A Greenway System Approach to Developing A Linked Amenity Network in Rural Ontario

by

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ABSTRACT

A GREENWAY SYSTEM APPROACH TO DEVELOPING A LINKED AMENITY NETWORK IN RURAL ONTARIO

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As rural economies restructure due to a shift in demographic, social, and economic development, communities face significant challenges in promoting and encouraging continued economic growth. Rural communities are implementing tourism-based development strategies, marketing natural resources, culture, and history as amenity for creating tourist destinations. For many, tourism is seasonal and not a stable revitalization strategy. This study explores an integrative approach to greenway system design that supports a purposeful, amenity-linked network and quality of life attributes as a strategy for rural revitalization. A design framework was formulated from secondary data and then applied to a case study site. Key evaluators determined through selection criteria, provided an evaluation of the applied framework and design outcome. Results indicate how the application of an integrative landscape-based approach increases the attractiveness of rural communities to new residents, contributing to a revitalization strategy. Landscape architects can guide the future of rural landscapes towards heightening the quality of place and desirability of rural areas.
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Chapter 1 | Introduction

Overview

Rural communities throughout North America face significant challenges in promoting economic development and encouraging continued economic growth. The economy of the rural landscape began to change in the 1990s with the restructuring of the agricultural sector, loss of manufacturing and the loss of educated workers to large urban centers (Green, Deller, & Marcouiller, 2005; Stolarick, Denstedt, Donald, & Spencer, 2010). With an increase in telecommunications and other technology, individuals are able to choose their own place to live (Domon, 2011; McGranahan & Wojan, 2007), with many rural communities losing their citizens to large urban centers (Domon, 2011; Green et al., 2005; Stolarick et al., 2010). Large urban centers are home to post-secondary education centers, a wide variety of employment opportunities and social and cultural events, which draws the migration of rural persons (Government of Canada, 2015a).

A popular rural development strategy is in recreation and tourism due to the apparent ease of tourism to generate jobs and income and low investment requirements in labour training and infrastructure (Dissart & Marcouiller, 2005). Rural communities began marketing local natural resources, culture, and history as amenity towards creating tourist destinations (Dissart & Marcouiller, 2005; Fleischer & Felsenstein, 2000; Green et al., 2005; Stolarick et al., 2010; Wilson, Fesenmaier, Fesenmaier, & Van Es, 2001). This change in economic strategy has now found many communities in competition and for many, tourism is a seasonal entity and not a stable rural economic strategy.
Places with high quality of life and sense of place, diverse culture, and unique natural and built amenities are where people want to live. This attracts people, who then attract business and investment. Greenways are a means to preserve history, protect ecologically significant lands, educate the public and create a sense of stewardship while connecting diverse neighborhoods and strengthening sense of place. No twenty-first century urban area can do without a connected greenway amenity (Krummenacher, Swanstrom, & Tranel, 2008).

This thesis concentrates on identifying amenities and the specific attributes that attract amenity migrants and creative class workers to a specific area. By understanding the relationship between the two, purposeful-linkages can be designed and planned during the greenway system design process, thus adding a fourth element to the existing multi-objective greenway system and utilizing an amenity-linked network as a rural revitalization strategy.

**Goal and Objectives**

The goal of this research is:

- To explore an integrative approach to greenway system design that supports a purposeful amenity-linked network and quality of life attributes as a strategy towards rural revitalization.

The objectives of this study are to:

1. Investigate existing revitalization strategies by rural Ontario communities in general;
2. Identify amenity characteristics, quality of life attributes, and causes for amenity migration by reviewing the literature and investigate different aspects of a
greenway system and its potential contribution to the public realm by reviewing the literature;

3. Synthesize an assessment framework for amenity classification and preferred qualities-of-place;

4. Develop a design framework that synthesizes amenity and qualities-of-place to ensure the successful integration of a purposeful amenity linked network into a greenway system within the rural landscape;

5. Apply this design framework to a case study site in order to demonstrate the applicability of connecting amenity and qualities-of-place attributes into a multi-objective greenway, linking population centers at a regional scale;

6. Evaluate the design framework and conceptual design from a greenway, revitalization, land-based tourism and amenity perspective by conducting an expert evaluation;

7. Consider the applicability of the framework to other rural, small population centers.
Chapter 2 | Literature Review

Overview

The focus of this literature review is to gather information concerning four specific research categories (amenity, creative class and amenity migrants, government initiatives and policies, and greenway system design and purpose) conducted by various disciplines. The literature review will also define their relationship to quality of life and sense of place while investigating opportunities to integrate them into a holistic landscape approach applied to a rural community. This chapter provides context for the development of the research goal and guides the application of a greenway system to open space planning and design with the intention to accommodate amenity migration and the recruitment of the creative class as a rural revitalization strategy. This chapter also supports the synthesis of a design framework for the chosen case study site: United Counties of Leeds and Grenville.

The literature review is divided into four subsections: outlining the context and general background information of amenity migration and the current rural shift; exploring the reasons why people relocate; reviewing government revitalization initiatives and policies; and answering how the creation of a fourth zone in multi-objective greenway design can provide a landscape-based approach to revitalizing rural Ontario.

Amenity Migration and The Rural Shift

Since the 1990’s, rural communities across North America have been experiencing a shift in demographic, social, and economic development (Green, Deller, & Marcouiller, 2005; Stolarick, Denstedt, Donald, & Spencer, 2010), sometimes referred to as “rural restructuring” (Gosnell & Abrams, 2011, p. 303). “The combined processes of
political and economic restructuring resulted in declining economic activities in rural communities due to the restructuring of the agricultural sector, the loss of manufacturing and the exodus of young, educated workers to larger metropolitan centers” (Stolarick et al., 2010, p. 239). Economic restructuring represents a significant transition from production focused on the manufacturing industry and extraction of natural resources, to consumption of services provided by industry (Green, 2001). This transition has accelerated the loss of manufacturing and extraction jobs in rural areas over the past 30 years (Green, 2001). The agricultural sector’s restructuring has resulted in the movement from being a majority group in the rural environment to being a minority of rural to urban migration (Domon, 2011; Stolarick et al., 2010). The resulting impacts include the accelerated collapse of traditional rural life, distancing individuals from farm work and significantly modifying the foundations of contemporary rural landscape appreciation (Domon 2011). Finally, with the increased mobility of individuals who can choose where to live, rural areas are losing their young, educated citizens to large urban centers.

A large urban center is defined by Statistics Canada (2017) as an area with a population of 100,000 or greater. As of 2006, 41% of Ontario’s population is located in small urban population centers (1,000 to 29,999 population) and medium urban population centers (30,000 to 99,999 population) combined (Government of Canada, 2017a). Rural Ontario has multiple definitions, including:

- Any place that falls outside of a large urban population center (Statistics Canada, 2011) and has a population of less than 100,000 people and/ or have a population density of 100 people/km² or less (OMAFRA- Red Program, 2017);
- Community shares (low) density and/or (long) distance to density (Canadian Rural Revitalization Foundation, 2015);
- Rural postal codes (RPO)- postal codes which second character is “0” are serviced by rural route delivery (Canada Post, 2017).

For the purposes of this research, Rural Ontario is defined as:

Areas with modest density within commuting distance of a medium to large population center, in areas that have a mix of forest, open areas, undulating topography (McGranahan & Wojan, 2007) and agricultural fields, with large amounts of undeveloped land.

The restructuring of the agricultural sector, transition from manufacturing and extraction industries, and the loss of young, educated workers are three key factors that have created challenges for rural communities in their ability to promote economic growth. To counteract the decline of their local economies, many municipalities have turned to tourism as a primary rural development strategy due to the ease of job creation and income, its low labour training requirements and infrastructure investments (Dissart & Marcouiller, 2005; Fleischer & Felsenstein, 2000; Green et al., 2005; Stolarick et al., 2010; Wilson, Fesenmaier, Fesenmaier, & Van Es, 2001). Destination development can be contrived and designed, developed purposefully to attract people. It comes from a destination’s ability to produce goods and services and their ability to effectively marketing these offerings (Haugland, Ness, Grønseth, & Aarstad, 2011). The potential for a rural community as a tourist destination is realized through the development of local natural, culture, and heritage resources (Stolarick et al., 2010).

Most often, tourism is chosen to be an economic development tool due to the lack of available resources to fund new economic ventures and lack of alternatives to provide rural communities with a more sustainable goal for future development (Fleischer & Felsenstein, 2000; Stolarick et al., 2010). Although there are varying levels of success in using tourism as an economic strategy, rural communities seldom achieve the same success level, economic diversity, and self-sustaining momentum required for
a sustainable future (Fleischer & Felsenstein, 2000; Green et al., 2005; Stolarick et al., 2010). This is in part due to two factors: 1) the low wages which tourism industries pay their service sector workers and therefore incapable of supporting the wage level provided by the manufacturing and agricultural industries and 2) tourism, and its associated jobs, are often seasonal and therefore only produces profits during part of the year (Fleischer & Felsenstein, 2000; Stolarick et al., 2010).

However, opportunities do exist for sustainable economic renewal in rural communities. Rural communities' tourism strategies are often based on existing local resources such as nature, culture, and heritage - which are also classified as amenities. Deller et al. (2001) found that a positive relationship exists between land amenities, employment and population growth rates and those being reflective of the growth of tourism economies. Stolarick et al. (2010) state that today's tourists seek opportunities for authentic and unique experiences through culture, heritage, recreational activities, and natural landscapes. These local amenities have therefore become vital in rural revitalization in addition to the quality of education, health care, and infrastructure of the community.

**Quality of Life and Sense of Place - Why People Relocate**

Rural communities have been losing their young, educated workers to large urban centers due to increased opportunities and experiences elsewhere. The proportion of Canadians living in rural areas has declined steadily from 1921 through to the early 1970s (Government of Canada, 2015a). Since then, the decline has been less significant, becoming more stable with a rise of Canadians living in population centers (Government of Canada, 2015a). In 2011, Statistics Canada replaced the term urban area with population centre. A population centre is defined as an area with a minimum
population of 1,000 and a density of 400 or more people per square kilometre (Government of Canada, 2017a). Population centres are divided into 3 categories - small, medium and large, while rural areas remain as all areas outside of population centres. Table 1.0 illustrates the distribution of population size by population centre from the 2001 and 2006 censuses.

Table 2.1: Distribution of population size by population centre, 2001 and 2006 censuses
Source: Archived- From urban areas to population centres (Government of Canada, 2011)

<table>
<thead>
<tr>
<th>Number of population centres</th>
<th>2001</th>
<th>2006</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>count</td>
<td>%</td>
<td>count</td>
</tr>
<tr>
<td>Rural area</td>
<td>...</td>
<td>...</td>
<td>6,066,883</td>
</tr>
<tr>
<td>Small population centre (1,000 to 29,999)</td>
<td>836</td>
<td>812</td>
<td>3,049,780</td>
</tr>
<tr>
<td>Medium population centre (30,000 to 99,999)</td>
<td>48</td>
<td>54</td>
<td>2,448,150</td>
</tr>
<tr>
<td>Large urban population centre (100,000 or greater)</td>
<td>29</td>
<td>29</td>
<td>17,510,281</td>
</tr>
<tr>
<td>Total</td>
<td>913</td>
<td>895</td>
<td>30,007,094</td>
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Statistics Canada megatrend publication (2015) found that the age composition of the population differs significantly, with 32% of people aged 65 or older are living in small to medium population centres and rural areas as of 2011. A study on youth migration from 2009 to 2014 by the Rural Ontario Institute (ROI) found 26 of 27 non-metro census divisions (CDs) lost youth aged 15 to 19 and young adults aged 20-24 to migration (Bollman & Rural Ontario Institute, 2015). ROI also found, on a net basis, all non-metro CDs young adults 25-34 years of age are not returning (2015). Statistics Canada predicts that three factors contribute to the departure of young adults from rural areas: pursuing postsecondary studies, employment opportunities and social relationships (Government of Canada, 2015a).

Large urban centers are also home to well developed knowledge-based and high-technology industries and thus have discovered the importance of creative workers
to fuel their economic growth and prosperity (Stolarick et al., 2010). Richard Florida, in his book *The Rise of the Creative Class*, coined a new term “creative class” to describe the talent and creative people who help stimulate high-tech growth. The root of Florida’s theory is in acknowledging the occurring shift in economic growth from manufacturing to a creative age, stating regions must develop, attract, and retain talented and creative people who generate innovations, develop technology-intensive industries and power economic growth (Florida, 2004). His theory grew in popularity and had a significant impact on public planning and development initiatives throughout North American cities, including regions in Australia and Western Europe (Bille, 2010). “Florida promotes the idea that new business investment is attracted to locations that demonstrate a rich concentration of individuals from the creative class” (Stolarick et al., 2010, p. 240). In turn, creative class workers are attracted to the quality of life and sense of place that a community offers, including its local cultural, historical, and natural amenities and recreational opportunities (Bille, 2010; McGranahan & Wojan, 2007; Stolarick et al., 2010).

Quality of life and sense of place can be found in communities that are rich in natural, built, and cultural amenities. Amenities are broadly defined as qualities of a region that make a place attractive to live and work (Green et al., 2005; Green, 2001; Moss, 2006). Corney, Ives, & Bekessy (2015) states that, historically, amenity values have been a driving force for landscape quality and the preservation of nature since the 1800s. Amenity values are just now re-emerging as an influential aspect of environmental policy and management (Corney, Ives, & Bekessy, 2015). Recent studies (Chipeniuk, 2004, 2008; Corney, Ives, & Bekessy, 2015; Deller, Tsai, Marcouiller, & English, 2001; Dissart & Marcouiller, 2005; Gosnell & Abrams, 2011; Green, Deller, & Marcouiller, 2005; Green, 2001; Hellmund & Smith, 2006; Moss, 2006, 2008; Power, 2005) have been conducted on defining amenity and amenity values, examining the
supply and demand for natural amenities, exploring existing public policy and planning, and identifying the link between amenity and quality of life. These studies demonstrate that specific amenities and local characteristics have a profound effect in the relocation decisions of creative workers and amenity migrants. The studies additionally categorize amenity into three specific groups: natural, built, and cultural. Natural (also referred to as environmental) amenity characteristics tend to be intangible, such as land topography, water, climate, biodiversity, scenic views and environmental quality. Characteristics of built amenity include recreation infrastructure and parks. Cultural amenities can be tangible or intangible, with tangible characteristics being historical buildings, historic sites, and museums, while intangible characteristics can be the living culture of place, rural values, way of life, and behavioural traits.

