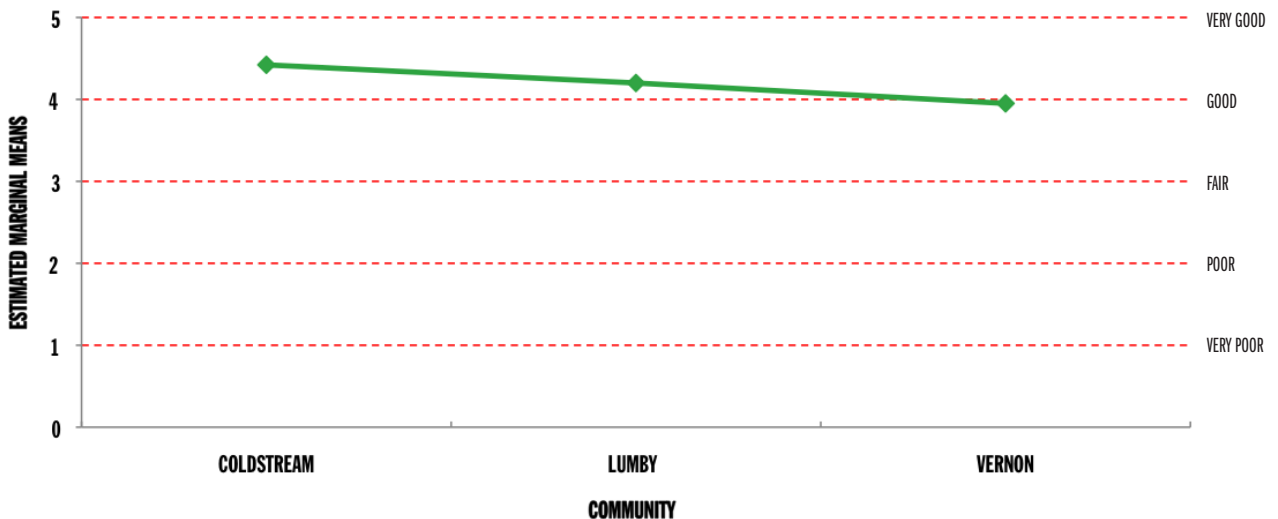
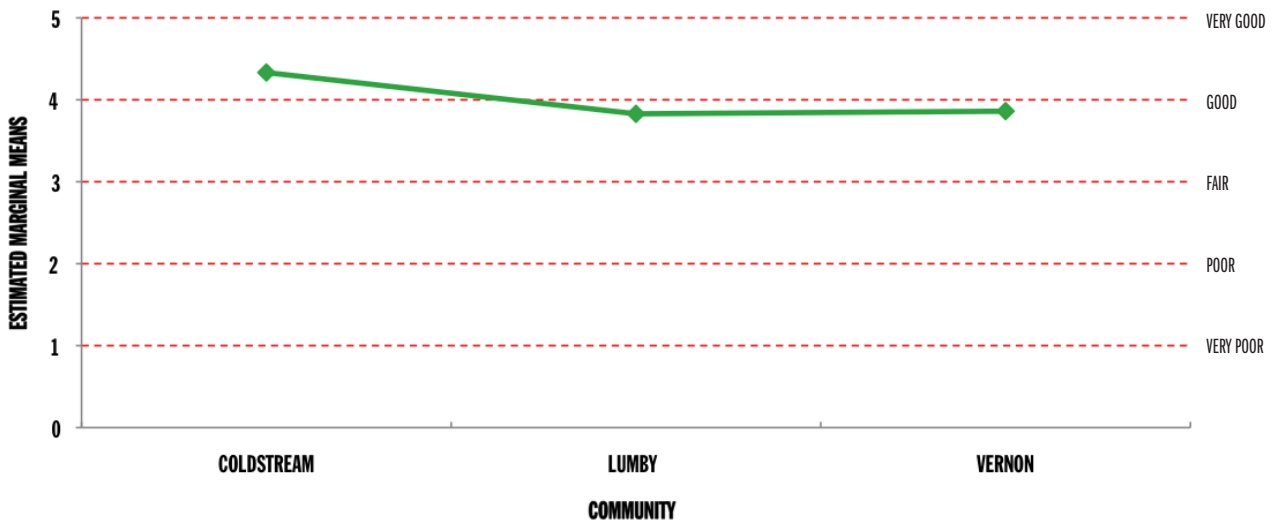


Figure A20. Estimated marginal means of the effect of community of residence on ratings of access to parks.



Gender showed a significant effect on ratings of the quality of recreational access to lakes $F(1,174)=6.77$, $p<0.01$, and trails $F(1,174)=4.53$, $p<0.05$. Males were more likely to rate access to both lakes (Figure A21) and trails (Figure A22) lower than females, although it should be noted that both genders' ratings were between good and very good.

Figure A21. Estimated marginal means of the effect of gender of residence on ratings of access to lakes.

