Final Evaluation Report | Rural Village Centre Study

Regional District of Nanaimo Regional Growth Strategy

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Final Report

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ABSTRACT

The objective of the Rural Village Centre Study is to identify the Rural Village Centres (RVCs) and Study Areas (SAs) that have the most potential to evolve into compact, complete communities. During the RGS Review questions were raised about the ability of the RVCs to accommodate growth because of the significant costs associated with providing community water and sewer services.The parameters of the study are based on the RDN Regional Growth Strategy's requirements that compact, complete communities be: pedestrian-oriented; supportive of regular transit service; capable of attracting and supporting local commercial development, and community services and amenities; and able to demonstrate how their development will contribute to Regional Growth Strategy Goals.

Based on relationships between travel behaviour and community form, widely-accepted measures were used to evaluate the existing "pedestrian-oriented" and "transit supportive" conditions of each RVC/SA. Based on population and market trends, the commercial potential of each RVC/SA was also evaluated. Additional consideration was given to water and wastewater infrastructure, because this is a key determinant in evaluating the capacity of each RVC/SA to become compact, complete communities "that warrant the investment required to serve them with community water and wastewater facilities..." (November 22, 2011, RDN Regional Growth Strategy, Goal 4, Page 27).

Combining the three categories of community structure/design and land use; development viability; and community water and wastewater infrastructure, the RVC/SAs are ranked as follows:

- **Cedar** ranks the highest in all three categories;
- **Bowser, Red Gap, Coombs,** and **Fairwinds** perform the second best, ranking highest in two of three categories;
- **Bellevue-Church Road, Cassidy, Errington, Dashwood SA, Deep Bay SA, Extension, Hilliers, Qualicum Bay,** and **Dunsmuir** rank mid-low range in all categories; and
- **Qualicum River Estates** ranks the lowest among the RVC/SAs, scoring lowest in all categories.

PART A: PROJECT BACKGROUND AND PROCESS

1. INTRODUCTION

1.1 Project Background

The Rural Village Centre Study is an implementation project of the Regional District of Nanaimo's (RDN) Regional Growth Strategy (RGS) to help better inform decisions regarding future land use and development in the region. The RGS' key strategy for managing growth and development is to focus it within designated growth areas; within the Electoral Areas (i.e. outside the urban centres), these designated growth areas are called Rural Village Centres (RVCs). Since adoption of the RGS, questions have been raised about the ability of some of the RVCs to evolve into compact, complete communities that warrant the investment required to serve them with community water and wastewater facilities. As such, **the objective of the Rural Village Centre Study is to identify the RVCs that have the most potential to evolve into complete, compact communities.**

The RGS specifies that compact, complete communities should:

- Be planned and designed as pedestrian-oriented and transit supportive;
- Be compact, complete and compatible in character with local context;
- Attract and support local commercial development;
- Attract and support local community services and amenities;
- Support regular transit service; and
- Demonstrate how their development will contribute to the goals of the Regional Growth Strategy.

There are 14 RVCs in the RDN:

- Electoral Area A - Cedar and Cassidy
- Electoral Area C - Extension
- Electoral Area E - Fairwinds and Red Gap
- Electoral Area F - Bellevue-Church Road, Errington, Coombs, Hilliers, and Qualicum River Estates
- Electoral Area G - French Creek
- Electoral Area H - Dunsmuir, Qualicum Bay, and Bowser

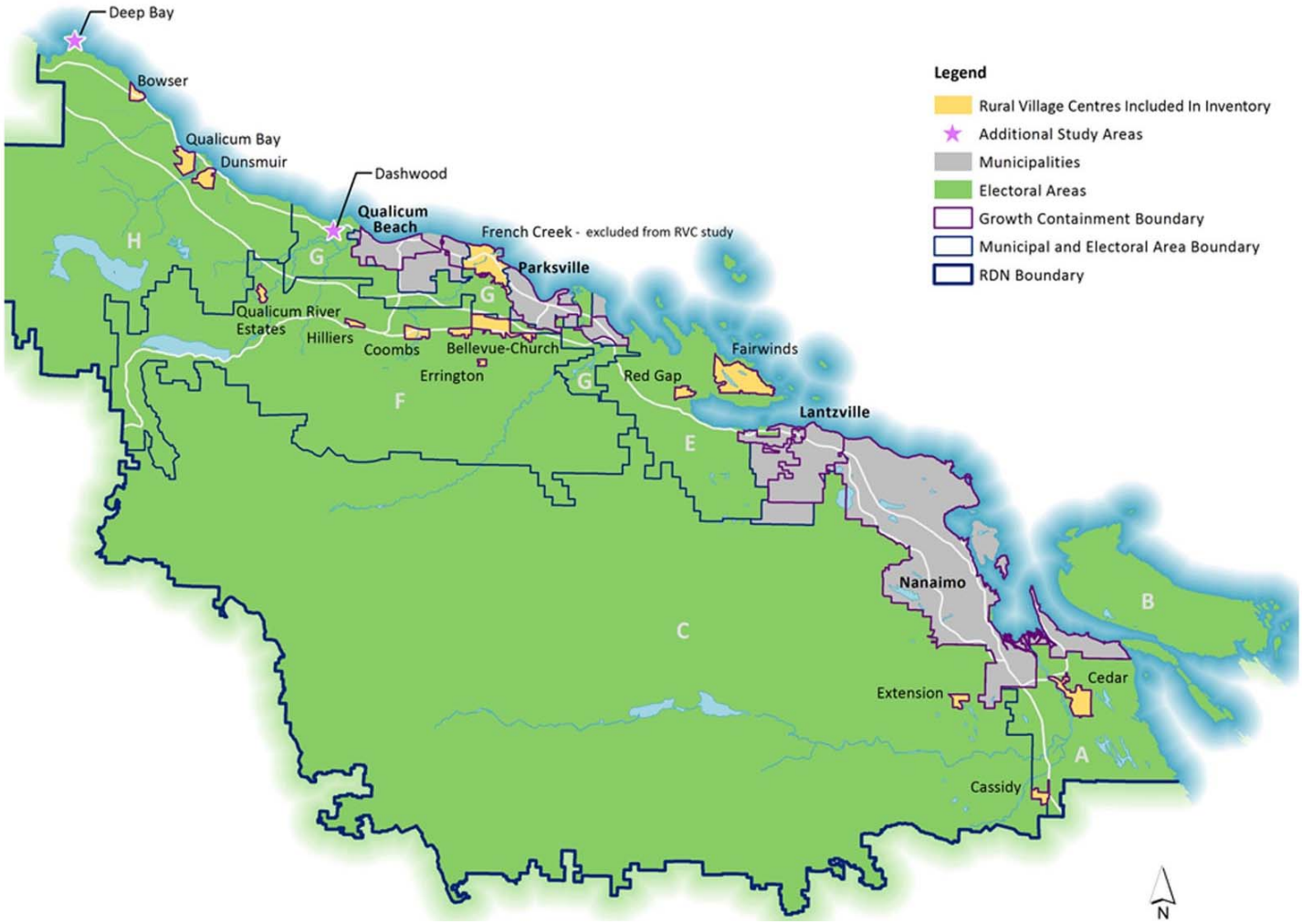
French Creek has been excluded from this study because it is considered to be largely completely developed, with most of it already serviced by community water and sewer, and transit. While Bellevue-Church Road is officially designated as a Rural Separation Area (RSA) in the Area 'F' OCP, for convenience and the purposes of this report it will be referred to as an RVC.

In addition to the 13 RVCs noted above, two additional study areas (SAs) are also included in the Rural Village Centre Study:

- Electoral Area G – Dashwood SA
- Electoral Area H – Deep Bay SA

Dashwood SA is included as a study area based on direction in the Electoral Area 'G' Official Community Plan (OCP) to look at "the feasibility of establishing a new neighbourhood centre in Dashwood that supports a mix of land uses…and providing recommendations on the need for a village centre in Dashwood." The inclusion of Deep Bay as a study area is based on direction from the RDN Board in 2011 relating to an application for a proposed mixed-use development in Deep Bay. This proposal requires amendments to the Area 'H' OCP and RGS to allow a new rural village centre in Deep Bay. It is anticipated that the results of the Rural Village Centre Study will help the RDN Board evaluate the need for any new Rural Village Centres.

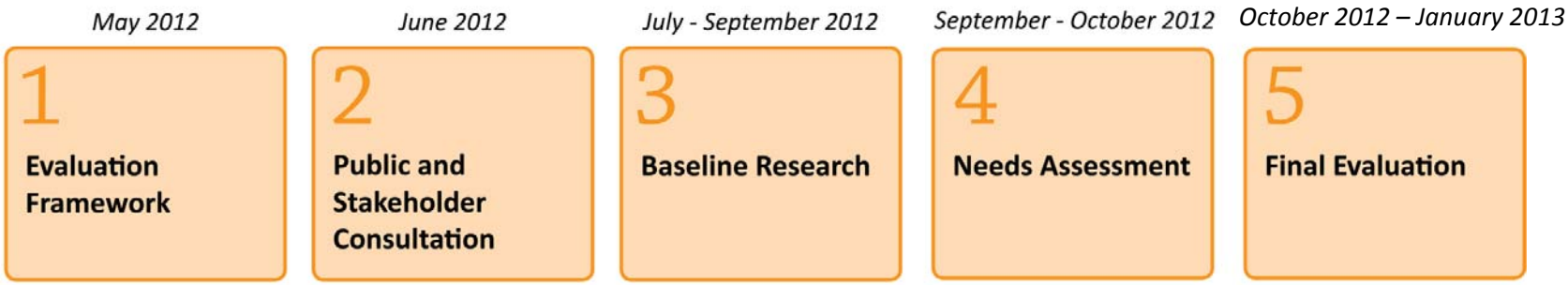
Figure 1: Rural Village Centres and Additional Study Areas in the Regional District of Nanaimo *(source: RDN)*



1.2 Project Process

There were five significant milestones in this project process. The first two milestones were documented in interim reports (provided to the RDN under separate cover). The outcomes of the final three milestones comprise the content of this final report.

The project process is as follows:



1. **Evaluation Framework** – Based on the RDN's definition of compact, complete communities, a set of key categories was developed at the project outset to guide the baseline research, needs assessment, and final evaluation of the RVCs and SAs. The Evaluation Framework is based on fundamental planning and development criteria from professional practice and academic research for creating compact, complete communities. Ensuring that everyone was on the same page early in the process, the Evaluation Framework was reviewed by RDN staff and the RDN Board of Directors, and presented to the public at open houses.

2. **Public and Stakeholder Consultation** – While this project is intended to be a primarily quantitative study that aspires for a high degree of objectivity, it has been recognized that there is a role for public and stakeholder input into the process. Public engagement objectives were: to inform residents about the study; to obtain information about perceived strengths and weaknesses in the RVCs; and, to discuss issues relating to RVCs that matter to them. While public and stakeholder input do not impact the outcomes of this

study, it does provide context for the RDN in determining how to use the results of the study. A public input summary[1] is contained within this report's appendix, which covers the public on-line survey, and six open houses (i.e. one in each Electoral Area).

The outcomes of separate market research interviews with local stakeholders informed the development of baseline information contained in this report.

3. **Baseline Research** – Using the same categories laid out in the Evaluation Framework, the baseline research provided a snapshot of "today's" conditions in each of the RVCs, and assigned values to each of the key categories based on information from the RDN's *Rural Village Centre Inventory*, Statistics Canada, and land use mapping data. This research also included forecasting (i.e. population and commercial growth potential).

4. **Needs Assessment** – Again, using the same categories laid out in the Evaluation Framework, the Needs Assessment articulated what is needed for communities to be considered compact and complete. The needs were based on an extensive literature review that drew on leading research and best practices.

[1] While there certainly is diversity of options within and across RVCs and SAs, there are some common themes that emerged during consultations. They are as follows:

- Rural lifestyle and character (which is often understood to be low-density residential), environment and natural areas, and sense of community are greatly valued across the study area's RVCs and SAs, and there is a strong desire to preserve these qualities;
- Non-existent or insufficient transit service has been identified as a strong negative, either in terms of meeting existing needs or as a barrier preventing RVCs and SAs in becoming compact, complete communities;
- Residents wish to have more destinations, services, and social gathering places, and improved pedestrian and cyclist infrastructure. Participants feel that these improve their RVCs and SAs, encourage active transportation, and make RVCs and SAs more viable as compact, complete communities.
- Residents are generally open to adding either a "few" (preferred) or "many" more homes to their RVCs and SAs.
- Residents are generally open to adding either a "few" (preferred) or "many" more shops, services, and job opportunities (i.e. commercial and industrial development) to their RVCs and SAs.
- There is some interest in enhancing water and/or sewage infrastructure.

5. **Final Evaluation** – The final step in the process was to evaluate each RVC/SA within the context of the baseline research and needs assessment. Specifically, differences between the RVC/SAs' baseline (i.e. present state) and established "compact, complete community" requirements/thresholds were determined.

1.3 This Report

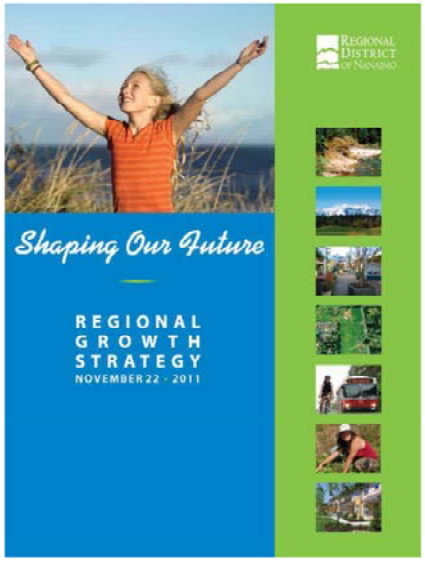
In undertaking the final evaluation, this report is structured as follows:

- It first *defines* "compact, complete communities", which influences study scope and outlines study methodology (Evaluation Framework);
- It then establishes what is needed for a community to be complete and compact, establishing associated criteria (Needs Assessment); and
- It then *evaluates* how each of the RVCs/SAs are performing (Baseline Research) relative to the Needs Assessment.

2. PROJECT PARAMETERS

2.1 Direction from the RDN Regional Growth Strategy

The RDN has described a compact, complete community as "a safe, attractive community that provides [residents] with a choice of housing types within close walking distance or convenient transit access to the shops, services, and amenities [that residents] need to live, work, play, and learn". According to the RGS' "Shaping Our Future" public materials, benefits of living in compact, complete communities include: more choice of housing types, employment, transportation, and leisure opportunities available closer to home; better access to goods, services, and amenities for those who cannot or choose not to drive; lower costs (taxes) for infrastructure (roads, water, sewer) due to more people living closer to one another and key destinations; increased protection of rural lands for agriculture and resource use, helping to diversify the economy and improve access to local food; increased opportunities to improve health through more safe and attractive ways to walk, bike, or use wheelchairs; more personal time due to shorter commutes, increasing opportunities for community connections and participation; preserving the beauty, quality, and ecological health of the natural environment; and reduced greenhouse gas emissions, which decreases impact on climate change and increases air quality. This description aligns with the widely-accepted views on compact, complete communities.



RDN Regional Growth Strategy
(source: RDN)

As outlined in Section 1 of this report, the RDN Regional Growth Strategy indicates that compact, complete communities should be:

- **pedestrian-oriented;**
- **supportive of regular transit service;**
- **capable of attracting and supporting commercial development and community services and amenities; and**
- **able to demonstrate how their development will contribute to RGS goals**.

These parameters set the scope for study, and the following points provide further context for each.

2.1.1 Pedestrian Oriented

Travel behavior can be defined by trips, which are the movements from one street address to another, and encompass: frequency of trips; destinations of trips and resulting trip length; and the mode of travel (e.g. automobile, transit, walking, cycling)[2]. Across scales, communities that are considered to be pedestrian-oriented – where trips are less frequent, shorter in length, and more often made by walking – share characteristics related to land use and built form[3]. These characteristics are detailed in Part B of this report and include higher levels of: residential and employment densities; land use mix (including quantity and diversity of destinations/amenities); physical connectivity; centrality/clustering (which impacts proximity of residences to destinations); and design and aesthetic qualities pertaining to the public and built realm.

Pedestrian-oriented communities are characterized by certain thresholds of residential and employment densities, land use mix, connectivity, and proximity to destinations.

[2] Handy, S. et al. 2002. *How the Built Environment Affects Physical Activity.* American Journal of Preventative Medicine.

[3] Stead, D. and Marshall, S. 2001. *The Relationships between Urban Form and Travel Patterns: An International Review and Evaluation.* European Journal of Transport and Infrastructure Research.

2.1.2 Transit Supportive

Generally speaking, the same characteristics that support walkability tend to support transit service. However, before a community's transit supportiveness can be defined, goals and priorities for transit must be determined. Leading transit expert, Jarrett Walker, identifies the following considerations, which impact transit decisions and measures:

- *What is transit's purpose? How should we measure the results of our transit system? Ridership? Emissions? Complaints?*
- *What counts as adequate and useful transportation? What, for example, is the minimum level of quality that transit should be aiming for?…*
- *..Is transit mostly about serving a peak-period or "rush hour" commute pattern, or is its top priority to provide a consistent service all day?*
- *Would you rather have a direct but infrequent service or a more frequent service that requires a connection?*
- *Is the goal of your transit system to carry as many people as possible? Or to serve disadvantaged persons who really need the service? Or something else? Or is it a balance of these, and if so, where do you strike that balance?"*[4]

These are important questions to answer before there can be a clear understanding of what is needed to support the desired type and level of service (refer to figure at right). Nonetheless, since the RDN's Regional Growth Strategy identifies "regular service" (i.e. scheduled service) in its description of compact, complete communities, the study has been structured with this in mind and offers guidance based on experiences in other communities.

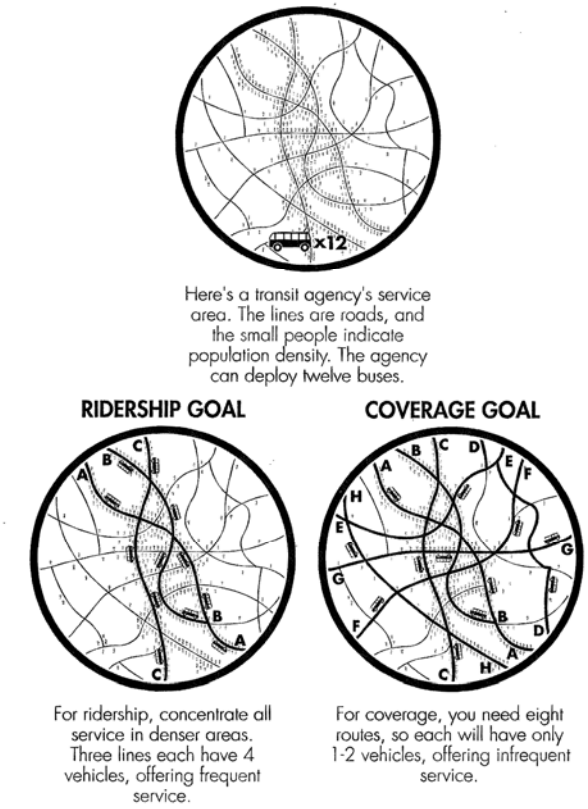


Figure 2 - How transit goals can impact needs and service type
(source: David Jones in Jarrett Walker, 2012)

[4] Walker, Jarrett. 2012. *Human Transit: How clearer thinking about public transit can enrich our communities and our lives.* pp 5-6.

2.1.3 Capable of Attracting and Supporting Commercial Services and Amenities

In setting parameters for this study, the Regional Growth Strategy rightly identifies the need for compact, complete communities to be capable of attracting and supporting commercial services and amenities, which relates to a community's ability to support active modes of transportation and transit. Indeed, the land use and structure/design of a community – particularly a small one like an RVC or SA – can be tremendously changed by a single significant development. As such, in addition to assessing current conditions of services and amenities, it is important to identify that a community's capability to attract and support commercial development involves population and market projections. The assessed conditions and needs in developing these projections are outlined in Part B of this report.

2.1.4 Contributing to the Goals of the RDN Regional Growth Strategy

Finally, compact, complete communities should also assist in meeting the overall goals of the Regional Growth Strategy, which are:

- Prepare for Climate Change and Reduce Energy Consumption;
- Protect the Environment;
- Coordinate Land Use and Mobility;
- Concentrate Housing and Jobs in Rural Village and Urban Growth Centers;
- Enhance Rural Integrity;
- Facilitate the Provision of Affordable Housing;
- Enhance Economic Resiliency;
- Enhance Food Security;
- Celebrate Pride of Place;
- Provide Services Efficiently; and
- Enhance Cooperation Among Jurisdictions.

2.2 RVC / SA Boundaries

While the population and market analysis component of the study focuses on regional context and bigger-picture trends, the physical analysis of the RVCs/SAs are set within the geographical boundaries set out by the RDN in the RGS. As such, they define the scope of the analysis for purposes of this study.

While boundaries generally capture the concentration of residential and commercial uses within each settlement area, in some cases it is unclear why boundaries were established in their precise locations, particularly as residential areas outside of established boundaries access amenities within the RVCs and SAs. The importance of the boundary locations cannot be understated as they strongly impact baseline results, particularly as they relate to urban structure measures (e.g. density, land use mix, etc). Determining which properties are within the boundaries has implications on future land use decisions and therefore also impact property values and market viability.

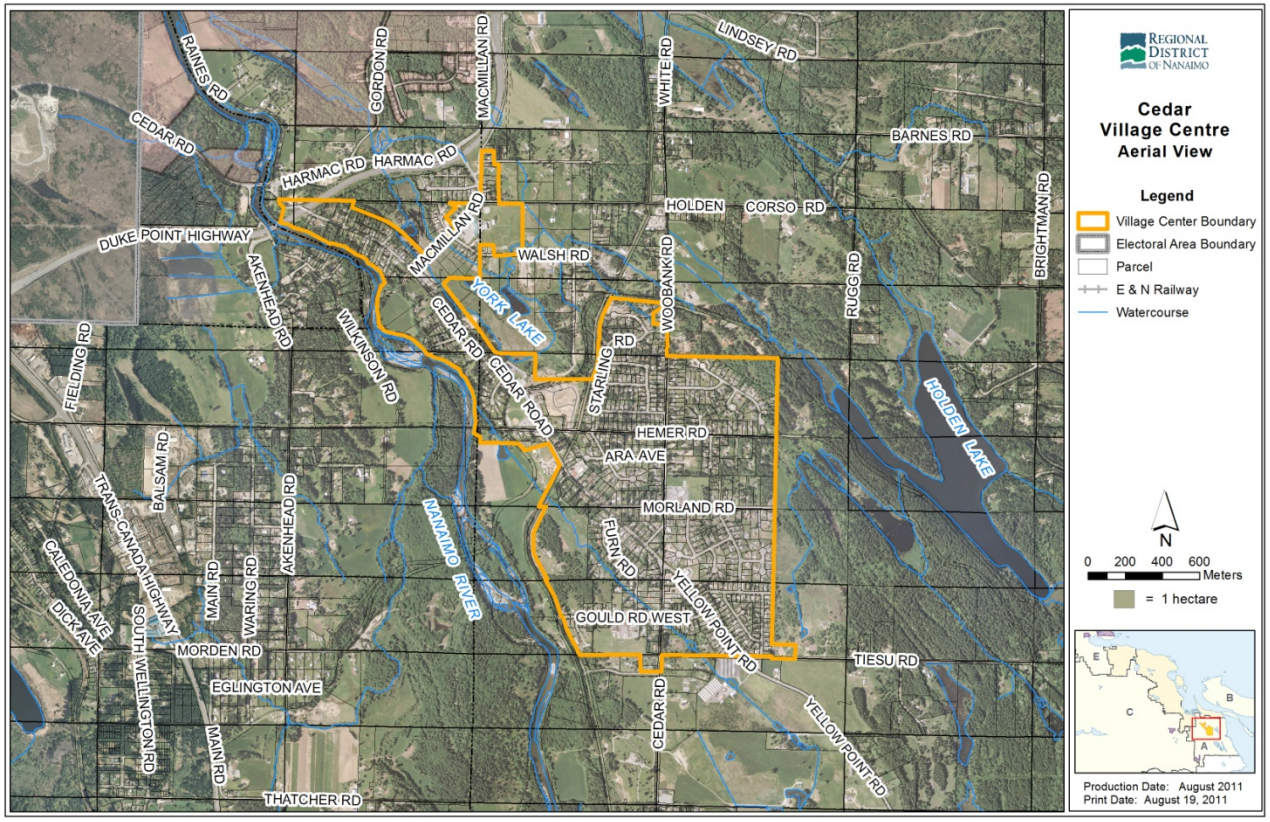


Figure 3 - Example of RVC Boundary *(source: RDN)*

PART B: MEASURING COMPACT, COMPLETE COMMUNITIES

Part A identifies project parameters, based on the RGS' definition of compact, complete communities, which must be: **pedestrian-oriented; supportive of regular transit service; capable of attracting and supporting commercial development, and community services and amenities; and able to demonstrate how their development will contribute to RGS goals**. Part B identifies measures that will be used to evaluate the compactness and completeness of communities. They are based on fundamental planning and development criteria from professional practice and academic research, and include:

- Community Structure/Design and Land Use
  - Residential Density
  - Employment Density
  - Land Use Mix
  - Connectivity
  - Centrality
  - Transit Linearity
  - Design of the Built Environment
- Growth Potential
  - Existing Population and Population Projections
  - Commercial Growth Projections
- Water and Wastewater Infrastructure
  - Existence of Infrastructure (including proximity and capacity to expand)

3. COMMUNITY STRUCTURE/DESIGN AND LAND USE

The community structure and land use criteria below are widely used as measures to evaluate community compactness and completeness. As they strongly influence travel behaviour, particularly travel mode choice, the following criteria also directly align with the RDN's requirements for a compact, complete community (i.e. pedestrian-oriented, transit supportive). These relationships between structure/land use and travel behaviour remain strong, even when other influences such as demographics and socio-economic factors are controlled. However it is important to note that criteria influence one another, no single criterion be considered in isolation.

It is also important to note that – while many methods to model, measure, and predict relationships between land use, the built environment, and transportation behaviour have been developed for urban settings – these relationships have been found to affect rural and urban areas alike. Some adaptation of criteria/measures is required due to different scales and the more heterogeneous nature of rural areas, however the basic principles have been found to still apply.[5]

3.1 Residential Density

The relationship between residential density and transportation behavior has been broadly studied. Generally speaking, as residential densities increase to a threshold, both active transportation (e.g. walking, cycling) and transit use increase on a per capita basis.

Walking

As far as walkability is concerned, density is relevant in terms of residential proximity to destinations (refer to 3.5 for residences within walking distance to amenities, and refer to 3.3 for land use mix). Higher density communities with mixed-use development improves accessibility to a variety of complementary activities, resulting in shorter, walkable distances between shops, restaurants, and other

[5] Gibson, L. (Smart Mobility). *Measuring Urban Form and Walkability in Rural Communities.* (Presentation). Retrieved September 2012 from: http://onlinepubs.trb.org/onlinepubs/conf/2010/rural/1/Gibson.pdf

amenities[6]. For example, research shows that population densities need to exceed approximately 32 people per hectare before a significant modal shift occurs from single-occupancy vehicle use to transit use and walking for shopping trips[7].

Figure 4 - Examples of housing typologies. A community's overall residential density accounts for all units, which usually include different housing typologies. While multi-family units help communities achieve densities that support walking and transit, single-family houses on small lots can also achieve this.

[6] Leslie, E et al. 2007. *Walkability of local communities: Using geographic information systems to objectively assess relevant environmental attributes.* Health and Place.
[7] Frank, L.D. and Pivo, G.1995. *Impacts of Mixed Use and Density on Utilization of Three Modes of Travel: Single-Occupant Vehicle, Transit, and Walking.* Transportation Research Record.