Green (2001) discusses the value that individuals place on amenity, and how amenities are valued can vary considerably. First, individuals derive a direct physical use benefit, such as recreation and tourism. Secondly, some individuals do not require a direct use to derive some value in the amenity. Alternative reasons for how individuals may derive value from non-use include valuing the amenities simply existence, enjoying the possible opportunity for use, and ensuring that the amenity exists for future generations (Green, 2001).

It is these amenities that encourage amenity migration and economic renewal. Deller, Tsai, Marcouiller and English (2001) found that five amenity attributes (climate, land, developed recreation infrastructure, water, and winter) play a significant, positive role in regional economic growth. They found that climate strongly influences growth rates in population where American counties with higher levels of water amenities (variables included marinas, canoeing/rafting rentals/trips, diving/snorkeling instruction/tours, guide services, fishing, along with streams, water bodies, wetland acres, and rivers) were associated with higher levels of population and income growth.
Developed recreation infrastructure (variables including parks, playgrounds, recreation centers, public and private swimming pools and golf courses, greenway trails, etc.) and land (mountains, crop land, agriculture, forests and grasslands, parks, trails, and conservation areas, etc.) were found to be strongly associated with population, employment, and income growth rates. The winter recreation activity attribute was found to be positively related to growth rates in population, employment, and per capita income where demand for winter activities such as downhill and cross-country skiing, and/or snowmobiling will continue to increase (Deller et al., 2001). The same winter resources can be used during the off-season for activities such as mountain biking, hiking, and horseback riding; this result is one which rural areas can capitalize on by combining natural and developed resources to expand their local economy. Deller et al., (2001) conclude that a relationship between amenity, quality of life, and economic performance does exist. Furthermore, despite the changes brought by technology and modernization, our need for contact with the natural environment has not diminished (Corney et al., 2015).

This need for contact with nature and its link to human health and well-being has been extensively studied. Sensory perception (sight, sound, smell, taste, touch) all influence our feelings toward nature and can promote psychological restoration (Corney et al., 2015; Kaplan, 1989). Rural communities contain a wide range of these amenities and health benefits which aid in forming a positive quality of life that urban dwellers seek. “Amenity migration…is often linked with processes of “counter-urbanization”, a “rural rebound” and/or a “population turnaround””(Gosnell & Abrams, 2011, pp. 304–305). Amenity migration refers to the movement of people for pleasure, to places primarily because of their actual or perceived higher environmental quality and cultural differentiation, rather than economic reasons (Chipeniuk, 2004; Gosnell & Abrams, 2011; Green, 2001; Moss, 2008). Amenity migration has become an equal or greater
societal influence and is often confused with tourism (Moss, 2008). This phenomenon is contributing to the fundamental transformation of rural communities in developed regions around the world (Gosnell & Abrams, 2011).

People are placing greater value on natural resource-based amenities and related attributes that contribute to a regional quality of life, including “small town values”, as North America becomes more urban (Deller et al., 2001). Amenity migration can be interpreted as a reaction to the perceived stifling effects of suburbia (Gosnell & Abrams, 2011). Amenity migrants choose their destination based on the quality, location, and accessibility to a set of amenities (Chipeniuk, 2004; Gosnell & Abrams, 2011). Moss (1994, 2008) specifies two key motivators for amenity migration: a higher societal value for the natural environment and culture, and a greater appreciation for learning, spirituality, and leisure. When these amenity migrants move to rural communities they bring their incomes and savings, create jobs and businesses, and expand the existing social network (Chipeniuk, 2008). Gosnell & Abrams (2011) add how “amenity migrants’ patterns of social interaction, civic and political engagement, spending, investment, and land ownership and use have the potential to affect social dynamics in unique ways” (p.310) and influence the dynamic of rural communities.

Recognition of the role that quality of place, sense of place, and quality of life play in attracting and retaining educated workers is growing (Stolarick et al., 2010). Power (2005) discussed the supply and demand for natural amenities, exploring the connection between amenities and rural development. He found that amenities can stimulate the local economy which the existing economic base tends to ignore, and thus local amenities may attract workers which influences labour costs, which in turn creates attractive labor supply which draws economic activity. Green, Deller and Marcouiller (2005) corroborate this theory in their study, stating that economists have also found that amenities, both natural and recreational-related contribute to job growth. In a series of
studies, it has been found that amenity migrants are not the only group relocating to rural areas with a strong sense of place and quality of life. The creative class (Florida, 2002) are seeking lower-density environments with a higher quality of life, which leads to job growth and further in-migration (McGranahan & Wojan, 2007). Outdoor amenities play a significant role in attracting the creative class; Mcgranahan & Wojan (2007) corroborate these results with previous studies by Beyers and Lindahl (1996) and Goe (2002). They found that outdoor amenities are an important quality of life attribute for the creative class, stating that opportunities for an active lifestyle (running, cycling, rollerblading) and lifestyle amenities (parks, off-road trails, cycle lanes) are very important to the creative class. Therefore, initiatives that can increase outdoor recreation opportunities (pursued to increase tourism) should increase the local areas attractiveness to the creative class (McGranahan & Wojan, 2007).

Florida (2004) categorizes the creative class into two groups: the creative core and the creative professionals. The creative core are made up of scientists and engineers, university professors, poets and novelists, artists, entertainers, actors, designers and architects, nonfiction writers, analysts and other opinion makers, whereas the creative professionals work in a wide range of knowledge, from intensive industries such as high-tech sectors, financial services, legal and health care sectors, and business management (Florida, 2004). The creative core has the most creativity, defined by their creation of new forms or designs, which can improve future working practices and have a wide reach where the creative professional is defined by their work requiring a high level of education and is characterized as a problem-solver (Bille, 2010; Florida, 2004).

Bille (2010) found that Florida was not specific on the amenity requirements needed to attract and retain creative class workers. Therefore, her research purpose was to identify the creative class’s preferences for leisure and culture. Data was collected on cultural habitats of the Danish population and found that the creative class,
including the creative core and creative professionals, comprised approximately 1/3rd of the working population (Bille, 2010). The leisure activities found to attract the creative class are: attending contemporary concerts; visiting art museums and art exhibits; visiting cultural landscapes, engaging in regular sport and fitness, and use of the internet. The creative core comprises 13% of the creative class population and Bille (2010) found the following activities were attractive to them: creative self-expression; free, non-institutional fitness activities; literature and knowledge (visiting libraries); cultural heritage and history (museums, science and heritage centers, historic buildings and monuments); and attending classical concerts and theater. The appeal is for authentic venues and experiences with good conditions for creative self-expression within art forms (Billie, 2010). These forms of leisure are found within the natural, cultural, and built amenity infrastructure.

The appeal of natural amenities and associated recreational opportunities is sufficiently strong for many in the creative class to locate in rural areas rich in outdoor amenities and that this movement is associated with rural growth in employment and population migration (McGranahan & Wojan, 2007, p. 199).

Prince Edward County (PEC) is a rural municipality located outside a major urban center on Lake Ontario. PEC’s economic development office proudly promotes itself as an example of a successful rural creative economy. As a case study site, Stolarick et al., (2010) found that the County’s creative workforce was 24.5% of the entire population and was similar to other rural areas of the province. By 2006, PEC’s creative workforce grew to 30.9% by shifting its economic strategy to attracting the creative class. Tourists are drawn to the area by its combination of natural, cultural, and culinary amenities, and many of these same qualities used to attract tourists to the region are also used to attract the creative class who then become permanent residents, generating innovations, new ideas, and starting new businesses (Stolarick et al., 2010).
Places with high quality of place, diverse culture, and unique natural and built amenities are where people want to live. Quality of place attracts people, who then attract business and investment—therefore place matters.

Existing Government Revitalization Approach

Rural communities have been undergoing a ‘rural restructuring’ since the 1990’s. During this shift in the economy, many rural communities have turned to tourism to promote economic development (Dissart & Marcouiller, 2005; Fleischer & Felsenstein, 2000; Stolarick et al., 2010). In 2009, the Ministry of Tourism, Culture, and Sport released a report “Discovering Ontario: a report on the future of tourism”, from which 13 tourism regions were established by the Ministry (Ontario Ministry of Tourism, Culture, and Sport, n.d.) The regional tourism organization (RTO) is not-for-profit and operates independently while providing leadership and coordination to support competitive, sustainable, tourism regions (Ontario Ministry of Tourism, Culture, and Sport, n.d.). The aim is to create a combined voice within the tourism industry, resulting in increased visitor attraction, economic activity, and job creation across the province (Ontario Ministry of Tourism, Culture, and Sport, n.d.). With tourism becoming a competitive strategy, many towns, cities, regions and communities are competing with each other by promoting themselves as tourist destinations through their natural, cultural and historical amenities, and sense of place (Dissart & Marcouiller, 2005; Stolarick et al., 2010).

To stay competitive, communities need to be creative in identifying unique, authentic experiences to draw tourists, and need to be continually exploring options and be ready to act on developing these potential opportunities into successful new strategies to promote job growth and economic development (Stolarick et al., 2010). These unique experiences and amenities not only attract tourists; many studies have
been conducted to show how these amenities and authentic experiences improve quality of life, which attracts and retains creative class workers and amenity migrants. The current limitations of this new phenomenon is lack of collaborative planning and government mobilization at regional and provincial scales, lack of expanding and updating of existing policies, sustainable community development, and a clear language of amenity and amenity migration (Chipeniuk, 2004, 2008; Corney et al., 2015; Deller et al., 2001; Gosnell & Abrams, 2011; Green, 2001; Moss, 2008; Pratt, 2008; Stolarick et al., 2010).

In 2003 Chipeniuk (2004) conducted a qualitative study with planners and administrators of non-metropolitan mountain municipalities of British Columbia (B.C.) using an open-ended questionnaire to collect data on the municipal capacity to plan, promote, and manage amenity migration. The results showed amenity migrants choose destinations that provide convenient access to a set of amenities, many of which are located within other municipal jurisdictions. A pattern in planning also emerged, with the pattern being “one of no conscious amenity migration planning efforts in smaller and remote communities” (p.332). It was also found that planning and administration in the study communities appear to be performed by individuals who fully understand the problems and opportunities trends that amenity migration pose for local communities. Many villages and towns are too small to effectively conduct amenity migration planning strategies on their own, thus collaborative planning efforts are strongly suggested. “The amenity quality of landscape is destined to act as the main resource for rural areas development in the 21st century” (Domon, 2011, p. 339).

Currently, municipalities are encouraged by the government of Ontario to embrace an integrated planning approach through developing a regional cultural identity. Municipalities have been developing official, growth, environmental, and heritage plans along with economic development strategies as guided by funding opportunities.
Funding trends have further encouraged main street revitalization projects, downtown secondary plans and recreation and parks master plans, and now for municipal cultural plans and economic development strategies. These existing fragmented approaches provide short-term results but lack in broader, long-term results. Traditionally, arts and culture have been separated from economic development through silo funding. In the past, municipal responsibilities in culture were in supporting local cultural groups, facilities and planning for cultural programs. Now, a larger vision has been developed and involves the integration of cultural resources across all planning systems (Municipal Cultural Planning Incorporated, 2010). The “Three T’s”- technology, talent, tolerance Florida (2004)- define the conditions of success in the creative economy. The fourth T-Territory was recently added, signalling the critical role played by quality of place in attracting people, talent and investment (Municipal Cultural Planning Incorporated, 2010). Creativity and culture build local economies and many Ontario municipalities are embracing municipal cultural planning to support culture-led economic and community development due to the economic benefits and improved quality of life (Municipal Cultural Planning Incorporated, 2017).

In 2010, the Government of Ontario developed a Cultural Resource Mapping Guide for municipalities. Cultural resource mapping supports municipal cultural planning to identify and promote a community’s cultural resources, strengthen its management and integrate them into all facets of municipal government planning and decision making processes- integrated planning (Municipal Cultural Planning Incorporated, 2010). “Cultural resource mapping is a systematic approach to identifying, recording and classifying a community’s cultural resources in order to describe and visualize them” (Municipal Cultural Planning Incorporated, 2010, p. 7). The guide outlines eight key benefits to cultural resource mapping: identifies clusters, hubs, opportunities; leads to new ways of thinking and working; crystallizes community identity; makes the invisible
visible; is a great visual tool; identifies connections to city planning; creates baselines for benchmarking; and supports Municipal Cultural Planning. A Municipal Cultural Planning toolkit was developed in 2011 to provide municipal staff and Council with an introduction to this new approach, terminology, key concepts, practices and examples of successful case study sites who initiated the process. Two small rural communities partook as a case study developing and implementing a cultural plan - Orillia and Prince Edward County.

The City of Orillia completed and adopted a cultural plan in 2006 and included a mandate for a new Department of Culture and Heritage. The plan was developed by a steering committee of municipal and community representatives. Prince Edward County (PEC) completed their Cultural Strategic Plan in 2006. The plan was developed over an 18-month period and involved cultural mapping, community surveys, and a community engagement process (Municipal Cultural Planning Incorporated, 2011). PEC established a vision and strategic direction and mandated the establishment of a Cultural Roundtable. The Economic Developers Council of Ontario awarded this plan a top award in 2006. From 2006 to 2010, PEC showed significant economic development improvement and increased its attraction and retention of creative class workers as evident through the study conducted by Stolarick, Denstedt, Donald, & Spencer in 2010. The Prime Minister’s External Advisory Committee on cities and communities states “Canada’s cities will be models of environmental, economic, social, and cultural sustainability. They will build on their distinctive human, cultural, historical, and natural characteristics” (Municipal Cultural Planning Incorporated, 2011, p. 15).

Many rural communities are playing catch-up in developing the range of plans and infrastructure that many larger urban communities have today. The Rural Economic Development Program (RED) is providing support to rural Ontario to generate investment and create jobs while removing barriers to community economic
development (Ontario Ministry of Agriculture, Food, and Rural Affairs, n.d.). Current approved and funded projects in Eastern Ontario include two specific project types—Planning and Implementation. Within the subcategories, multiple approved projects fit within the subcategories of each section type. OMAFRA’s RED project approved 66 projects for funding in Eastern Ontario for 2017. Of those 66, 36.5% of the projects are within a county, 30.3% are for towns and township projects, 12.04% for municipality projects, and 15.15% for City and individual business projects, 4.5% of projects are for Villages and 1.51% for Ottawa Region. Many of the projects are categorized as Planning projects, with 20 projects focused on economic development strategies, business retention and expansion plans, and downtown revitalization plans. A limited number of these projects include cultural mapping, cultural plan development and/or tourism-related initiatives.