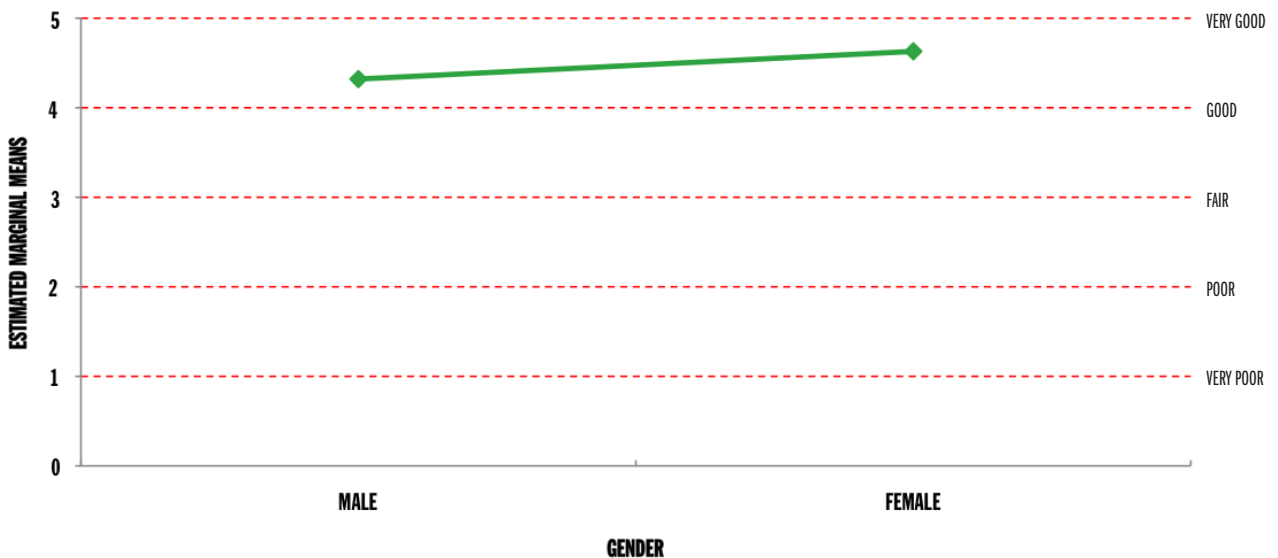
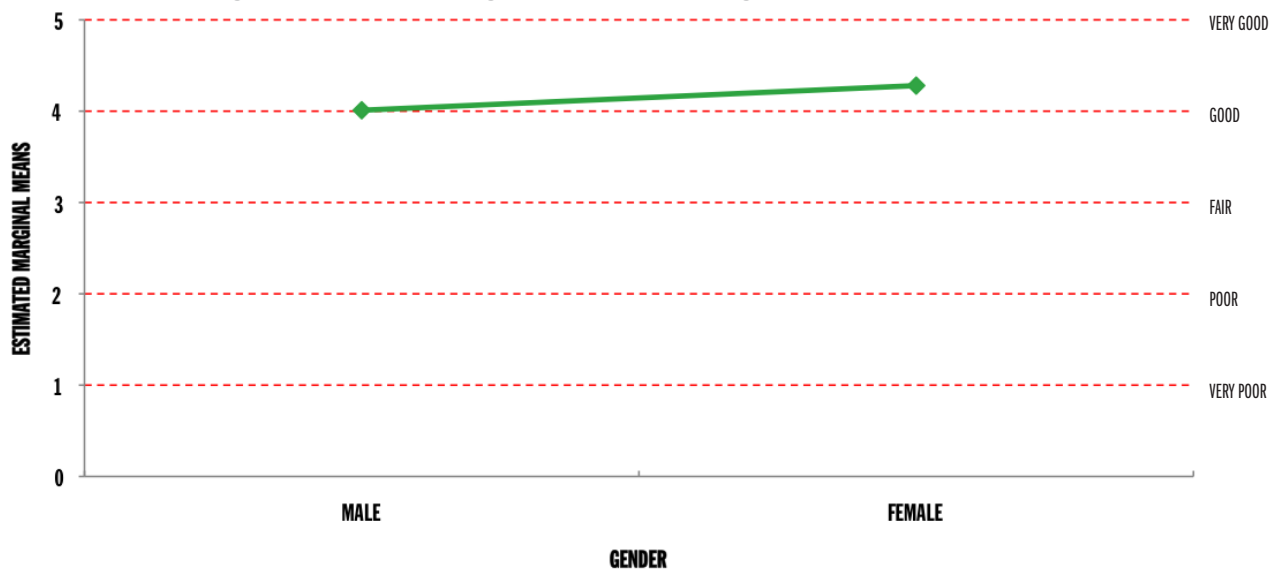


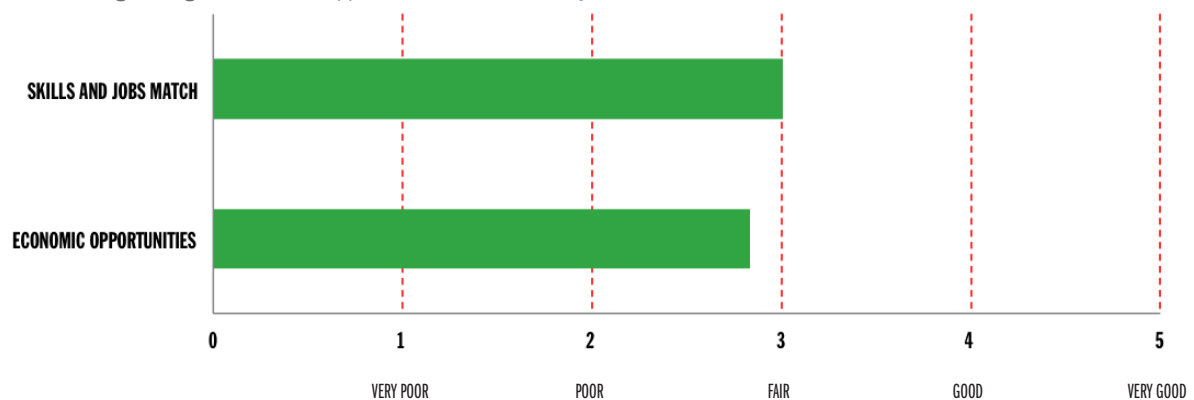
Figure A22. Estimated marginal means of the effect of gender of residence on ratings of access to trails.



ECONOMIC DEVELOPMENT

Economic development received some of the lowest ratings of all the policy areas addressed in the survey. Economic opportunities and skills and jobs match were both rated similarly to each other, receiving average scores below fair and fair, respectively (Figure A23).

Figure A23. Average ratings of economic opportunities and skills and jobs match.





TRANSPORTATION AND INFRASTRUCTURE

Survey respondents rated their opportunities to use public transit as slightly higher than fair (Figure A24). Opportunities to cycle and walk were rated slightly higher, between fair and good (Figure A24). Transit infrastructure was rated just above fair, while other transportation infrastructure was rated slightly higher, between fair and good (Figure A25).