Based on average household sizes in each of the RDN's Electoral Areas, the following gross residential densities (units per hectare) are needed to achieve approximately 32 people per hectare and influence the shift from private vehicles towards transit use and walking:

- Electoral Area A (Cedar, Cassidy) – **13.2 units per hectare**
- Electoral Area C (Extension) – **11.9 units per hectare**
- Electoral Area E (Red Gap, Fairwinds) – **14.5 units per hectare**
- Electoral Area F (Bellevue Church Road, Coombs, Errington, Hilliers, and Qualicum River Estates) – **13.9 units per hectare**
- Electoral Area G (Dashwood SA) – **13.9 units per hectare**
- Electoral Area H (Dunsmuir, Qualicum Bay, Deep Bay SA, and Bowser) – **15.2 units per hectare**

Transit

As far as transit is concerned, demand is partly based on a critical mass of users in a given area. A doubling of residential density will more than double transit demand (to a threshold), and it generally has three distinct ranges in which:

- gross density up to about 12 units per hectare creates very low demand (i.e. rural development);
- gross density of **between 12 and 50 units per hectare** creates demand that rises faster than density; and
- gross density of higher than 50 units per hectare creates a demand that flattens (i.e. stops increasing), due to more trips made by walking that are made allowable by a critical mass of residents supporting many amenities within walking distance of home[8].

The second phase aligns with the minimum units/ha thresholds identified in each of the RVC/SAs based on the minimum density threshold of 32 people per hectare (referenced on the previous page with respect to walkability), below which nearly all travel is done by car. However it is important to note that these are thresholds or guidelines that reflect average conditions, but they vary depending on: service quality; transit service pricing; demographics; commuter financial incentives; employment density (see below); and marketing[9].

[8] Taylor, B.D. and Fink, C.N.Y. (UCLA Insitute of Transportation Studies). *The Factors Influencing Transit Ridership: A Review and Analysis of the Ridership Literature*. Retrieved October 2012 from: http://www.uctc.net/papers/681.pdf

[9] Litman, T. 2012. *Transit Oriented Development*. Retrieved October 2012 from: http://www.vtpi.org/tdm/tdm45.htm

Research has found that this minimum density threshold translates into marginal transit service, with buses running every half hour and with an express bus at peak periods[10]. For frequent bus service (i.e. every ten minutes), a minimum of **37 units per hectare** is widely cited.[11]

It is also worth noting that much of the research into density thresholds for transit service is in larger communities. Nonetheless, as discussed in Section 3.1, studies in more rural settings – both in British Columbia[12] and elsewhere in North America[13] – indicate that minimum thresholds can be generally applied in larger regional and/or rural contexts as well. While a more detailed exploration of specific RDN transit service goals needs to be undertaken in order to determine specific needs and goals, the ranges above provide a useful reference point in determining general and approximate density thresholds for transit service in/through RVC/SAs.

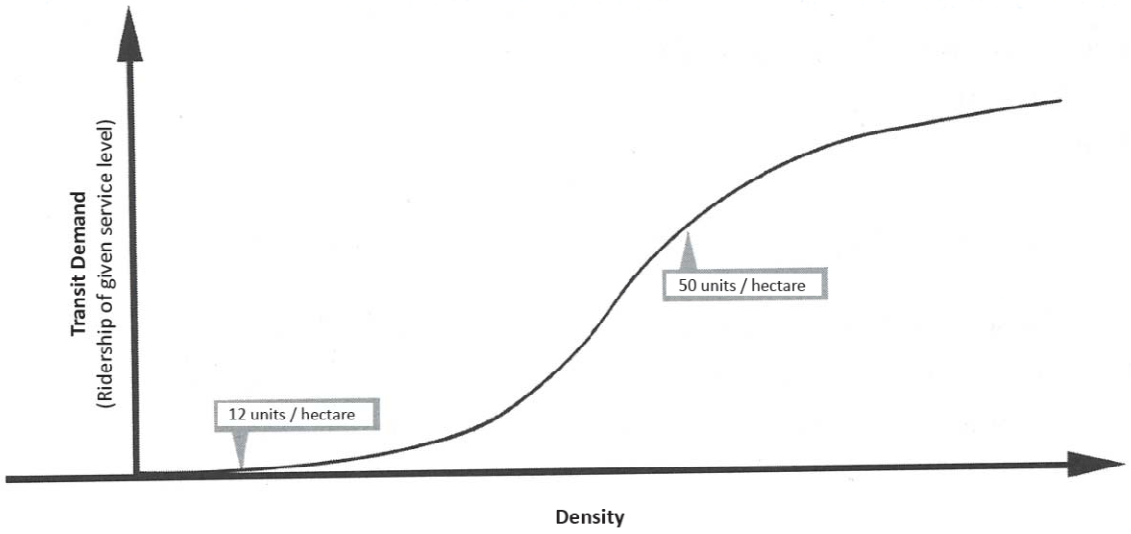


Figure 4 - Residential density and transit demand
(source: adapted from David Jones in Jarrett Walker, 2012)

[10] Nosal, B. 2009. *Creating Walkable and Transit-Supportive Communities in Halton.*
[11] Ewing, R. 1996. *Pedestrian and Transit Friendly Design: A Primer for Smart Growth*.
[12] IBI Group. 2008. *Central Okanagan Smart Transit Plan: Transit-Supportive Guidelines.*
[13] Gibson, L. (Smart Mobility). *Measuring Urban Form and Walkability in Rural Communities.* (Presentation). Retrieved September 2012 from: http://onlinepubs.trb.org/onlinepubs/conf/2010/rural/1/Gibson.pdf

3.2 Employment Density

Trip generation and attraction is difficult to measure by destination, particularly since some jobs (e.g. retail) represent a higher trip demand than other jobs (e.g. manufacturing) as many other people (e.g. customers) might also be going to that destination. Nonetheless, the concentration of jobs seems to affect transit ridership more strongly than the concentration of residents[14]. Canadian research conducted in rural areas also indicates that jobs-to-housing ratios comprise one of two of the most applicable factors in determining total daily trips[15].

For work destinations, research shows that a minimum threshold of anywhere from **50 to 185 jobs per hectare** is needed for significant modal shifts from single-occupancy vehicle use to walking and transit use[16].

3.3 Land Use Mix

Land use mix is often represented through an "entropy formula" that includes detailed information about land use area. For purposes of this study and because existing commercial land use data from the BCAA appear to be out-of-date, two simplified measures are used to assess land use: an amenity score for walking; and a land use mix percentage breakdown for transit supportiveness.

Walking

Extensive research shows that residents living near multiple and diverse retail destinations generally make more frequent and shorter shopping trips, and more by walking[17] and cycling[18]. Indeed, with other variables (residential density and connectivity) held as constants, the odds of walking for transport are twice as high in areas with a higher degree of mixed uses than in areas with a low degree of land use

[14] Walker, Jarrett. 2012. *Human Transit: How clearer thinking about public transit can enrich our communities and our lives.*

[15] Neptis. 2003. *Travel Demand and Urban Form: Smart Growth Issues Papers.*

[16] Taylor, B.D. and Fink, C.N.Y. (UCLA Insitute of Transportation Studies). *The Factors Influencing Transit Ridership: A Review and Analysis of the Ridership Literature*. Retrieved October 2012 from: http://www.uctc.net/papers/681.pdf

[17] Leslie, E et al. 2007. *Walkability of local communities: Using geographic information systems to objectively assess relevant environmental attributes.* Health and Place.

[18] Brown, B.B et al. 2009. *Mixed land use and walkability: Variations in land use measures and relationships with BMI, overweight, and obesity*. Health and Place.

mix[19]. In fact, Canadian research conducted in rural areas indicates that land use mix is one of two of the most applicable community elements (the other being jobs-to-housing ratio) in determining total daily trips[20].

The amenity score is very precise as it accounts for specific amenities by type and quantity, which is useful in communities that are small and contain varying parcel sizes (like RVC/SAs), which can obscure land use mix counts. Recognizing that some land uses and destinations are more relevant to "completeness" in terms of their role in meeting the daily or weekly needs of residents, the amenity score assigns weights to different amenities. For example, grocery stores receive the heaviest weight because research indicates that they are drivers of walking and are the most common walking destinations in surveys. The methodology used here is adapted from the amenity component of the "walk score" algorithm[21] that was developed through extensive research that includes studies, surveys, and trip diaries. The amenity categories and their corresponding weights include:

- Grocery [3]
- Restaurants [.75, .45, .25, .25, .225, .225, .225, .225, .2, .2]
- Shopping [.5, .45, .4, .35, .3]
- Coffee Shops [1.25, .75]
- Bank [1]
- Park [1]
- School [1]
- Books (i.e. library or bookstore) [1]
- Entertainment [1]

With certain amenities (e.g. restaurants, shopping), variety and options are important, so multiple counts have been included. The first counts receive greater weight than later counts, due to diminishing returns. Combining the amenity categories, the lowest possible score is

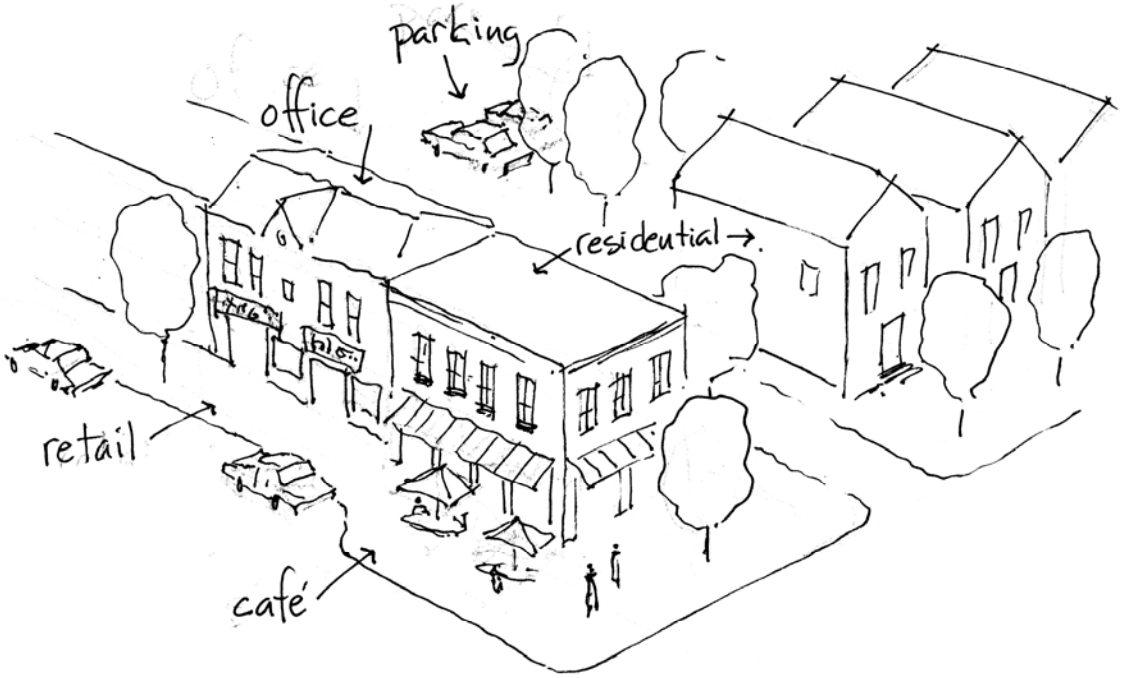
[19] Christian, H. E. 2011. *How important is the land use mix measure in understanding walking behaviour? Results from the RESIDE study.* International Journal of Behavioural Nutrition and Physical Activity.
[20] Neptis. 2003. *Travel Demand and Urban Form: Smart Growth Issues Papers.*
[21] Walk Score. *Walk Score Methodology*. July 2011. Retrieved September 2012 from: http://www.walkscore.com/professional/methodology.php

0 and the highest possible score is **15.1**; for purposes of this study, it is assumed that for a community to be walkable, it must be on the upper end of this amenity score scale.

Transit

While the correlation is not as strong as it is to density, transit use also increases with land use mix[22].

According to mixed-use guidelines for sub-regional centres in the Central Okanagan, smaller centres served by conventional transit should include: **10-15 percent public uses; 10-40 percent commercial and employment uses; and 50-80 percent residential uses**[23]. These ranges are also consistent with best practices applied elsewhere in neighbourhood contexts[24].



The right mix of uses includes park and other public spaces, commercial and employment uses, and residential uses.

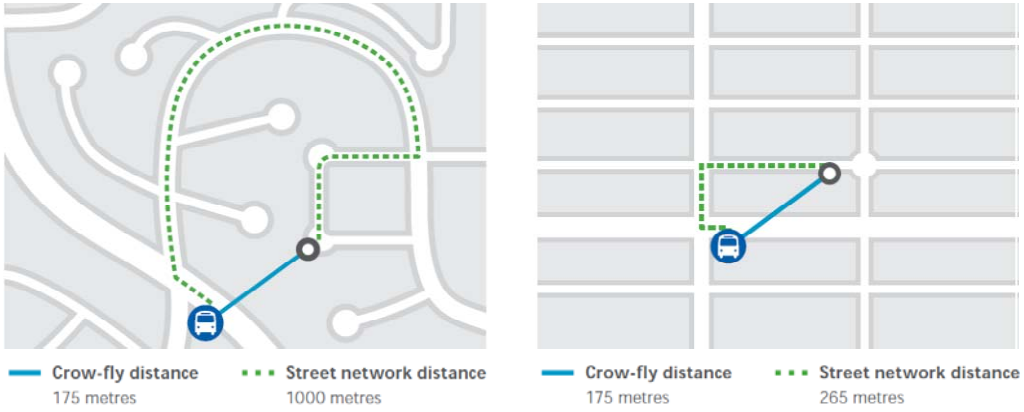
[22] Frank, L.D. and Pivo, G.1995. *Impacts of Mixed Use and Density on Utilization of Three Modes of Travel: Single-Occupant Vehicle, Transit, and Walking.* Transportation Research Record.
[23] IBI Group. 2008. *Central Okanagan Smart Transit Plan: Transit-Supportive Guidelines.*
[24] Nosal, B. 2009. *Creating Walkable and Transit-Supportive Communities in Halton.*

3.4 Connectivity

Street connectivity impacts the directness and availability of alternative routes through a network, which influences the real distance traveled between a point of origin (e.g. home) and destination (e.g. store, transit stop, etc). Research indicates that there are significant associations between measures of street connectivity and both frequency and quantity of active transportation (I.e. walking and cycling)[25], which also supports transit.

Generally speaking, communities with smaller blocks – and therefore with more opportunities to change directions while traveling between an origin and destination – are considered to be more highly connected; often such street networks take a grid-like form. While there are a number of connectivity measures (including intersection density, block density, and others), they have shown to be positively correlated with one another[26]. As such, this study applies one that is commonly used: median block perimeter size.

Figure 5 - Low vs. High Connectivity *(Source: Translink)*



Adapting "smart growth" standards for block lengths and assuming somewhat proportional block dimensions, block perimeter sizes of approximately **370 meters** are desirable to support a high degree of walkability. Block perimeter sizes **up to approximately 610 meters** "still work well"[27].

Figure 5[28] offers an illustration. The smaller circle represents a dwelling and the larger circle could represent a transit stop, commercial use, or other destination).

[25] Berrigan, D et al. 2010. *Associations between street connectivity and active transportation*. International Journal of Health Geographics.
[26] Berrigan, D et al. 2010. *Associations between street connectivity and active transportation*. International Journal of Health Geographics.
[27] Ewing, R. 1996. *Pedestrian and Transit Friendly Design: A Primer for Smart Growth*.
[28] TransLink. 2012. *Transit Oriented Communities Design Guidelines*. International Journal of Health Geographics.

3.5 Centrality

Proximity or distance to services and amenities strongly influences the mode of transportation residents choose in reaching their destination. It accounts for "distance decay", which acknowledges that the distance between an origin and destination greatly influences travel mode choice and behavior. Four hundred meters translates into a 5-minute walk (based on an average walking speed of 4.5 kilometers per hour[29]), which research indicates is an ideal upper bound for walking. Eight hundred meters, which translates into a 10-minute walk, is also considered very "walkable". As distances increase, the effects of distance decay grow stronger[30].

Based on transportation research, the Walk Score methodology gives **400 meter** distances between origin and destination a perfect score, and **800 meter** distances 75% of a total score. It declines to zero at 2500 meters. In an Oregon neighbourhood that is touted as an exemplar of walkability, the percentage of single family dwelling units within 400 m of existing commercial uses is approximately **75%**[31].

Within this context, centrality must always be considered alongside connectivity, as physical distance (i.e. "as the crow flies") to a focal point does not necessarily translate into a directly comparable travel distance.

3.6 Community Linearity

The criteria in Section 3.1 focus on form and transit demand within RVC/SAs. However given the rural nature of the communities and the fact that the transit service provider operates at the regional level, the configuration of the RVC/SAs relative to one another and larger centres is also relevant.

While a transit service network can be configured differently based on a community's/region's service goals (i.e. maximized levels of ridership per route versus maximized geographic coverage), transit is generally most efficient when it is delivered within the context of a **linear geometry where most destinations are "on the way"**.

[29] Nosal, B. 2009. *Creating Walkable and Transit-Supportive Communities in Halton.*

[30] Walk Score. *Walk Score Methodology*. July 2011. Retrieved September 2012 from: http://www.walkscore.com/professional/methodology.php

[31] Song, Y. and Knaap, G. 2004. *Measuring Urban Form: Is Portland Winning the War on Sprawl?.* Journal of the American Planning Association.

According to Jarrett Walker:

> *An efficient transit line – and, hence, one that will support good service – connects multiple points but is also reasonably straight so that it's perceived as a direct route between any two points on the line. Even if it's a U, O, or L shape, and efficient line is at least locally straight and thus able to be the most direct route between two points on a long portion of the line. (Again, this is not always a geometrically straight line; it may be a path defined by existing roads or rail corridors that everyone perceives as reasonably direct given the terrain and natural chokepoints).*
>
> *For that reason, good transit geography is any geography in which high demand transit destinations are on a direct and operable path between other high-demand transit destinations. A bad geography for transit, then, is one that… sets destinations a little back from the line, so that transit must either bypass them or deviate to them, where deviating means delaying all the other passengers riding through this point*[32].

Figure 6 – Efficient vs. Inefficient Transit Lines *(Source: Translink)*

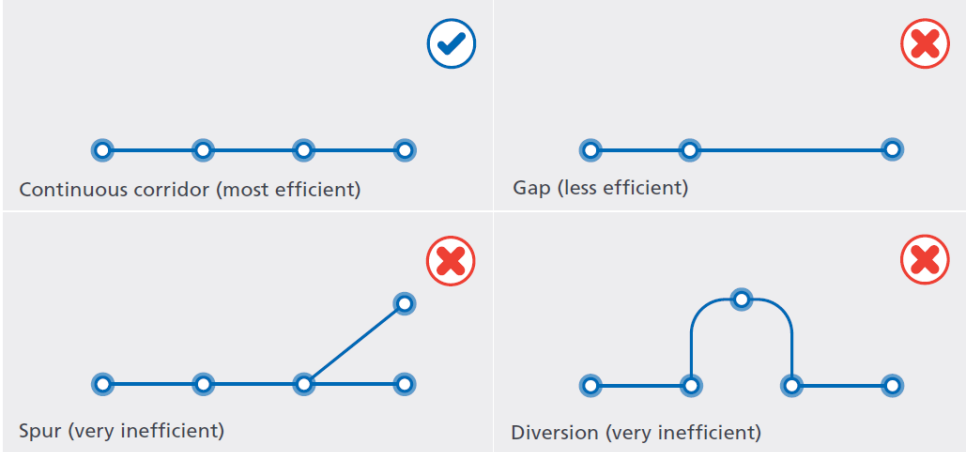


Figure 6 illustrates this point, showing how generally linear, continuous routes in which destinations are "on the way" are more efficient than non-linear destinations.

[32] Walker, Jarrett. 2012. *Human Transit: How clearer thinking about public transit can enrich our communities and our lives.* Page185.

3.7 Design of the Built Environment

Community character and design of the built environment are also important to creating conditions that foster walking. While community character measures/values are subjective, there are certain built environment characteristics that are often shared among neighbourhoods and communities that experience high levels of walkability and transit use. These include but are not necessarily limited to:

- continuous sidewalks wide enough for couples;
- safe crossings;
- appropriate buffering from traffic;
- street-oriented buildings;
- comfortable and safe places to rest and wait;
- little dead space and visible parking;
- nearby parks and other public spaces;
- small-scale buildings or articulated larger ones;
- street trees; and more[33].

Environments that encourage cycling include but are not limited to the following characteristics: on-road designated bicycle routes, lanes, and paths; secure, safe, and weather-protected bicycle parking facilities; and (where applicable) end-of-trip facilities for cyclists, including showers, lockers, and change areas.[34]

These aspects of the built environment and design quality are complex in that "they try to address the multitude of factors that make up good design through multi-part indices – and/or they require observational data that is not feasible to collect on a regional scale"[35]. They are not included within the detailed evaluation in this study, however connectivity – which is an important measure in this study – can be used as a proxy for design of the built environment as "short blocks and well-connected streets contribute to a higher-quality pedestrian

[33] Ewing, R. 1996. *Pedestrian and Transit Friendly Design: A Primer for Smart Growth*.
[34] Nosal, B. 2009. *Creating Walkable and Transit-Supportive Communities in Halton.*
[35] TransLink. 2012. Transit-Oriented Communities Design Guidelines.

experience and pedestrian realm, and they often occur in places where other elements of good design, such as adequate sidewalks, are also in place."[36]

[36] TransLink. 2012. Transit-Oriented Communities Design Guidelines.

4. DEVELOPMENT AND MARKET VIABILITY

The Regional Growth Strategy specifies that compact, complete communities should be able to attract and support local commercial development, including services and amenities. In identifying the needs to support additional commercial space, G.P. Rollo and Associates identify the following "commercial potential" criteria that are most relevant within the context of RDN RVC/SAs:

4.1 Population

Since settlement size affects the range of local jobs and services that can be supported, population numbers are important to consider in terms of transit demand and "completeness", and therefore walkability. However, while research has shown that travel distance is highest in the smallest communities (i.e. fewer than 3000 people), there does not appear to be a simple relationship between settlement size and travel patterns[37], and small communities that are compact and mixed-use can have a good degree of walkability. Refer to Section 4.2 for discussion on population and consumer spending as it relates to commercial potential; projections for both population and commercial growth are provided in Section 7.

4.2 Commercial Potential

Land Availability – The potential for future commercial development is dependent in part on the availability of well-located, serviced, and accessible land, which should be consistent with demand analyses (based on population growth and reasonable spending capture rates).

Existing Population Size and Proximity to Retail – Established shopping patterns (i.e. at existing commercial destinations) often bode well for additional commercial development. As such, the existence of a vibrant commercial core and the extent to which the core already attracts local and nearby residents are important factors in assessing commercial potential.

[37] Stead, D. and Marshall, S. 2001. *The Relationships between Urban Form and Travel Patterns: An International Review and Evaluation.* European Journal of Transport and Infrastructure Research.

Retail Health and Vitality Assessment – The health and vitality of existing retail and other commercial uses is a good indicator of its ability to thrive in the future and attract additional tenants given other necessary criteria including servicing, visibility, additional population, and no macro-changes to the greater retail landscape (e.g. Wal-Mart anchored retail centre opening nearby). Health and vitality can be measured by:

- Tenant Mix – A healthy tenant mix is one where there is a diversity of tenant types that are mutually supportive. Key signs of an unhealthy retail centre include an overabundance of personal services, non-profit organizations, and ground-level office spaces.
- Rent-to-Sales Ratios – Local ratios are compared with industry thresholds by category.
- Visual Cohesiveness of Retail Area – This includes considerations around retail design and the strength of its visible legibility, as well as the general retail area presentation and merchandizing. This is related to community character and design (refer to 3.1.6).
- Vacancy Rates – These should generally be below 5%.
- Distance from Competition – Nearby commercial competition can serve to attract additional commercial development (offering an "agglomeration effect"), however where demand is limited, nearby competitive areas will cap the potential for larger-scale retail expansion.

Proximity to Urban Areas – As a proxy for access to white collar jobs, proximity to urban areas (i.e. with relatively short commutes of 10-20 minutes by car) is a factor that influences both population and commercial growth. It should be noted that while proximity may have a positive relationship with commercial growth, it does not necessarily support active modes of transportation and will be balanced with other criteria in the study's final evaluation.

Supportive Population and Demographics – Retail can be sustained by local populations and/or tourism dollars of "pass-through" traffic. As such, both population growth potential and tourism trends are important factors in determining commercial potential. Demographics – including an overabundance of retirees or gaining consumers – are also considered in determining commercial potential.

5. WATER AND WASTEWATER/SEWAGE INFRASTRUCTURE

Determining the technical and financial needs of introducing community water and sewage systems into RVC/SAs that are currently not serviced is highly complex. For example, determining the viability of new community sewage systems hinges on several technical, financial, and human drivers. These include but are not limited to: the desire of users to pay for a system (which includes considerations about whether existing septic systems are failing and/or recent investments have been made in septic systems); appropriate disposal/discharge locations (which includes considerations about sensitive ecological areas, public receptiveness, etc); and whether land is to be developed and a developer is willing to front end the infrastructure costs. Technical/geographical/geological considerations are also very complex and vary from RVC/SA to RVC/SA. While there are examples in the RDN where expansion could occur due to proximity, this has not happened due to a lack of one or more of the drivers listed above.

As such, in measuring viability of community water and sewage infrastructure in RVC/SAs, extensive technical and financial feasibility analyses must be undertaken that consider a myriad of variables, including the points listed above. For purposes of this study and to offer preliminary information on baseline conditions, RVC/SAs will be evaluated based on:

Existing and Projected Population – Community infrastructure such as modern water treatment plants usually require high capital investment, which is generally out of the financial scope of most small communities. While community systems are technically feasible in any community, they generally become more economically viable as population increases. As such, current and projected populations – including associated current and projected sewage flow rates – are identified and used in the evaluation (Part C).

Current Infrastructure and Proximity to Existing Infrastructure – RVC/SAs with community infrastructure already in place are better candidates for expansion. Consideration will also be given to RVC/SAs situated in close proximity to existing community infrastructure, though it is important to note that other factors (e.g. land ownership, topography, etc) impact connection viability.

Section 8 discusses and evaluates each RVC/SA within the context of these two criteria, and a number of centralized and decentralized approaches are outlined in the appendix.

PART C: EVALUATING COMPACT, COMPLETE COMMUNITIES

6. COMMUNITY STRUCTURE/DESIGN AND LAND USE

Part C evaluates the existing conditions of the RVC/SAs relative to the measures (i.e. needs for compact, complete communities) identified in Part B. The thresholds or targets identified in Part B are identified as "reference points" in the charts throughout this section.