Charles Landry and Richard Florida’s work has brought the power of creativity and culture as a new economic driver in building local economies and strengthening quality of life to the forefront (Municipal Cultural Planning Incorporated, 2010). The new adage is “if we build communities where people want to live and work, business and investment follow people” (Municipal Cultural Planning Incorporated, 2017). Landry developed the creative cities index with Jonathan Hyams as a method for assessing cities holistically. He states “uncreative places decline and fail as they do not interrogate their past and present or reassess their resources and future prospects” (Landry, 2017). Landry continues stating cities are only creative if they display a culture, attitude, and a mindset open to imaginative thinking. A key outcome from his research was forcing a strategic conversation across disciplines and raising issues that would not have emerged if examined in a silo way. It encourages collaboration, and fosters a mutual learning process, reframing debates about the community’s future (Landry, 2017). As Florida has said, “The creative class makes up one third of the U.S. workforce, collects
half of all wages, yet accounts for 70% of discretionary spending. You cannot afford to miss them” (Florida, n.d.).

**Greenways and Revitalization**

The evolution and emergence of greenways as an urban landscape form exploded during the 1950-1990's. They became a response to the pressures of urbanization, both physically and psychologically (Searns, 1995), becoming a movement throughout the United States of America (U.S.A.) where over 500 greenway projects were completed or underway by the 1990's (Flink, 1993; Searns, 1995). Similarly, development of Canadian urban areas have been significantly affected by the role of greenways since the 1950's (Taylor, Paine, & FitzGibbon, 1995). “A greenway is a place, an amenity offering solace and opportunities for exploration and play” (Searns, 1995, p. 66). Greenways provide connections and foster movement for multiple functions, from providing open space for recreation and human access to protecting natural and cultural resources (Flink, Searns, & Schwarz, 1993). There are many differing perspectives and definitions for greenways. The President’s Commission on Americans Outdoors in the USA 1987 advocated for greenway networks that emphasized spatial connectivity, integrated functional networks, were multi-purpose, and linked rural and urban environments (Ahern, 2004). A comprehensive and inclusive definition has since been proposed by Ahern, based on a literature review, research and applied greenway planning experience in 1996:

Greenways are networks of land that are planned, designed and managed for multiple purposes including ecological, recreational, cultural, aesthetic, or other purposes compatible with the concept of sustainable land use. (Ahern, 1996, p. 35).

The size, shape, and length can range from a pathway connecting neighbourhoods to ‘mega-greenways’ that are hundreds of miles long and wide, putting people back in
touch with nature (Searns, 1995). The concept of the greenway is flexible, and its form and function diverse, thus providing its strength and attraction (Flink et al., 1993). Due to their linear nature, greenways can be woven into the existing urban fabric with minimal disruption (Searns, 1995).

The greenway has progressed over time as a response to development and urbanization (Fábos, 2004; Flink et al., 1993; Hellmund & Smith, 2006; Searns, 1995). Three distinct generations of greenways have being identified: Generation One (pre-1700s – 1960), Generation Two (1960-1985), and Generation Three (1985 and onward) (Searns, 1995). Generation One greenways are called ‘ancestral’ greenways, the first axes, boulevards, and parkways that linked urban space and evolved into corridors in an attempt to introduce nature into the city (Khalid, 2006; Searns, 1995). Generation two greenways provide trail access to riparian corridors, ridgelines, and railway beds and other linear parks that provided recreation-based activities and were predominately non-motorized (Khalid, 2006; Searns, 1995). Generation Three greenways are multi-objective, addressing wildlife and habitat preservation, flood control and damage reduction, improve water quality, preserve cultural resources, enhance urban areas, and provide recreation and educational opportunities (Khalid, 2006; Searns, 1995). Each generation of greenway advanced to include more objectives, becoming more complex then the previous (Searns, 1995). Three major categories seen overlapping within the multi-objective greenway are those with ecologically significant corridors and natural systems; recreational greenways with trails, scenic views, and proximity to water; and those with historic and cultural values (Fábos, 2004). The key characteristics of multi-objective greenways are linearity and connectivity. The configuration, pattern, connectivity and relationship of the greenway to the larger landscape context at multiple scales is extremely important (Ahern, 1995; Hellmund & Smith, 2006).

Greenways are a strategic planning approach, an element of urban design that
requires consideration within the design context and as a design element (Ahern, 1995; Hellmund & Smith, 2006). Greenways can cultivate a sense of community and provoke a sense of place (Hellmund & Smith, 2006). A combination of ecological, social, and cultural resources and a strong sense of place generates strong landscape integrity (Hellmund & Smith, 2006). Landscape integrity is to consider the ecological and social functions of the landscape, including its overall quality and health (Hellmund & Smith, 2006). History, culture, and recreation are examples of social resources which contribute to a strong sense of place (Hellmund & Smith, 2006). Generation Three greenways are highlighting an areas culture and heritage through historic preservation while strengthening a communities quality of life by providing access to nature through trail corridors (Fábos, 2004; 1995; Searns, 1995; Shafer, Scott, & Mixon, 2000). Multi-objective greenways can preserve history, educate the public, and create a sense of stewardship for the land by crossing ethnic, cultural and class lines (Searns, 1995). Properly designed and managed greenways can tie diverse neighbourhoods together and deepen people’s sense of community (Hellmund & Smith, 2006). Connected greenways are increasingly seen as the amenity that no community can do without (Krummenacher, Swanstrom & Tranel, 2008). They provide social, health, environmental, and economic benefits, combining to generate a strong quality of life and sense of place.

A response to changing recreational patterns resulted in the rise of regional greenways as more people are adopting active lifestyles involving hiking, jogging, bicycling, inline skating, and cross-country skiing (Krummenacher et al., 2008). These informal passive activities are the main reason people visit green space (Swanwick, Dunnett, & Woolley, 2003a). Creative workers desire easy access to recreation to recharge their batteries after working intensely for long hours, requiring parks or trails nearby (Florida, Mellander, & Stolarick, 2009). As of 2013, 85% of Canadian households
live close to a park or greenspace which they visited at least once a year. Seventy-two percent of Canadian households reported someone within the household participated in outdoor activities close to home, where walking was the most frequently reported activity at 54% and bicycling at 22%. Eighteen percent of Canadian households engaged in unpaid activities aimed at conservation or protecting the environment or wildlife (Government of Canada, 2015b). Twenty-nine percent of Canadians are 60 years or older as of 2016, with 14.5% falling between 50-60 years of age (Government of Canada, 2017b). Within 10 years, 50% of the Canadian population will be seniors. In the 2016 census, it was found in households 45 years of age and older prefer passive activities such as walking, bicycling, jogging/running/rollerblading/ cross-country running, and participating in outdoor activities close to home (within 10 minutes) (Government of Canada, 2017c).

Greenways generate economic, environmental, and social stamina by increasing the connections among people and places (Krummenacher et al., 2008). Greenways can provide social benefits to human health and well-being, physically, social and psychologically, community, cultural and spiritually, and visually and aesthetically (Jones, Symons, & Young, 2015; Symons, Jones, Young, & Rasmussen, 2015). Greenways can contribute to social inclusion by providing neutral ground to all sectors of society, accessible to everyone and free of charge, thereby reducing barriers, and can become the focus of community spirit (Jones et al., 2015; Swanwick, Dunnett, & Woolley, 2003). Greenways can provide the community with historical heritage and cultural values as well (Fábos, 2004). These multi-objective systems offer numerous education opportunities (Jones et al., 2015; Searns, 1995; Swanwick et al., 2003). They make great outdoor classrooms, contributing to childrens’ development and imaginative play (Searns, 1995; Swanwick et al., 2003). Schools make strong greenway partners; thus schools should be developed adjacent to greenways where children can care for,
learn from, and help protect the area, and become stewards (Searns, 1995). The land stewardship message can cross all ethnic, cultural, and class lines, providing residents the opportunity to become stewards as well (Searns, 1995).

Health benefits provided by greenways include increased physical activity opportunities and improved mental health (Fábos, 2004; Kaplan, 1989; Markeson, 2007; Swanwick et al., 2003b; Symons et al., 2015). Residents have greater access to greenways over traditional parks due to their length, providing an opportunity for a positive, active, lifestyle, increased physical activity, thereby improving health (Markeson, 2007). Greenways provide people with extensive recreation and alternative transportation opportunities which aid an increase in activity levels (Fábos, 2004; Markeson, 2007). Mental health can be improved by greenways through opportunities for physical activity and visual access to nature which reduce anxiety, symptoms of depression, stress, and relaxing environment (Markeson, 2007; Swanwick et al., 2003b).

Greenways provide numerous environmental benefits including climate modification and mitigation, improved air quality, soil improvements and erosion control, biodiversity, food production, decreased harm caused by urban development, and protected ecologically significant natural systems (Carruthers & Mundy, 2006; Fábos, 2004; Jones et al., 2015; Markeson, 2007; Symons et al., 2015). Loss of nature and fragmentation of the landscape is occurring due to urban development; however, greenways are a mechanism to mitigate or prevent this environmental harm (Flink, 1993; Flink et al., 1993; Markeson, 2007). Population growth created an awareness to manage resources, as over 75 million acres of open space was lost across the U.S.A. during the early to mid 20th century (Flink et al., 1993). Greenway systems can reduce air pollution and store carbon (Carruthers & Mundy, 2006; Jones et al., 2015). They can also contribute to maintaining biodiversity through conservation and enhancement of habitats and corridors while increasing species diversity (Ahern, 1995; Carruthers & Mundy, 2006;
Greenway vegetation generates flood control and water quality improvements through biofiltration and canopy interception (Carruthers & Mundy, 2006; Jones et al., 2015).

Greenways are seen as regional economic development drivers (Krummenacher et al., 2008). Creativity and culture are influential in building local economies and strengthening quality of life (Municipal Cultural Planning Incorporated, 2011). Corporations, creative workers, amenity migrants and tourists seek out high quality-of-life places. The presence of certain amenities are more important than the costs of production or access to markets (Florida, 2004; Pratt, 2008). Outdoor amenities are an important quality of life attribute for the creative class, which is, in turn, instrumental to job creation (McGranahan & Wojan, 2007). Greenways can increase the overall attractiveness of a region, both for tourism, and, ultimately, for attracting new business and young professionals to an area (Carruthers & Mundy, 2006, p. 211). A greenway can attract new business and improve existing business.

Greenways increase the quality of life by providing an attractive place to walk outside and a useful means of public transportation, which lowers business costs for transportation and insurance in part because increased physical activity improves employees’ overall health (Markeson, 2007, pp. 1492–1493).

Greenways can create a variety of economic benefits, by attracting and retaining business, influencing commercial vitality, increasing the value of ecosystem services, increasing tourism, and increasing property values (Carruthers & Mundy, 2006; Jones et al., 2015; Krummenacher et al., 2008; Markeson, 2007; Swanwick et al., 2003b). The overall attractiveness of a region is increased with greenways, attracting tourism, new business and young professionals to an area (Carruthers & Mundy, 2006). Jobs can be generated by providing opportunities for individuals planning, building, managing, and maintaining the greenway (Markeson, 2007). Communities benefit as greenways can
generate new markets, such as tourism and outdoor recreation activities (Markeson, 2007). These new markets can further generate demand for restaurant, hotels, and other amenities which can have a positive effect on the local economy (Markeson, 2007). A study by Jones et al., (2015) on the economic benefits highlighted commercial vitality as customers preferred shopping in areas with trees, which influenced their perceptions of the business, enticing respondents to travel further, visit often, and spend more. Land values increase, allowing the increased property tax revenue to be used to pay for park development and maintenance (Krummenacher et al., 2008). Home buyers’ preference for amenities have shifted from swimming pools to nature trails, with the proximity to natural areas having a positive effect on land values rather than athletic facilities and gathering paces (Krummenacher et al., 2008). Greenways can play a significant role in structuring the development of urban and sub-urban areas (Khalid, 2006). They can provide development with character by integrating natural, recreational and cultural corridors in the planning and development of residential communities (Khalid, 2006).

Greenways can be used as a revitalization strategy. The Chattanooga River Park in Tennessee is a 20-mile-long greenway project, designed and implemented specifically as a revitalization strategy (Markeson, 2007). During the 1930s to 1960s, Chattanooga was a strong manufacturing economy until the federal government deemed the city to have the worst air quality in the nation due to extremely high air pollution in 1969. Environmental regulations to improve air quality had a negative effect on the economy, causing a recession during the 1970s to 1980s (Markeson, 2007). A strong vision and community engagement lead to community support for the greenway vision, leading to the “Chattanooga Process” which actively involved residents at every stage of the project (Markeson, 2007). The Tennessee Riverpark Master Plan was created three years later with specific goals, which included:

- Preserving the river and history of the area
• Creating amenities to benefit local citizens
• Revitalizing the local economy by attracting private development and tourism
• Specific design guidelines to assure uniformity in the final greenway
• Suggestions on land acquisition tools and funding sources

The project was implemented through a Public-Private partnership. The greenway connects various amenities, including trails that link parks, green spaces, museums, public art, ships, marinas, and connected the downtown core to the river through a set of walkways and parks with scenic views of the river throughout (Lynch Associates Inc., 1985; Markeson, 2007; “TN Riverpark Information,” n.d.). The project continues to expand today. The greenway improved the economy, received numerous awards and had delegates from 150 cities visit and study the method to try to understand and duplicate its success in the year 2000; Chattanooga generated over $133 million dollars in revenue through the related amenities in the first year of operation, and claims continuous planning and community involvement were vital to the success of the project (Markeson, 2007). Four factors imperative to the success of the Riverwalk Park include a wake-up call, a mover and shaker in the community, community participation and stewardship, and partnerships at ever stage of the greenway project (Markeson, 2007). Greenway trail users felt the trail corridors greatly contributed to the community’s quality of life, and residents along the greenway felt the adjacent trails added to the appeal of the property when deciding to buy or rent (Markeson, 2007). Figure 2.1 shows the existing Chattanooga Riverpark greenway and key access point nodes.
Figure 2.1: Chattanooga Riverpark Greenway
Summary

A review of the literature reveals the absence of a common language for amenity migration and the creative class despite many efforts that support and address it. A large amount of research and discussion is occurring by other disciplines relating to the topics of amenity migration, creative economy, and rural revitalization. The consistent variable, however, is a lack of action and implementation. This coincides with a lack of policy development and collaborative planning strategies between rural communities and multiple levels of government: municipal, provincial and federal. Government funded projects such as the OMAFRA RED initiatives and cultural resource plans provide rural communities with the opportunity to pursue amenity-based planning and promotion. However, the definition of “rural” for these funding options needs to be adjusted as rural areas and small population centers have fewer resources to compete against medium population centers (up to 99,999 population).