Figure A24. Average ratings of opportunities to take the bus, cycle or walk in the North Okanagan.

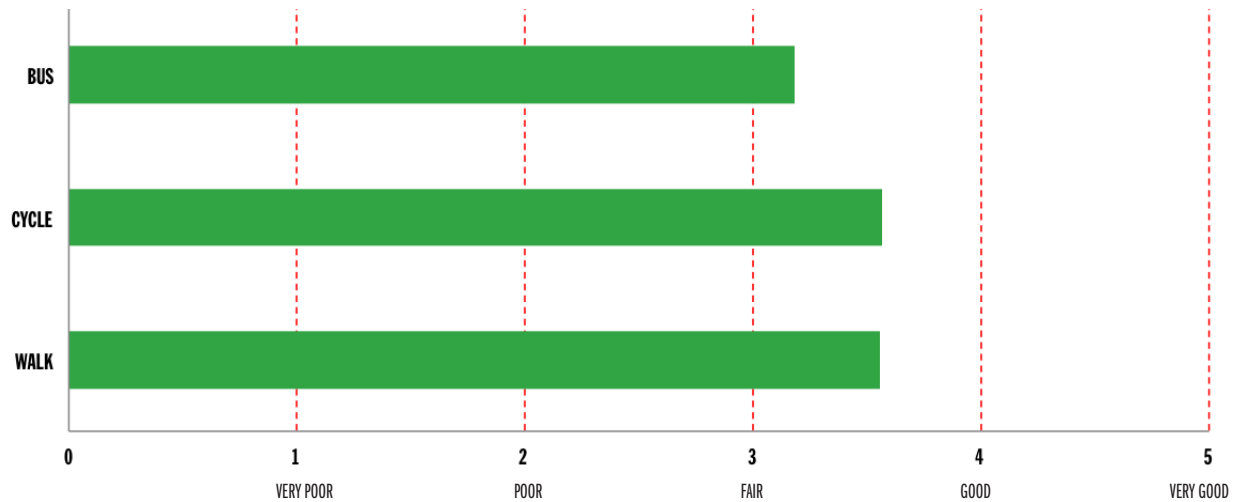
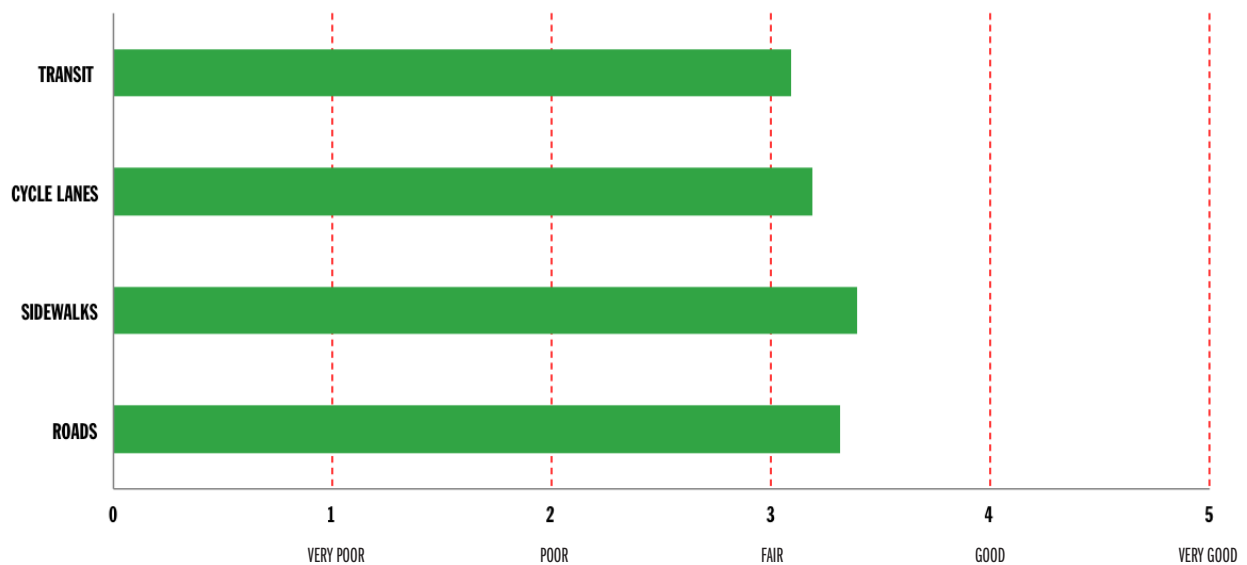


Figure A25. Average ratings of transportation infrastructure in the North Okanagan.