6.1 Residential Density

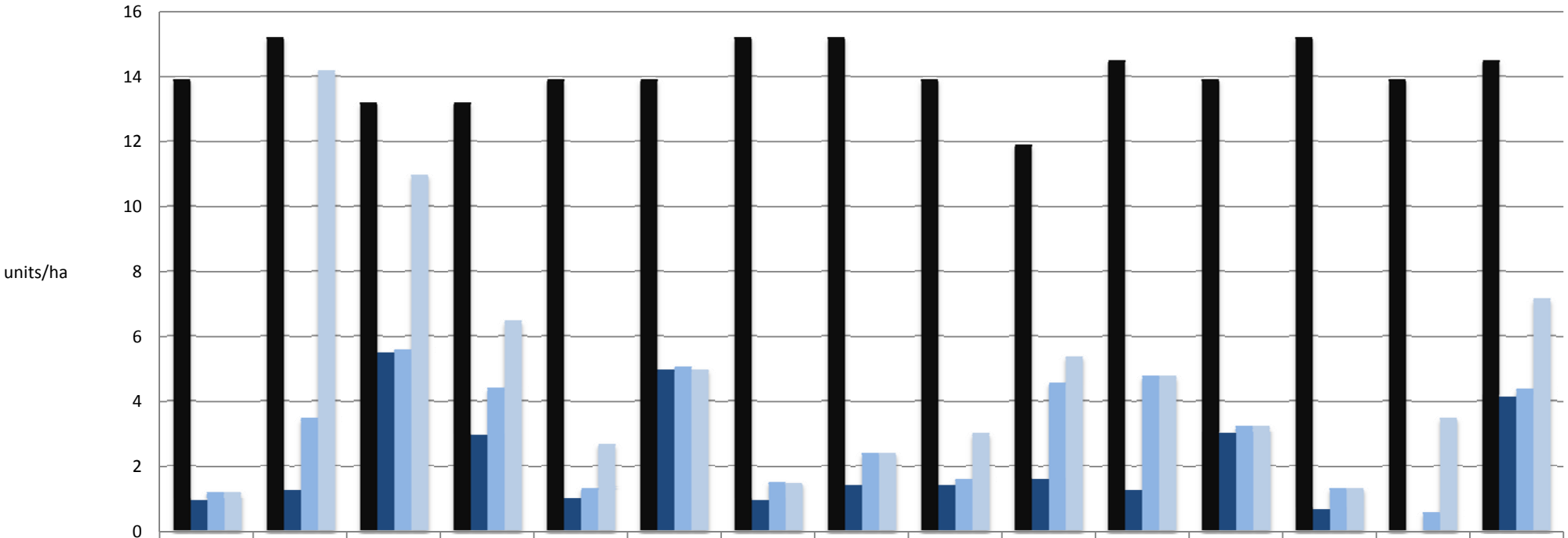
Chart 1 on the following page identifies existing and build-out residential densities for each of the 13 RVCs and 2 SAs, relative to the residential density thresholds needed to support walking (based on 32 people per hectare, which results in between 13.2 and 15.2 units per hectare in the RVC/SAs) identified in Section 3.1. The highest existing residential density is 5.5 units/ha (Cassidy), and the lowest is well under 1 unit/ha (Qualicum River Estates). Similarly, the highest potential residential density at build out, based on existing zoning, is 5.6 units/ha (Cassidy), and the lowest is 0.6 units/ha (Qualicum River Estates). Based on existing OCP policies, which assume water and sewage services are in place, the highest potential residential density build out is 14.2 units/ha (Bowser), and the lowest is 1.2 units/ha (Bellevue-Church Road). It is important to note that the evaluation is based on existing policies and regulations; the scores would be higher in RVCs such as Deep Bay if proposed developments were to proceed.

OCP policies generally allow for higher densities than zoning. In most cases, the existing densities of RVCs and SAs are well under maximum permitted OCP densities, likely due in part to lack of required community water and sewage infrastructure.

The differences between the minimum threshold density (which is based on 32 people per hectare and varies with RVC/SA household size) and the existing and regulated (i.e. via zoning and OCP policies) densities in each of the RVC/SAs are significant. All of the existing densities are at least half of the minimum threshold that would see a significant shift from single-occupancy vehicles to transit use and walking for shopping trips. As for future potential residential densities, Bowser is the only RVC where the estimated OCP residential build-out of 14.2 units/hectare is closest to the minimum threshold residential density of 15.2 units/hectare needed to support walking in the Bowser RVC38. On the whole, much greater densities are needed to realize the RGS' objectives for supporting walkability and transit supportiveness.

38 The Bowser Village Centre Plan supports a target of up to 20 units per hectare by 2025 and 30 units per hectare by 2040.

Chart 1: Existing and Potential Build-Out Gross Residential Densities



	Bellevue-Church	Bowser	Cassidy	Cedar	Coombs	Dashwood SA	Deep Bay SA	Dunsmuir	Errington	Extension	Fairwinds	Hilliers	Qualicum Bay	Qualicum River Estates	Red Gap
Reference Point	13.9	15.2	13.2	13.2	13.9	13.9	15.2	15.2	13.9	11.9	14.5	13.9	15.2	13.9	14.5
Existing	0.9	1.3	5.5	2.9	1.0	5.0	1.0	1.4	1.4	1.6	1.2	3.0	0.7	0.0	4.1
Zoning	1.2	3.5	5.6	4.4	1.3	5.1	1.5	2.4	1.6	4.6	4.8	3.2	1.3	0.6	4.4
OCP	1.2	14.2	11.0	6.5	2.7	5.0	1.5	2.4	3.0	5.4	4.8	3.2	1.3	3.5	7.1

*Reference point refers to the minimum threshold density needed to see a modal shift from single-occupancy vehicles to transit use and walking for shopping trips.

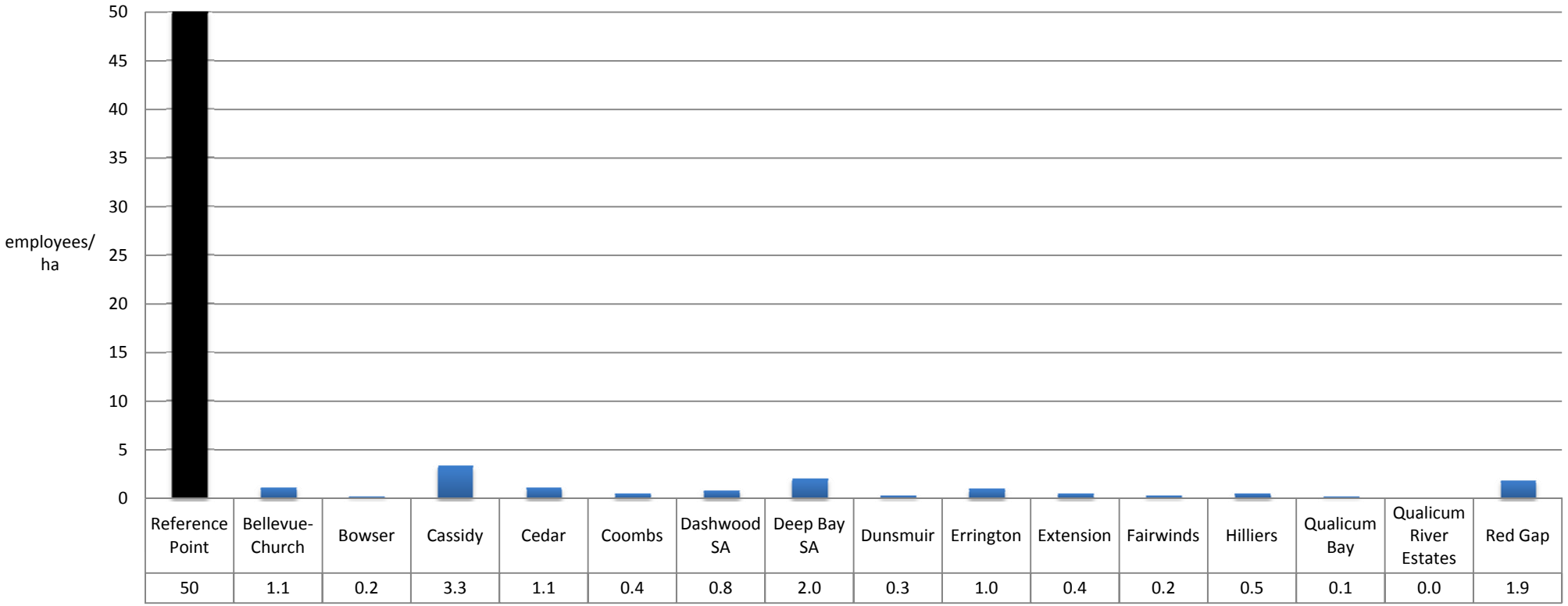
6.2 Employment Density

G.P. Rollo and Associates (GRPA) calculated total daytime population and total daytime employees working in RVCs and SAs from Environics Analytics' 2009 database, which provides population, business location, and business size estimates by Dissemination Area, and using approximate RVC and SA boundaries. The values are approximations.

The employment densities – as measured by number of residents employed within their respective RVCs and SAs (including home businesses and home offices) by gross hectare – are presented in Chart 2. The highest employment density is 3.3 jobs per hectare (Cassidy) and the lowest is nearly zero (Qualicum River Estates).

The existing employment densities in all of the RVC/SAs are well below the absolute minimum threshold of 50 jobs per hectare, which is needed for significant modal shifts from single-occupancy vehicle use to walking and transit use. However given the scale of RVC/SAs, it is likely unreasonable to expect that they could support the concentration of businesses needed to sustain employment densities of 50 jobs per hectare. Perhaps more important to transit, for example, is the concentration of employees in a particular RVC/SA who travel to a shared employment destination. Proximity to nearby urban areas is discussed in Section 7: Development and Market Viability.

Chart 2: Gross Employment Densities



Reference Point	Bellevue-Church	Bowser	Cassidy	Cedar	Coombs	Dashwood SA	Deep Bay SA	Dunsmuir	Errington	Extension	Fairwinds	Hilliers	Qualicum Bay	Qualicum River Estates	Red Gap
50	1.1	0.2	3.3	1.1	0.4	0.8	2.0	0.3	1.0	0.4	0.2	0.5	0.1	0.0	1.9

6.3 Land Use Mix

As noted in Part B, land use mix has been measured two ways in this study:

- by the relative area of commercial, industrial, and public zones in each RVC and SA; and
- by an amenity score that uses precise information about specific destinations and amenities in each RVC and SA (from the RDN's *RVC Inventory*).

Assumptions and Limitations:

- For the first measure, zoning information is used. While zoning obviously does not always reflect current use, in the RDN it aligns with current uses more closely than the data provided by BCAA, which appear to be particularly inconsistent with existing commercial uses. Also, as noted in Section 1.4, the location of the RVC and SA boundaries significantly affect this land use measure, as the amount of residential areas included in the calculation greatly impacts land use mix (along with all other urban structure measures).
- To help provide a fuller picture of community "completeness" with respect to land use, an amenity score is used to shed light on the existence of important destinations/amenities. This second measure also addresses a limitation associated with using land use area (ha) in communities that are small and contain varying parcel sizes. For purposes of this study's objectives and within RDN RVC/SA contexts, the amenity score is likely the more appropriate measure of land use mix.

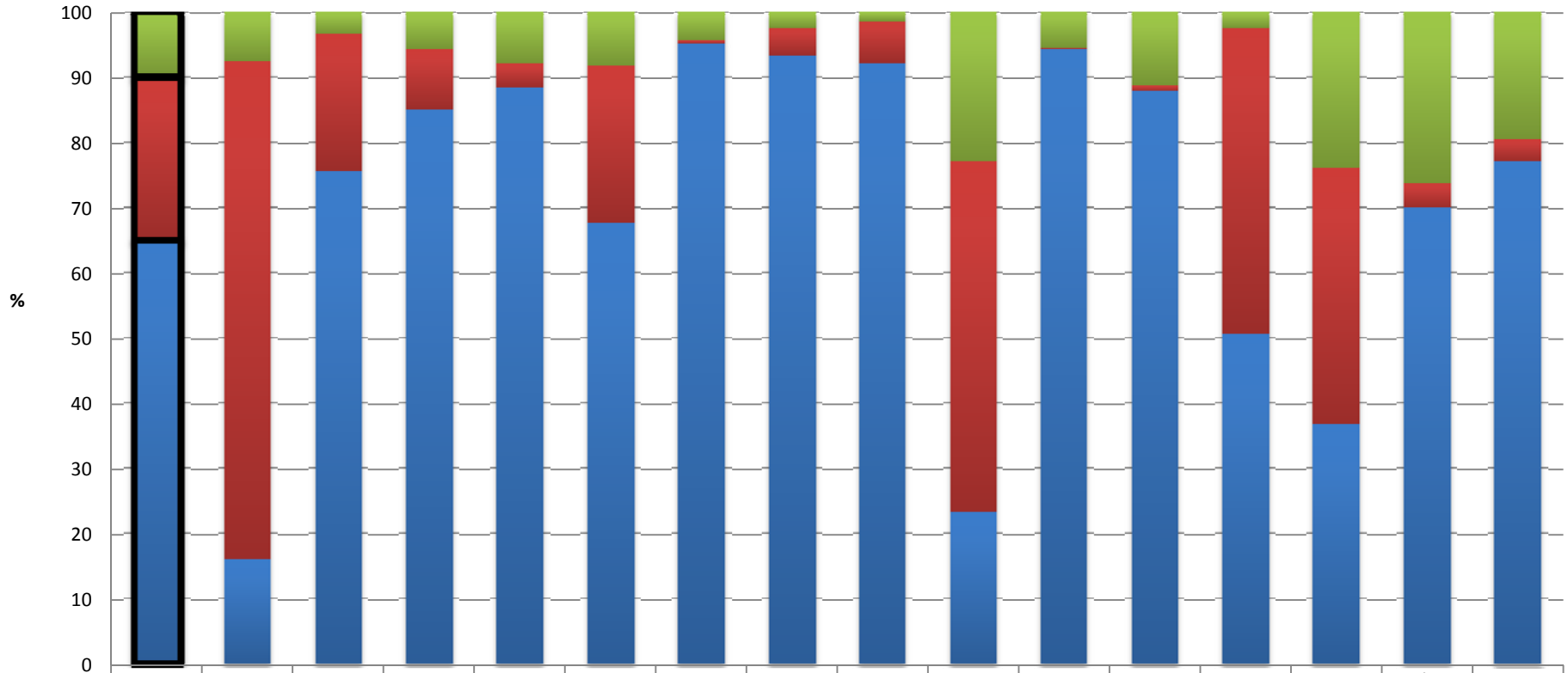
6.3.1 Land Use Mix by Zone

This measure identifies the proportion of residential, commercial and industrial, and public areas (by zone) to gain an understanding of the extent of available or potentially available services, jobs, and other destinations and amenities within each RVC and SA. Resource management and rural zones have been excluded. However they represent significant areas in the Deep Bay SA, Dunsmuir, and Qualicum Bay.

It is worth noting that while zoning sheds light on "what might be possible" with current regulations, which is useful information in understanding the ability to attract more commercial and industrial development, it does not always align with the availability of amenities and other destinations in a community. (Refer to the amenity score in 6.3.2).

Chart 3 details the results, compared with the "reference point", which is the average range of desired land use mix.

Chart 3: Land Use Mix by Zone



	Reference Point	Bellevue-Church	Bowser	Cassidy	Cedar	Coombs	Dashwood SA	Deep Bay SA	Dunsmuir	Errington	Extension	Fairwinds	Hilliers	Qualicum Bay	Qualicum River Estates	Red Gap
Public Zones	10	7	3	6	8	8	4	2	1	23	5	11	2	24	26	20
Commercial and Industrial Zones	25	77	21	9	4	24	1	4	6	54	0	1	47	39	4	3
Residential Zones	65	16	76	85	88	68	95	93	92	23	94	88	51	37	70	77

The "reference point" in Chart 3 represents the approximate *average* within the broader range of recommended land use mix (i.e. 10-15 percent public uses, 10-40 percent commercial and employment uses; and 50-80 percent residential uses). For example, Chart 3 identifies a reference point of 25 percent commercial and industrial land uses, but a desirable amount of commercial and industrial land uses is anywhere between 10-40 percent.

Given these parameters (refer to Section 3.3 for additional background), no single RVC/SA falls within the recommended land use range in all three categories of public zones, commercial and industrial zones, and residential zones. However both Bowser and Coombs align with two of three categories, specifically: commercial and industrial zones, and residential zones.

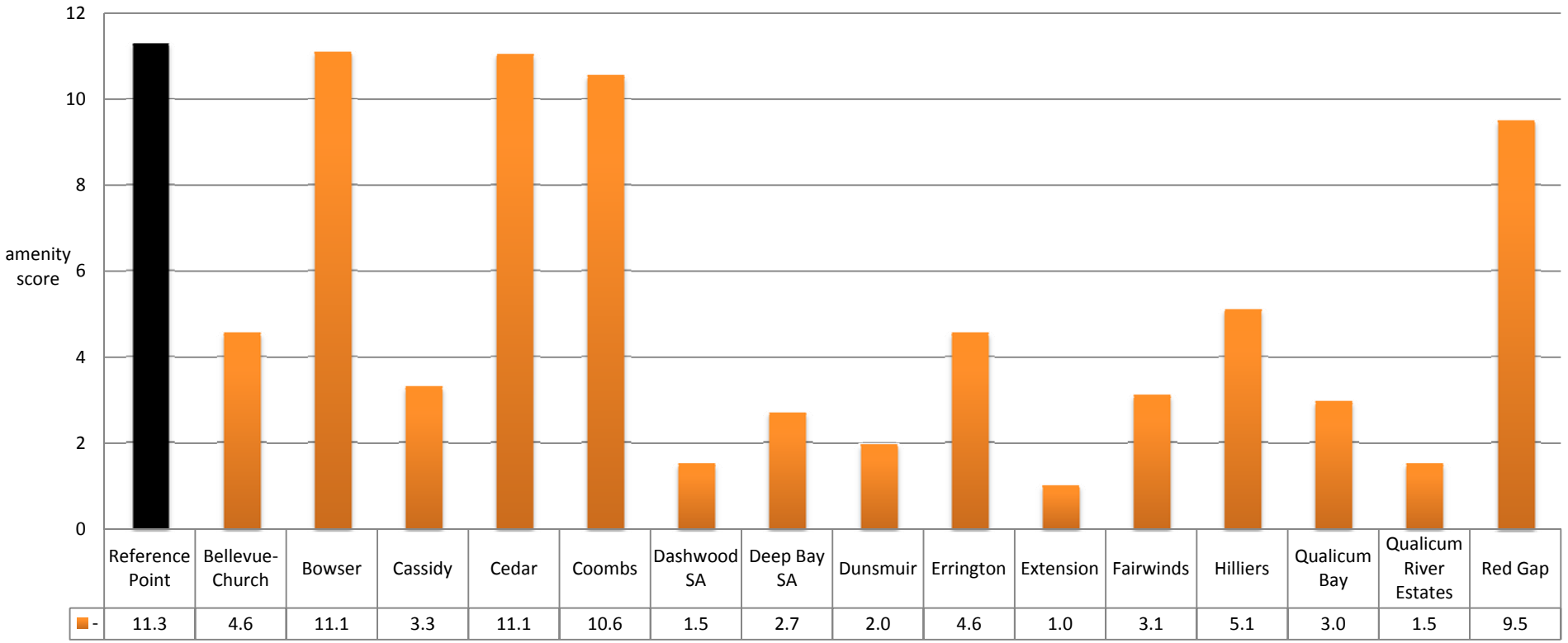
The following RVC/SAs fall within the recommended range of land uses in just one category: Fairwinds (public zones); Qualicum Bay (commercial and industrial zones); and Hilliers, Qualicum River Estates, and Red Gap (residential zones). About half of the RVC/SAs are dominated by residential uses, well over the maximum recommended percentage of 80.

6.3.2 Land Use Mix by Amenity Score

As noted in Section 3.3, this measure accounts for specific types and quantities of amenities that are most important for walking.

Chart 4 presents the results, showing that the highest amenity scores are 11.1 and 10.6 (i.e. Bowser and Cedar, and Coombs, respectively). The lowest amenity scores are 1.0 and 1.5 (i.e. Extension, and Dashwood SA and Qualicum River Estates, respectively). A perfect amenity score is 15.1. For purposes of this study, 75% of a perfect score (i.e. 11.3) is considered a reasonable reference point.

Chart 4: Amenity Score (Destinations)



	Reference Point	Bellevue-Church	Bowser	Cassidy	Cedar	Coombs	Dashwood SA	Deep Bay SA	Dunsmuir	Errington	Extension	Fairwinds	Hilliers	Qualicum Bay	Qualicum River Estates	Red Gap
-	11.3	4.6	11.1	3.3	11.1	10.6	1.5	2.7	2.0	4.6	1.0	3.1	5.1	3.0	1.5	9.5

6.4 Connectivity

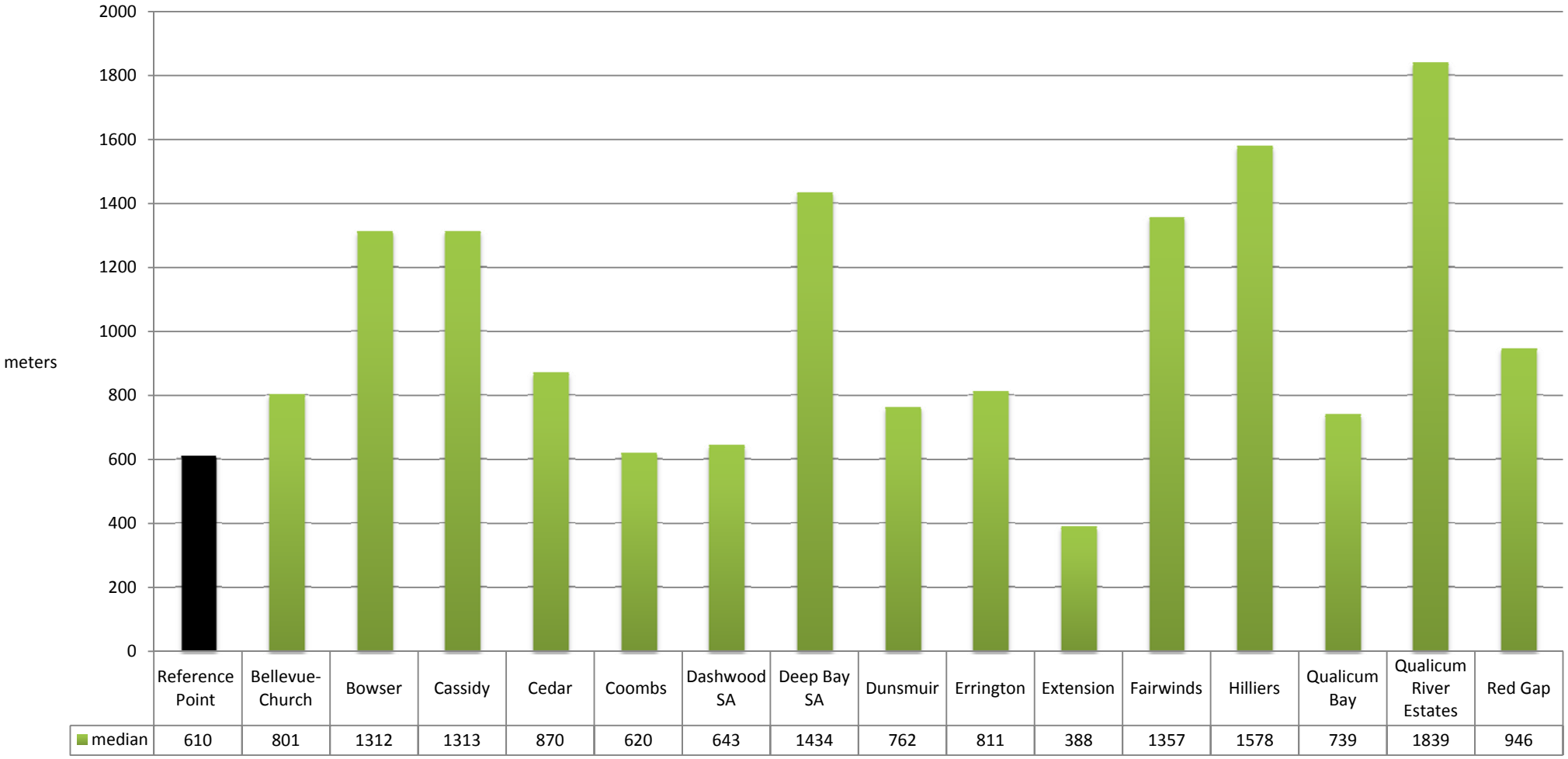
To find the median block perimeter, all block perimeters in all RVCs and SAs were measured using spatial/map data. Unlike the other measures, the smaller the value (in meters), the higher the performance.

Chart 5 shows the results, where the lowest median block perimeter is 388 meters (Extension), which is the most highly connected RVC or SA based on this measure. The highest median block perimeter is 1839 meters (Qualicum River Estates), which is the least connected. The RVC/SAs with an approximately 610-meter or smaller median block perimeter (desired) are as follows:

- Coombs
- Dashwood
- Extension

These communities are highly connected. Dunsmuir, Qualicum Bay, Bellevue-Church, and Cedar are also somewhat connected. Qualicum River Estates, Hilliers, Fairwinds, Deep Bay, Bowser, and Cassidy are poorly connected.

Chart 5: Connectivity by Median Block Perimeter



	Reference Point	Bellevue-Church	Bowser	Cassidy	Cedar	Coombs	Dashwood SA	Deep Bay SA	Dunsmuir	Errington	Extension	Fairwinds	Hilliers	Qualicum Bay	Qualicum River Estates	Red Gap
median	610	801	1312	1313	870	620	643	1434	762	811	388	1357	1578	739	1839	946

Note: Larger values in this report tend to convey positive or desirable attributes with respect to compact, complete communities. However in this chart, the opposite is the case where lower values suggest that the RVC/SA is more connected (i.e. which is a desirable attribute with respect to compact, complete communities).

6.5 Centrality

As noted in Section 3.5, centrality refers to the degree to which residential areas are clustered near a primary node or key destination. For purposes of this study, centrality was measured by overlaying 5-minute and 10-minute walksheds (i.e. circles with 400-meter and 800-meter radii) over identified focal points.

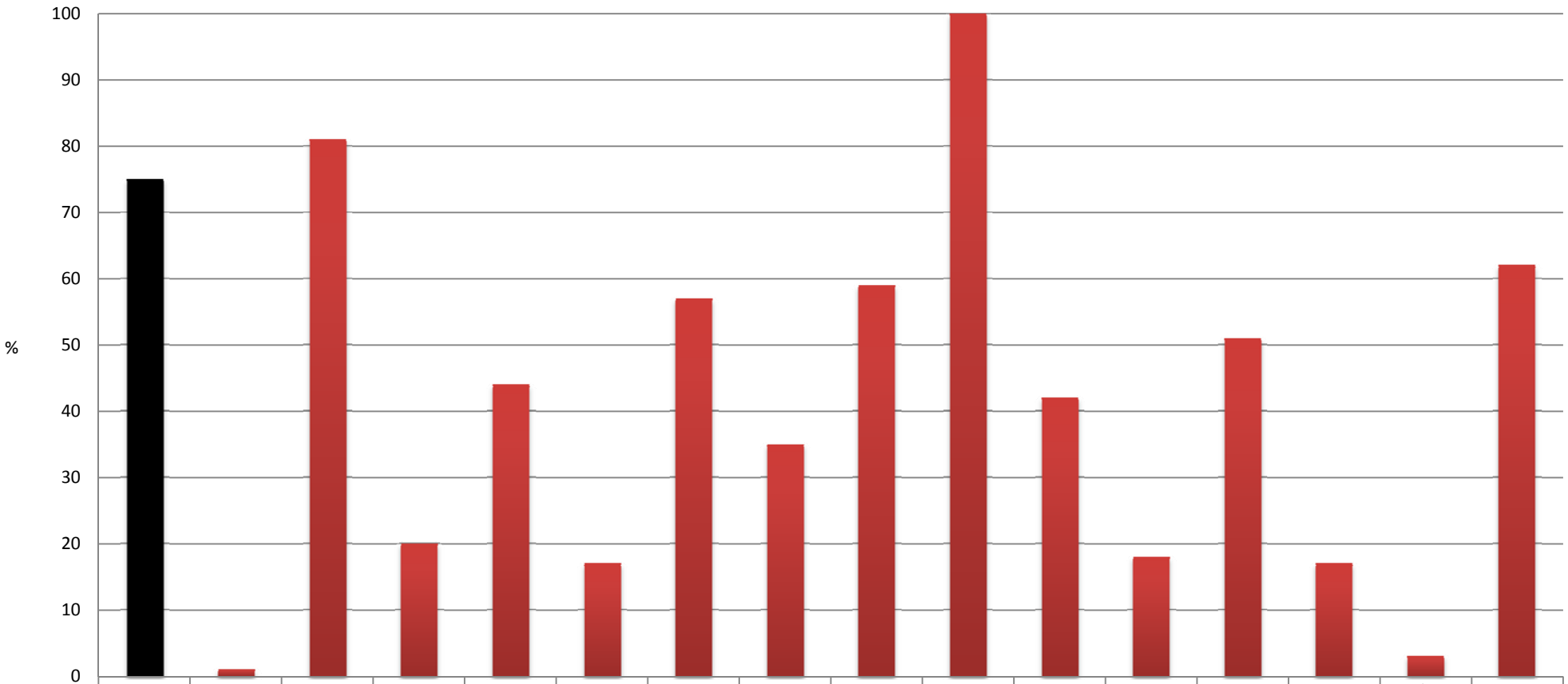
Assumptions and Limitations:

- Due to the limited and dispersed nature of amenities/destinations in the RVCs and SAs, there are very few significant commercial/mixed-use clusters that include multiple destinations. As such, the RDN identified 1-3 important destinations in each of the RVCs and SAs that were used to measure centrality. Within this context, it is important to consider this centrality measure alongside the amenity score, since the focal points in each of the RVCs and SAs generate different trip frequency and quantity. Centrality has been the most challenging urban structure aspect to measure in this study.
- It should be noted that the RDN selected a central point in Bellevue-Church Road, as there is no immediately obvious focal point in that RVC. Also, in the Deep Bay SA, the proposed commercial area in the development application was also identified as a focal point.
- Finally, without detailed information about density at the parcel scale, this measure uses residential zone area.