The literature also reveals the significant role that quality of life and authentic experiences play in attracting tourists and permanent residents. Building communities that are liveable, environmentally sustainable and amenity-rich are where people want to live and work. Business and investment will follow. “The amenity quality of landscape is destined to act as the main resource for rural areas development in the 21st century” (Domon, 2011, p. 339). Therefore, a land-based approach that encompasses amenity attributes, qualities of place, and the multi-objective opportunities provided by greenway systems can aid as a rural revitalization strategy.
Chapter 3 | Methods

Research Design

The approach to this research combined a literature review, the development of a design framework, conceptual design application, evaluation by key evaluator reviews and assessment. The literature review informed key topics and attractor categories to be considered in the development of the design framework. The design framework and overarching design guidelines were then applied to a rural site in eastern Ontario. Design guidelines provide guidance for design action by suggesting specific direction (Brink, Bruns, Tobi, & Bell, 2017). Selection criteria were developed to facilitate the site selection. The framework and application were evaluated individually by a panel of key evaluators who were selected based on selection criteria. A key evaluator is an expert, an individual who is well informed on the topic (Deming & Swaffield, 2011) and is also considered to be influential, prominent in an organization or community, thus being selected on the basis of their expertise in areas relevant to the research (Marshall & Rossman, 1999).

As defined in Chapter Two, for the purposes of this research, Rural Ontario is defined as: Areas with modest density within commuting distance of a medium to large population center, in areas that have a mix of forest, open areas, undulating topography (McGranahan & Wojan, 2007) and agricultural fields, with large amounts of undeveloped land.

A qualitative, exploratory approach was selected for this research. The main methods for this study are the development of a design framework and subsequent evaluation by key evaluators. The research approach included (as shown in Figure 3.1.): Literature Review, Design Framework Development, Design Framework Demonstration, Key Evaluator Criteria, and Design Evaluation.
Figure 3.1: Research Approach
Source: Author
Literature Review

A literature review was completed to serve the following functions:

1. To place the study into context with previous research and scientific knowledge (Babbie, 1998), to identify gaps within the literature and to illustrate how the study will address them (Marshall & Rossman, 1999);

2. To synthesize relevant, current and available published knowledge on amenity, amenity migration, rural creative economy, rural revitalization and greenway system principles and evolution (Marshall & Rossman, 1999) to adapt/create the design framework;

3. To establish the importance of the study (Creswell, 1994).

Characteristics of the literature reviewed:

1. Academic literature on amenity, amenity migration, rural creative economy, destination tourism, and existing government revitalization approaches were analyzed to understand the context, characteristics, and language of these topics and the existing state of rural communities within North America and Europe.

2. Landscape Architecture, Urban Design and Planning, Cultural and Human Geography, Environmental management, Parks and Recreation Administration, Economics, Tourism, and Rural Studies were explored to:
   
   i. Identify qualities, characteristics, opportunity and constraints that enable the application of a greenway system into the rural fabric;
   
   ii. Gather data to create an assessment framework on preferred qualities of place and adoption of an amenity classification system
3. Municipal, Provincial, and Federal policies were reviewed to understand existing revitalization initiatives, current policy frameworks and collaborative planning opportunities, and existing resources available to rural communities.

4. Existing census information provided by Statistics Canada were explored to identify existing leisure trend data on:
   a. Age demographic trends;
   b. Rate of participation in outdoor activities and interaction with nature;
   c. Population center and rural area classification;
   d. Population by sex and age group

**Design Framework Development**

The design framework was developed based on the information compiled through the literature review. Research revealed amenity characteristics and qualities-of-place requirements deemed desirable to amenity migrants and creative class workers. Research also revealed the suitable spatial arrangement of a multi-objective greenway system to support the ability to be woven into existing rural fabric. Criteria development addressed both amenity and quality of place requirements and greenway system design principles to create a framework with overarching design guidelines that would result in the applicability of an integrative land-based approach to all Canadian rural communities. Design guidelines are transferable to a wide field of future design tasks within the respective topic, are easily accessible, and therefore have a potential for a broader impact (Brink et al., 2017). Further local investigation is required, and the framework and overarching design guidelines are to be adopted only as a basis for further research.
Site Selection

The following describes the criteria used to select a study site in rural eastern Ontario.

1. The site to be located within rural eastern Ontario and located near a small population center.
2. The site boundary to be within a township or county encompassing rural areas and small population centers.
3. The site to be located within 1 hour commuting distance to a large population centre and international airports, varying bodies of water, and undulating topography.
4. Sufficient base material, topographic information, and other relevant documents must be easily attained.

The researcher has a personal interest in the eastern Ontario landscape and economy. The landscape is of interest due to the unrealized potential Eastern Ontario communities have in relation to the landscape features, culture, and history available to be harnessed and packaged as a revitalization strategy.

Design Framework Application

The design framework was applied to the study site: United Counties of Leeds and Grenville in Eastern Ontario. Existing data about this study site was obtained through accumulating and studying all maps, air photos, and publications that are relevant to the site, including reviewing the United Counties of Leeds and Grenville Official Plan, using ArcMap 10.5.1 for base map data, and the use of Google Earth Pro for aerial imagery, urban fabric, woodlands, wetlands, water bodies, etc. Cataraqu Region Conservation Authority, Rideau Valley Conservation Authority, and South Nation
Conservation Authority data were collected to establish boundaries, conservation areas, trail systems, watershed information, and location of wetlands. Ontario Basic Mapping provided topographic data. Reviews of relevant policies, procedures, and Official Plan documents for the United Counties and lower-tier municipalities were also conducted. Government of Ontario and Government of Canada websites and documents relating to average climate, ecosites and ecoregions, surficial geology data, etc. were also explored. Following the collection of information, an existing amenity attractors map and demonstration site plan were generated. A concept plan including greenway location, hierarchy of community nodes and suggested attractor linkages were proposed.

Key Evaluators

Evaluation of research in combination with other research strategies are utilized in landscape architecture to improve decision making for best practices (Deming & Swaffield, 2011). The purpose of the chosen method is to evaluate the impact of social interventions intended to have some real-world effect (Babbie, 1998). A panel of key experts representing the fields of amenity (2), greenway system design and promotion (1), rural revitalization (1), and land-based tourism (1) were selected for the evaluation of the design guidelines and application to the case study site. These key evaluators reviewed, evaluated and provided comments on the design framework, implementation, and the outcome. The following describes the criteria used to select the key evaluators:

Education

1. Key evaluator’s academic background must be one of Planning, Urban Design, Landscape Architecture, or Recreation-Parks-Tourism administration.
Experience

2. Key evaluator must have a minimum of 10 years experience within their field of expertise.

Role

3. Key evaluator must be a member of academia specializing in amenity, amenity migration, rural revitalization, greenway system design, and/or;

4. Professional with experience in rural planning, rural revitalization, government initiatives and policy, destination tourism, or amenity migration.

Assets

5. Key evaluator is a member of a local or national professional association (e.g., OALA, BCSLA, CSLA, ASLA, OPPI, EDAC)

6. Key evaluator has publications and/or has presented work at a conference in the past 5 years on one of the specialized topics outlined under “Role”.

7. Key evaluator has experience in the design and/or planning process related to open space planning and/or greenway system design.

8. Key evaluator is knowledgeable about policy and legislation with various levels of government (e.g., municipal, provincial, federal).

Key evaluators, at a minimum, must meet criteria 1, 2; one of 3 or, 4; and one of 5 to 8.

Participation in the evaluation was entirely voluntary. All four key evaluators agreed to the use of their names and profession in the dissertation.

The acronyms mentioned above are defined as: OALA- Ontario Association of Landscape Architects, CSLA – Canadian Society of Landscape Architects, BCSLA- British Columbia Society of Landscape Architects, ASLA- American Society of Landscape Architects, OPPI- Ontario Professional Planners, Institute, and EDAC- Economic Developers Association of Canada
Evaluation Procedure

All key evaluators received an invitation to participate via email to confirm their interest and availability for a self-administered semi-structured interview. The invitation included a tentative schedule of dates as per formal evaluation package distribution and expected completion timeline. A package of information and an evaluation report form was then sent via email to each key evaluator. The package included the following as presented in Appendix A.

- Cover Page
- Design Guide
- Design Framework Applied to Demonstration Site
- Evaluation Reporting Form

Evaluation Interview Procedure

A semi-structured in-depth, self-administered evaluation interview was chosen as a method of inquiry. The evaluation is a process of determining if the intended result was produced (Babbie, 1998). This qualitative research approach involved using an evaluation reporting form outlining a set of prepared questions to guide the interview while allowing the respondents perspective of the topic of interest to unfold based on their experiences and expertise, and not the researchers (Marshall & Rossman, 1999). This method of data collection was chosen because it allows the researcher to pursue perspectives and topics revealed through the process in greater depth (Babbie, 1998) allowing relevant responses to be obtained for the developed questions. This process also promotes understanding and change with emphasis on intellectual understanding (Kvale, 1996).
Evaluation Reporting Form

The evaluation reporting form consisted of ten questions related to categories selected by the researcher (Deming & Swaffield, 2011): five questions related to the design framework and five questions to the design application and overall design outcome. The following criteria were satisfied in the selection and structure of appropriate questions:

1. Structure of the questions increased the probability of the respondents' perspective and not the researchers (Marshall & Rossman, 1999).
2. The number of questions were limited to allow completion of the evaluation in a timely manner.
3. A standardized set of questions were used to find commonalities and to provide useful data as the researcher began with a well-defined problem (Todd, 2013).
4. Open-ended questions were used to allow the respondents to provide their own answer (Babbie, 1998).
5. Respondents were not required to have knowledge of other professional field, thus the questions were selected to represent the experience of the respondents (Babbie, 1998).

Appendix B includes the evaluation reporting form.
Response Interpretation

The chosen method for analyzing and interpreting the respondents evaluations was generating meaning through *ad hoc* methods (Kvale, 1996). This was undertaken to gather an overall understanding of the interviews and to explore the key evaluators’ responses in greater detail. The responses collected were specifically analyzed for the following:

1. The key evaluators’ perspectives on the integration of amenity and qualities-of-place elements into a greenway system design as a revitalization strategy.
2. The key evaluators’ input on the design framework based on the questions provided.
3. Similarities, universals, and differences associated with the answers (Babbie, 1998)
4. The strengths and limitations of the design framework applicability as a strategy for rural revitalization.

Appendix C includes the evaluation comments provided by the key evaluators.
In this chapter, information gathered from the literature review is synthesized to develop a design framework with overarching guidelines. A framework is a basic conceptual structure (Bahadur, 2014) and frame of reference. Different professional fields, including education, medicine, urban design and architecture, use guidelines as a common tool in developing consistent and successful results (Todd, 2013). Guidelines are recommendations intended to assist those involved to make informed decisions and are based on a comprehensive and objective assessment of available evidence (World Health Organization, 2012). They provide guidance for design action, suggesting a specific direction by excluding other less suitable ones (Brink et al., 2017). Design guidelines are transferable to a wide array of future design tasks within the respective topic with potential for a broader impact while being adaptable for a specific design situation (Brink et al., 2017).

Design Framework Synthesis

Upon review of the literature, the design framework was organized into a guide with the intention of initiating a discussion by community champions with an interest in preservation and revitalization. The guide is designed to assist local champions to evaluate existing opportunities in their communities and become stewards in initiating the proposed revitalization strategy. The following section will guide the process of locating nodes and linkages. Identifying key amenities and attractive qualities-of-place within a community will determine the location of these nodes and linkages within the greenway system, thus connecting multiple communities with high amenity and qualities-of-place attractors into the greenway fabric. This information will produce a purposeful, amenity-linked network which is proposed here as the fourth zone in the design
framework for multi-objective greenways. The guide outlines a design framework with overarching design guidelines which are to be applied during the design stage of this thesis.

**Assessment Framework**

An assessment framework was synthesized from secondary data collected from the literature review. The framework is divided into two figures: amenity classification system (refer to Figure 4.1) and attractive qualities-of-place (refer to Figure 4.2). Amenity migrants and creative workers relocate to areas high in amenities and desirable qualities-of-place.

Figure 4.1 depicts an amenity classification system that is separated into three main categories of amenities, each with specific attractors that are valued by people in general. The quality and quantity of each, including convenient access across multiple jurisdictions, increases the perceived value. These amenities identified by researchers include natural/environmental, built, and cultural attractors.