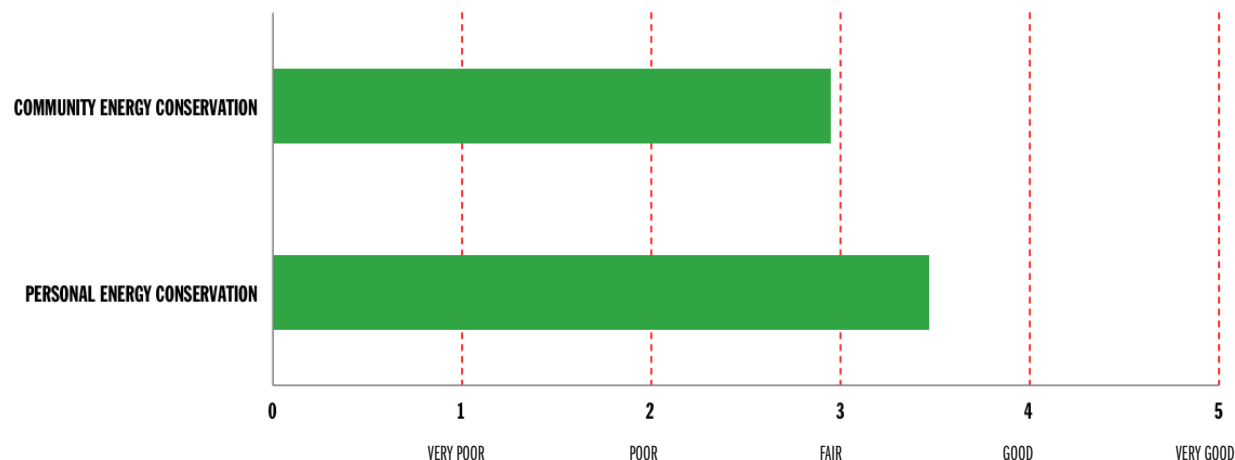




ENERGY AND EMISSIONS

As with the 18+ group, respondents consistently rated their personal energy conservation efforts much higher than the efforts of their community to conserve energy (Figure A26). Personal energy conservation received an average rating between fair and good, while community energy conservation scored slightly lower than fair.

Figure A26. Average ratings of personal and community energy conservation efforts.



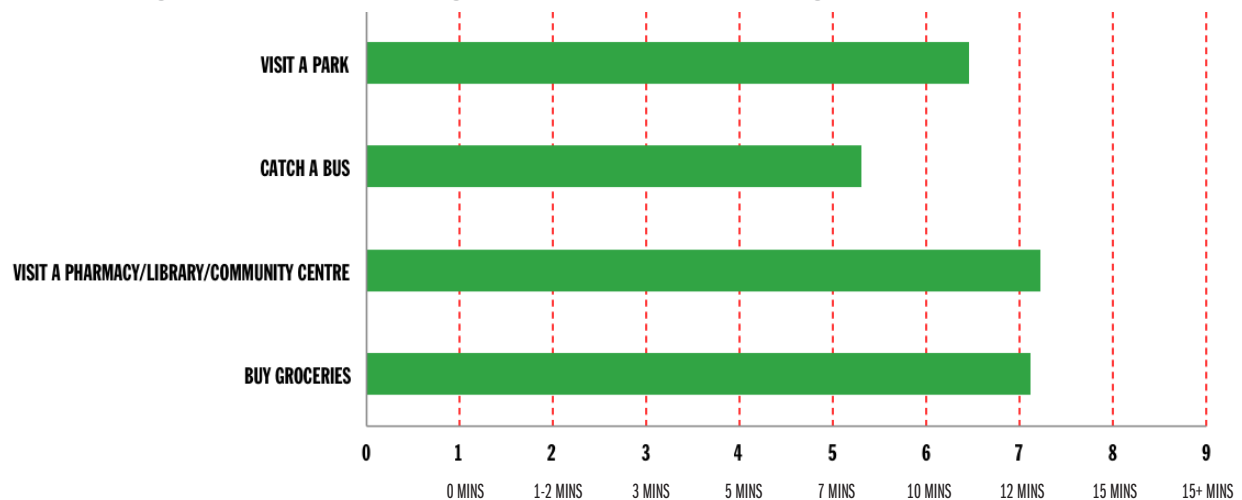
COMMUNITY

The Quality of Life Survey asked residents about their preferred community characteristics to help us plan our growth to meet residents' needs. The following is a selection of results related to these issues.

Planning healthy neighbourhoods involves planning for accessible community amenities that meet the needs and interests of local residents. Survey respondents were asked to indicate how far they would walk to buy groceries, visit amenities such as a pharmacy, library or community centre, catch a bus, or visit a park.

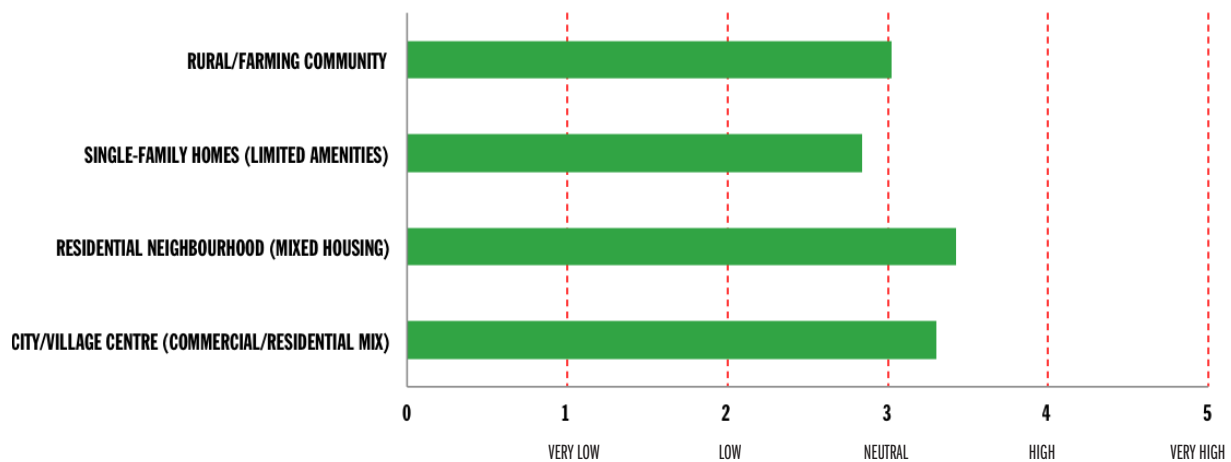
Respondents in the under 18 age group were willing to walk farther, on average, than respondents in the 18+ age group. Youth respondents were on average willing to walk over 10 mins to visit a park, over 12 minutes to visit a pharmacy/library/community centre, and about 12 minutes to buy groceries. Respondents preferred to walk shorter distances, or about 8 minutes, to catch a bus (Figure A27).

Figure A27. Average times respondents were willing to walk to various locations in their neighbourhoods.