Chart 6 presents the results, in which the proportions of RVC and SA residential areas (by zone) that fall within a 400-meter walkshed of the identified focal points are as follows:

- 75-100% (which is the “very walkable” ideal or reference point used for this measure) - Bowser and Errington
- 50-74% - Dashwood SA, Dunsmuir, Hilliers, and Red Gap
- 25-49% - Cedar, Deep Bay SA, and Extension
- 1-24% - Bellevue Church Road, Cassidy, Coombs, Fairwinds, Qualicum River Estates, and Qualicum Bay.

Chart 6: Residential Lands within 400 m of Key Community Focal Point



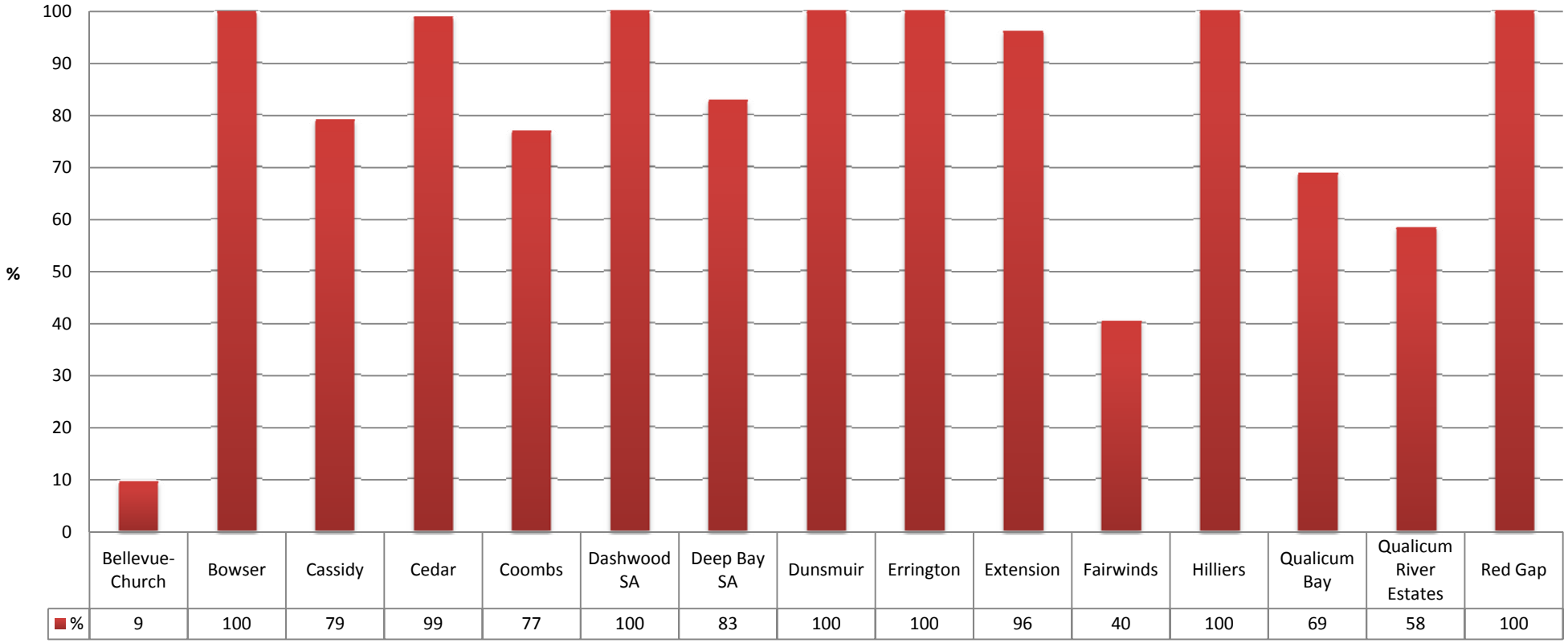
	Reference Point	Bellevue-Church	Bowser	Cassidy	Cedar	Coombs	Dashwood SA	Deep Bay SA	Dunsmuir	Errington	Extension	Fairwinds	Hilliers	Qualicum Bay	Qualicum River Estates	Red Gap
%	75	1	81	20	44	17	57	35	59	100	42	18	51	17	3	62

Given the small size of the RVCs and SAs, the majority of residential areas – in all but two RVCs – fall within a 10-minute walk (as the crow flies). Specifically, the proportions of RVC and SA residential areas (by zone) that fall within an 800-meterwalk shed of the identified focal point are as follows:

- 75-100% - Bowser, Cassidy, Cedar, Coombs, Dashwood SA, Dunsmuir, Deep Bay SA, Errington, Extention, Hilliers, and Red Gap
- 50-74% - Qualicum Bay and Qualicum River Estates
- 25-49% - Fairwinds
- 1-24% - Bellevue Church Road

The results are provided in Chart 7. Maps showing both 400- and 800-meter walksheds are enclosed in the appendix.

Chart 7: Residential Lands within 800 m of Key Community Focal Points



	Bellevue-Church	Bowser	Cassidy	Cedar	Coombs	Dashwood SA	Deep Bay SA	Dunsmuir	Errington	Extension	Fairwinds	Hilliers	Qualicum Bay	Qualicum River Estates	Red Gap
%	9	100	79	99	77	100	83	100	100	96	40	100	69	58	100

6.6 Community Linearity

Measuring the transit-serviceability of RVC/SAs – based on identified goals surrounding desired type and level of service – requires an analysis more detailed than the scope of this study. Nonetheless, within the context of a regional transit system, the following RVC/SAs appear to be situated in a more linear geometry with respect to proximity to major transportation corridors (i.e. Island Highway and Alberni Highway), suggesting that they may be in a better position to receive more cost-efficient service than the RVC/SAs that are more isolated:

- Cassidy
- Cedar (which already receives transit service)
- Red Gap (which already received transit service)
- Dashwood SA
- Dunsmuir
- Qualicum Bay
- Bowser
- Deep Bay SA
- Hilliers
- Coombs
- Bellevue-Church Road

Despite this analysis, there are other transit goals such as the desired type and level of service that will determine whether or not these communities are well positioned to receive effective, cost-efficient service.

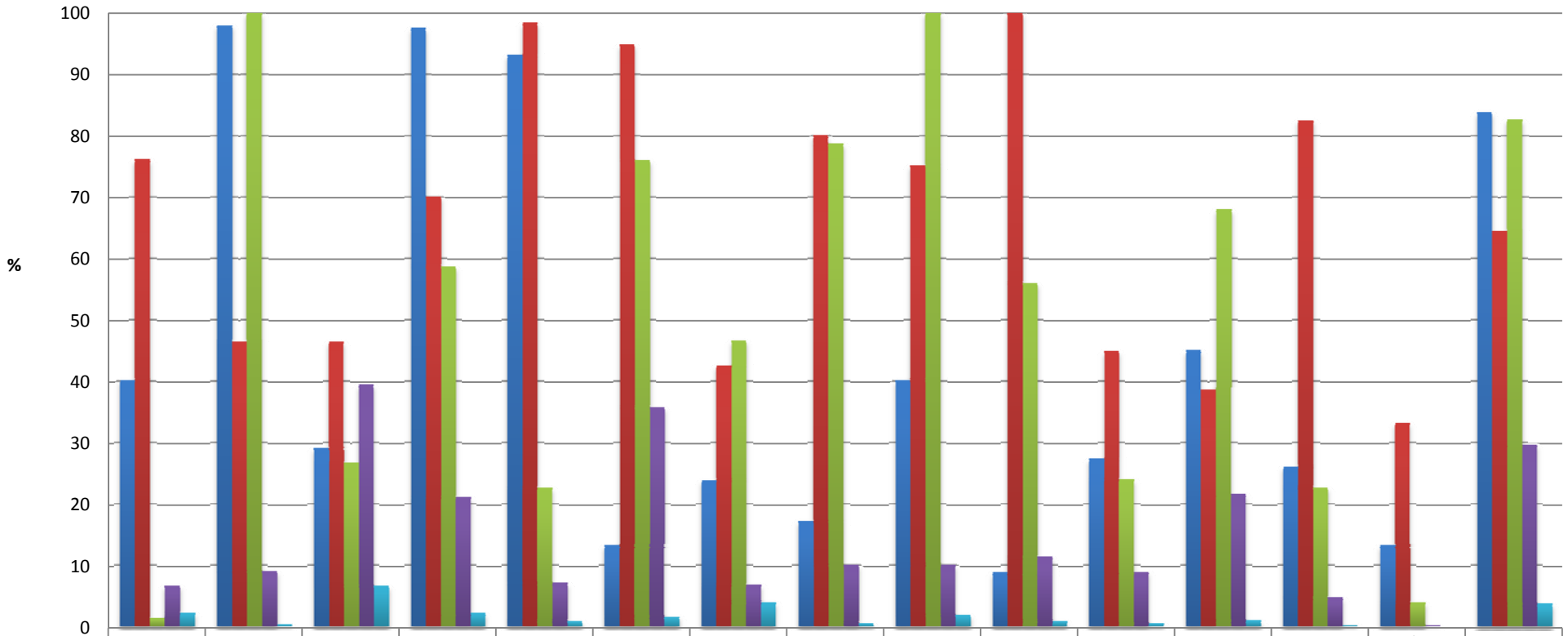
6.7 Overall Evaluation for Community Structure/Design and Land Use

The evaluation of community structure/design and land use focuses on existing conditions. In doing so, it offers a snapshot of how each of the RVC/SAs is performing with respect to the RDN descriptors of compact, complete communities.

Chart 8 identifies how each RVC/SA is performing with respect to each measure,[39] relative to the identified minimum threshold (i.e. reference point) for pedestrian-oriented and transit-supportive communities. If an RVC/SA meets or exceeds the threshold, it receives a score of 100%. Scores below 100% indicate that RVC/SA does not meet the threshold; the lower the percentage, the further away the RVC/SA is in achieving the minimum thresholds required for pedestrian-oriented and transit-supportive communities. It is important to note that the relative importance of each of the measures varies. According to the research[40,41], land use mix (amenity score), connectivity, and centrality have a much stronger influence on walking and transit use than residential and employment densities. As such, in the list that follows Chart 8, RVC/SAs that score highest in land use mix, connectivity, and centrality receive the highest overall ranking.

[39] Note: As land use mix involves ranges rather than single-value thresholds, it could not be represented in Figure 8 but is nonetheless considered in the evaluation. The amenity score offers a useful proxy in Figure 8.
[40] Gibson, L. (Smart Mobility). *Measuring Urban Form and Walkability in Rural Communities.* (Presentation). Retrieved September 2012 from: http://onlinepubs.trb.org/onlinepubs/conf/2010/rural/1/Gibson.pdf
[41] TransLink. 2012. *Transit-Oriented Communities Design Guidelines*

Chart 8: Relative Performance of Each RVC/SA in Each Community Structure and Land Use Measure



	Bellevue-Church	Bowser	Cassidy	Cedar	Coombs	Dashwood SA	Deep Bay SA	Dunsmuir	Errington	Extension	Fairwinds	Hilliers	Qualicum Bay	Qualicum River Estates	Red Gap
Amenity Score	40	98	29	98	93	13	24	17	40	9	27	45	26	13	84
Connectivity	76	46	46	70	98	95	43	80	75	100	45	39	83	33	64
Centrality	1	100	27	59	23	76	47	79	100	56	24	68	23	4	83
Residential Density	7	9	39	21	7	36	7	10	10	11	9	22	5	0	30
Employment Density	2	0	7	2	1	2	4	1	2	1	0	1	0	0	4

In absolute terms, no single RVC/SA currently meets or exceeds the minimum thresholds for pedestrian-oriented and transit-supportive requirements of compact, compact communities. In relative terms, the following RVC/SAs perform as follows:

Highest Performance Category:

- Bowser – This RVC scores relatively high. While Bowser's connectivity is not very high, its amenity score nearly meets the threshold and its connectivity score exceeds it. Bowser's land use mix also generally falls within recommended ranges (refer to Section 6.3.1).
- Cedar – This RVC also scores relatively high. Its centrality is not as high as Bowser's and its connectivity is about 30% below the desired minimum threshold and its amenity score nearly meets the minimum threshold.
- Coombs – Despite having a low centrality score, this RVC scores relatively high in both the amenity score and connectivity. Coombs' land use mix also generally falls within recommended ranges.
- Red Gap – This RVC has relatively high scores in all three of the most significant measures.
- Errington – While not scoring as high as Bowser, Cedar, Coombs, and Red Gap this RVC scores relatively high with respect to connectivity and centrality.

Mid-Performance Category:

- Dashwood SA – While this SA does not perform well with respect to amenities, it scores high in terms of connectivity, centrality, and especially residential density.
- Dunsmuir – Similarly, Dunsmuir's amenity score is low, but it scores relatively high with respect to connectivity and centrality. Residential density is low.
- Hilliers – Hilliers' centrality score is high and it performs better than most RVC/SAs with respect to residential density, however it has a low connectivity and amenity score.
- Qualicum Bay – Connectivity is quite high in Qualicum Bay, however it has a low amenity and centrality score. Residential density is also very low.
- Extension – Despite having a very low amenity score, Extension's connectivity score is the highest of all RVC/SAs. Its centrality and residential density measures are low.

Lowest Performance Category:

- Bellevue-Church Road – Bellevue-Church Road scores very low in terms of centrality and residential density, and also has a low amenity score. Connectivity is high relative to other RVC/SAs in the lowest performance category.

- Cassidy – While Cassidy scores relatively high with respect to residential density, it scores low in terms of amenities, connectivity, and centrality.
- Deep Bay SA – Deep Bay SA scores below 50% of the thresholds in all categories[42].
- Fairwinds – This RVC scores below 50% of the thresholds in all categories.
- Qualicum River Estates – This RVC scores the lowest.

42 Again, the evaluation is based on existing conditions and policies. It does not include proposed development.

7. DEVELOPMENT AND MARKET VIABILITY

7.1 Population Growth Potential

This refers to estimated future RVC and SA populations, which have a role to play in understanding residential and commercial growth potential, and how these places could function in terms of the RDN's definition of compact, complete communities.

G.P. Rollo and Associates (GPRA) projects that the total Electoral Area (EA) population in the RDN is likely to grow 38% over 25 years, adding 14,824 people and reaching nearly 54,000 residents by 2036. As a share of the total RDN population, the EA population is expected to drop from its current 26% to 25%.

7.1.1 Population Estimates – OCP Build Outs

Table 3 identifies estimated build out populations based on the unit build out potential allowable by OCP policy, as identified in the *RDN Inventory.* The estimates in the table are based on an average population per dwelling over three Census years (2001, 2006, and 2011).

Assumptions and Limitations:

- These estimates are based only on maximum build out potential within the parameters of existing OCP policy; they do not necessarily suggest what is likely. Indeed, some RVCs have dramatic master plans and marketing efforts already in place (e.g. Fairwinds) and others have little more than vague planning aspirations for mixed-use villages in the future. Nonetheless, the estimates offer insights into development viability from a current policy standpoint. Refer to Section 3.1.2 for further discussion on population growth potential based on market and other factors.

TABLE 3: RVC/SA BUILD OUT POPULATION ESTIMATES		
RVC/SA	**Estimated Build-Out (units)**	**Estimated Build-Out Population**
Bellevue – Church Road	401	906
Bowser	893	1912
Cassidy	779	1841
Cedar	1777	4231
Coombs	270	637
Dashwood SA	n/a	450
Deep Bay SA	211	452
Dunsmuir	275+	589
Errington	60	136
Extension	360	836
Fairwinds	2500	5902
Hilliers	116	262
Qualicum Bay	194+	415
Qualicum River Estates	153	346
Red Gap	500	1180

7.1.2 Population Estimates – Growth and Market Factors

In forecasting when build-out populations may be reached in the RVCs and SAs, the following factors can be taken into consideration:

1) Growth of the RDN overall (as projected by BC Statistics);
2) Attraction of future RDN residents to the Electoral Areas versus the urban centres of Nanaimo, Parksville, Lantzville, and Qualicum Beach; and
3) Attraction of RDN Electoral Area residents to the slightly more "urban" environments (i.e. smaller lots, possibly multi-family dwellings, proximity to commercial uses and amenities) offered by RVCs and SAs within their respective EAs.

GPRA explored three scenarios to forecast RVC and SA population growth potential. The scenario that aligns with long-term RDN and provincial trends and policy is discussed in this section (outlined in Table 4) and used as the basis for the Commercial Growth Potential baseline analysis in Section 3.2. It assumes that the sum of all RVC and SA populations will reach 30% of EA totals by 2036 (compared with 20% in 2011), which means that 55% of future Electoral Area growth takes place in the RVCs and SAs. This assumption is based on:

- Increasing urban-type lifestyles;
- Fast-growing elderly population with increasing disability-free life expectancy, who wish to maintain their own homes for longer but who also wish to have smaller units requiring less upkeep and to be located within a walk or short drive/transit trip to goods and services; and
- Consistency with RDN Policies that support RVCs accommodating the majority of future growth in Electoral Areas.

Assumptions and Limitations:

- In setting up the population growth scenarios, GPRA has not made any judgment on the likelihood of any of them coming to pass. Rather, GPRA has put forward possible future scenarios based on assumptions and policies as outlined above. As the process of making decisions about the future of RVCs and SAs moves forward, GPRA may be able to further refine RVC- and SA-specific population growth projections to reflect the expected shift in relative attractiveness of RVCs and SAs vis-à-vis one another as a result of those decisions and resulting investments.
- The population growth scenarios assume all RVCs and SAs maintain their 2011 relative share of population vis-à-vis one another over the coming 25 years. So, for instance, if in 2011 Cassidy's population represents 13% of the population of all the RVCs and SAs, it is assumed that regardless of its absolute population growth, in 2036 it will still have 13% of the population of all RVCs and SAs. The extent to which RVCs and SAs will 'shift' their respective share of population will depend on many factors, including RDN decisions about the future of RVCs and SAs and resulting investments.

TABLE 4: RVC/SA POPULATION ESTIMATES FOR GROWTH SCENARIO					
RVC/SA	**2011 Population**	**2016 Population**	**2026 Population**	**2036 Population**	**Change in Pop (2011-2036)**
Bellevue – Church Road	718	838	1099	1390	672
Bowser	166	196	263	337	171
Cassidy	934	1102	1477	1896	962
Cedar	1942	2292	3072	3943	2001
Coombs	230	269	355	450	220
Dashwood SA	458	541	724	930	472
Deep Bay SA	279	329	441	566	287
Dunsmuir	338	399	535	686	348
Errington	64	75	98	124	60
Extension	286	338	452	581	295
Fairwinds	1439	1699	2276	2922	1483
Hilliers	248	290	380	481	233
Qualicum Bay	206	243	326	418	212
Qualicum River Estates	2	16	61	113	111
Red Gap	636	751	1006	1291	655

Under this scenario, which GPRA deems as reasonable, current cumulative build out capacity would be exceeded by 240 residents in the next 25 years. However, this figure is skewed upward by RVCs and SAs like Bellevue-Church Road, Deep Bay SA, and Dunsmuir, which would exceed their build out capacities by over 53%, 25%, and 17% respectively. It is likely that, with certain growth areas being prioritized, build out capacity could be adjusted upward through strategic OCP review and revisions focusing on strategic density allocation.

7.2 Commercial Potential

This refers to current commercial (retail and service) offerings in each of the RVCs and SAs. For purposes of this evaluation, it is measured by a high level assessment of the potential for commercial growth across each RVC and SA given specified population and spending growth assumptions.

7.2.1 Commercial Profiles

An observational retail inventory for all RVCs and SAs was conducted, and it is estimated that they have a combined (approximately) 200,000 square feet of retail/service commercial space, including 17,000 square feet of vacant space. The space is distributed across the RVCs and SAs and is outlined in Table 5 on the following page.

Note: The approximate retail space distribution includes 8,000 square feet of future inventory. The numbers associated with Hilliers includes 8,000 square feet of unbuilt future inventory, and 3,000 square feet of existing vacant space.

TABLE 5: APPROXIMATE RETAIL SPACE DISTRIBUTION BY RVC/SA		
RVC/SA	**Estimated Total Square Feet**	**Estimated Vacant Square Feet**
Bellevue – Church Road	4,500	0
Bowser	20,500	700
Cassidy	12,100	0
Cedar	56,500	1,300
Coombs	32,000	3,000
Dashwood SA	1,500	0
Deep Bay SA	3,000	0
Dunsmuir	1,500	0
Errington	8,500	0
Extension	0	0
Fairwinds	0	0
Hilliers	29,000*	11,000**
Qualicum Bay	8,500	0
Qualicum River Estates	1,000	0
Red Gap	23,000	1,000

**includes 8,000 square feet of future inventory*

***8,000 square feet of unbuilt future inventory, and 3000 square feet of existing vacant space*

7.2.2 Retail Potential

The retail projections in Table 6 are based on the assumption that RVCs and SAs grow at the population growth rate outlined in the scenario in Section 7.1.2. Numbers are estimates and approximations.

Assumptions and Limitations:

- In all cases, GPRA has assumed no inflation (i.e. a constant dollar analysis), so growth in spending potential and supportable square feet are directly tied to anticipated population growth.
- Estimates include spending inflow factors that account for spending that originates outside of RVC/SAs. These values are higher for those RVC/SAs that are situated along highway corridors and/or attract significant tourist spending, as compared with RVC/SAs that are more isolated or have no inherent potential to attract tourists or flow-through spending. Any differences between the current retail space inventory and the space supportable by the local population is due to this inflow.
- Retail capture rates vary in each RVC/SA. They are calculated based on local population, the local competitive retail environment and proximity to other shopping areas. The capture rates are determined for each retail category and then aggregated to get the total capture rate for an individual RVC/SA. Retail businesses in the RVC/SAs can expect to capture the following amounts of spending by the local population (in percentages): Bellevue-Church – 3.5; Bowser – 3; Cassidy – 7; Cedar – 14; Coombs – 10; Dashwood SA – 5; Deep Bay SA – 3; Dunsmuir – 2; Errington – 5; Extension – 10; Fairwinds – 7; Hilliers – 5; Qualicum Bay – 4; and Red Gap – 8.

TABLE 6: RETAIL POTENTIAL (GPRA ESTIMATES)			
RVC/SA	**Existing Retail Demand & Availability** (based on current population and expenditures)	**Future Projected Retail Demand** (based on population projections and corresponding expenditures, area growth potential, tourism trends, and regional considerations)	**Regional Considerations/Influences**
Bellevue – Church Road	*How much can be supported today?* • 4,300-5,000 square feet *Consistent with current space inventory?* • Yes (4,500 square feet)	*How much more can be supported by 2036?* • 2,000-5,000 square feet *Note:* The significant daytime working population in this area is a key supporting population for local retail and services. Retail growth potential in this area is as much (if not more) a function of employment growth as it is population growth. With significant increase in the employment base, additional space (i.e. primarily restaurant and personal services) could be warranted.	This RVC is in close proximity to Parksville, Coombs, and Errington, so any retail expansion in Bellevue-Church will likely impact or be impacted by these areas. Potential new commercial development south of Parksville, near the highway, would have the largest impact on commercial opportunities in Bellevue-Church.
Bowser	*How much can be supported today?* • Population can support 1-2,000 square feet locally. *Consistent with current space inventory?* • Yes. 20,500 square feet of inventory draws significantly on pass-through traffic, inflow from nearby areas (e.g. Deep Bay), and tourism. Inflow accounts for the difference between the current space inventory and how much can be supported today by the local population.	*How much more can be supported by 2036?* • 1,000-2,000 additional square feet. *Note:* Assuming tourism spending remains static and future growth is driven by additional residents.	With Bowser's current retail inventory of 20,500 square feet, this gives an indication of spending being drawn into Bowser from Deep Bay SA residents as well as visitors driving along the Old Island Highway. The impact of tourist-driven retail is made apparent by the retail mix in Bowser, which includes significant space dedicated to local artists. Because Bowser is currently serving the residents of Deep Bay SA, any commercial space built in Deep Bay SA would likely negatively impact some sales from Bowser.

RVC/SA	Existing Retail Demand & Availability	Future Projected Retail Demand	Regional Considerations/Influences
Cassidy	*How much can be supported today?* • 10,500 square feet *Consistent with current space inventory?* • Yes (12,000 square feet)	*How much more can be supported by 2036?* • 7,000-9,000 additional square feet *Note:* There is strong retail potential based on large amounts of developable land that is under a single owner (i.e. Island Timberlands).	The amount of projected retail will depend upon its location and speed that the Island Timberlands properties are developed. If, for example, commercial was allowed within visibility of the highway, it would attract significantly more spending. Community amenities, such as a community centre, would also increase the opportunity for commercial space, as it would be a draw for local residents and increase the retail trade area.
Cedar	*How much can be supported today?* • 45,000 square feet *Consistent with current space inventory?* • No (56,000 square feet)	*How much more can be supported by 2036?* • 15,000-25,000 additional square feet *Note:* Growth will be driven by a combination of residential growth and pass-through traffic.	Cedar's core is located approximately 11 km from Downtown Nanaimo and approximately 16 km from Ladysmith, both providing a strong draw on retail spending from Cedar. Also, within a 10-minute drive to the northwest also lies a significant and growing retail and service cluster along Highway 1, between Twelfth Street and Lawlor Road. The Sandstone master plan area lies within a 5-minute drive, which includes a 30,000 square foot "neighbourhood commercial" node. All of these nearby competitive areas will cap the potential for large-scale retail expansion at Cedar.
Coombs	*How much can be supported today?* • 10,000 square feet by RVC population. *Consistent with current space inventory?* • Yes. 32,000 square feet are supported by both residents and tourist/visitor traffic. Inflow accounts for the difference between the current space inventory and how much can be supported today by the local population.	*How much more can be supported by 2036?* • Additional 8,000-10,000 square feet *Note*: Growth is primarily tourism-driven.	Coombs, Errington, and Hilliers are in relative close proximity, so retail development in any of these areas is likely to impact the others. However, Coombs' and Hilliers' location on the Alberni Highway means their retail orientation will likely always be focused on the tourist/visitor market, while Errington will be focused primarily on providing convenience retail to residents. As retail in Coombs is focused on tourist traffic, growth will be dependent on the number of visitors travelling on the highway and maintaining/creating reasons for those visitors to stop. Some of the retail properties in Coombs will be needing reinvestment in the coming years, and if these properties are allowed to deteriorate, Coombs may attract a decreasing share of visitor traffic.