Creative workers and amenity migrants prefer locations with high quality of life and sense of place. Qualities-of-place are attractors that both groups deem desirable and signify strong quality of life. Active lifestyles and authentic experiences play a significant role in sense of place. Creative workers are divided into two categories: Creative Core and Creative Professionals (Bille, 2010; Florida, 2004). Amenity migrants and creative workers value environment, art and history and rural attractors and lifestyle amenities. These are referred to as qualities-of-place attractors, outlined in Figure 4.2. These elements can be used to assist communities in the evaluation of their existing landscapes.
## Amenity Classification System

<table>
<thead>
<tr>
<th>Quality and Quantity</th>
<th>NATURAL (ENVIRONMENTAL)</th>
<th>BUILT</th>
<th>CULTURAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land Formation</td>
<td>Topographic features</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mountains</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ravines</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Valleys</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Moraine</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Peninsula</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water</td>
<td>Rivers</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lakes</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Streams</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Wetlands</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Climate</td>
<td>Temperature</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Amount of Sun</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Winter/ Snow accumulation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air</td>
<td>Cleanliness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biodiversity</td>
<td>Wildlife areas</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Natural areas</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Environmental quality</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Scenic Views</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lifestyle Amenities</td>
<td>Programmed</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Non-Structured</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Skiing (Downhill &amp; Cross Country)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Trails (off-road, multi-use)</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Bicycle Lanes</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Sports Fields</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parks</td>
<td>Open Space</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>City Parks</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Shipwrecks-Underwater parks</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tangible</td>
<td>Historic buildings</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Historic Sites</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Historic Landscapes</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Museums</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Art Galleries</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Universities/Colleges/Learning Institutions</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Orchestras</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fine Dinning</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cemeteries</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intangible</td>
<td>Living Culture</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ethnographic Culture</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rural Way of Life Values</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Characteristic Values</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Behavioural Traits</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Myths/Stories/Legends</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Scale (Proximity to People/Settlement)

| HIGH | LOW |

**Figure 4.1: Amenity Classification System**

Source: Author
<table>
<thead>
<tr>
<th>Qualities-of-Place Attractors</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Quality of Life</strong></td>
</tr>
<tr>
<td><strong>CREATIVE CLASS</strong></td>
</tr>
<tr>
<td>Art &amp; History</td>
</tr>
<tr>
<td>Contemporary concerts</td>
</tr>
<tr>
<td>Art Exhibits</td>
</tr>
<tr>
<td>Art Museums</td>
</tr>
<tr>
<td>Urban Milieus</td>
</tr>
<tr>
<td>Cultural Landscape</td>
</tr>
<tr>
<td>Sports</td>
</tr>
<tr>
<td>Fitness</td>
</tr>
<tr>
<td>City Parks</td>
</tr>
<tr>
<td>Cycle Lanes</td>
</tr>
<tr>
<td>Off-road trails</td>
</tr>
<tr>
<td>Outdoor Recreation (cycling, biking, rollerblading)</td>
</tr>
<tr>
<td>Tourism Opportunities</td>
</tr>
<tr>
<td><strong>CREATIVE CORE</strong></td>
</tr>
<tr>
<td>Art &amp; History</td>
</tr>
<tr>
<td>Classical Concerts &amp; Theatres</td>
</tr>
<tr>
<td>Literature/ Knowledge</td>
</tr>
<tr>
<td>Cultural Heritage</td>
</tr>
<tr>
<td>Science/ Heritage Centres</td>
</tr>
<tr>
<td>Historic Buildings &amp; Monuments</td>
</tr>
<tr>
<td>History/ Museums</td>
</tr>
<tr>
<td>Lifestyle Amenities</td>
</tr>
<tr>
<td>Free, Non-institutional fitness</td>
</tr>
<tr>
<td><strong>Rural</strong></td>
</tr>
<tr>
<td>Lower-Density Environment</td>
</tr>
<tr>
<td>Slower Pace</td>
</tr>
<tr>
<td>Ease-of-Access</td>
</tr>
<tr>
<td><strong>Environmental</strong></td>
</tr>
<tr>
<td>Mountains</td>
</tr>
<tr>
<td>Forests</td>
</tr>
<tr>
<td>Open space/Area</td>
</tr>
<tr>
<td>Winters = Sunny</td>
</tr>
</tbody>
</table>

**Figure 4.2: Qualities-Of-Place Attractors**

Source: Author
The Fourth Zone: Greenway Planning

The application of the design framework will incorporate amenities and qualities-of-place attractors into the greenway design process to support an integrative amenity-linked network, thus resulting in a landscape-based strategy to aid rural revitalization. Through this process, purposeful linkages, access points, and community nodes will be created, thereby strengthening the region's quality of life and sense of place. This process of developing an amenity-linked network will be known as the Fourth Zone in the planning and design stage of multi-objective greenways.

Ranking System

The amenities and qualities-of-place attractors (QoP) have been combined into a ranking system informed by a literature review. This ranking system will aid in the planning and design of access points, trail linkages, community node hierarchy and locations, and overall connectivity. This will ensure that a strong amenity-linked network is created based on the level of preference for the attractors identified by amenity migrants and creative workers. The ordinal scale system allows for rank order of preference and not the relative degree of difference between the attractor type. All attractors are valued by creative workers and amenity migrants.

Preference Scale: (1st = Highly Valued ………… 4th = Less Valued)

<table>
<thead>
<tr>
<th>Type of Attractor</th>
<th>Rank</th>
<th>Amenities</th>
<th>QoP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1st</td>
<td>Natural/ Environmental</td>
<td>Environmental</td>
</tr>
<tr>
<td></td>
<td>2nd</td>
<td>Built</td>
<td>Lifestyle</td>
</tr>
<tr>
<td></td>
<td>3rd</td>
<td>Cultural</td>
<td>Art &amp; History</td>
</tr>
<tr>
<td></td>
<td>4th</td>
<td></td>
<td>Rural</td>
</tr>
</tbody>
</table>
Quality and Quantity

- The increased quantity of each amenity and quality-of-place attractor, and the quality of each within a concentrated area, raises the rank.

Convenient Access

- The proximity of each attractor to settlement areas, including education facilities and residential areas, raises the rank.
- Access to each attractor found within a 10-minute walk from residential and business/office zones raises its rank.

The Fourth Zone: Greenway Elements

Traditionally, multi-objective greenways are designed with three key zones: ecological, recreation, and culture/history. The Fourth Zone will incorporate amenities and qualities-of-place attractors into the greenway design process to support an integrative amenity-linked network. These zones, together, generate a strong quality of life and sense of place.

Connectivity:

- Connectivity refers to the extensive process of connecting the various parts of the Fourth Zone design framework to one another.
- Connections are to be designed to link community nodes, settlement areas, and attractors, thereby making a purposeful pathway and/or trail network.
- Pathway and/or trail connections will link an amenity and/or qualities-of-place attractor.
  - Physical connections can be created through trails, paths, and greenspaces that connect directly to an attractor.
  - Visual connections can be created through framed views, vistas, etc. depending on land-ownership status and design intent. This connects the
viewer to the landscape or architectural element through line-of-sight.

- The strategic placement and composition of these physical and/or visual connections can significantly heighten the user’s experience while allowing for the appreciation of the specific element regardless of its location and ownership.

Community Nodes:

- Community nodes refer to the intersection of pathways and/or trails to a central connecting point.
- Nodes are to provide convenient access and can be multi-jurisdictional.
- Node points will be located in high-amenity/quality-of-place concentration areas.
- Identification and the ranking system results will decide the location of these nodes.

Access Points:

- Access points refer to entrance sites that connect users to the greenway system.
- Key access points are to be located within a 10-minute walk from settlement areas, including education facilities, residential areas, and business/office areas.

Integrative/ Collaborative Planning Approach

Rural hamlets, villages, and towns are too small to plan on their own for amenity migration and retention of creative workers. It is strongly encouraged for these groups to come together in a regionally-scaled, multi-jurisdictional, collaborative planning process to promote each others amenities and to develop a collective management strategy (Chipeniuk, 2004, 2008). Existing policies need to be expanded and updated to include sustainable community development and a common language for amenity and creative worker migration (Chipeniuk, 2004, 2008; Corney et al., 2015; Deller et al., 2001; Gosnell & Abrams, 2011; Green, 2001; Moss, 2008; Pratt, 2008; Stolarick et al., 2010).
Current mechanisms that afford regional approaches provided by the government of Ontario are:

- Regional Tourism Organizations provide leadership and coordination to support competitive, sustainable, tourism regions (Ontario Ministry of Tourism, Culture, and Sport, n.d.)
- The Rural Economic Development Program (RED) provides support to rural Ontario to generate investment and to create jobs while removing barriers to community economic development (Ontario Ministry of Agriculture, Food, and Rural Affairs, n.d.)

A Continued Management Strategy

Ownership and management of the completed greenway should be established. Multiple ownerships can be possible within regional systems as they offer a diversity of greenway types. These include:

- Private Ownership
- Public Ownership
- Mixed Ownership
- Protected Amenities and Attractors to acquire and/or protect

Funding opportunities and funding sources should be identified. Knowing what the project will cost, who is going to fund it, and how to obtain funding is instrumental for success. Maintenance, user safety and risk management programs should be developed as well. Greenways are a long-term investment so proper planning for each stage is vital.
Overarching Design Guidelines

A set of overarching design guidelines were created to summarize the Fourth Zone design framework. These overarching guidelines are recommended for regionally-scaled sites. The guidelines have been separated into three sub-headings; pre-design considerations, design considerations, and post-implementation considerations. These are generally broad guidelines as more specific criteria are outlined in section three of design framework guide (refer to Appendix E).

Pre-Design Considerations:

1. Identify the problem(s)
2. Find a local 'Champion' in the community who can assist with leadership and funding throughout the entire process. This can be a philanthropist, a member of council, or a foundation and/or organization with a focus on sustainable development who can create momentum and champion the process.
3. Create a steering committee or task force with a range of stakeholders.
4. Develop a project goal, objectives and vision.
5. Invest in hiring a professional consultant, preferably a landscape architect with expertise in community engagement. Landscape architects provide landscape-based planning solutions and can facilitate the process with multiple stakeholders.
6. Develop a community engagement strategy to foster participation and stewardship.
7. Encourage collaborative planning amongst all stakeholder groups and municipalities to plan and promote each other’s amenities to increase tourism and entice potential permanent residents.

The Fourth Zone: Greenway Specific

8. Conduct land-use analysis and environmental assessments.
9. Develop greenway system goals and objectives. The overall aim of the greenway must be to strengthen the integrity of the landscape, including both its natural and social components.

Note: Greenway system planning principles are not addressed here. This is a separate endeavour that your professional consultant can execute along with this design framework.
Design Considerations:

*Amenities & Qualities-of-Place Attractor Specific*

1. Identify, inventory, and assess amenities and qualities-of-place attractors.
2. Rank these attractors using the ranking system.
3. Map the attractors and then identify phase 1 and phase 2 nodes based on the ranking results.
4. Provide a linked-network with convenient access to attractors within multiple jurisdictions to increase the appeal of the destination.
5. Provide convenient access to community nodes near all settlement areas, either directly or through linkages (i.e., pathways, trail system). Research shows successful access points are located within a 10-minute walk.
6. Design nodes to include physical linkages, framed views, and spiritual linkages. Physical linkages include trails, paths, and greenspaces that connect directly to an attractor. Framed views include line-of-sight connections that preserve a direct view to a specific attractor. Spiritual linkages include religious architecture and socio-cultural events.

*The Fourth Zone: Greenway Specific*

7. The greenway system must be multi-functional; integration of historical, cultural, aesthetic, and recreational goals should be established during the planning stage.
8. The greenway system must function as a wildlife corridor, landscape feature, recreation resource, amenity-linked network, and a strategic break between adjacent areas of development.
9. Connectivity between natural, built and cultural amenities to population centers must be provided.
10. The connectedness, pattern and configuration of the land area are extremely important.
   a. Placement of trails and/or pathways are to be designed to connect attractors, thereby creating purposeful linkages.
   b. Viewsheds of highly valued visual attractors should be revealed, highlighted, and maintained.
Post-Implementation Considerations:

1. Develop a collective, continued management strategy with all involved in the collaborative planning process. This strategy should include:
   a. Ownership and Management
   b. Funding opportunities and sources
   c. Maintenance, user safety and risk management program development.

Amenities & Qualities-of-Place Attractor Specific

2. Create a plan and management strategy for existing and future attractors

The Fourth Zone: Greenway Specific

3. The greenway system should be used as a form to structure communities and future development.

4. Develop and/or update community design standards that require the incorporation of this design framework into future development, with connectivity and linkages being key.

5. Plan and design future gray and green infrastructure together.
Chapter 5 | Application of Design Framework

Introduction

Chapter Four outlines the design framework and set of overarching design guidelines, informed by secondary data collected through the literature review on the integration of amenity and qualities of place into greenway system design. This chapter focuses on the design application of the framework to the United Counties of Leeds & Grenville case study site, located in rural Eastern Ontario.

This chapter begins by introducing the United Counties of Leeds and Grenville area to establish the regional context for the case study site. A summary of the Official Plan of the United Counties of Leeds and Grenville is presented to provide an understanding of the land use designations and overall strategic direction. An inventory and analysis of the existing site was conducted to understand relevant site and contextual attributes to determine the suitability of the site (LaGro, 2008) as a case study. Finally, a conceptual plan at a regional scale is presented to demonstrate the application of the design framework.

United County of Leeds and Grenville

The United County of Leeds and Grenville is in Eastern Ontario, approximately 3.5 hours from Toronto and one hour south of Ottawa. The County is part of the South Eastern Ontario tourism region- RTO 9, the great waterway, and is located between the St. Lawrence River, the Thousand Islands Region and the Rideau Canal Heritage Route. The St. Lawrence River is a major shipping channel, where people can observe freighters in the channel and pass through the lock system. It is home to the Thousand Islands Region, providing opportunity for camping, water sports and activities, scenic
views and visiting heritage properties including famous Castles. The Rideau River Heritage Route is 202 kilometers in length from Kingston to Ottawa with 24 lock stations, 47 locks, and designated heritage buildings, attracting 1-1.5 million land-based visitors annually. It is also a designated UNESCO World Heritage Site and a National Historic Site. The Frontenac Arch Biosphere Reserve is a 2,700 sq.km. region which begins in the south-west quadrant of the County. The Arch connects the Canadian Shield boreal forest to the forests of the Adirondack and Appalachian Mountains and is a designated UNESCO World Biosphere Reserve. Two international bridges connect the area to the United States providing visitors access to 24 lakes, beautiful cottage country and Fort Wellington National Historic Site.

Figure 5.1: Regional Context Map
The County is made up of seven townships, one municipality and two villages. There are four settlement areas that are classified as small population centers (1,000-29,999 population). The towns of Prescott and Gananoque and the City of Brockville are also located along the boundary of the County and are affiliates. The County is 3,350 sq. km. with a population of 100,546. The County is part of the Great Lakes St. Lawrence Life Zone and Mixwood Plains Ecozone.

Figure 5.2: United Counties of Leeds and Grenville Boundary

Official Plan

The Official Plan for the United Counties of Leeds and Grenville was adopted in 2015. The upper-tier government provides land use planning guidance for the ten lower-tier member municipalities. Each township, village, and municipality within the County
has their own council, policies and official plans. Detailed land use planning and local
decision-making are managed and administered through local municipal official plans
which conform to the upper-tier’s official plan (United Counties of Leeds and Grenville,
2015). These lower-tier municipal documents should be reviewed as required during the
design application process for municipal-focused information.

Section 2.3 outlines the settlement structure for the Counties and promotes the
development of complete communities by providing access to a range of mixed housing,
employment and shopping opportunities, local community services and facilities,
recreation and open space opportunities, and the protection and enhancement of
agricultural areas, rural lands, and natural resources.