When asked what kind of neighbourhood they would prefer to live in, the majority of respondents indicated that they would prefer to live in a residential neighbourhood with mixed housing types and some community amenities or in a city or village centre with a mix of commercial and residential properties (Figure A28). Although not the majority, a large proportion of respondents indicated that they would prefer to live in a neighbourhood with single-family homes and fewer amenities, or a rural or farming community (Figure A28). It should be noted that these do not appear to be strong preferences, as the average response was close to neutral in most cases.

Figure A28. Average preference for neighbourhood/community types.

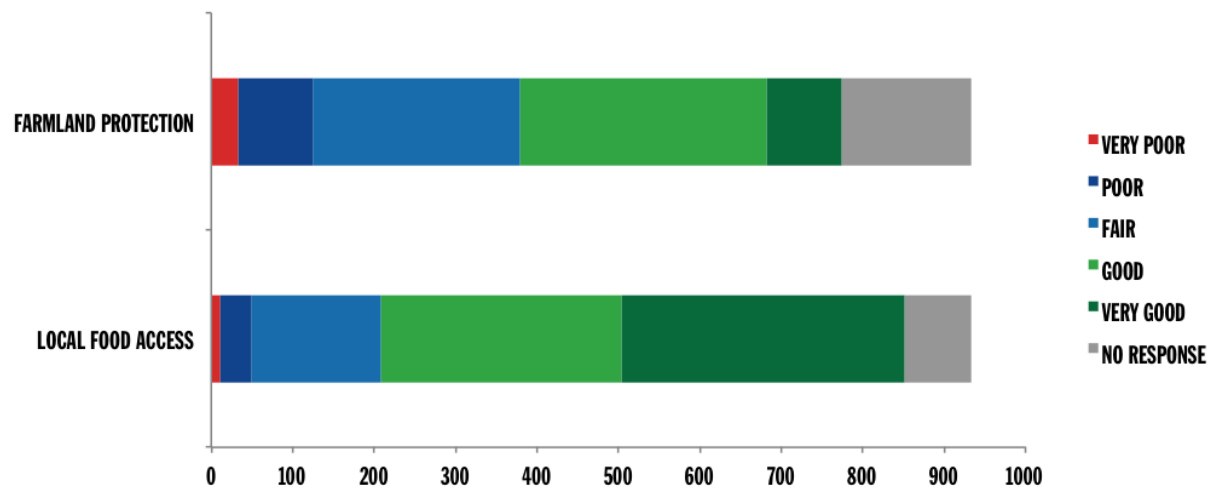


APPENDIX B: QUALITY OF LIFE SURVEY RESPONSE BREAKDOWNS



AGRICULTURE AND FOOD SYSTEMS

Figure B1. Breakdown of ratings of local food access and farmland protection in the North Okanagan.



WATER STEWARDSHIP

Figure B2. Breakdown of ratings of drinking water, lake water and river water quality in the North Okanagan.

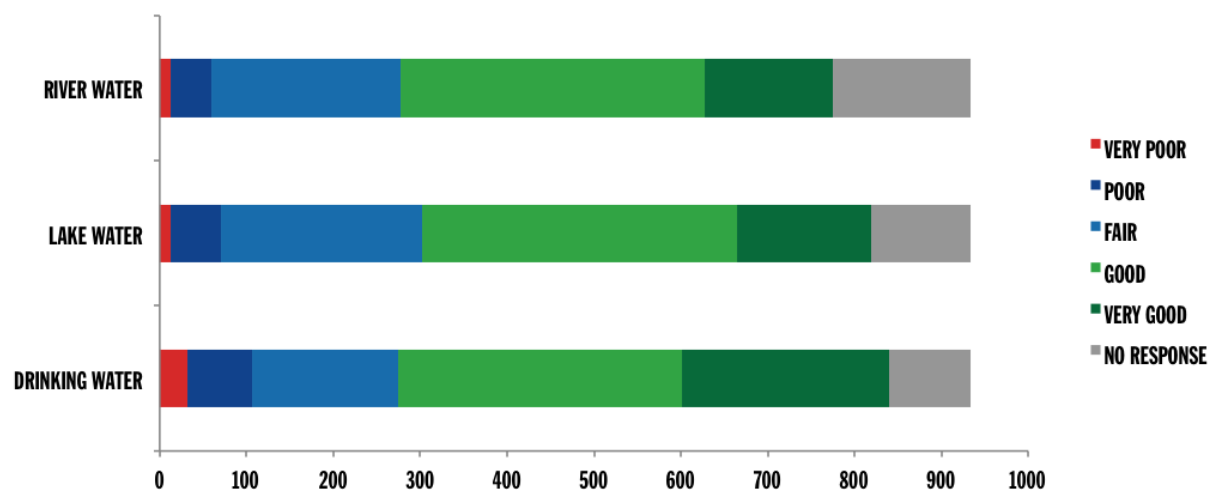


Figure B3. Breakdown of ratings of personal water conservation and water resource conservation in the North Okanagan.