RVC/SA	Existing Retail Demand & Availability	Future Projected Retail Demand	Regional Considerations/Influences
Dashwood SA	*How much can be supported today?* • 2,000 square feet *Consistent with current space inventory?* • Yes (1,500 square feet)	*How much more can be supported by 2036?* • Additional 3,000 to 6,000 square feet assuming population growth to 900 residents. *Note:* Based on current OCP designations, Dashwood SA has already reached its build-out limit.	Dashwood SA is an estimated 10-minute drive from Qualicum Beach, which already has an extremely attractive commercial core. As such, it is unlikely that Dashwood SA would be able to attract significant visitor spending, so any future commercial development in the area would need to be convenience based.
Deep Bay SA	*How much can be supported today?* • 2,000-3,000 square feet *Consistent with current space inventory?* • Yes (3,000 square feet)	*How much more can be supported by 2036?* • 2,000-4,000 additional square feet *Note:* If the proposed master planned community goes forward, this growth potential would be significantly higher.	It is believed that residents from Deep Bay SA are currently making some convenience purchases in Bowser, so new retail development in Deep Bay SA would be expected to impact retail performance in Bowser. Given the oceanfront location, it is expected that retail in Deep Bay SA would also attract significant visitor spending as well as spending from residents from Bowser.
Dunsmuir	*How much can be supported today?* • 2,000 square feet *Consistent with current space inventory?* • Yes (1,500 square feet)	*How much more can be supported by 2036?* • 1,500-3,500 additional square feet *Note*: Growth will be locally-driven.	Dunsmuir is thought to have a marginally higher capture rate potential for retail space than Dashwood SA due to its increased distance from Qualicum Beach. However Dunsmuir is in very close proximity to Qualicum Bay, which due to tourist visitation, is more likely to see commercial development. Similar to Dashwood SA, Dunsmuir is unlikely to see significant visitor spending, so any commercial development would be relying on the local population base, and therefore would need to be convenience oriented.
Errington	*How much can be supported today?* • 7,500 square feet *Consistent with current space inventory?* • Yes (8,500 square feet)	*How much more can be supported by 2036?* • 2,000-3,000 additional square feet *Note*: Growth will be driven by local spending plus spending in neighbouring areas.	Errington likely attracts spending by residents from the Coombs and Bellevue-Church Road areas, due to Errington's convenience commercial node. Given that Errington likely supports spending from residents in Coombs and Bellevue-Church Road, residential growth in those areas will also support commercial opportunities in Errington.

RVC/SA	Existing Retail Demand & Availability	Future Projected Retail Demand	Regional Considerations/Influences
Extension	*How much can be supported today?* • 2,000-3,000 square feet *Consistent with current space inventory?* • No (0 square feet)	*How much more can be supported by 2036?* • 3,500-4,500 square feet *Note*: growth will be locally driven.	As a relatively isolated community, current and future residents of Extension would benefit from the inclusion of a small neighbourhood-serving retail node. A population of 580 in 2036 would be well-served by a small retail centre. However, relative isolation and lack of access/visibility make the economics of retail development at Extension questionable.
Fairwinds	*How much can be supported today?* • 30,000 square feet *Consistent with current space inventory?* • No (0 square feet). Inflow accounts for the difference between the current space inventory and how much can be supported today by the local population.	*How much more can be supported by 2036?* • 45,000 to 55,000 square feet *Note:* With the proposed multi-family high density village at Schooner Cove, along with the most recent master plan for the Lakes District, Fairwinds has great potential to warrant significant commercial space.	Expected population growth in Red Gap is expected to support additional commercial opportunities without strongly negatively impacting sales in Fairwind. Expected growth in and around the Schooner Cove Village will warrant a locally-serving grocery-anchored village node of approximately 30,000 square feet. Additional retail space will be developable elsewhere in Fairwinds; the current master plan sets aside a secondary area for future commercial development.
Hilliers	*How much can be supported today?* • 3,500 square feet by local trade area residents. *Consistent with current space inventory?* • Yes (29,000 square feet). Inflow accounts for the difference between the current space inventory and how much can be supported today by the local population.	*How much more can be supported by 2036?* • 3,000 -4,000 additional square feet. *Note:* Growth is primarily driven by local residents. Further growth is possible due to high visibility and capture of pass-through traffic.Non-locally driven retail could grow by 10,000+ square feet.	Much of the retail space currently being constructed along the highway is speculative, and is being planned/built based on assumed spending capture from highway traffic. It is believed that this commercial development is not dependent on growth in Hilliers or the immediate trade area.

RVC/SA	Existing Retail Demand & Availability	Future Projected Retail Demand	Regional Considerations/Influences
Qualicum Bay	*How much can be supported today?* • 2,000-3,000 square feet *Consistent with current space inventory?* • Yes (8,500 square feet). Inflow accounts for the difference between the current space inventory and how much can be supported today by the local population.	*How much more can be supported by 2036?* • 2,000 square feet *Note:* Additional retail would likely be driven by the tourist/visitor market.	Because Qualicum Bay is already a draw for tourists and already has convenience and restaurants, it also likely attracts spending from Dunsmuir residents. Additional retail development in Qualicum Bay would also impact the potential for retail space in Dunsmuir.
Qualicum River Estates	*How much can be supported today?* • 1,000 square feet (surrounding trade area) *Consistent with current space inventory?* • Yes (est. 1,000 square feet)	*How much more can be supported by 2036?* • If QRE grows to 350 residents, local population of the RVC could support 3-4,000 square feet. The wider trade area would be able to support additional space. *Note:* With spending in both an expanded RVC and nearby residents, retail space of 5,000-7,000 square feet could be warranted	Based on the assumption that Qualicum River Estates will be able to achieve 1/3rd of its OCP build-out target by 2036, there will be growth in this RVC to 113 residents from the current estimate of 2. Future retail growth in this RVC will be driven almost entirely by the population in the RVC and the immediate surrounding subdivisions, especially given the area's lack of visibility and easy highway access.
Red Gap	*How much can be supported today?* • 23,000 square feet *Consistent with current space inventory?* • Yes (23,000 square feet)	*How much more can be supported by 2036?* • 20,000-25,000 square feet	The combined growth that is expected to occur in both Red Gap and Fairwinds (including the mixed-use village core of Fairwinds at Schooner Cove) will mean that the two areas can grow without strongly negatively impacting sales in either area.

7.3 Overall Evaluation for Development and Market Viability

Based on considerations for population, population growth, and retail potential, the RVC/SAs have been ranked in three categories with respect to likelihood of attracting residents and additional commercial investment:

Highest Performance Category:

- Cedar – Cedar has the largest expected population growth of all the RVCs and already has a successful commercial hub.
- Fairwinds (Schooner Cove) – With the potential development of a high density village at Schooner Cove, including 30,000 square feet of retail space, this portion of Fairwinds would be a successful pedestrian oriented retail and amenity hub.
- Red Gap – This RVC is forecasted to have demand for an additional 20,000 square feet of retail space over and above the existing successful retail hub that exists today.
- Cassidy – This RVC has potential to have a strong retail / amenity node with its master planned community, especially if the large scale development takes place on the Island Timberlands property.
- Coombs – This RVC is estimated to have potential for an additional 8,000 to 10,000 square feet of retail. Coombs already has strong retail anchors, and room for additional retail to develop.
- Bellevue-Church Road – This RVC is unique with its strong employment base. The retail in Bellevue-Church Road primarily serves day-time employees, and as the employment hub grows, the potential for retail growth will follow.
- Bowser – Bowser already has roughly 20,000 square feet of retail space. Much of this retail space serves the tourist market, and the residences in the surrounding area including the Deep Bay SA. The existing retail is very attractive, and Bowser benefits from its location on the Old Island Highway. Growth within the Bowser RVC is only expected to support an additional 1,000 to 2,000 square feet, however, Bowser could be expected to continue to capitalize on tourist spending, and spending from the Deep Bay area if the development at Deep Bay does not proceed.

Mid-Performance Category:

- Deep Bay SA – If the proposed development at Deep Bay does not proceed, the Deep Bay SA could support an additional 2,000-4,000 square feet of retail space. If the Deep Bay project does proceed, it would be expected to attract tourist spending due to its waterfront location and spending from residents in the new project.

- Errington – Errington already has a strong mix of locally serving retail, and with projected growth it is expected that the RVC could expand by an additional 2,000-3,000 square feet. Errington attracts spending from residents of Coombs and Bellevue-Church, and this is expected to continue.
- Hilliers – Hilliers is well located for retailers that require highway visibility. Population growth in the area will support an additional 3,000-4,000 square feet by 2036. The speculative development of retail space in the area is one indicator of retail potential.
- Qualicum Bay – Although population growth only warrants an additional 2,000 square feet of retail, Qualicum Bay will attract additional spending due to its waterfront location.

Lowest Performance Category:

- Dunsmuir – Dunsmuir only has 2,000 square feet of existing retail, and is only likely to see 1,000 square feet of additional demand due to population growth.
- Dashwood – Dashwood's close proximity to Qualicum Beach precludes the likelihood of significant retail development in the area.
- Extension – Extension's potential to support retail is exclusively dependant on its resident population due to its isolation. Based on population projections, GRPA anticipates support for 3,500 -4,500 square feet of retail demand. As it is a small, isolated community, it will be difficult to attract interest from retail developers and businesses.
- Qualicum River Estates – While Qualicum River Estates has significant land area for retail development, the combination of relative isolation, low population density, and low population growth projections, make support for more than a small neighbourhood serving node unlikely.

8. WATER AND WASTEWATER INFRASTRUCTURE

Section 8 discusses and evaluates the viability of expanding existing or installing new water and wastewater infrastructure for each RVC/SA within the context of existing and projected populations, existence of current infrastructure, and proximity to existing infrastructure. The appendix outlines centralized and decentralized approaches/options for communities with respect to wastewater.

8.1 Existence of Community Wastewater System and Additional Capacity / Connection Viability

Cedar and Fairwinds, which are both serviced by community wastewater infrastructure, are also the RVC/SAs with the highest current and projected populations. Based on current sewer flow rates[43], community wastewater service is not considered financially feasible for the other RVC/SAs, which have significantly smaller current and projected populations and do not currently have wastewater service. Opportunities for expansion or new community service can be determined through a feasibility study. While community wastewater systems can be technically feasible in most communities, they are not necessarily financial feasible. Opportunities for expansion of existing systems or creation of new community service can be determined through a feasibility study.

Based on 2036 population projections, the only RVC/SA whose sewage flow rate is expected to reach the levels found in RVCs currently serviced by wastewater infrastructure (i.e. Cedar and Fairwinds) is Cassidy. However this does not necessarily suggest that a community wastewater system would be viable; a feasibility study would help determine this. As such, the only two RVC/SAs that receive a ranking in the highest performance category with respect to community wastewater infrastructure are: Cedar and Fairwinds.

It is more feasible for the other communities to invest in upgrades to their current septic systems or in installations of multiple-household, on-site systems.

8.2 Existence of Community Water System and Additional Capacity / Connection Viability

Table 8 identifies which RVC/SAs have community water systems in place, and addresses expansion opportunities. Section 8.3 summarizes the evaluation and ranking.

43 These rates are based on calculations for wastewater generation per person from a 2006 Environment Canada national survey of municipal wastewater systems. The sewer flow rate is assumed to be 660 l/capita/day.

TABLE 7: POPULATION AN D SEWAGE FLOW RATE, AND EXISTENCE OF COMMUNITY WASTEWATER SYSTEM AND CAPACITY						
RVC/SA	**Population 2011**	**Projected Population in 2036**	**Projected Sewer Flow Rate in 2011 (m^3/day)**	**Projected Sewer Flow Rate in 2036 (m^3/day)**	**Existence of Community Wastewater System**	**Is there additional capacity and/or connection opportunities?**
Bellevue – Church Road	718	1390	474	917	N	n/a
Bowser	166	337	110	222	N	n/a
Cassidy	934	1896	616	1251	N	n/a
Cedar	1942	3943	1282	2602	Y	While there is not significant additional capacity, opportunities for additional connections should be studied.
Coombs	230	450	152	297	N	n/a
Dashwood SA	458	930	302	614	N	n/a
Deep Bay SA	279	566	184	374	N	n/a
Dunsmuir	338	686	223	453	N	n/a
Errington	64	124	42	82	N	n/a
Extension	286	581	189	383	N	n/a
Fairwinds	1439	2922	950	1929	Y	There is significant capacity to accommodate additional connections.
Hilliers	248	481	164	317	N	n/a
Qualicum Bay	206	418	136	276	N	n/a
Qualicum River Estates	2	113	1	75	N	n/a
Red Gap	636	1291	420	852	N	n/a

TABLE 8: EXISTENCE OF COMMUNNITY WATER SYSTEM AND CAPACITY

RVC/SA	Existence of Community Water System	Is there additional capacity and/or connection opportunities?
Bellevue – Church Road	Y	EPCOR Water Services provides service to a limited number of lots. There is possibility of expansion but further study is needed.
Bowser	Y	Bowser is served by the Bowser Waterworks Water Service but expansion opportunities are limited due to land use / ownership (i.e. Crown lands) constraints. The Deep Bay Improvement District, which services a number of properties in Bowser, might be able to add capacity but further study is needed.
Cassidy	N	The nearest potential connection is with Cedar, which is approximately 9 km away, though study is needed to determine whether capacity expansion is viable.
Cedar	Y	The North Cedar Improvement District services Cedar. Volumes are sufficient but infrastructure is inadequate to store and distribute water. Expansion and improvement opportunities need to be studied, which is expected to occur this year. In the meantime, no further applications for water service are being accepted.
Coombs	N	There is no nearby community water system to which Coombs can connect.
Dashwood SA	Y	The Little Qualicum Waterworks District serves Dashwood. Potential opportunity for expansion has been identified but further study is needed.
Deep Bay SA	Y	The Deep Bay Improvement District services this SA. It might be able to add capacity but further study is needed.
Dunsmuir	Y	Qualicum Bay-Horne Lake Waterworks is serving Dunsmuir. Expansion viability is being studied.
Errington	N	There is no nearby community water system to which Errington can connect.
Extension	Y	Excluding 45 undeveloped lots, all properties are within – and most are connected to – the South West Extension Waterworks District service area. Water is available for expansion / further development.
Fairwinds	Y	All properties are within the Nanoose Bay Peninsula Water Service Area. There is no additional capacity and applications for expansion are not being accepted.
Hilliers	N	There is no nearby community water system to which Hilliers can connect.
Qualicum Bay	Y	Qualicum Bay-Horne Lake Waterworks is serving Qualicum Bay. Expansion viability is being studied.
Qualicum River Estates	N	There is no nearby community water system to which Qualicum River Estates can connect.
Red Gap	Y	Most properties are connected to the Nanoose Bay Water Service Area. There is no more capacity and applications for expansion are not being accepted.

8.3 Overall Evaluation for Water and Wastewater Infrastructure

Highest Performance Category – The following RVCs have both community water and wastewater infrastructure already in place. For the latter, there is capacity for expansion.

- Cedar; and
- Fairwinds.

Mid-Performance Category – While the following RVC/SAs do not have community wastewater systems in place, they do have community water service. While Cassidy does not have community water service, it has been included here because its 2036 population projections will generate sewage flow rates that are comparable with Fairwinds today, which currently has community wastewater infrastructure in place.

- Bellevue-Church Road;
- Bowser;
- Dashwood SA;
- Deep Bay SA;
- Dunsmuir;
- Extension;
- Qualicum Bay;
- Red Gap; and
- Cassidy.

Lowest Performance Category – The following RVCs have neither community water nor community wastewater infrastructure. These RVCs are also not close to existing services, so opportunities to connect to existing systems do not exist.

- Coombs;
- Errington;
- Hilliers; and
- Qualicum River Estates.

9. OVERALL EVALUATION

9.1 Evaluation Summary

To recap, the objective of the RVC Study is to identify the RVC/SAs that have the most potential to evolve into compact, complete communities that warrant the investment required to serve them with community waste and wastewater facilities and public transit. The parameters of the study are based on the RDN Regional Growth Strategy's requirements that compact, complete communities should be: pedestrian-oriented; supportive of regular transit service; capable of attracting and supporting commercial services and amenities; and able to demonstrate how their development will contribute to Regional Growth Strategy Goals. For purposes of this study, consideration is also given to water and wastewater infrastructure.

Sections 6-8 of this report provides detailed evaluations for the RVC/SAs within the context of the three distinct categories of: community structure/design and land use; development and market viability; and water and sewage infrastructure. Table 9 combines these categories, which results in the following ranking[44]:

- **Cedar** ranks the highest in all three categories;
- **Bowser, Red Gap, Coombs,** and **Fairwinds** perform the second best, ranking highest in two of three categories;
- **Bellevue-Church Road, Cassidy, Errington, Dashwood SA, Deep Bay SA, Extension, Hilliers, Qualicum Bay,** and **Dunsmuir** rank mid-low range in all categories; and
- **Qualicum River Estates** ranks the lowest among the RVC/SAs, scoring lowest in all categories.

[44] As noted previously, the performance of each RVC/SA is relative to the other RVC/SAs. The performance of each RVC/SA in more absolute terms – particularly with respect to community structure/design and land use – is based on criteria for "compact, complete communities" outlined in Part B and included in Charts 1-8 in Part C.

TABLE 9: OVERALL EVALUATION SUMMARY				
RVC/SA	**Community Structure & Land Use**	**Development & Market Viability**	**Water & Wastewater Infrastructure**	**RANKING (lowest is best)**
Bellevue – Church Road	3	1	2	4
Bowser	1	1	2	2
Cassidy	3	1	2	4
Cedar	1	1	1	1
Coombs	1	1	3	3
Dashwood SA	2	3	2	5
Deep Bay SA	3	2	2	5
Dunsmuir	2	3	2	5
Errington	1	2	3	4
Extension	2	3	2	5
Fairwinds	3	1	1	3
Hilliers	2	2	3	5
Qualicum Bay	2	2	2	4
Qualicum River Estates	3	3	3	6
Red Gap	1	1	2	2

APPENDICES

Public Input Summary

Centrality Maps

Centralized and Decentralized Infrastructure Approaches

Public Input Summary
Rural Village Centre Study

RDN Regional Growth Strategy

October 2012

Submitted to:
Paul Thompson
Director of Long Range Planning
Regional District of Nanaimo

Submitted by:

DIALOG

TABLE OF CONTENTS

1. INTRODUCTION

1.1 Project Background

The Rural Village Centre Study is an implementation project of the Regional District of Nanaimo's (RDN) Regional Growth Strategy (RGS) to help better inform decisions regarding future land use and development in the region. The RGS' key strategy for managing growth and development is to focus it within designated growth areas; within the Electoral Areas (i.e. outside the urban centres), these designated growth areas are called Rural Village Centres (RVCs). Since adoption of the RGS, questions have been raised about the ability of some of the RVCs to evolve into compact, complete communities that warrant investment required to serve them with community water and waste water facilities. As such, **the objective of the Rural Village Centre Study is to identify the RVCs that have the most potential to evolve into complete, compact communities.**

The RGS specifies that compact, complete communities should:

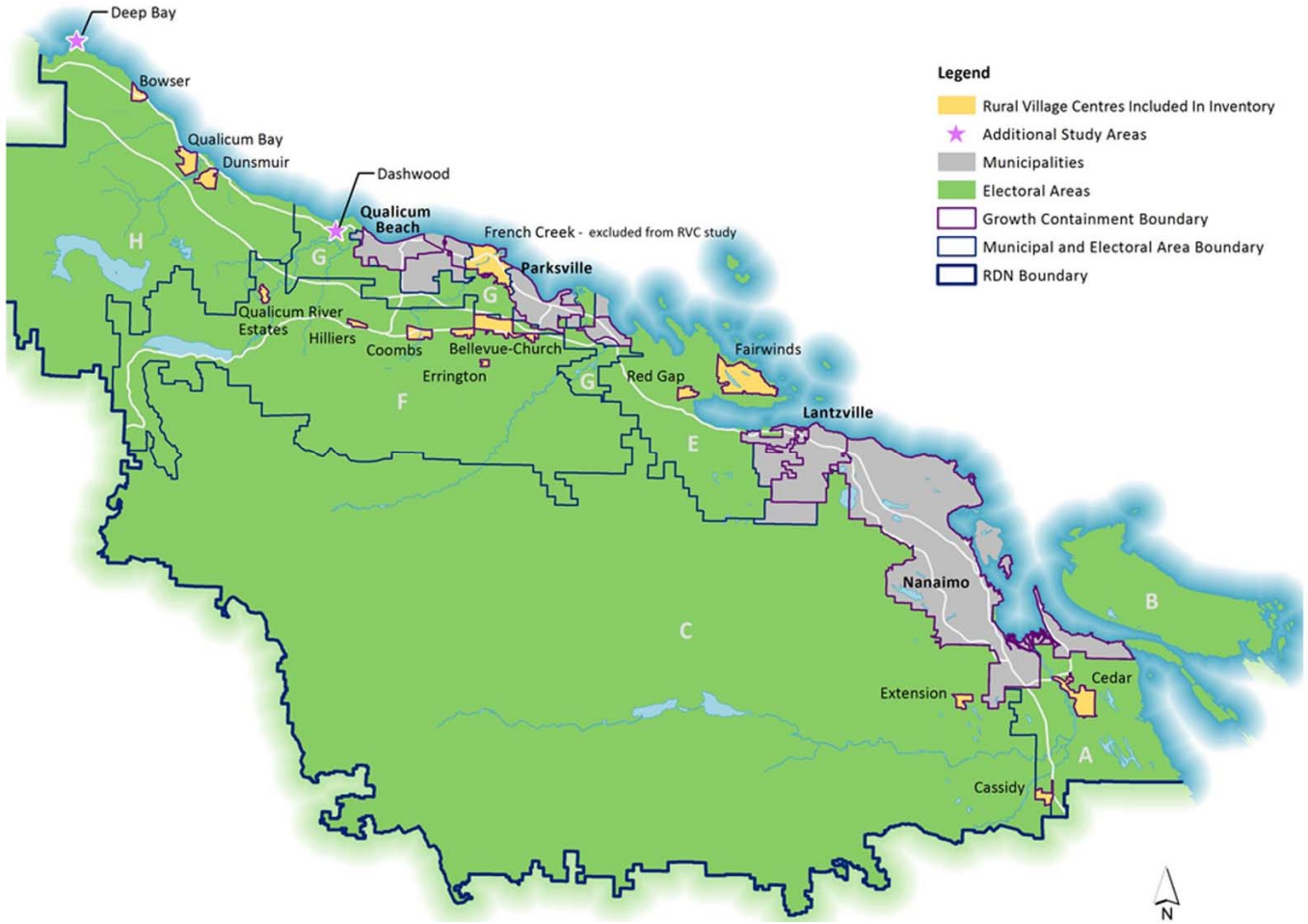
- Be planned and designed as pedestrian-oriented and transit supportive;
- Be compact, complete and compatible in character with local context;
- Attract and support local commercial development;
- Attract and support local commercial services and amenities;
- Support regular transit service; and
- Demonstrate how their development will contribute to the goals of the Regional Growth Strategy.

There are 14 RVCs in the RDN:

- Electoral Area A - Cedar and Cassidy
- Electoral Area C - Extension
- Electoral Area E - Fairwinds and Red Gap
- Electoral Area F - Bellevue-Church, Errington, Coombs, Hilliers, and Qualicum River Estates
- Electoral Area G - French Creek
- Electoral Area H – Dunsmuir, Qualicum Bay, and Bowser

French Creek has been excluded from this study because it is considered to be largely completely developed, with most of it already serviced by community water and sewer, and transit. Two other areas were included in the study that are not currently RVCs (but will be referred to as such for convenience and purposes of this report): Deep Bay and Dashwood. Similarly, Bellevue-Church is officially designated as a Rural Service Area (RSA) but will be referred to as an RVC in this report.

Map 1: Rural Village Centres in the Regional District of Nanaimo *(source: RDN)*



1.2 Purpose of Public and Stakeholder Input

While this project is intended to be a quantitative study that aspires for a high degree of objectivity, it has been recognized that there is a role for public and stakeholder input into the process. Engagement/consultation objectives are:

- To inform about the study;
- To obtain information from residents and stakeholders about:
  - values and assets around RVCs/SAs (perceived strengths);
  - unmet needs and wants around RVCs/SAs (perceived weaknesses or opportunities); and
- To provide the opportunity for residents and stakeholders to engage in a discussion that matters to them.

While public and stakeholder input do not impact the outcomes of the study, this summary will be provided as context for discussion by the RDN in determining how to use the results of the study.

1.3 Public and Stakeholder Engagement Process

Public and stakeholder engagement included the following activities, which largely took place in June 2012:

- Site tours and discussions with Directors of Electoral Areas F and H;
- Market research interviews with local stakeholders;
- Public on-line survey; and
- Public and stakeholder open houses in each Electoral Area.

All Board Directors were individually contacted by phone, and invited to open houses and to contact the consulting team should they wish to discuss the study. Stakeholders identified by Board Directors were also invited to contact the consulting team should they wish to discuss the study.

Advertising efforts for the survey and open houses included: multiple advertisements in newspapers in each of the Electoral Areas; emails to RDN contacts, Board Directors, and community listserves; and posted information on the RDN's website.

This report summarizes the outcomes of the on-line survey and open houses.

2. PUBLIC INPUT OVERVIEW | EMERGENT THEMES

2.1 Low Participation Rates

With the exception of the input received during the Electoral Area H Open House (namely regarding Bowser and Deep Bay) and possibly the input received in the survey for Qualicum River Estates, there was very low participation in engagement activities. In the cases of some RVCs, public input reflects the perspectives of just a handful of residents.

As such, much of the information in this report should be understood within this context. Outside of Electoral Area H, the input contained in this summary may not necessarily represent the general perspectives of residents living in the region's RVCs.

2.2 Themes Across RVCs

While there certainly is diversity of options within and across RVCs, there are some common themes that emerged during consultations. They are as follows:

- **Rural lifestyle and character (which is often understood to be low-density residential), environment and natural areas, and sense of community are greatly valued** across the study area's RVCs, and there is a strong desire to preserve these qualities;
- **Non-existent or insufficient transit service has been identified as a strong negative**, either in terms of meeting existing needs or as a barrier preventing RVCs in becoming compact, complete communities;
- **Residents wish to have more destinations, services, and social gathering places, and improved pedestrian and cyclist infrastructure**. Participants feel that these improve their RVCs, encourage active transportation, and make RVCs more viable as compact, complete communities.
- **Residents are generally open to adding either a "few" (preferred) or "many" more homes** to their RVCs.
- **Residents are generally open to adding either a "few" (preferred) or "many" more shops, services, and job opportunities** (i.e. commercial and industrial development) to their RVCs.
- **There is some interest in enhancing water and/or sewage infrastructure.**

Emergent themes from individual RVCs are detailed throughout the rest of this report.

3. ON-LINE SURVEY

Two surveys were posted online and advertised for a few weeks in June: one for residents living in or near RVCs; and a second for visitors. A total of 147 respondents participated in the resident survey, with 99 completing every single question (i.e. 67% completion rate). Overall, the response rate was not strong, with fewer than 2% of the official RVC study population providing input.

Demographic Information of Respondents:

- *Age* – Over 40% of respondents were between 60-69 years old. There was little representation from residents between the ages of 25 and 59, and no representation from residents younger than 24.
- *Household Size* – 64% of respondents live in a household size of two people. 13% live alone, and 19% live in households of 3-4 people. Less than 5% live in households of five or more.
- *Sex* – More females (58%) participated in the survey than males (42%).
- *Place of Work or Study* – 43% of respondents are retired, and therefore do not work or study/train in the RVC in which they live or live nearby. 34% of respondents do not study/work in the RVC, while 21% do.