Section 2.4.2 outlines the strategic direction of community services and facilities
within the Counties, to meet the needs of existing and future residents, businesses and
visitors through providing opportunities for education, parks, open space and recreation
and culture and heritage facilities (p.17 of Official Plan). The specific policies F(i-ix), H
and I all encourage opportunities for linked open spaces, acquiring new parks, facilities
and improving existing, including recreational development in parks, open spaces, and
along natural features and other similar areas of the counties that provide opportunities
for active, passive, and programmed community recreation and leisure and that
contribute to the conservation and protection of open space and the natural environment
(p. 17-18).

Section 2.4.3 outlines the Counties’ policies relating to community improvement
and revitalization. Community improvement plans provide local municipalities with
powers to maintain and promote attractive, healthy, and safe living and working
environments through community improvement, including the ability to offer incentives to
stimulate private and/or public section investment.

Section 2.6.3 of the Official Plan outlines policies recognizing the importance of
tourism and recreation-based activities to the local economies. The County plan supports the long-term viability and growth of existing and future tourism resources and destinations in the counties. Tourism assets and opportunities should be enhanced, including agritourism opportunities, natural amenity and recreation-based tourism uses, cultural heritage resources, and parks and open space trails.

Site Inventory

The landscape assessment and evaluation of the case study site, United Counties of Leeds and Grenville, included a series of steps that involved collecting existing data for inventory. Information about this study site was obtained through accumulating and studying all maps, air photos, and publications that are relevant to the site including reviewing Schedule A, C, E and Appendix 1 from the United Counties of Leeds and Grenville Official Plan; and using ArcMap 10.5.1 for base map data including topography, areas of Natural and Scientific Interest data, tourist attractions, and existing amenities data collected through the University of Guelph Data Resource Center, and Scholars Geoportal. Google Earth Pro was used for aerial imagery, urban fabric, woodlands, wetlands, water bodies, etc. Cataraqui Region Conservation Authority, Rideau Valley Conservation Authority, and South Nation Conservation Authority were used to establish boundaries, conservation areas, trail systems, watershed information, and location of wetlands. Ontario Basic Mapping provided topographic data. Reviews of relevant policies, procedures, and the Official Plan for the United Counties and lower-tier municipalities were also conducted. Government of Ontario and Government of Canada websites and documents relating to average climate, ecosites and ecoregions, surficial geology data, etc. were also explored.

Four specific inventory items-landforms, vegetation and species habitat, hydrology,
and climate—were assessed specifically for amenity-linked network requirements. The focus on these items was informed by the amenities and qualities-of-place attractors, identified by amenity migrants and creative workers as desirable, quality of life traits that a community should have to entice relocation. The inventory for the case study site integrated amenity-linked greenway system network development is described below.

Land Forms

The case study site’s surficial geology identifies the Northwest area as a limestone and shale plain, with a granite ridge and small fragments of ground moraine. The Northeast area is a mix of lacustrine deposits and outwash plain, therefore no landform map was created. The highest point on the site is 205 meters above sea level located in the northwest section of the site, with the low point at 75 meters above sea level being located to the Southeast near the St. Lawrence River. The highest elevation on the site is Foley Mountain, a granite ridge that overlooks the historic Upper Rideau waterway and Village of Westport with scenic outlooks and hiking trails (Rideau Valley Conservation Authority, n.d.). Charleston Lake has over 1000 islands, miles of diverse shorelines with granite and sandstone rock, coves, bays, and rocky cliffs. Blue Mountain is the second highest point in the study site and provides scenic views overlooking the Lake. The soil is a variety of loam types and sand as identified by the 1968 Soil Research Institute, Canada Department of Agriculture soil map of Leeds and Grenville County, Ontario.
Hydrology

The case study site has 24 lakes, rivers, and numerous streams and channels. The primary watershed is the Great Lakes-St. Lawrence Basin. The secondary watershed includes the Upper St. Lawrence and the Lower Ottawa basins. Four tertiary watersheds are located on the site, overseen by three conservation authorities. The Cataraqui watershed flows southwest into Lake Ontario and the St. Lawrence River. The South Nation watershed flows southeast into the St. Lawrence River. The Rideau Valley watershed flows north into the Rideau riverway and empties into the Ottawa River. These boundaries and hydrological systems can be seen in Figure 5.3. Charleston Lake is one of the biggest lakes in the Counties, drawing tourists throughout the cottaging-season. The Ministry of Natural Resources stocked the lake with native fish species throughout the 1990’s and has been successful in rebuilding fish populations (Government of Ontario, n.d.).
Vegetation and Species Habitats

The case study site is located within the Great Lakes St. Lawrence Life Zone (Daigle & Havinga, 1996), Mixed-Wood Plains Ecozone, and Ecoregion 6E Lake Simcoe-Rideau (Ontario, 2014). A mixed deciduous-evergreen forests and Carolinian hardwood forests grow in this zone. Existing vegetation and provincial parks can be seen in Figure 5.4. Species include sugar maple, yellow birch, American beech, basswood and white elm. Conifers include white and red pine, white cedar, and eastern hemlock. The flora and fauna in this zone are among the most diverse in Canada, with a high number of species-at-risk (Ontario, 2014). Shrubs and perennials include red-osier dogwood, hardy bearberry, wild ginger, fens, delicate orchids and trilliums (Daigle & Havinga, 1996).

Figure 5.4: United Counties of Leeds and Grenville Vegetation Map
Source: Author
Species in this ecozone include white-tailed deer, red fox, coyote, northern raccoon, striped skunk, beaver, eastern gray squirrel, great blue heron, red-tailed hawk, black-capped chickadee, blue jay, American robin, wood thrush, yellow warbler, Midland painted turtle, eastern red-backed salamander, smallmouth bass, walleye, yellow perch, pearl dace, and spottail shiner and black bear (Daigle & Havinga, 1996; Ontario, 2014). This ecozone is densely populated, with many natural ecosystems being converted to human use, causing fragmentation of the landscape. Invasive species are also problematic, displacing native species and altering the structural and functional aspects of the natural ecosystems (Ontario, 2014).

Climate

The Mixed Wood Plains Ecozone has a cool to mild climate, with cool winters and relatively warm summers (Ontario, 2014). Figure 5.5 shows the temperature and precipitation climate normal for 1981-2010. Daily average temperatures range from -8°C to 22 °C. Average precipitation for the study site ranges from 60mm to 98mm. Due to data provided by the government of Canada for climate normal, the above information is based on weather station data for the Brockville and surrounding area (Canada, 2013).
Amenities and Qualities-Of-Place Identification

The process of identifying existing attractors began once the demonstration site was selected. Table 5.1 and Table 5.2 identify the 10 lower-tier municipalities’ amenities and qualities-of-place attractors. This information was gathered through numerous websites, including the RTO9 tourism website, county and lower-tier municipalities’ main websites, local club, organizations, and recreation websites. Once identified, the attractors were mapped and then ranked using the ranking system to determine the phase 1 and phase 2 nodes.
Table 5.1: Identification of Amenity Attractors  
Source: Author

<table>
<thead>
<tr>
<th>Identification of Amenity Attractors</th>
<th>Lower-Tier Municipalities within United Counties of Leeds and Grenville</th>
</tr>
</thead>
<tbody>
<tr>
<td>This table demonstrates the identification of existing amenities within the demonstration case study site. A dot represents an amenity attractor.</td>
<td>Township of Athens</td>
</tr>
<tr>
<td><strong>Quality and Quantity</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Natural (Environmental)</strong></td>
<td></td>
</tr>
<tr>
<td>Topographic features</td>
<td>✓</td>
</tr>
<tr>
<td>Land Features</td>
<td>Mountains</td>
</tr>
<tr>
<td>Ravines</td>
<td>✓</td>
</tr>
<tr>
<td>Valleys</td>
<td>✓</td>
</tr>
<tr>
<td>Moraine Peninsula</td>
<td>✓</td>
</tr>
<tr>
<td>Rivers</td>
<td>✓</td>
</tr>
<tr>
<td>Lakes</td>
<td>✓</td>
</tr>
<tr>
<td>Streams</td>
<td>✓</td>
</tr>
<tr>
<td>Wetlands</td>
<td>✓</td>
</tr>
<tr>
<td>Climate</td>
<td>Temperature</td>
</tr>
<tr>
<td>Amount of Sun</td>
<td>✓</td>
</tr>
<tr>
<td>Winter/Snow accumulation</td>
<td>✓</td>
</tr>
<tr>
<td>Air Quality</td>
<td>Cleanliness</td>
</tr>
<tr>
<td>Wildlife areas</td>
<td>✓</td>
</tr>
<tr>
<td>Natural areas</td>
<td>✓</td>
</tr>
<tr>
<td>Environmental quality</td>
<td>✓</td>
</tr>
<tr>
<td>Scenic Views</td>
<td>✓</td>
</tr>
<tr>
<td><strong>BUILT</strong></td>
<td></td>
</tr>
<tr>
<td>Lifestyle Amenities</td>
<td>Programmed Activities</td>
</tr>
<tr>
<td>Non-Structured</td>
<td>✓</td>
</tr>
<tr>
<td>Skiing (Downhill &amp; Cross Country)</td>
<td>✓</td>
</tr>
<tr>
<td>Trails (off-road, multi-use)</td>
<td>✓</td>
</tr>
<tr>
<td>Bicycle Lanes</td>
<td>✓</td>
</tr>
<tr>
<td>Sports Fields</td>
<td>✓</td>
</tr>
<tr>
<td>Parks</td>
<td>Open Space</td>
</tr>
<tr>
<td>City Parks</td>
<td>✓</td>
</tr>
<tr>
<td>Shipwrecks</td>
<td>✓</td>
</tr>
<tr>
<td>Underwater parks</td>
<td>✓</td>
</tr>
<tr>
<td><strong>CULTURAL</strong></td>
<td></td>
</tr>
<tr>
<td>Lifestyle Amenities</td>
<td>Historic buildings</td>
</tr>
<tr>
<td>Historic Sites</td>
<td>✓</td>
</tr>
<tr>
<td>Historic Landscapes</td>
<td>✓</td>
</tr>
<tr>
<td>Museums</td>
<td>✓</td>
</tr>
<tr>
<td>Art Galleries</td>
<td>✓</td>
</tr>
<tr>
<td>Universities/Colleges/Learning Institutions</td>
<td>✓</td>
</tr>
<tr>
<td>Orchestras</td>
<td>✓</td>
</tr>
<tr>
<td>Fine Dining</td>
<td>✓</td>
</tr>
<tr>
<td>Cemeteries</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Traditional</strong></td>
<td></td>
</tr>
<tr>
<td>Historic buildings</td>
<td>✓</td>
</tr>
<tr>
<td>Historic Sites</td>
<td>✓</td>
</tr>
<tr>
<td>Historic Landscapes</td>
<td>✓</td>
</tr>
<tr>
<td>Museums</td>
<td>✓</td>
</tr>
<tr>
<td>Art Galleries</td>
<td>✓</td>
</tr>
<tr>
<td>Universities/Colleges/Learning Institutions</td>
<td>✓</td>
</tr>
<tr>
<td>Orchestras</td>
<td>✓</td>
</tr>
<tr>
<td>Fine Dining</td>
<td>✓</td>
</tr>
<tr>
<td>Cemeteries</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Myth/Series/Legends</strong></td>
<td></td>
</tr>
</tbody>
</table>
### Table 5.2: Identification of Qualities-Of-Place Attractors

Source: Author

<table>
<thead>
<tr>
<th>Qualities-of-Place Attractors</th>
<th>Lower-Tier Municipalities within United Counties of Leeds and Grenville</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art &amp; History</td>
<td>Township of Athens</td>
</tr>
<tr>
<td>Contemporary concerts</td>
<td>●</td>
</tr>
<tr>
<td>Art Exhibits</td>
<td>●</td>
</tr>
<tr>
<td>Art Museums</td>
<td>●</td>
</tr>
<tr>
<td>Urban Milieus</td>
<td>●</td>
</tr>
<tr>
<td>Cultural Landscape</td>
<td>●</td>
</tr>
<tr>
<td>Classical Concerts &amp; Theater</td>
<td>●</td>
</tr>
<tr>
<td>Literature/Knowledge (college/university)</td>
<td>●</td>
</tr>
<tr>
<td>Cultural Heritage</td>
<td>●</td>
</tr>
<tr>
<td>Science/Heritage Centers</td>
<td>●</td>
</tr>
<tr>
<td>Historic Buildings &amp; Monuments</td>
<td>●</td>
</tr>
<tr>
<td>History/Museums</td>
<td>●</td>
</tr>
<tr>
<td>Lifestyle Amenities</td>
<td>●</td>
</tr>
<tr>
<td>Sports</td>
<td>●</td>
</tr>
<tr>
<td>Fitness</td>
<td>●</td>
</tr>
<tr>
<td>City Parks</td>
<td>●</td>
</tr>
<tr>
<td>Cycle Lanes</td>
<td>●</td>
</tr>
<tr>
<td>Off-road trails</td>
<td>●</td>
</tr>
<tr>
<td>Outdoor Recreation (cycling, biking, rollerblading)</td>
<td>●</td>
</tr>
<tr>
<td>Tourism Opportunities</td>
<td>●</td>
</tr>
<tr>
<td>Free, Non-institutional fitness</td>
<td>●</td>
</tr>
<tr>
<td>Rural</td>
<td>●</td>
</tr>
<tr>
<td>Lower-Density Environment</td>
<td>●</td>
</tr>
<tr>
<td>Slower Pace</td>
<td>●</td>
</tr>
<tr>
<td>Ease of Access</td>
<td>●</td>
</tr>
<tr>
<td>Environmental</td>
<td>●</td>
</tr>
<tr>
<td>Mountains</td>
<td>●</td>
</tr>
<tr>
<td>Forests</td>
<td>●</td>
</tr>
<tr>
<td>Open space/Area</td>
<td>●</td>
</tr>
<tr>
<td>Winters = Sunny</td>
<td>●</td>
</tr>
</tbody>
</table>

Note:
- Winters = Sunny means areas that have more days with sun during the winter months
- Open Space/Areas refers to large expanses of land (i.e., Woodlands, Agricultural Land)
Site Analysis

An analysis process was executed to determine the suitable location of the greenway system, in addition to the Fourth Zone framework. The following Figure 5.6 illustrates the analysis of information and data relationships, patterns, and connections based on the physical, biological, and cultural inventory and the integration of an amenity-linked network and phase 1 and 2 high attractor zones. A combination of greenway design processes and methods directed the analysis, including:

a. the overarching principles for greenway design as outlined by Hellmund and Smith (2006),
b. the landscape ecology principles by Dramstad, Olson and Forman (1996),
c. the greenway planning process as designed by Flink and Searns (1993),
and
d. the steps to creating and implementing a natural heritage strategy to restoring nature’s place by Daigle and Havinga (1996).