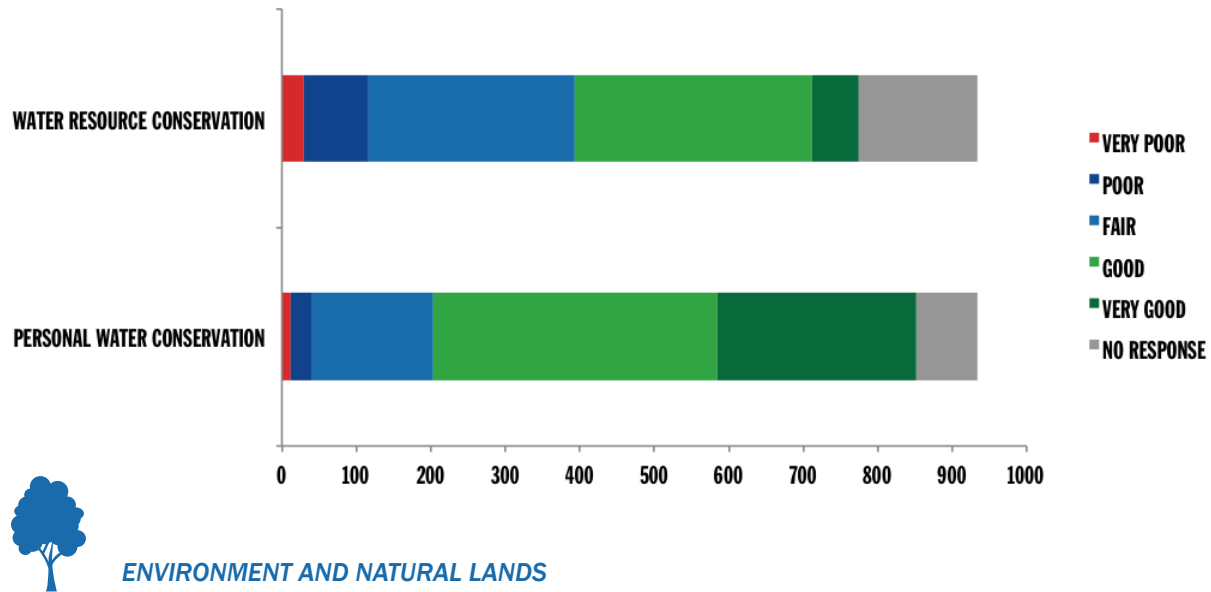


Figure B4. Breakdown of ratings of recreational access to lakes, trails and parks in the North Okanagan.

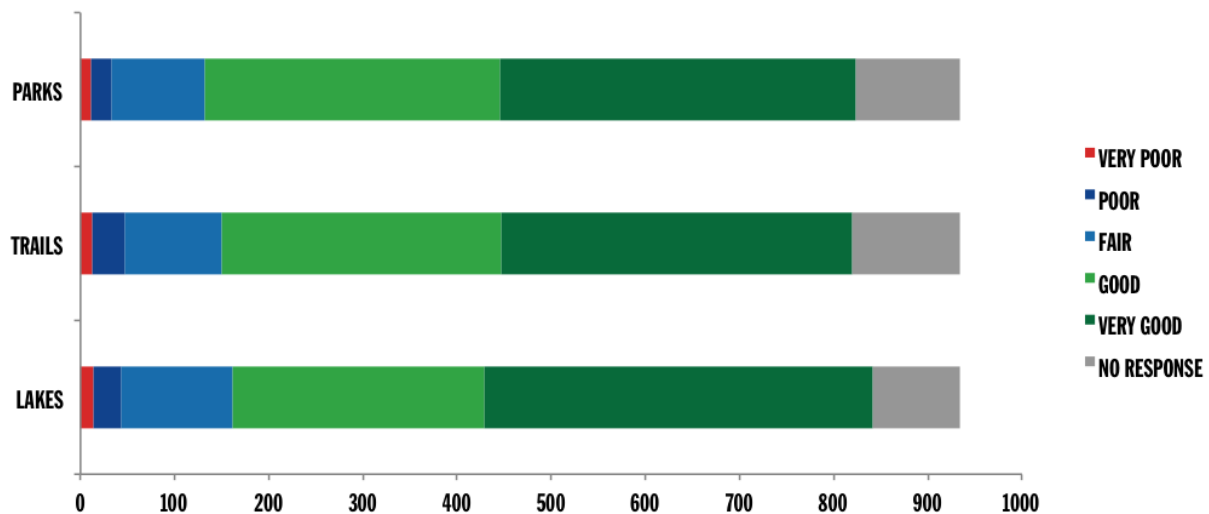
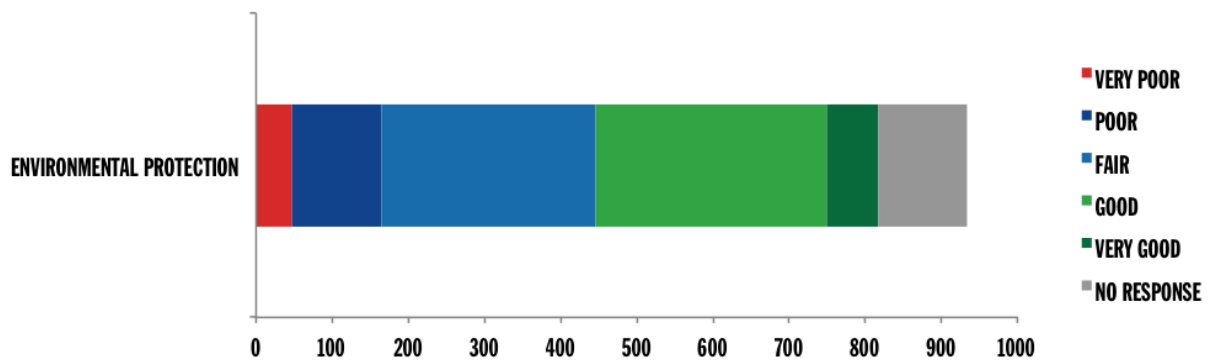