Note:

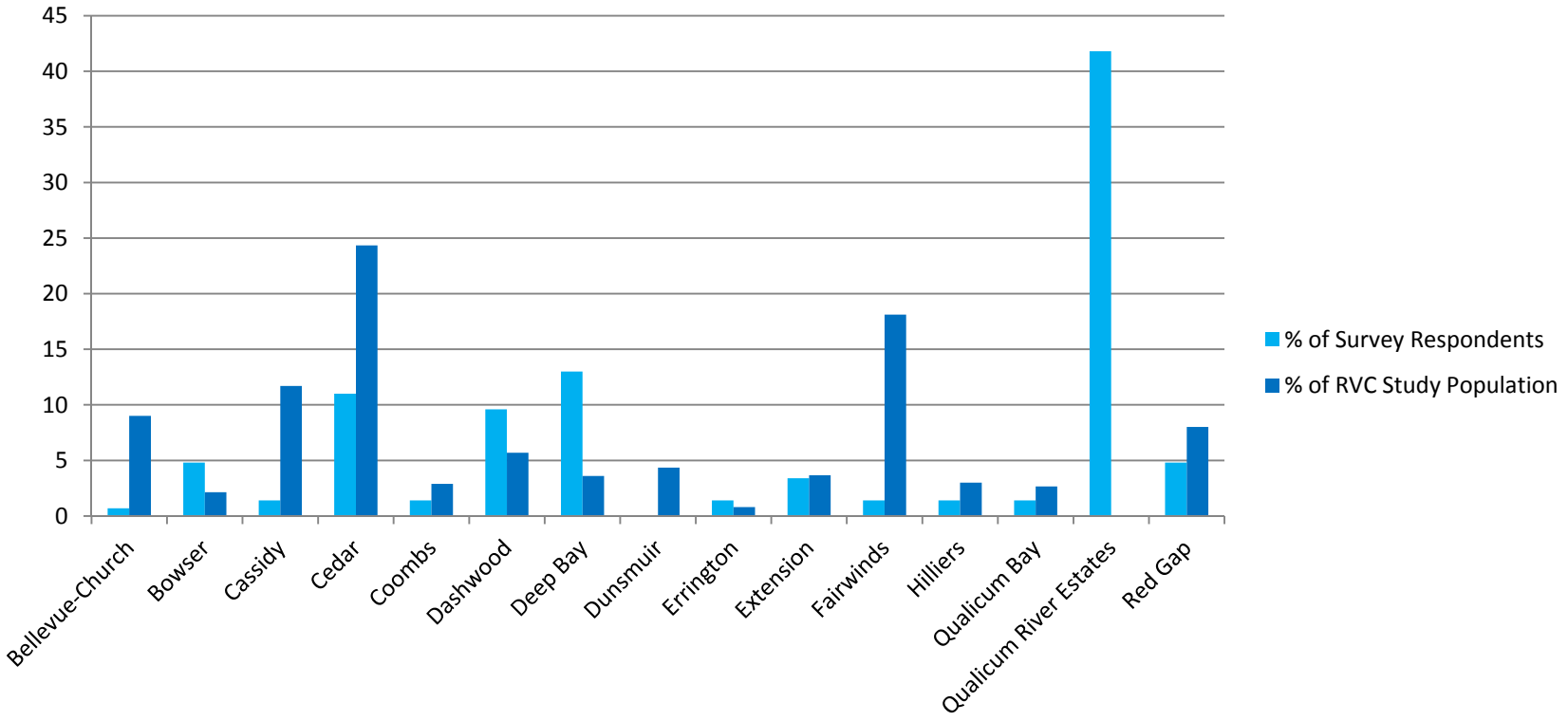
French Creek results are not included in this summary as only four respondents participated in the survey and the RVC is outside the scope of this study.

Only 10 respondents completed the visitor survey; as such, this input is not summarized or discussed here. An automated report that was generated from the on-line visitor survey has been submitted under separate cover to the RDN.

3.1 In which RVC do you live or live nearest to?

The overwhelming response came from Qualicum River Estates (i.e. 61 respondents or 41.8% of total respondents indicated that they live in or near this RVC), which is surprising given the relatively low attendance at the Public Open House and small population. There was a disproportionately high response from Dashwood, Deep Bay, and Bowser (relative to the total number of respondents), and an even more disproportionately low response from Bellevue-Church, Cassidy, Dunsmuir, and particularly Fairwinds.

Chart 1 - Survey Respondents and Relative Population by RVC



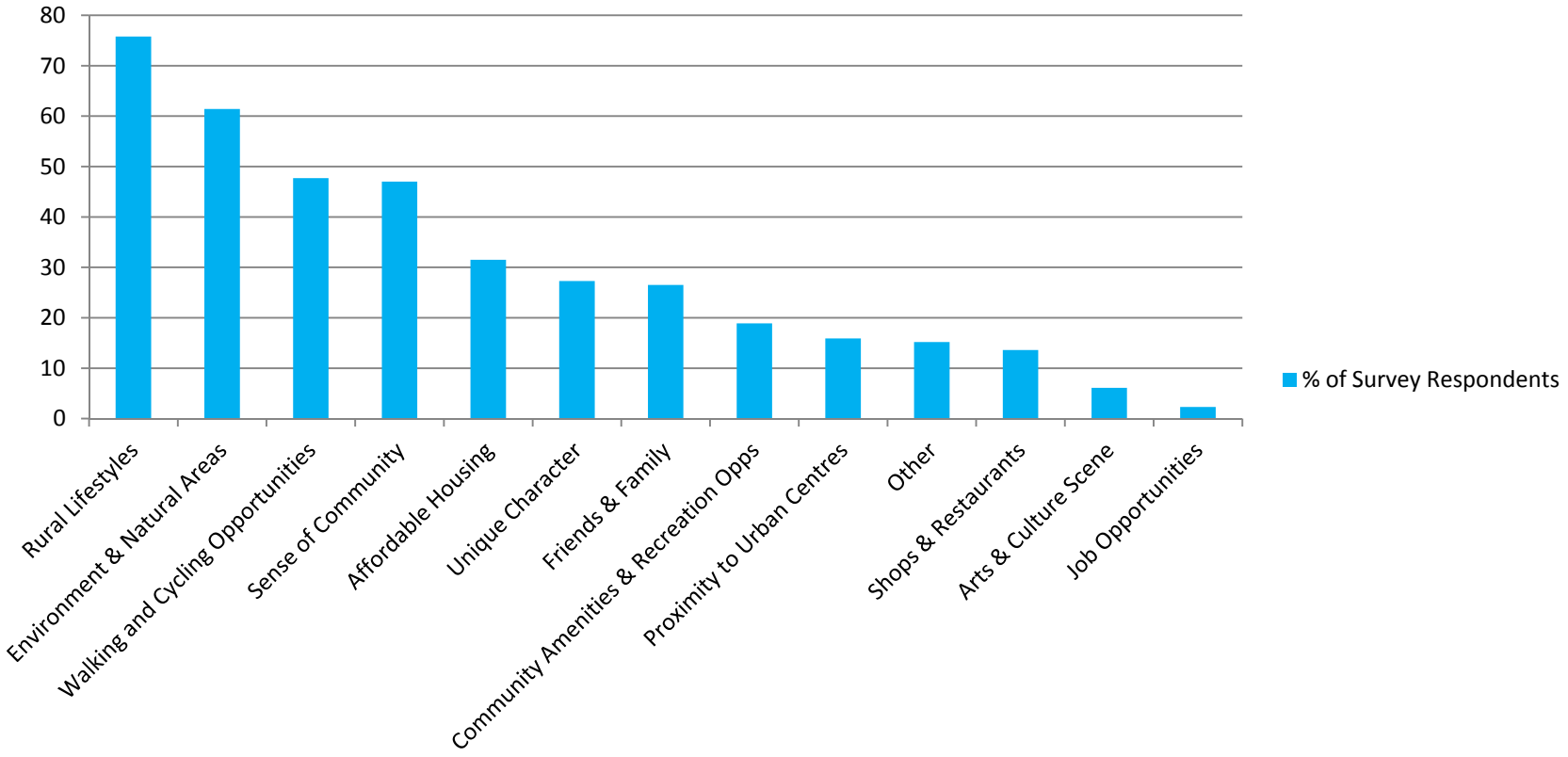
3.2 Think about what makes your RVC special. What do you most value about living in or near it?

Across the RVCs, well over half of respondents selected "rural lifestyles" and "environment and natural areas" as RVC characteristics that they most value. Chart 2 outlines the results.

Likewise, within each individual RVC – with the exception of Coombs (which only had two respondents) – "rural lifestyle" was identified as a top value. "Environment and natural areas" were also generally popular in all RVCs, with Bowser and Red Gap being the only two RVCs (excluding those receiving five or fewer responses) with fewer than 50% of respondents identifying it as a top value.

Note: Respondents were asked to select their **top three values** for this question, as well as others with multiple options.

Chart 2 – Overall Values



Other emergent themes from individual RVCs that are not captured in Chart 2 include the following relative emphases (i.e. where "greater" refers to a significantly higher response rate, and where "weaker" refers to a significantly lower response rate, relative to Chart 2):

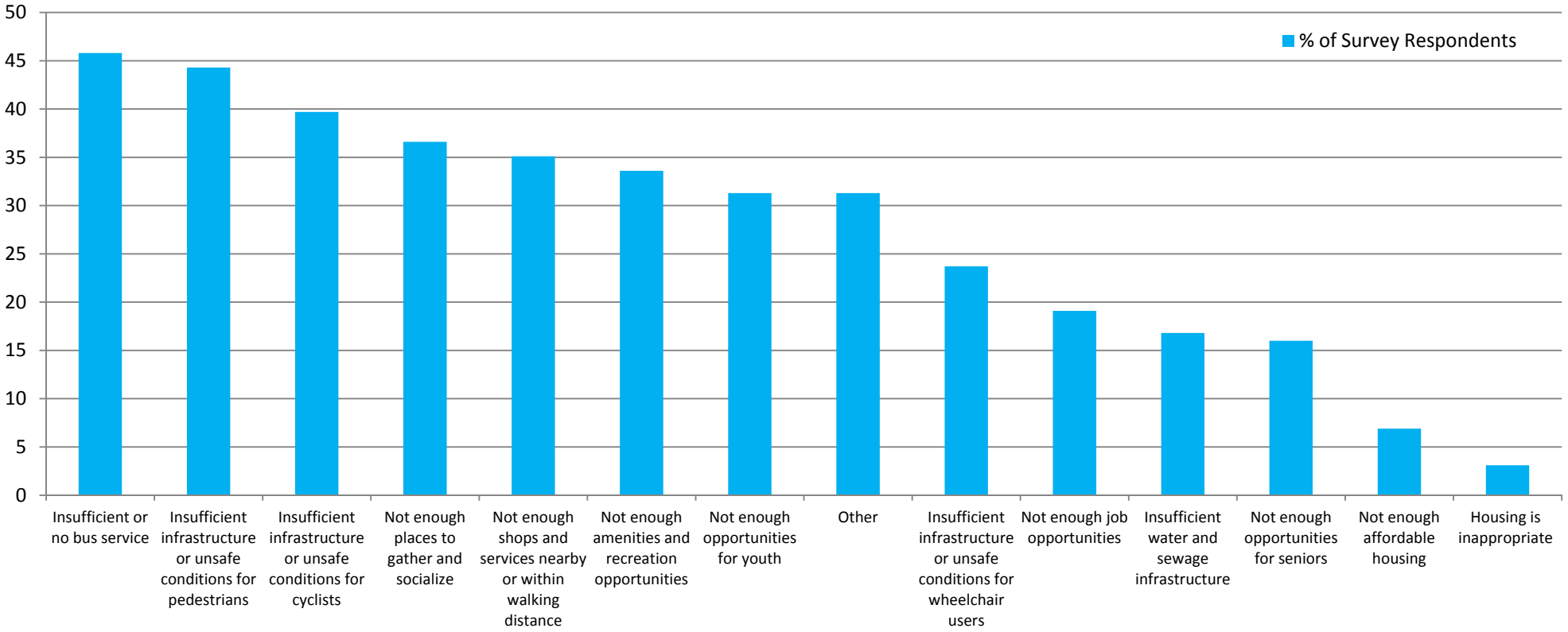
- Bowser – Sense of Community (greater) and Affordable Housing (weaker);
- Cedar – Proximity to Urban Centres (greater);
- Dashwood – Friends and Family (greater) and Shops and Restaurants (weaker);
- Deep Bay – Friends and Family (weaker);
- Extension – Community Amenities and Recreation Opportunities (weaker);
- Qualicum River Estates – Sense of Community (weaker), Affordable Housing (greater), Unique Character (weaker), Community Amenities and Recreation Opportunities (weaker), and Shops and Restaurants (weaker); and
- Red Gap – Walking and Cycling Opportunities (weaker), Affordable Housing (weaker), Friends and Family (greater), and Proximity to Urban Centres (greater).

3.3 Think about what is missing in the RVC where you live or live nearby. How are your needs not being met?

While the responses are more evenly dispersed across survey options than in the previous question, the majority of responses focus on: insufficient transit service; insufficient infrastructure for active-modes of transportation; and a lack of destinations for socializing, shopping, recreating, and accessing services. Chart 3 presents these results.

Within specific RVCs, responses usually align with local available services within the RVC. For example, there were proportionately more responses identifying social gathering places and transit service as being unmet needs in Dashwood and Extension. Conversely, there were fewer such responses in Cedar and Red Gap.

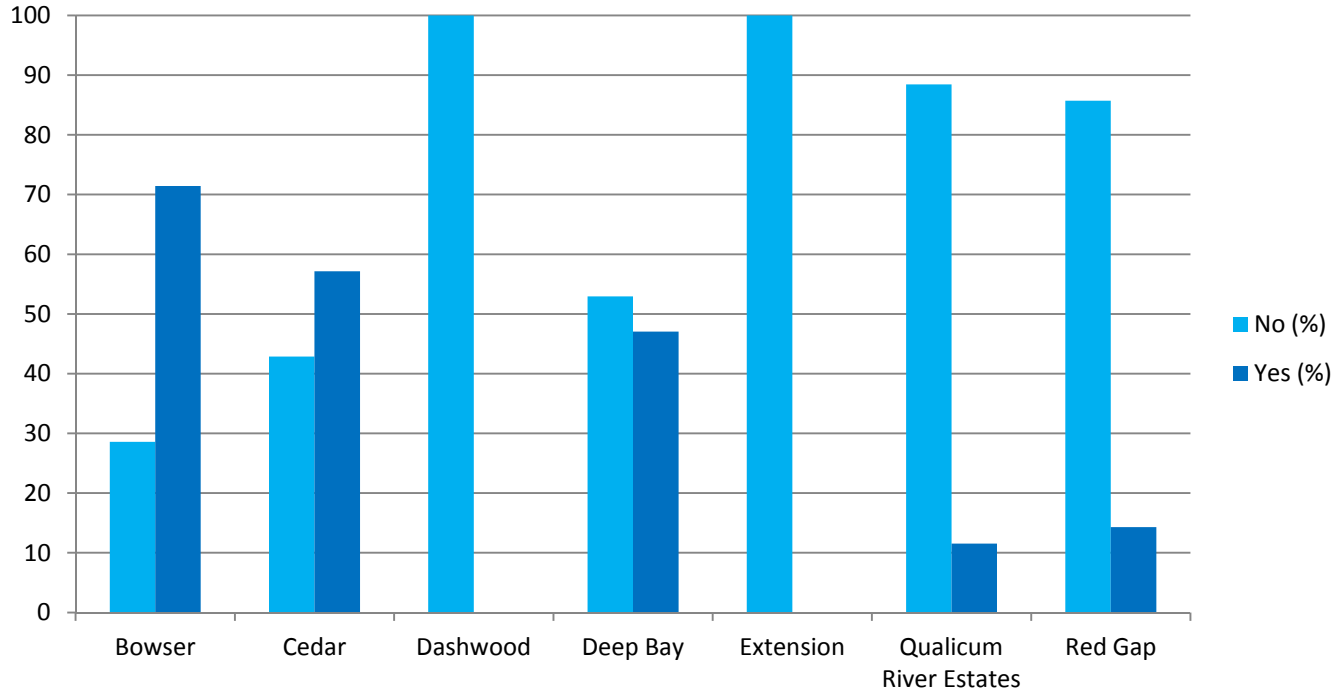
Chart 3 – Overall Unmet Needs



3.4 Think about the places you visit that don't include work or school. This includes destinations where you meet your weekly needs and participate in cultural and recreational activities. Are they primarily in the RVC where you live or live nearby?

Chart 4 identifies responses to this question by RVC. (RVCs receiving fewer than three responses are not included.) Approximately half or more than half of respondents who indicate that they meet their weekly needs locally live in or near Bowser, Cedar, and Deep Bay. Most respondents do not meet their weekly needs in RVCs, particularly in Dashwood and Extension, which generally aligns with the availability of non-residential destinations and services.

Chart 4 – Meeting Weekly Needs within RVCs



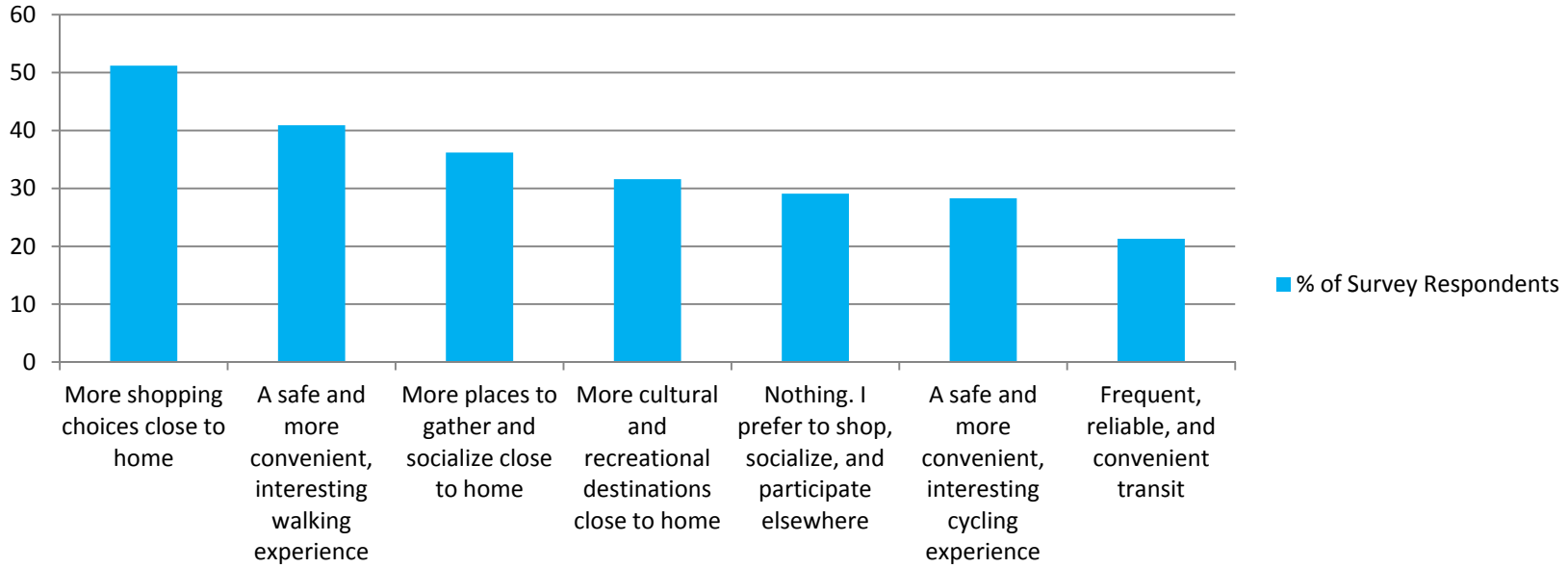
3.5 What would make you do more of your shopping, socializing, and recreating in the Rural Village Centre where you live or live nearby?

Chart 5 identifies responses to this question, in which there is an overall emphasis on the need for more destinations and services. Pedestrian infrastructure also ranks high.

Responses for individual RVCs do not necessarily align with existing availability of services or destinations, suggesting that even in those RVCs that already have services and destinations (e.g. shopping choices, gathering places, etc), there is a recognition that a greater amount of such amenities would serve to encourage more local shopping, socializing and recreating.

Respondents indicating that they prefer to shop, socialize, and participate elsewhere cite the main two reasons: a desire to see no change, including no commercial development; and satisfaction with visiting nearby urban centres.

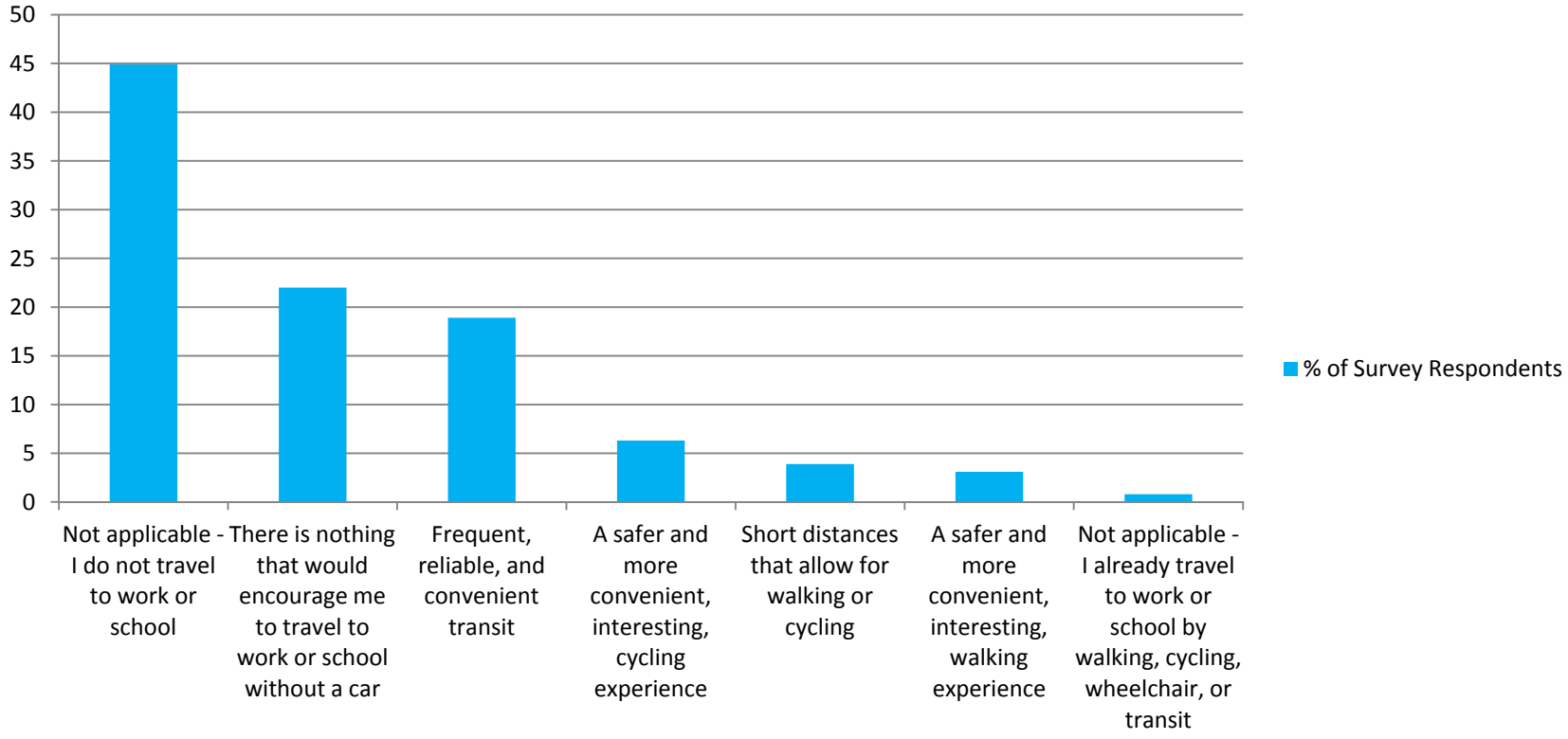
Chart 5 – Overall Potential Factors Encouraging Use of Local Destinations and Services



3.6 What would most encourage you to travel to work or school by means other than a car?

Chart 6 identifies responses to this question. This question is not applicable for 45% of respondents, who indicate that they are retired, not employed or not studying/training. The majority of the remaining respondents identify transit service and "nothing" as factors that would encourage them to travel to work or school by means other than a car.

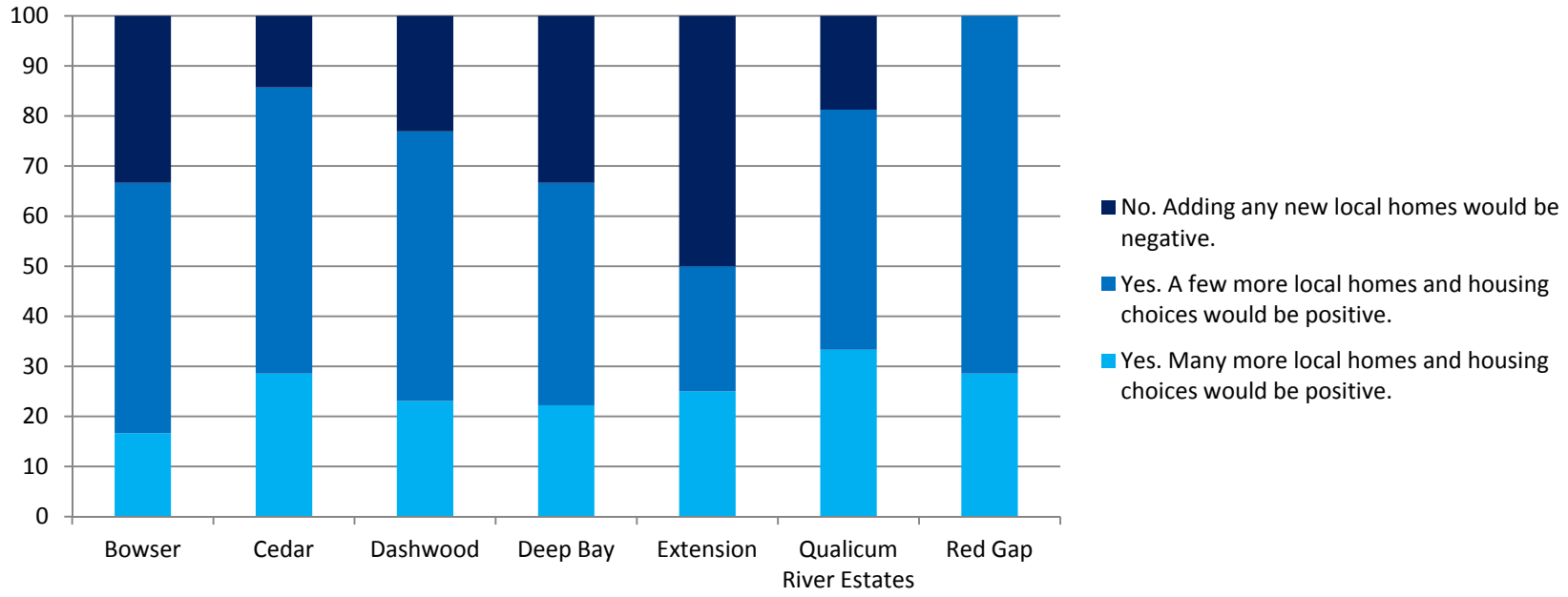
Chart 6 – Overall Potential Factors Encouraging Active Modes of Transportation (to work or school)



3.7 Would you like to see more residential development in the RVC where you live or live nearby?

Chart 7 indicates preferences for degree of residential development. In all the RVCs except for Extension, the majority of respondent think it would be positive to add either a few or many more local homes / housing choices.