Existing corridors identified by Provincially Significant Wetlands, Areas of Natural and Scientific Interest, protected county woodlands, and conservation areas provide opportunities for an ecological-specific greenway corridor. Two abandoned railway lines provide opportunities for linear, multi-use greenway locations where ecological, recreation, and Fourth Zone uses can be designed and programmed for use by both people and wildlife. Two topographic features with the two highest points of elevation, located in the Northwest quadrant of the site provide opportunities for key viewsheds and passive recreation opportunities. Other significant views were identified as areas where framed views and/or direct connections can be incorporated, linking the high attractor nodes to the rivers and agricultural lands.
Figure 5.6: Site Analysis Diagram Illustrating Opportunities and Constraints
Source: Author
An amenities and qualities-of-place locations map was created for the case study site, identifying existing attractors by implementing the Fourth Zone design framework using the identification checklists in Appendix C.
Figure 5.7: Amenities and Qualities-of-Place Locations Map
Source: Author
The Design

The demonstration case study site visually displays the feasibility of integrating amenities and qualities-of-place attractors into the greenway planning process and demonstrates the application of an integrative landscape-based approach as a revitalization strategy for rural communities. The final placement of the proposed greenway connects existing ecological corridors and wildlife habitats to high amenity and qualities-of-place attractors as per the Fourth Zone design framework for multi-objective greenways as outlined in Chapter 4. Existing amenities and qualities-of-place attractors within the case study site were ranked based on the Fourth Zone ranking system. Key community nodes were identified and categorized into two phases. Phase 1 nodes are recommended to be designed at a site-scale level first, incorporating the guidelines outlined in Chapter 4.

Phase 1 nodes include:

a. Township of Leeds and Thousand Islands
b. Township of Merrickville-Wolford
c. Township of Rideau Lakes

Phase 2 nodes include:

d. Municipality of North Grenville
e. Township of Front of Young
f. Township of Edwardsburg/Cardinal
g. Township of Elizabethtown-Kitley

The following concept plan, Figure 5.8, demonstrates an integrative amenity-linked greenway network (also known as the Fourth Zone) at a regional scale.
Figure 5.8: Concept plan at regional scale for United Counties of Leeds and Grenville proposed greenway system and community nodes
Source: Author
Summary

The concept for the United Counties of Leeds and Grenville demonstrates a landscape-based approach to creating an integrative amenity-linked greenway network. The network incorporates 3,350 square kilometers of land, 10 community nodes, 427 attractors, and 10 lower-tier municipalities. By understanding the function and intricacies of greenway system design, and the specific characteristics that attract people to locations and their level of preference for these attractors, a Fourth Zone can be designed to into the multi-objective greenway process to support purposeful linkages, improve the overall connectivity and provide opportunities for education, stewardship, and community involvement at all stages of the process. An integrative and collaborative planning approach is recommended to develop a regionally-scaled, multi-jurisdictional collective management strategy. A continued management strategy should incorporate and outline the ownership, land acquisition and management of the completed greenway, along with a maintenance, user safety, and risk management program.
Chapter 6 | Evaluation and Assessment

Introduction

This chapter presents the evaluation of the design framework and overarching design guidelines and application to the United Counties of Leeds and Grenville demonstration site which were developed to demonstrate an integrative amenity-linked network approach to greenway system design that incorporates amenities and qualities-of-place attractors while supporting the ability to be woven into the existing rural fabric, as a landscape-based strategy to aid rural revitalization. To assess the feasibility of a Fourth Zone and the success of the design framework intentions, the design framework, overarching design guidelines and demonstration site concept plan were packaged into a guide (refer to Appendix E), and evaluated from an amenity, rural revitalization, greenway systems and tourism perspective. Each key evaluator assessed the guide based on their experience and expertise.

The four key evaluators were:

- Dr. Gary Paul Green, Professor & Chair at the Department of Community & Environmental Sociology, University of Wisconsin-Madison. Expertise in amenity, asset and community building.

- Dr. Jack Ahern, FASLA, Professor of Landscape Architecture at the University of Massachusetts-Amherst. Expertise in greenway systems, green infrastructure, ecosystems and landscape architecture.


- Dr. David Brown, Ph.D., Associate Professor in the Department of Geography and Tourism Studies at Brock University. Expertise in tourism, sustainability,
greenway management and mapping.

The key evaluators received the same evaluation form, as it was designed to be relevant to each evaluators’ experiences. They were not required to have knowledge of other professional fields to complete the review. A summary of the results from the evaluation is presented, followed by a discussion of the applicability of the evaluation. Each evaluation question has been categorized into a theme for which a discussion is provided based on the responses. Refer to Appendix B for the questions posed to the key evaluators and Appendix D for the responses and comments. Table 6.1 summarizes the key evaluators’ responses.

Table 6.1: Summary of Key Evaluator’s Evaluation
Source: Author

<table>
<thead>
<tr>
<th>Analysis of Key Evaluator’s Evaluations</th>
<th>Key Evaluator</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Evaluation Questions</strong></td>
<td>Dr. Gary Paul Green</td>
</tr>
<tr>
<td>---</td>
<td>Y*</td>
</tr>
<tr>
<td><strong>Design Guidelines</strong></td>
<td>Y</td>
</tr>
<tr>
<td>Accomplish Intended Purpose</td>
<td>Y</td>
</tr>
<tr>
<td>Appropriately Organized</td>
<td>Y</td>
</tr>
<tr>
<td>4th Zone - Usefulness</td>
<td>N</td>
</tr>
<tr>
<td>4th Zone - Additional Items</td>
<td>N</td>
</tr>
<tr>
<td>Ranking System - Improvements</td>
<td>N</td>
</tr>
<tr>
<td>Non-necessary Information</td>
<td>N</td>
</tr>
<tr>
<td><strong>Design Application</strong></td>
<td>Y</td>
</tr>
<tr>
<td>Integration into Rural Landscape</td>
<td>Y</td>
</tr>
<tr>
<td>Approach to Suitability of Greenways</td>
<td>Y</td>
</tr>
<tr>
<td><strong>Overall Comments</strong></td>
<td>Y*</td>
</tr>
<tr>
<td>Contribute to Rural Revitalization Strategy</td>
<td>Y</td>
</tr>
<tr>
<td>Improve Quality of Life</td>
<td>U*</td>
</tr>
<tr>
<td>Preserve Rural Quality of Place</td>
<td>Y*</td>
</tr>
<tr>
<td>Additional Comments</td>
<td>Y</td>
</tr>
</tbody>
</table>

Y: In agreement
N: Not in agreement
U: Uncertain and cannot put in Y or N category
*: Provided suggestions or comments
Design Framework and Guidelines

The design guideline questions were separated into five questions. The questions covered topics such as accomplished intended purpose, appropriate organization, the Fourth Zone usefulness and additional items, and unnecessary information.

Accomplished Intended Purpose

Overall, there is a consensus that the design framework accomplishes its intended purpose regarding the overall purpose and goal to helping communities identify and map their amenities and qualities-of-place attractors, along with the overall concept of planning for the integration of greenways and trail systems at a regional level, using an inclusive process. As well, all four evaluators provided suggestions and recommendations for improvement based on their expertise. Mr. Redden and Dr. Ahern provided overall formatting, content and layout suggestions to improve the guide’s functionality as a true guide.

Mr. Redden provided strong insights as his perspective and interpretation would be similar to community members participating in a workshop aided by the guide. The terminology and subject matter on greenways and connected greenways was all new information to Mr. Redden. Suggestions for providing more definitions and a variety of examples through photographs would be beneficial.

Dr. Ahern believes the guide is a good start; however, the functionality of the document as a true guide is unclear and would not be sufficient in its current layout. Suggestions included more introduction and summary/conclusion paragraphs, transitions to each chapter and consistent use of terminology.

Both Dr. Green and Dr. Brown identified specific areas that require further
research, explanation, and/or information. These areas include more discussion on stakeholder participation, conflict resolution strategies, the types of process used and overall procedures, and discussion of “best practices” to achieve the goals.

Appropriate Organization

This question refers to the organization of the design guidelines and if they are appropriately executed. The feedback for this question is mixed, with two of the four evaluators agreeing that the organization of the guidelines seems appropriate and two stating the guidelines are not clearly defined, overly generic in areas, and more suited to an academic audience rather than a municipal and/or community audience.

The Fourth Zone Usefulness and Additional Items

This question was divided into two parts, inquiring if the proposed Fourth Zone overall is found useful, and if the zone requires any additional considerations. Both Dr. Green and Dr. Brown agree that, in principle, the zone is useful. Dr. Green states this aspect assists in the development of the regional approach and is the most innovative aspect of the design project. Dr. Brown supports this comment, as he states the inclusive regional greenway planning process involving amenity mapping might be helpful. However, Dr. Brown believes further evidence and justification is required for the need of specific terminology. Dr. Ahern remained unclear on the definition of the Fourth Zone and concludes the terminology, definitions, narratives and concepts need to remain consistent throughout the document. Mr. Redden found the diagrams, maps, and demonstration site useful in explaining the Fourth Zone concept; however, more detail within the “Applying guidelines” section is needed, including a summary/conclusion.

Other considerations identified by the evaluators include discussing the
importance of “Third Places” for promoting quality of life and tourism, and the need to critically analyze the proposed ranking system and its purpose.

Ranking System

The key evaluators were asked to provide suggestions and recommendations that would strengthen the proposed ranking system. Consensus is that the ranking system is vague, will yield inconsistent results, and that the target audience will not be able execute the ranking system process due to no examples on how to complete this action and the lack of detailed steps. Dr. Brown recommended two options: to eliminate this approach completely and confine discussions to the qualitative dimension of the attractor categories or provide a more field-tested, literature-substantiated process to engage the proposed scoring system.

Non-necessary Information

Three of the four key evaluators did not find any unnecessary information within the design guidelines. Dr. Brown strongly believes the proposed ranking system is not useful or necessary in its current form. The over-arching guideline statements are essential steps in the greenway design strategy; however, the simplified statements presented diminish this fact.
Design Application

This section explored two specific questions designed to evaluate the application of the design guidelines to the demonstration site, the proposed concept plan, the approach of determining the greenway system, and the use of the ranking system to determine the community nodes.

Integration into Rural Landscape

There is mixed reaction to this question due to the ill-defined nature of the Fourth Zone and how it is different from currently regional greenway planning literature and processes. Dr. Green and Mr. Redden both agree that this approach should be able to be integrated into the rural landscape, that it could apply to many rural communities and that incorporating qualities-of-place attractors is important. Dr. Ahern was unable to understand the concept plan, and Dr. Brown questions what specifically is different in this greenway-focussed strategic approach to existing approaches and regional planning exercises.

Approach to Suitability of Greenway

Three of the four key evaluators agree that, in principle, the approach to determining the location of the greenway system and the use of the ranking system to identify community nodes is reasonable. However, recommendations were provided on the approach, as the actual process for defining these nodes, connections, and procedures taken to arrive at the regional greenway concept plan was not detailed, resulting in a lack of evidence to support the presented approach.
Overall Comments

This section of the evaluation included a set of five questions pertaining to the overall document. The topics include the contribution to rural revitalization strategy, proposed system ability to improve the quality of life, preserve rural quality of place and opportunity to provide additional comments.

Contribute to Rural Revitalization Strategy

All four key evaluators believe an integrative amenity-linked greenway network can contribute to a strategy for rural revitalization. Both Dr. Ahern and Mr. Redden agree that the proposed strategy can attract tourists and permanent residents. Dr. Green feels this strategy has the greatest potential for attracting tourists and is less convinced it will lead to an increase in permanent residents in more isolated rural regions that are not within commuting distance to large urban centers. Dr. Brown believes this research has enormous potential; however, he does not agree that the creative class, specifically, is the appropriate target group to attract as permanent residents to rural municipalities. Recommendations were suggested on the method, the ranking system, and need for more in-depth analysis of the socioeconomic realities of both the resident and target population.

Improve Quality of Life

All key evaluators agreed that this type of system will improve the quality of life. If implemented according to the project goals, it can enhance the recreational opportunities and amenity value of living in the surrounding communities, stated Dr. Green and Dr. Ahern.
Preserve Rural Quality of Place

This question had mixed feedback regarding whether this type of system will preserve rural quality of place. Mr. Redden and Dr. Ahern believe it can, with Dr. Ahern adding that if the guide is clarified and a consistent implementation can be informed, then yes, this system could preserve rural quality of place. Both Dr. Green and Dr. Brown are hesitant to confirm yes or no; both evaluators provided further comments on the question, including that it depends on the specific system and how it is designed, implemented, maintained, and the type of uses for recreation. Furthermore, Dr. Green adds there are additional issues at play outside of this system that would factor into the rural quality of place. Two examples include housing and labor market issues that may limit the movement of creative workers to rural communities. Dr. Green believes that the examples in the guide are more suited for tourism.

Addition Comments

Three of the key evaluators provided comments and recommendations for future research related to this thesis. Overall, all four evaluators agree the overall purpose and intent of the integrative amenity-linked greenway network is well conceived and will provide communities with an organized structure to promoting conditions for rural revitalization. Dr. Ahern agrees the design framework captures the main arguments in support of greenways. Areas of future considerations suggested by Dr. Green include recognizing important issues that regional collaboration can raise across communities about how benefits and costs are shared.
Discussion

The proposed design framework, and application to the United Counties of Leeds and Grenville demonstration site was evaluated by three academics and one practitioner with considerable experience in their field. Their expertise in amenity, rural revitalization, tourism, and greenway systems and related experience was used to access the guide and comment on the viability of a Fourth Zone and the successful development and application of the design framework. This self-administered evaluation interview method was effective in generating comments, recommendations, and suggestions on areas of further study.

The primary concern with the design framework was with the ranking system and its approach being successfully duplicated. The literature review informed the ranking system and the preference scale of the attractors to amenity migrants and creative workers. The quality and quantity of each attractor in a concentrated area and the convenient access of the attractors to settlement areas and walkability further increase the rank. The execution of the ranking system was not outlined in detail within the guide provided to the evaluators. Recommendations were provided by the evaluators to remedy this. The recommendations varied, from providing a step-by-step process with examples to yield consistent results, to providing literature sources to support the chosen scoring system. One suggestion was to eliminate the ranking system in its current state, entirely. Other recommendations included using consistent terminology, including more definitions and to provide more detailed steps in identifying and mapping the attractors.