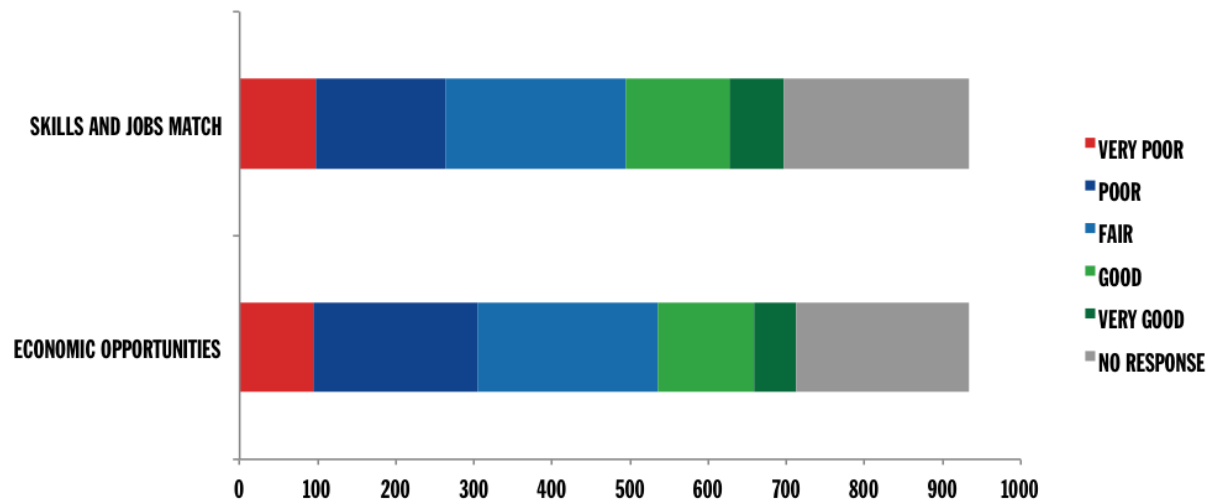
Figure B5. Breakdown of ratings of environmental protection in the North Okanagan.





ECONOMIC DEVELOPMENT

Figure B6. Breakdown of ratings of economic opportunities and skills and jobs match in the North Okanagan.



TRANSPORTATION AND INFRASTRUCTURE

Figure B7. Breakdown of ratings of opportunities to walk, cycle or take public transit in the North Okanagan.

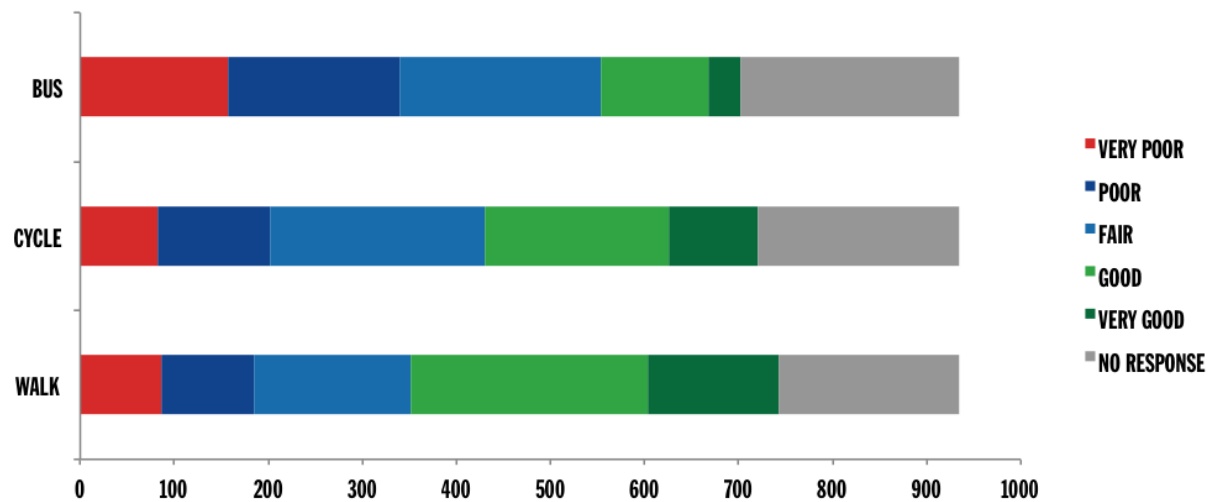
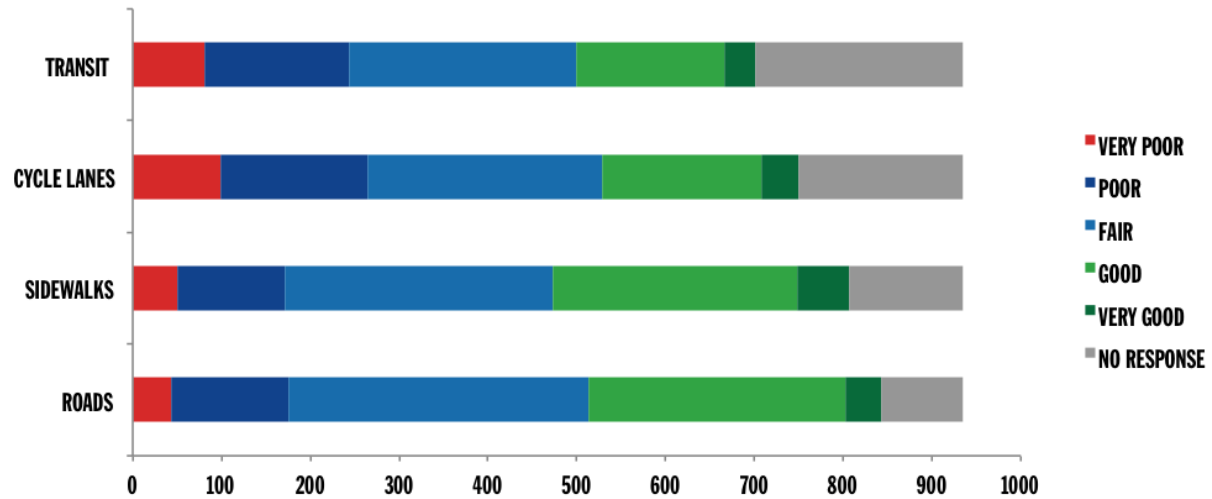
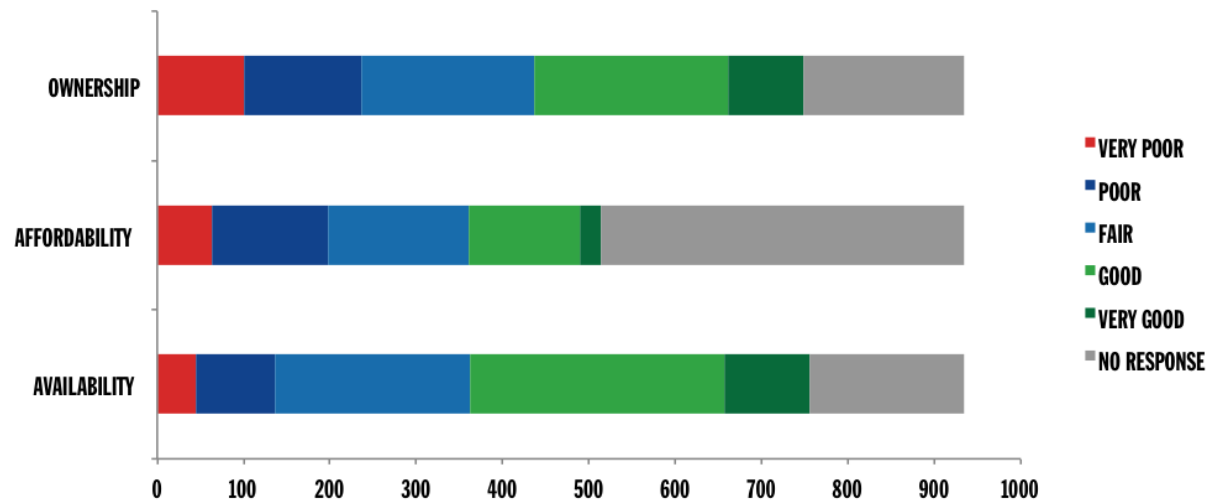