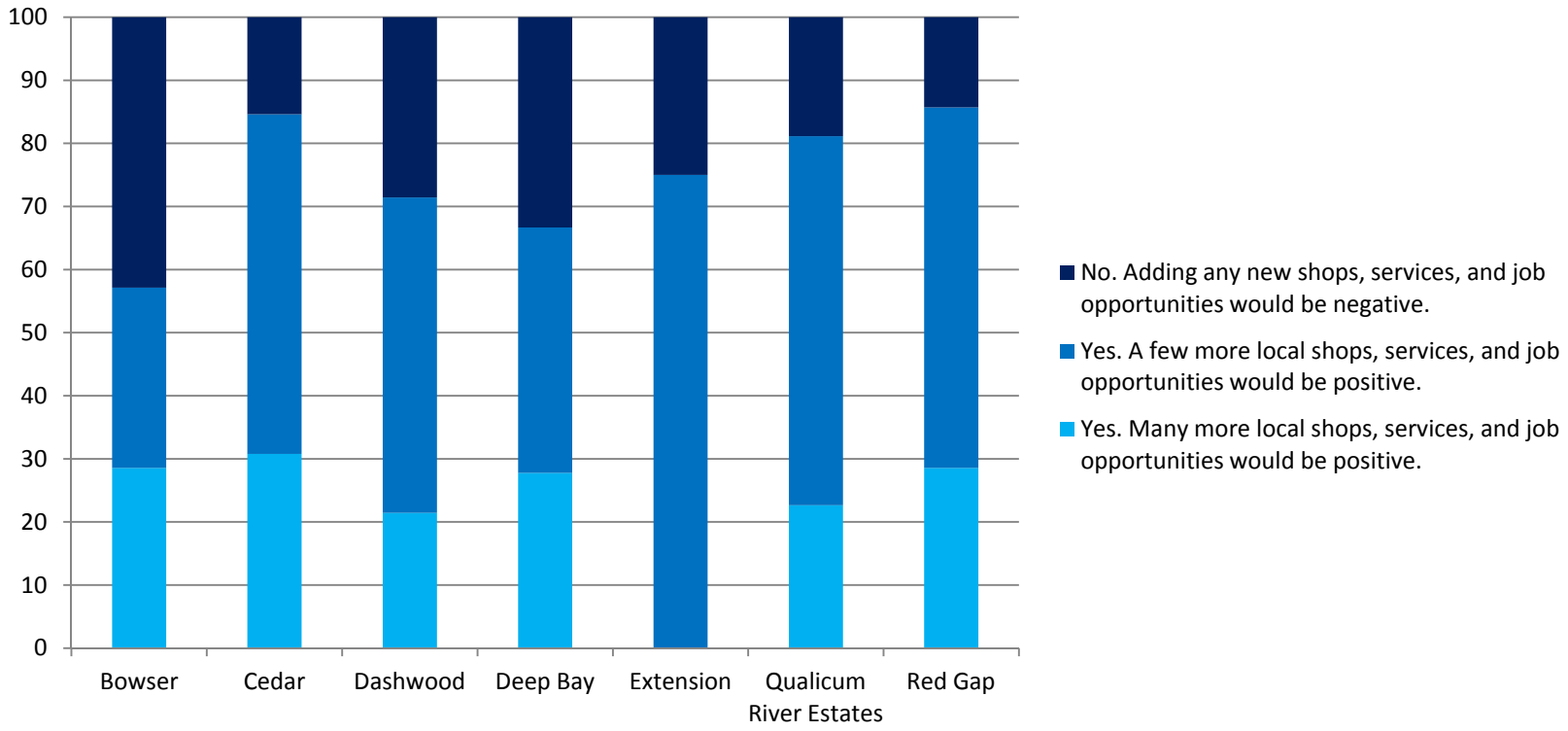
Chart 7 – Views on More Residential Development



3.8 Would you like to see more commercial or industrial development in the RVC where you live or live nearby?

Chart 8 indicates preferences for degree of commercial and industrial development. In all the RVCs, the majority of respondent think it would be positive to add either a few or many more local shops, services, and job opportunities.

Chart 8 – Views on More Commercial and Industrial Development



4. OPEN HOUSES

Six 3-hour open houses – one in each Electoral Area – were held in mid-June. In an effort to accommodate different levels of interest, the events were comprised of two components:

- A 1.5 hour discussion that began with a short presentation by the consulting team; and
- A 1.5-hour come-and-go / drop-in format that provided participants to review and comment on interactive panels/boards.

The turnout numbers greatly varied but were generally quite low. Attendance was:

- Extremely low (i.e. approximately 5 people or less) in Electoral Areas E, F, and G;
- Low to medium (i.e. between 12 and 15) in Electoral Areas A and C;
- Very high (i.e. approximately 85 people) in Electoral Area H.

This section offers a summary for each Electoral Area's Open House and, where there is sufficient input, a summary on specific RVCs.

4.1 Electoral Area A – Cassidy and Cedar

Approximately 15 participants attended both components of the open house. The following themes emerged from the interactive panels and discussion:

CEDAR

Interactive Panels

- *Values* – Top identified values around living in or near this RVC were: shops and services; unique character; rural lifestyle; and sense of community.
- *Meeting Needs and Desires* – Top identified options were: shops and services within walking distance; safe walking environment; and convenient transit access.
- *Becoming a Compact, Complete Community* – Top factors that were identified as preventing this RVC from becoming a compact, complete community include: lack of business interest (i.e. shops); insufficient transit; and cost of transit infrastructure.

CASSIDY

Interactive Panels

- *Values* – The top identified value around living in or near this RVC was: unique character.
- *Meeting Needs and Desires* – Top identified options were: amenities and recreation opportunities; job opportunities; and more appropriate housing (i.e. size, type, etc).
- *Becoming a Compact, Complete Community* – Top factors that were identified as preventing this RVC from becoming a compact, complete community include: not enough amenities; and not enough people.

CEDAR AND CASSIDY

Discussion

While the discussion was open to both Cedar and Cassidy, what follows are points from mainly Cedar residents and stakeholders:

- Priorities for the future include the following:
    - Enhanced pedestrian, cyclist, and riding/horse infrastructure;

- New services including restaurants and cafes, but particularly a pharmacy and community centre;
- A central gathering place;
- More frequent transit;
- Strong sense of community;
- Maintained Rural character (e.g. nature, quiet);
- Protection of the Agricultural Land Reserve (ALR); and
- Safety.

4.2 Electoral Area C – Extension

Approximately 12 participants attended both components of the open house. The following themes emerged from the interactive panels and discussion:

EXTENSION

Interactive Panels

- *Values* – Top identified values around living in or near this RVC were: rural lifestyle; sense of community; and friends and family.
- *Meeting Needs and Desires* – Top identified options were: convenient transit access; and more appropriate housing (i.e. size, type, etc).
- *Becoming a Compact, Complete Community* – Top factors that were identified as preventing this RVC from becoming a compact, complete community include: insufficient transit; and local desire for no change.

Discussion

- Priorities for the future include the following:
  - Provision of public transit;
  - A Farmer's Market;
  - Enhanced pedestrian and cycling infrastructure;
  - More opportunities for youth engagement;
  - Maintained rural character and lifestyle;
  - Strong sense of community; and
  - Access to nature.

4.3 Electoral Area E – Fairwinds and Red Gap

Approximately 5 participants attended the come-and-go/drop-in component of the open house. There was no presentation/discussion as there were no participants at the event at that time. The following themes emerged from the interactive panels:

FAIR WINDS

There was no specific input provided for Fairwinds.

RED GAP

Interactive Panels
Very minimal input was provided, with only one category receiving more than one "vote":

- *Meeting Needs and Desires* – Two dots identified the following: more appropriate housing (i.e. size, type, etc).
- *Other Comments* – A handful of comments were provided that indicated support for more residential development in Red Gap.

4.4 Electoral Area F – Bellevue-Church, Errington, Coombs, Hilliers, and Qualicum River Estates

Approximately 5 participants attended both components of the open house. With the exception of one "vote" for "a few more" shops in Errington, participants did not offer input on the interactive boards. The following themes emerged from and discussion, which was not specific to any particular RVC in Electoral Area F:

BELLEVUE-CHURCH, ERRINGTON, COOMBS, HILLIERS and QUALICUM RIVER ESTATES

Discussion

- The overarching theme of the discussion focused on the lack of applicability of the study to Electoral Area F. Two of the four participants felt strongly that the Electoral Area should have jurisdiction over itself, and that the Regional Growth Strategy was not appropriate for this area. They strongly opposed some of the characteristics of a "compact, complete" community identified by the RDN, noting that they are not appropriate for Electoral Area F, including transit service and small lots.
- The other two participants represented food and development stakeholders, and did not reside in Electoral Area F.

4.5 Electoral Area G – Dashwood

Approximately 5 participants attended one or both components of the open house. The following themes emerged from the interactive panels and discussion:

DASHWOOD

Interactive Panels

- *Values* – Top identified values around living in or near this RVC were: gas station/convenience store; community amenities and recreation opportunities; and friends and family.
- *Meeting Needs and Desires* – Top identified options were: convenient transit access; and more appropriate housing (i.e. size, type, etc).
- *Becoming a Compact, Complete Community* – Top factors that were identified as preventing this RVC from becoming a compact, complete community include: lack of business interest (i.e. shops); and physical barriers to growth.
- *Other Comments* – Other values include development of a village character and existing proximity to amenities.

Discussion

- A major point of discussion is the local desire to rethink the RVC boundary in order to permit additional development. This point was countered by another participant who likes the rural character of Dashwood and desires no change.
- Priorities for the future include the following:
    - A desire for the whole community to participate in future planning processes;
    - A strong sense of community and neighbourliness;
    - An increased number and variety of services;
    - Community connectivity (i.e. pedestrian connections); and
    - Safety.

4.6 Electoral Area H – Dunsmuir, Qualicum Bay, Bowser, Deep Bay

Approximately 85 participants attended both components of the open house. While it is not the objective of the study to weigh the merits of specific developments, most participant input was in response to the proposed master plan development in Deep Bay. The following themes emerged from the interactive panels and discussion:

DUNSMUIR

Interactive Panels

- *Values* – Top identified values around living in or near this RVC were: environment and natural areas; affordable housing; rural lifestyle; and walking and cycling opportunities.
- *Meeting Needs and Desires* – Top identified options were: safe cycling environment; amenities and recreation opportunities; convenient transit access; and affordable housing.
- *Becoming a Compact, Complete Community* – Top factors that were identified as preventing this RVC from becoming a compact, complete community include: insufficient transit; and not enough people.

QUALICUM BAY

Interactive Panels

- *Values* – The top identified values around living in or near this RVC were: unique character; rural lifestyle; sense of community; and walking and cycling opportunities.
- *Meeting Needs and Desires* – Top identified options were: water and sewage infrastructure; amenities and recreation opportunities; and convenient transit service.
- *Becoming a Compact, Complete Community* – Top factors that were identified as preventing this RVC from becoming a compact, complete community include: not enough services in general; not enough nearby jobs; and not enough people.
- *Other Comments* – A walk-in clinic would help meet local needs.

Discussion

- Priorities for the future include the following:
    - Low-density residences in a rural setting; and
    - Better sewage and water systems.

BOWSER

Interactive Panels

- *Values* – The top identified values around living in or near this RVC were: shops and services; environment and natural areas; and walking and cycling opportunities.
- *Meeting Needs and Desires* – Top identified options were: safe cycling environment; opportunities for seniors; and safe walking environment.
- *Becoming a Compact, Complete Community* – Top factors that were identified as preventing this RVC from becoming a compact, complete community include: Not enough services in general; local desire for no change; cost of sewage infrastructure; and insufficient transit.
- *Other Comments* – A pharmacy or medical services is strongly needed. Other barriers to becoming a compact, complete community include: unpredictability of zoning process and requirements; and walking paths to the village centre. There is concern about too many street lights.

Discussion

- Priorities for the future include the following:
    - Strong sense of community;
    - Historic centre, including a coffee shop and library; and
    - Maintaining a rural character.

DEEP BAY

Interactive Panels

- *Values* – The top identified values around living in or near this RVC were: rural lifestyle; unique character; sense of community; environment and natural areas; and walking and cycling opportunities.
- *Meeting Needs and Desires* – Top identified options were: safe cycling environment; water and sewage infrastructure; and safe walking environment.
- *Becoming a Compact, Complete Community* – Top factors that were identified as preventing this RVC from becoming a compact, complete community include: local desire for no change; cost of sewage infrastructure; and insufficient transit.
- *Other Comments* – Additional parking at the marina is needed. Interconnected pathways including waterfront access is needed. Zoning / a community plan is a barrier to becoming a compact, complete community.

Discussion

- Priorities for the future include the following:
    - Maintained rural, quiet character;
    - Strong marina; and
    - Strong sense of community.

DUNSMUIR, QUALICUM BAY, BOWSER, and DEEP BAY

Discussion

- Emergent concerns that are more general across the RVCs not already mentioned include:
    - Concerns regarding new development, particularly as it relates to cost, sewage infrastructure, sprawl and undesirable forms of growth, lack of amenities, and impacts on existing village centres.
    - Concerns about water management, including considerations for the elimination of septic systems, pollution control, aquifer protection, and maintaining the waterfront as an asset.

Interactive Panels

- **Would you like to see more residential development?** Chart 9 presents participant responses. Generally, respondents are open to seeing a "few" more residential units in their respective RVCs.
- **Would you like to see more commercial or industrial development?** Chart 10 presents participant responses. Generally, respondents are open to seeing a "few" more local shops, services, and jobs in their respective RVCs.
- *Note:* Charts were not developed for other Electoral Areas because input was so sparse or non-existent.

Chart 9 – Views on More Residential Development

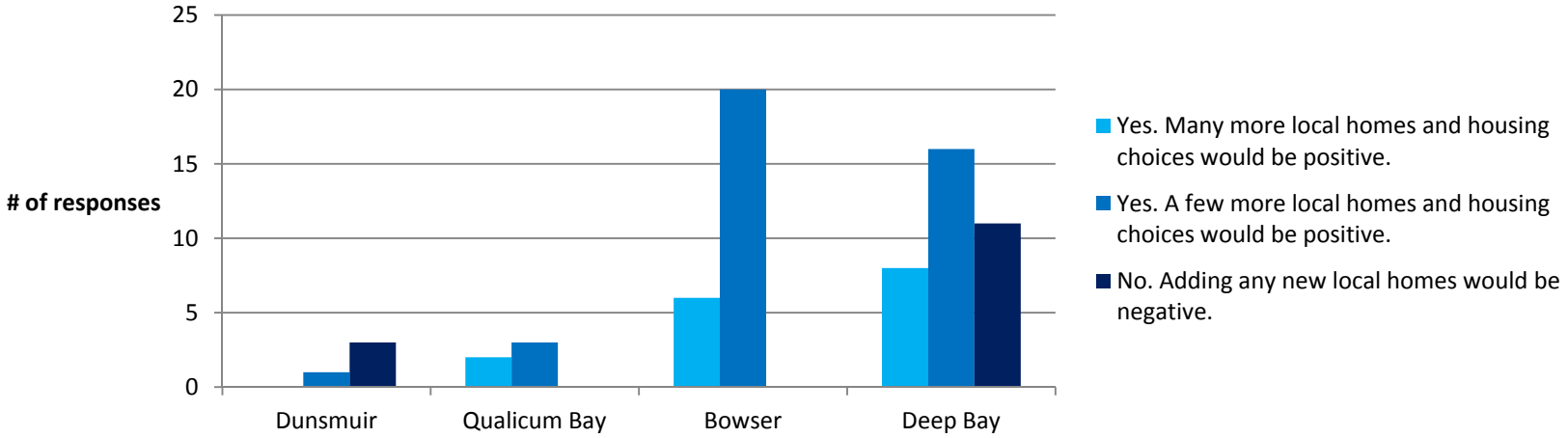
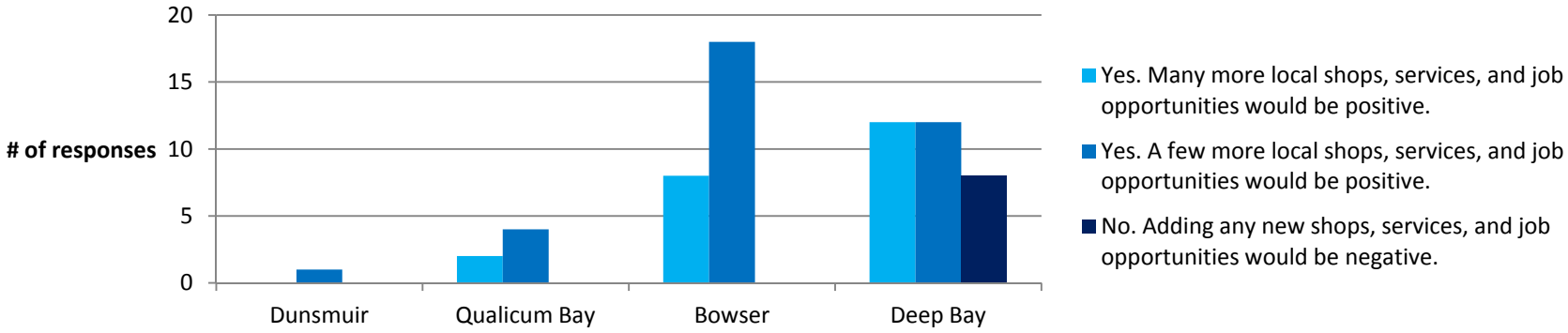


Chart 10 – Views on More Commercial and Industrial Development



5. ADDITIONAL CORRESPONDENCE

5.1 Deep Bay

Dozens of emails and letters were received by the RDN and/or consulting team pertaining to the proposed master planned community in Deep Bay. While several individuals and groups indicated opposition to the development at the Public Open House, the majority of emails and letters indicated support for the development.

Key points from messages supporting designation of Deep Bay as an RVC and/or the Baynes Sound Investment application are:

- 8 emails were received indicating support for Deep Bay in becoming an RVC, but offering no additional information.
- 7 emails or letters were received indicating support for Deep Bay in becoming an RVC. Key points are as follows:
    - Desire for more residents, services within walking distance, new amenities, diverse housing, development with appropriate character, and the possibility of infrastructure improvements, including the development new paths for pedestrians and cyclists;
    - Support for development (i.e. Baynes Sound Investment project specifically) that supports the local shellfish aquaculture industry, including considerations around water quality, stormwater management, friendly adjacent land uses, infrastructure, and opportunities to better accommodate growing tourism.
    - Support for Baynes Sound Investment and establishment of Deep Bay as an RVC (one email from the Vancouver Island University research station and a letter from the Office of the President) for the following reasons: benefits associated with shared development opportunities (i.e. roads, infrastructure, etc); the "leadership" demonstrated in the development application, which proposes uses that are reportedly more supportive of the marine ecosystems and shellfish industry; and an overall emphasis on the shellfish research station and more generally Deep Bay as a green destination for tourists, students, and others.
    - Concern that a "few very vocal individuals" dominated the discussion at the Open House, not permitting many residents to provide the input they hoped to offer.
- A submission was received that included 65 letters (from 40 residents and 25 others in Area H, according to the submission) supporting the Baynes Sound Investment application and/or establishment of Deep Bay as an RVC. The letters were collected by a resident in 2011 and submitted to the RDN at that time.

- A second submission was submitted to the RDN in 2011 supporting the Baynes Sound Investment application. It is a letter signed by 63 people: 39 residing within the Deep Bay peninsula area; 21 residing in parts of Electoral Area H; two residing in Electoral Area F; and one residing in Electoral Area G.

Key points from messages not supporting designation of Deep Bay as a RVC:

- 4 emails were received indicating:
  - support for the existing village node, and a desire to not have another one developed;
  - concern about increased traffic, competing businesses, insufficient parking, potential long term negative impacts on environmentally sensitive areas; and new development not fitting with the scale and character of Deep Bay; and
  - desire to avoid being urban.

A handful of other emails and letters were received offering other input. Key points include:

- A number other emails were received from two sources, indicating that information in the RDN *RVC Inventory* is incorrect and/or misleading. Concern was expressed that the *RVC Inventory* is slanted toward pro-development.
- There is concern from an agricultural landowner about intensive agricultural production on coastal waterfronts. There is desire to allow agricultural lands to be removed from the Agricultural Land Reserve.

5.2 Other RVCs

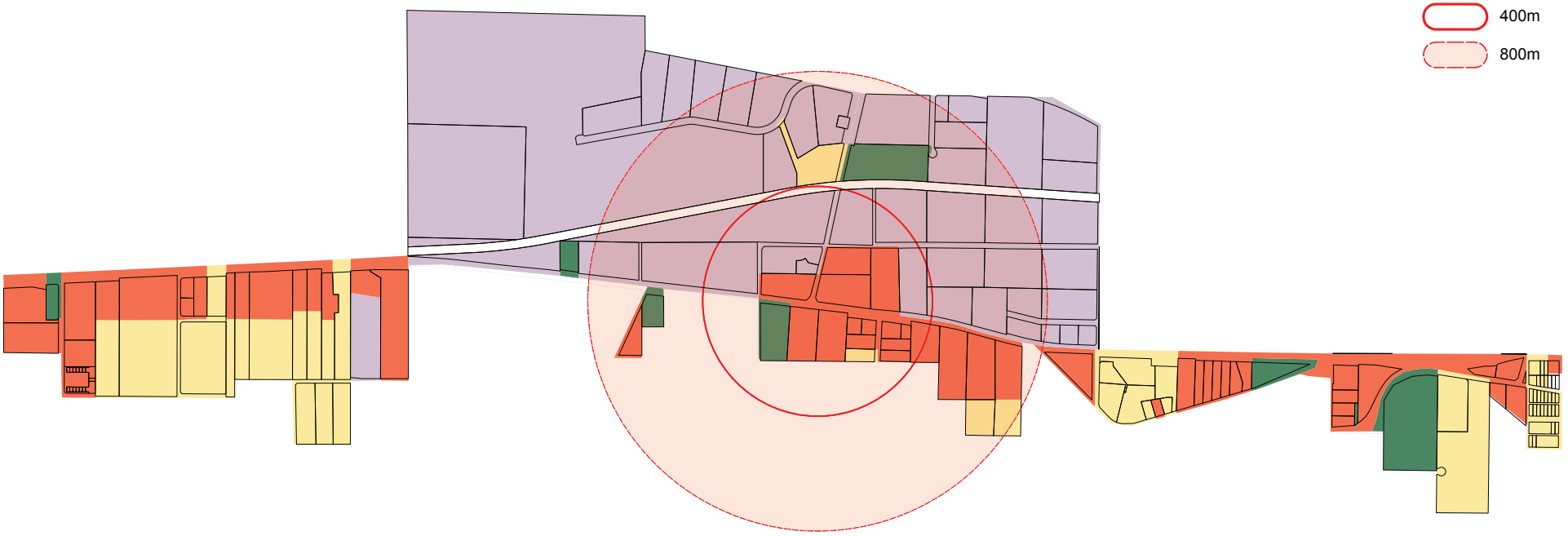
Two other emails were received pertaining to other RVCs:

- **Errington** – There was desire expressed to "invigorate the downtown area" through: a community recreation facility; increased speed limits; support for existing businesses and services; and support for enhanced and new services.
- **Coombs** – There is need for better collective marketing and the provision of water and septic infrastructure to support this "tourist gem".
- **Dunsmuir, Extension, and Qualicum Bay** – It was indicated that these are not practical or sensible options for RVCs for reasons including: watercourses need to be protected and the basic Riparian Area Regulations are insufficient; some RVCs do not have a rural village character (i.e. Fairwinds looks more like a wealthy suburb); there are vulnerable aquifers and a lack of sewer infrastructure; there are environmentally sensitive and hazardous areas; and there is a need to focus resources on specific RVCs such as Bowser.

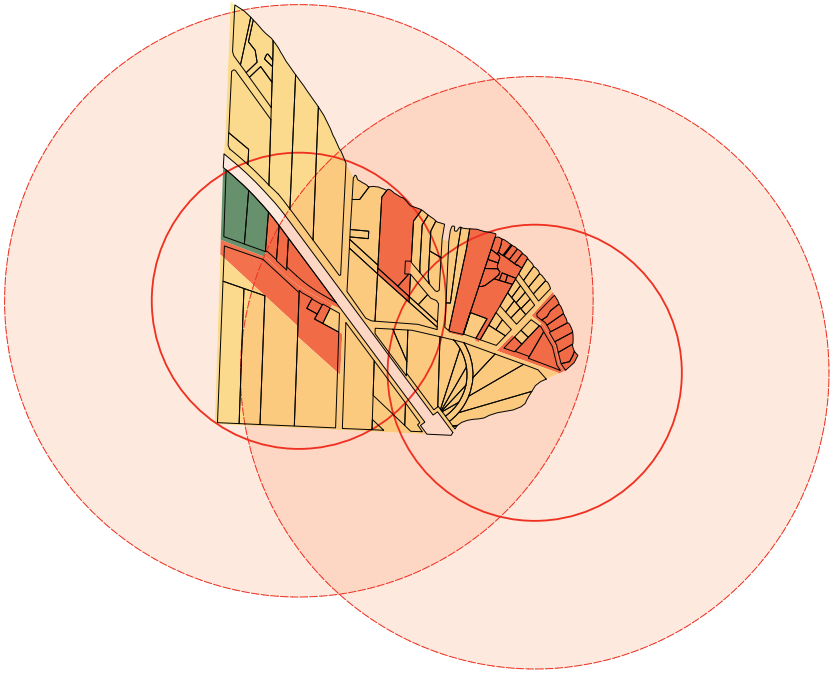
RVC and SA CENTRALITY MAPS

with 5-minute (400 meter) and 10-minute (800-meter) walksheds | crow fly distance