Figure B8. Breakdown of ratings of the quality of road, sidewalk, cycle lane, and public transit infrastructure in the North Okanagan.



HOUSING

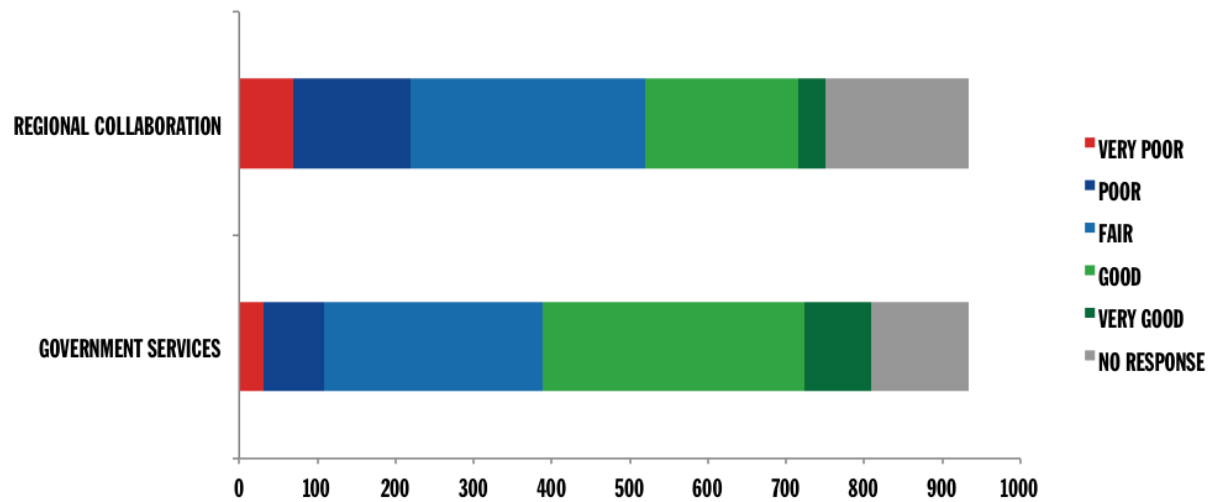
Figure B9. Breakdown of ratings of housing availability and affordability, and opportunities for home ownership in the North Okanagan.





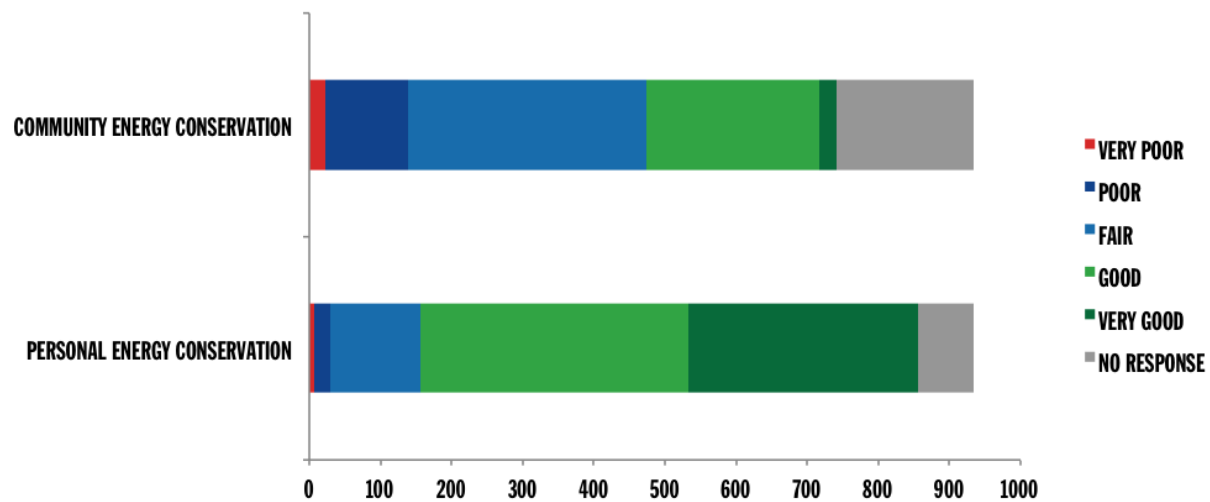
GOVERNANCE AND SERVICE DELIVERY

Figure B10. Breakdown of ratings of the quality of government services and regional collaboration efforts in the North Okanagan.



ENERGY AND EMISSIONS

Figure B11. Breakdown of ratings of personal and community energy conservation efforts in the North Okanagan.



Acknowledgements:

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