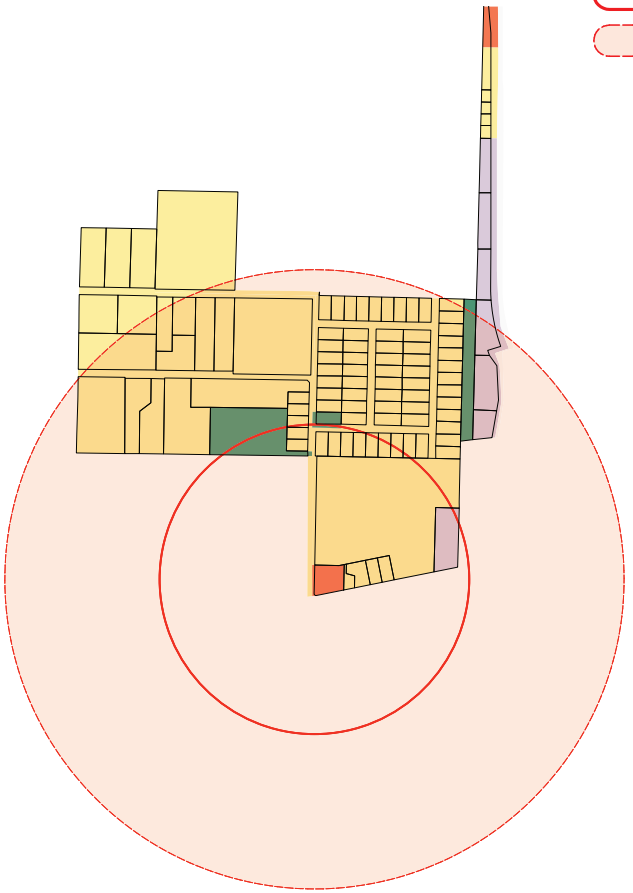
Bellevue-Church



Bowser



Cassidy



LEGEND

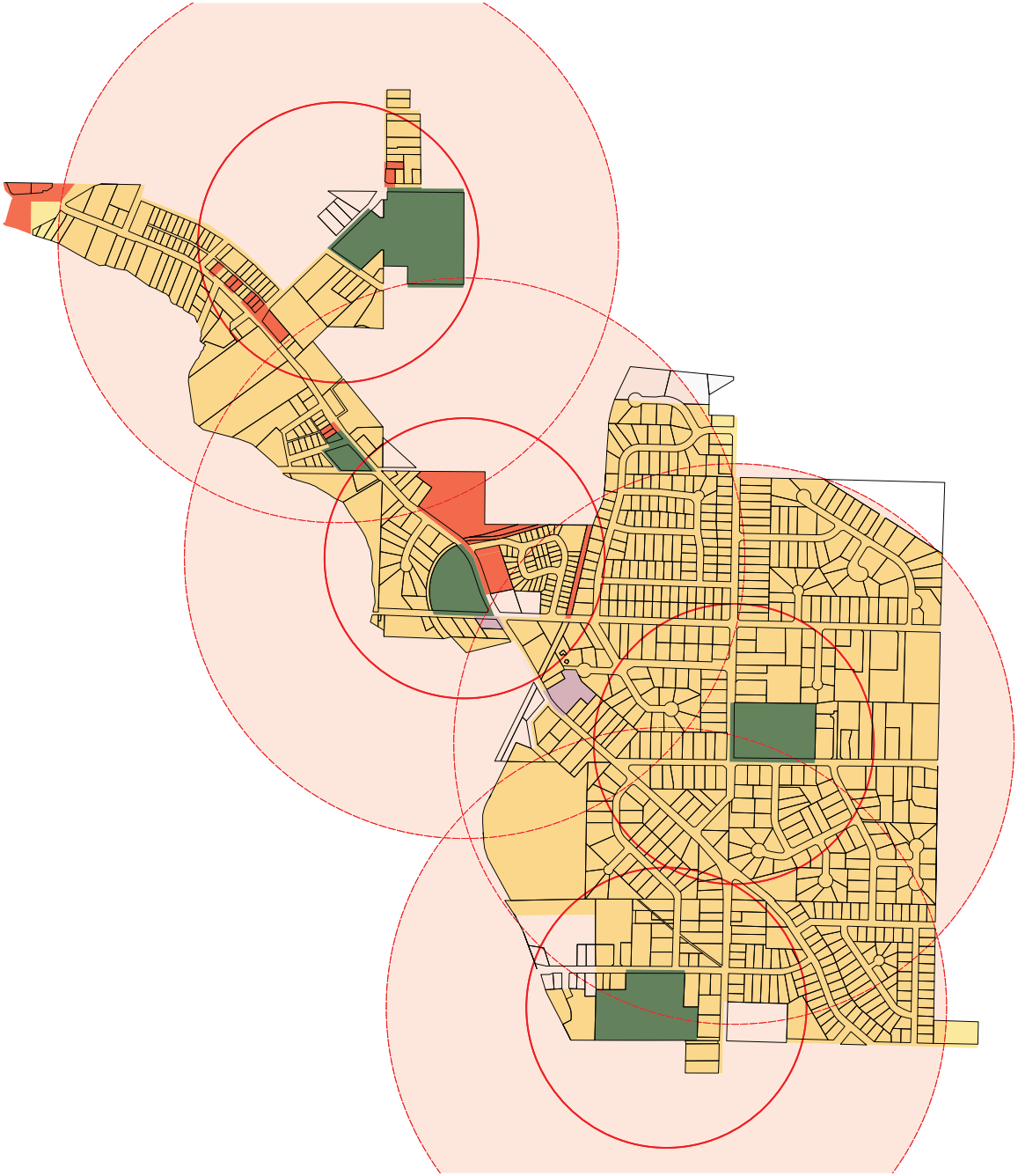
Zoning

- Residential
- Commercial
- Public
- Industrial
- Rural

Walksheds

- 400m
- 800m

Cedar



LEGEND

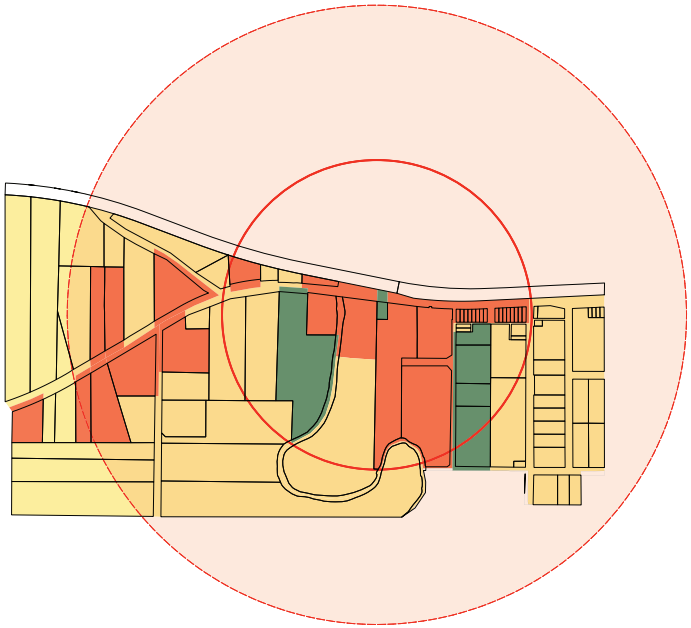
Zoning

- Residential
- Commercial
- Public
- Industrial
- Rural

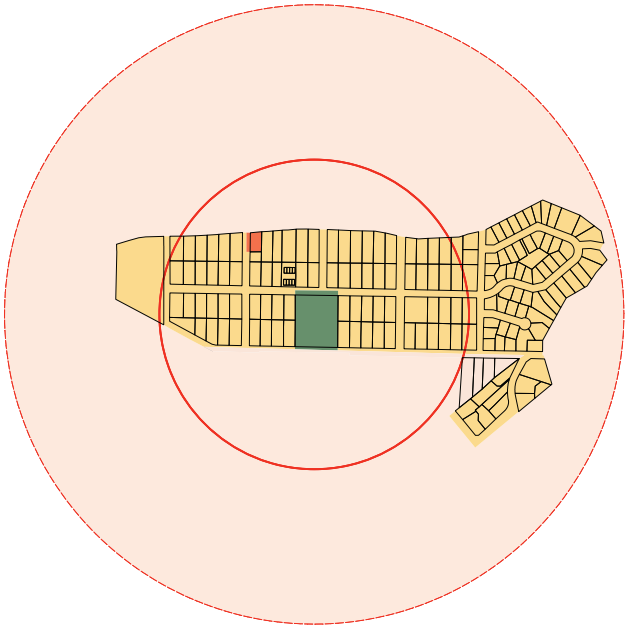
Walksheds

- 400m
- 800m

Coombs



Dashwood SA



LEGEND

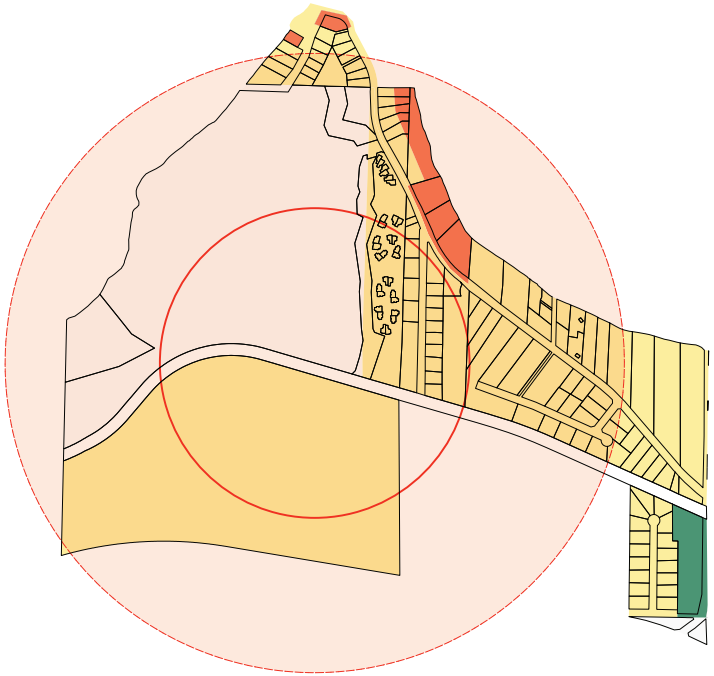
Zoning

- Residential
- Commercial
- Public
- Industrial
- Rural

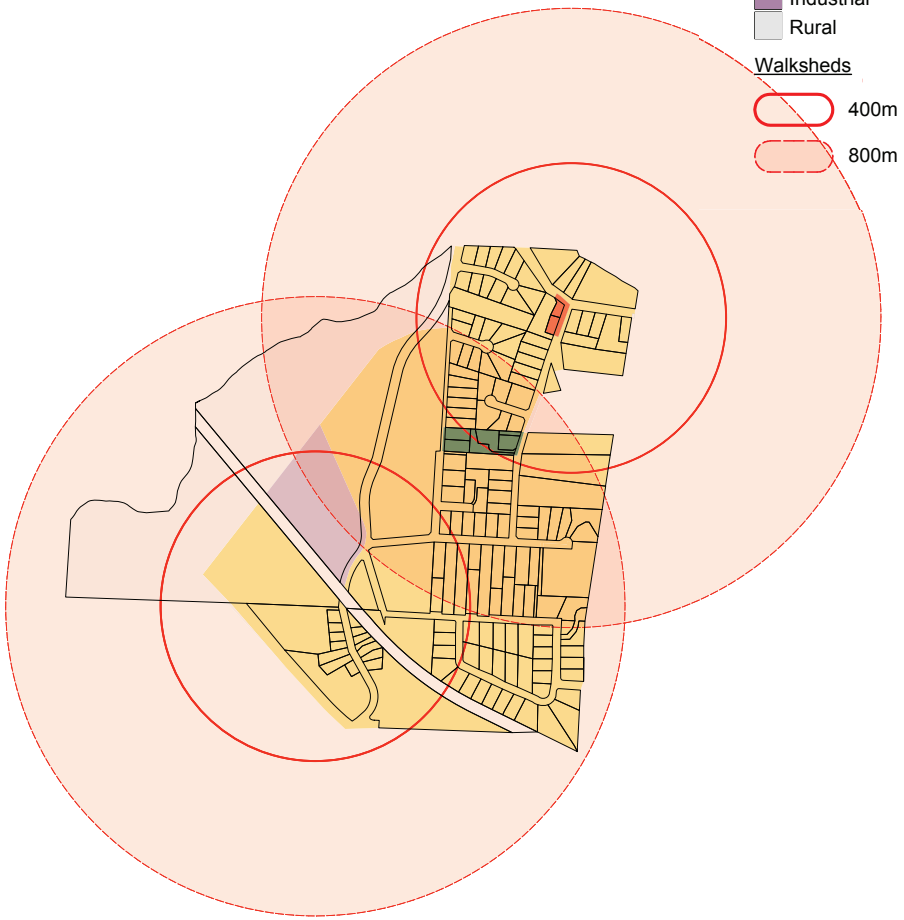
Walksheds

- 400m
- 800m

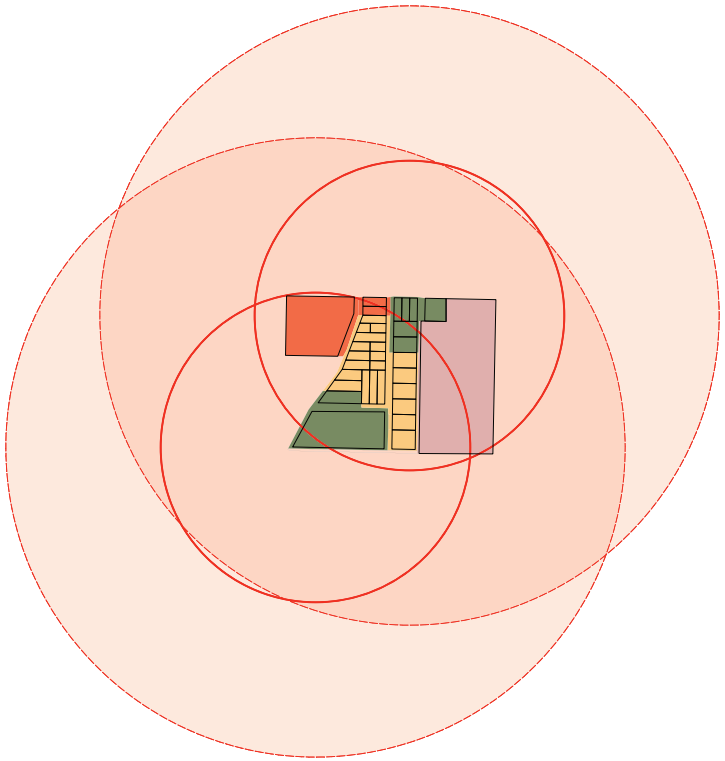
Deep Bay SA



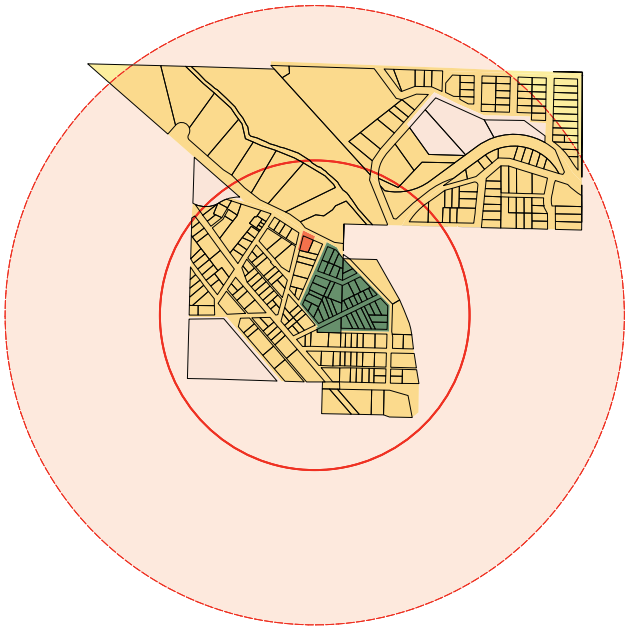
Dunsmuir



Errington



Extension



LEGEND

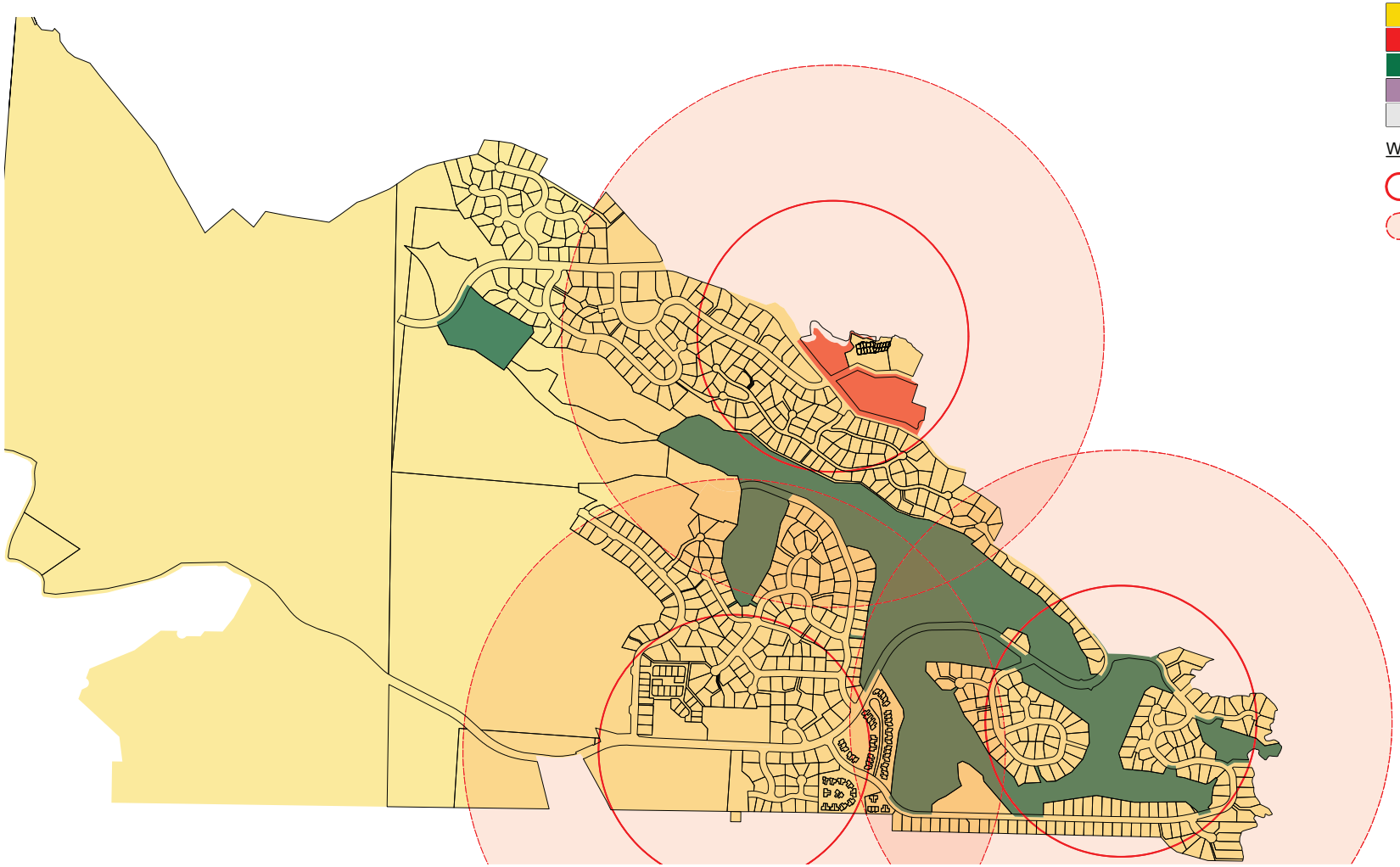
Zoning

- Residential
- Commercial
- Public
- Industrial
- Rural

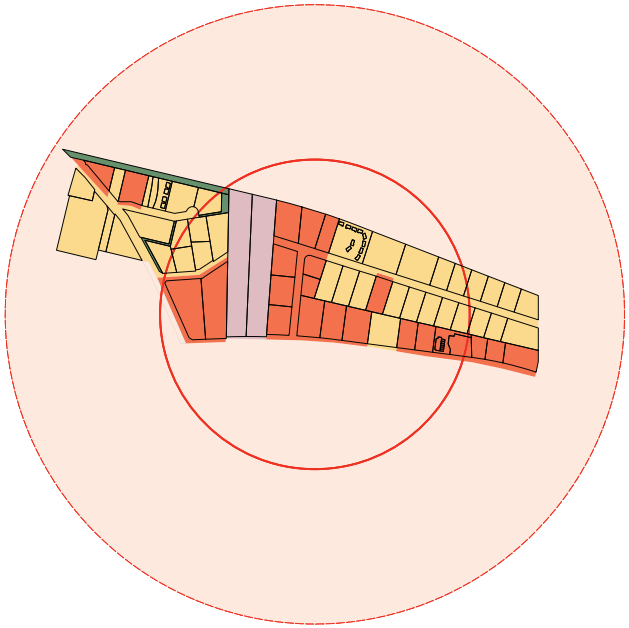
Walksheds

- 400m
- 800m

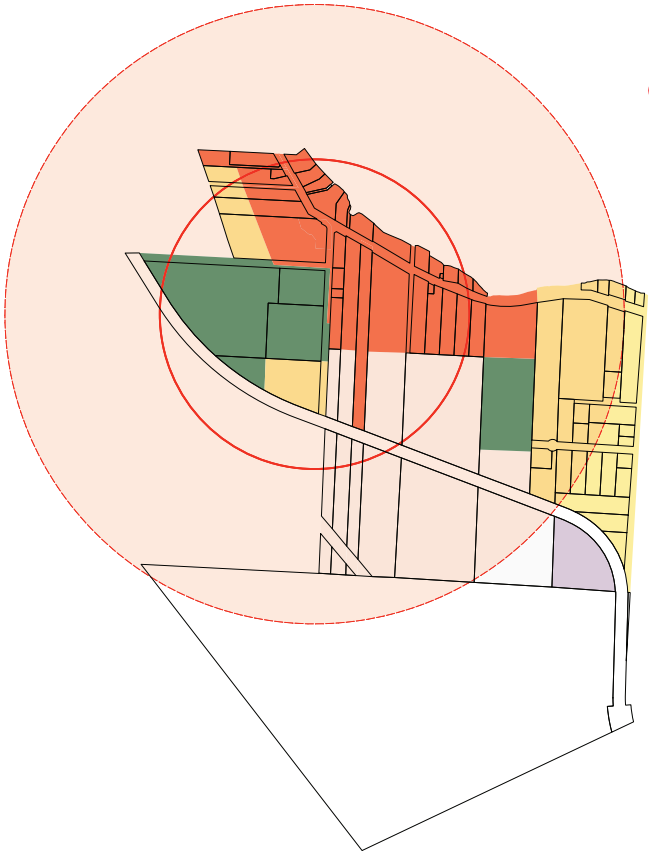
Fairwinds


LEGEND
Zoning
Residential
Commercial
Public
Industrial
Rural
Walksheds
400m
800m

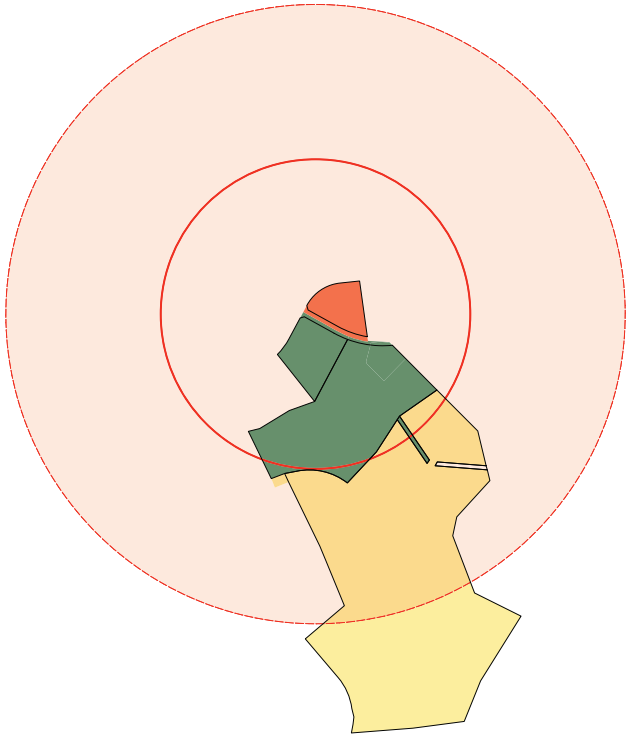
Hilliers



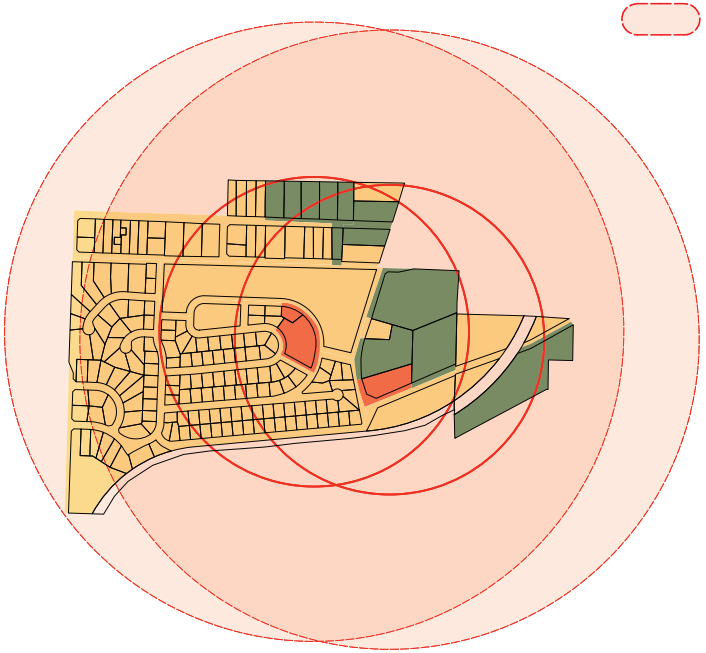
Qualicum Bay



Qualicum River Estates



Red Gap



LEGEND

Zoning

- Residential
- Commercial
- Public
- Industrial
- Rural

Walksheds

- 400m
- 800m

Appendix: Decentralized and Centralized Infrastructure Approaches

WASTEWATER

There are a number of concepts that can be followed as wastewater treatment systems depending on the population/settlement and soil conditions:

- Decentralized Approach – This involves an individual on-site system or a multiple-household on-site (i.e. cluster) system.
- Centralized Approach – This involves a municipal style standard system.
- Combined Approach – Centralized and decentralized concepts can be integrated for a combined approach.

Decentralized On-Site Treatment Systems

Decentralized options are individual and small multi-household soil-based treatment systems with surface discharge. Spaces with low overall property or low population density are adequate for individual on-site systems. The appropriate soil is also needed to facilitate treatment.

For multiple-household on-site systems, wastewater is collected from a small number of homes (two to several dozen) and transferred to a nearby site with adequate soil conditions to facilitate soil-based treatment and dispersal. This option offers lower capital investment costs.

On-site treatment methods for both individual and multiple-households are divided into two distinct categories: 1) Standard; and 2) Non-Standard.

Standard Systems (Type I Systems)

The reliable treatment of residential wastewater can be designed based on standard methods prescribed by codes. The standard systems must be installed in original soil with a minimum of three feet vertical separation to groundwater, bedrock, hardpan, or any restrictive layer. They also receive normal household strength wastewater with maximum effluent qualities of 220 mg// BOD, 65 mg/l TSS and 30 mg/l oil and grease. Standard systems include: 1) Septic tanks that separate the solids from the liquids and decompose organic solids; and 2) Soil treatment (drainfield) systems that destroy pathogens and remove nutrients.

Nonstandard or Alternative Systems (Type II and III Systems)

In order to meet individual site challenges such as high groundwater levels, small property sizes, or sensitive conditions, nonstandard designs can be applied in order to add to or replace components in a standard system. The nonstandard systems may be designed to give longer system life or meet other treatment objectives such as increased nitrogen removal. There are three categories: pre-treatment, final treatment, and dual systems.

Given the relatively small sizes of most RVC/SAs, it is likely that the most appropriate systems at this time are decentralized systems (i.e. rather than centralized systems). This could involve investments in upgrades to their current septic systems or in installations of multiple-household, on-site systems.

Centralized System Options

In centralized systems, wastewater is collected from many homes in a concentrated settlement and through a large network of popes that transfer the wastewater to a central treatment facility. There are several collection and treatment methods available. In many small communities, trickling filter technology, stabilization ponds, or oxidation ponds are very popular. The collection systems can be operated through gravity, force-main, pressure vacuum, or a combination of these to move the wastewater/sewage to a treatment facility.

The treatment involves separation of solids and biological decomposition of organic matter. Centralized wastewater treatment systems typically involve at least one of the give different stages noted below. In British Columbia, the majority of local governments that operate a centralized treatment system have either primary or secondary treatment systems. Few local governments have disinfection/tertiary/advanced treatment due to the high costs of these systems.

- Preliminary treatment – removal of large solids;
- Primary treatment – separation of organic and inorganic solids;
- Secondary treatment – biological decomposition of organic solids and reduction of pathogens;
- Disinfection – chemical or physical treatment of remaining pathogenic organisms; and
- Tertiary/advanced treatment – removal of additional nutrients or solids.

WATER

Water for RVC/SAs can be sourced from two main water sources:

1) Surface water, including lakes, ponds, rivers and streams; and

2) Groundwater, including aquifers, springs and underground streams.

Surface Water Systems

The Ministry of Health suggests using surface water only if there is no available safe ground water supply. The drinking water treatment system for surface water must include the following basic components: water intake, water line, pump house, pre-treatment, treatment, disinfection, storage, and access.

Groundwater Systems

In all RVCs, the groundwater is one of the main sources of drinking water. The following items must be taken into consideration to ensure the safety of the groundwater served to small communities: appropriately locating the well, as advised by an environmental health officer; and constructing a well that avoid contamination and ensures water quality. In general, groundwater is safer than surface water, and deeper groundwater is usually safer than shallow groundwater and it is less susceptible to contamination. Larger, deeper lakes also have more stable water quality than smaller lakes and streams.

Groundwater is suggested as a safe water supply for small communities by the Minister of Health, and is clearly one of the main sources of water supply for almost all of RVC/SAs. RVC/SAs such as Cassidy, Coombs, Errigton and Hilliers which currently don't have access to a community water system are in a more advantageous position to continue supplying their water from underground sources. However, a monitoring system over location, construction and disinfection of the wells should be adopted for future strategic growth in the region.