Overall, the evaluators agree that the design framework, purpose, and application were successful and has tremendous potential with further refinement, examination, and research regarding the target audience, terminology and ranking
system. Dr. Green describes the project as well-conceived and will provide rural communities with an organized structure to promote conditions for rural revitalization. Thus, the experts support the overall premise of the application of the design framework and the proposed Fourth Zone as a feasible landscape-based strategy to aid rural revitalization.
Chapter 7 | Observations and Conclusions

Summary of Research

The primary goal of the thesis, to explore an integrative approach to greenway system design that supports a purposeful amenity-linked network and quality of life attributes as a strategy towards rural revitalization, was satisfied. Information on amenity, amenity migration, rural creative economy, rural revitalization and greenway system principles and evolution were collected through a literature review. Data on amenity, amenity migration, and rural creative economy was analyzed to get an understanding of existing connections, similarities, and specific attractors between the three topics. This information was synthesized into an assessment framework then combined with the information garnered on rural revitalization and greenway system principles to develop a design framework.

The intent of the design framework is to provide recommendations on incorporating amenities and qualities-of-place attractors (a proposed Fourth Zone) into the greenway system design process, resulting in a purposeful, amenity-linked greenway network to aid rural revitalization. The design framework was then applied to a rural community in Ontario, the United Counties of Leeds and Grenville, as a demonstration. Based on information gathered through Lagro’s (2008) design process, the inventory of existing conditions, identification of existing attractors, review of the County’s Official Plan, and the analysis of the opportunities and constraints of the site, combined to create a concept plan of a Fourth Zone greenway system. The design framework is intended to be used as a tool for community engagement at the beginning of the design process, to assist in initiating a discussion by community champions with an interest in preservation and revitalization. The design framework is designed to assist local champions to evaluate existing opportunities in their communities and to become
stewards in initiating the proposed revitalization strategy by introducing landscape as amenity. The design framework with overarching design guidelines and the application to the demonstration site were evaluated by a panel of key evaluators, with specific expertise in the field of amenity, greenways, rural revitalization, and tourism. The evaluators expressed concern about the proposed ranking system and its approach being successfully duplicated. Due to the purpose of the design framework, the specific steps and process of applying the ranking system to the demonstration site was withheld. The evaluators provided valuable recommendations and suggestions on the layout of the framework, further areas of literature to explore including the concept of third places, and for collaborative planning and management strategies. Overall, the proposed Fourth Zone, which is described as the process of developing an amenity-linked network with high connectivity and purposeful linkages, was described as having enormous potential. As a result, the proposed Fourth Zone is a feasible landscape-based strategy to aid rural revitalization. Therefore, this research provides landscape architects with an opportunity to heighten the quality of place and desirability of rural areas.

Applicability of Design Framework

The developed design framework was synthesized from information based on amenity and qualities-of-place attractors, quality of life characteristics, and greenway system benefits that were combined to increase the desirability of rural areas to tourists and potential permanent residents. To ensure the applicability of the Fourth Zone to a variety of rural communities, the design framework was not specific in detail, rather a set of overarching design guidelines were created. The guidelines provide recommendations on the composition and configuration of attractors, access points, connectivity, and
community nodes. Existing greenway system design processes are to be executed, while incorporating the Fourth Zone. This framework will serve as a starting point, to engage the community, and to initiate a discussion while highlighting the significance and the positive outcomes such a system can provide to a region.

**Limitations of the Study**

A demonstration at a site-scale level for a Phase 1 community node would be beneficial to communicating the design framework and overarching design guidelines. This level of design would showcase the connectivity of attractors through settlement areas and critical access point locations. Furthermore, it would demonstrate the integration of viewsheds across private and publicly-owned land; corridor opportunities using abandoned railway lines, hydro corridors, rivers and streams; and existing trail systems to connect to the regional greenway system. The regional concept plan provided in Chapter Four, visualizes how a multi-jurisdictional, amenity-linked greenway approach can be applied to a rural setting. This regional approach is another limitation; however, due to its vast scale and land mass, this limited the researcher's ability to design at a detailed level.

Due to the resources, time, and professionals available, a limited number of experts were engaged as evaluators and do not provide a representative sample of their profession. The intent of the key evaluator review was to confirm the information collected through the literature review, and to provide an expert perspective on the proposed Fourth Zone, its intent, and feasibility as a rural revitalization strategy.

Another limitation was the general nature of the developed framework. While the framework and overarching design guidelines are applicable to a wide variety of rural communities and landscapes, more detailed requirements in the execution of the ranking
system and target audience are needed. The general overview of community engagement, land ownership and acquisition, and collaborative management strategies outlined in the design framework, is another limitation. Further investigation and guidelines specifically gauged towards these topics would greatly enhance the design framework as a well-rounded tool for municipalities and the like.

Future Research

As stated earlier, a limitation to the research was in the general overview of community engagement, land ownership, land acquisition, and the collaborative management strategy process. Future research within each of these topics could be explored to ensure a successful execution through all phases of such a dynamic project. Funding opportunities and ongoing maintenance strategies at a regional approach can also be explored, as regional collaboration can raise issues on the proportionate share of benefits and associated costs between communities.

More research is needed on the role of amenities and qualities-of-place attractors and economic development to determine the monetary value, job opportunity, and business relocation potentials that an amenity-linked network system could create. Included within this future research is how existing cultural mapping guidelines can be incorporated into the overall Fourth Zone strategy. This information can be used to promote and market the region’s high quality of life, creating opportunities for destination tourism and increasing the desirability of rural communities to potential permanent residents.

Many urban planning projects are undertaken with the intent to create a positive experience, improve the existing environment and improve the quality of life. However, negative consequences can arise regardless of the original intent. One such negative
effect is the possibility of gentrification. Gentrification can lead to community
displacement for lower-income families, as attraction to an area increases with new
residents, causing increased property values and rental costs. Proactive planning
measures can be taken by being aware of such an issue by initiating strategies to be put
in place to help mitigate this result, however more research is required in this area to
explore resolutions.

Finally, further research can be conducted on connecting the proposed regional-
scale concept to municipal Official Plans to guide, protect, and direct future development
in a holistic, uniformed approach. Further research and involvement on the topics of
amenity and qualities-of-place needs to be conducted by landscape architects as this
profession provides landscape-based planning solutions.
References


and Rural Development: Theory, Methods and Public Policy (pp. 63–94). Edward Elgar Publishing.


Appendix A | Documents Provided To The Key Evaluators

Cover Page

DESIGN EVALUATION

Dear Key Evaluator,

The following evaluation was prepared to assess the design portion of my thesis. I appreciate your time and participation in completing this evaluation.

Your knowledge and expertise are invaluable to my research and education. Your assessment of my design guidelines and conceptual design application will play an important role in achieving the goal and objectives of my thesis.

By participating as a key evaluator, you acknowledge that:
1. Your participation is completely voluntary.
2. You are granting me (the researcher) permission to:
   a. Use the content of the evaluation in my thesis knowing that: “The thesis will be housed permanently in the Electronic Thesis and Dissertations section of the Atrium at McLaughlin Library and subsequently harvested by the National Library of Canada, where it may be accessed at Theses Canada.”
3. The deadline date for the return of the completed evaluation form to me is Monday March 26, 2018.
   *Note: If more time is required, please contact me to arrange deadline*

This package includes a cover page, design guidelines, and the evaluation reporting form. The evaluation form is in PDF format and is fillable. Please provide comments in the text boxes following each question. Once complete, the evaluation form can be returned to me via email at purvisa@uoguelph.ca

If you prefer to complete the form as a hard copy, please scan the completed document and return to the email listed above.

I would like to use your name and profession in my thesis; however, if you prefer I can use a code identifier instead. Please indicate your preference when you return your evaluation to me.

Thank you in advance for your participation.

Sincerely,

Amy Purvis
Appendix B | Evaluation Reporting Form

Integrating Amenity and Qualities of Place Elements into a Greenway System
Design as a Revitalization Strategy

Evaluation Reporting Form

Key Evaluator Name: ________________________________

The following questions are designed to evaluate the design guidelines and its application to the case study site. Four key evaluators with specific expertise in the field of amenity, greenways, rural revitalization and tourism have been engaged. The application of the design guidelines will incorporate amenities and qualities of place attractors into the greenway design process to ensure an integrative amenity-linked network, thus resulting in a land-based strategy to aid rural revitalization. Using your knowledge and experience, please assess the guide and its design application through the following questions.

Design Guideline Questions

1. Do you believe the guide accomplishes its intended purpose? Do you have any suggestions or recommendations based on your expertise?

2. Do the design guidelines as organized seem appropriate? If not, can you provide suggestions for improvement?

3. The amenity and qualities of place attractors were developed into an analysis framework based on a literature review. They form a fourth zone within a multi-objective greenway design- a proposed 4th generation.
   a. Does this new zone appear to be useful?
   b. Do you think there are any other amenity and/or qualities of place considerations needed? If so, what could these be?
4. Given the proposed ranking system, do you have any suggestions and/or recommendations to strengthen it?

5. Is there anything within the design guidelines that you believe is not necessary? Please identify this/these.

**Design Application**

6. In review of the Concept Plan, does the integration of a fourth zone and the greenway system into the rural landscape seem reasonable?

7. Do you feel the approach of determining the location of the greenway system and the ranking system used to identify community nodes are reasonable?

**Overall Comments**

8. Do you believe an integrative amenity-linked greenway network can contribute to a strategy for rural revitalization by attracting tourists and permanent residents?

9. Overall, do you believe this type of system will improve quality of life?

10. Overall, do you believe this type of system will preserve rural quality of place?

11. Are there any other comments you would like to offer?

Thank You for your participation, expertise, and time. It is truly appreciated.
## AMENITIES CHECKLIST

### Natural / Environmental

<table>
<thead>
<tr>
<th>Land Formation</th>
<th>Climate</th>
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<td>Temperature</td>
</tr>
<tr>
<td>Ravines</td>
<td>Amount of Sun</td>
</tr>
<tr>
<td>Valleys</td>
<td>Winter / Snow accumulation</td>
</tr>
<tr>
<td>Moraine</td>
<td>Air</td>
</tr>
<tr>
<td>Peninsula</td>
<td>Cleanliness</td>
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### Water

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<td>Wildlife areas</td>
</tr>
<tr>
<td>Lakes</td>
<td>Natural areas</td>
</tr>
<tr>
<td>Streams</td>
<td>Environmental quality</td>
</tr>
<tr>
<td>Wetlands</td>
<td>Scenic Views</td>
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**Note:** Mountains were removed from land formation category as not applicable to Ontario.

### Built

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<td>Non-Structured</td>
<td>Historic buildings</td>
</tr>
<tr>
<td>Skiing (Downhill &amp; Cross Country)</td>
<td>Historic Sites</td>
</tr>
<tr>
<td>Trails (off-road, multi-use)</td>
<td>Historic Landscapes</td>
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<td>Bicycle Lanes</td>
<td>Museums</td>
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<td>Sports Fields / Community Centers</td>
<td>Art Galleries</td>
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### Parks

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<td>Town Parks</td>
<td>Ethnographic Culture</td>
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<td>Shipwrecks</td>
<td>Rural Way of Life Values</td>
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<td>Underwater parks</td>
<td>Myths/Stories/Legends</td>
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QUALITIES-OF-PLACE CHECKLIST

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<td>Sports</td>
</tr>
<tr>
<td>Forests</td>
<td>Fitness</td>
</tr>
<tr>
<td>Open space/Areas</td>
<td>Parks</td>
</tr>
<tr>
<td>Sunny Winters</td>
<td>Cycle Lanes</td>
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<tr>
<td>Art &amp; History</td>
<td>Off-road trails</td>
</tr>
<tr>
<td>Concerts &amp; Theatre</td>
<td>Outdoor Recreation (cycling, biking, rollerblading)</td>
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<tr>
<td>Art Exhibits</td>
<td>Tourism Opportunities</td>
</tr>
<tr>
<td>Art Museums</td>
<td>Free, Non-institutional fitness</td>
</tr>
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<td>Cultural Landscape</td>
<td>Rural</td>
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<td>Literature/ Knowledge</td>
<td>Lower-Density Environment</td>
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<td>(College/Universities)</td>
<td>Slower Pace</td>
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<td>Cultural Heritage</td>
<td>Ease of Access</td>
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<td></td>
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<tr>
<td>Historic Buildings &amp;</td>
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</tr>
<tr>
<td>Monuments</td>
<td></td>
</tr>
<tr>
<td>History/ Museums</td>
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</table>

- Sunny Winters means areas that have more days with sun during the winter months
- Open Space/ Areas refers to large expanses of land (i.e.: Woodlands, Agricultural Land)
Appendix D | Key Evaluators Responses Summary

Key evaluator Code Identifier

GPG = Dr. G.P. Green
AR = Andrew Redden
JA = Dr. Jack Ahern
DB = Dr. David Brown

Key Evaluator Evaluation Response Summary

1. Do you believe the guide accomplishes its intended purpose? Do you have any suggestions or recommendations based on your expertise?

**GPG:** Yes, I believe the guide is a very useful publication for helping communities map their natural, built and environmental amenities. I only have a few suggestions. First, I would include a little more discussion about participation among stakeholders. What types of processes might be used to identify amenities and strategies? Second, there will inevitably be conflicts among stakeholders over how amenities should be used. What types of processes might be used to develop a consensus over these matters? References or "best practices" to achieve these goals might be discussed.

**AR:** I didn't know about Greenways or "Connected greenways" until I read your Design Guidelines. It's a new term for me. Therefore I'm reading this as someone completely new to the subject. One suggestion is be sure to provide lots of examples. Perhaps it won't work in an academic thesis/research paper, but today I'm wearing my "everyday person hat". For instance, when discussing the precedent in Chattanooga River Park, could there be some photos? What does it look like? Also, maybe I missed seeing it in your report, but I'm still sort of not sure if a Greenway is a public park or is it something like a trail?

**JA:** The guide is a good start but is not yet sufficiently clear to actually be used as a guide. I have made comments on the draft guide.

**DB:** I strongly support the concept of planning for integration of trails and greenways at the regional level, using an inclusive process which identifies and incorporates environmental, built, and cultural assets within a community. This seems to be one of the primary goals of the Design Guidelines document. However, beyond the overall exhortation to adopt such an approach and the qualitative recommendations, I remain unconvinced that the procedures advocated here (particularly the rather incomprehensible empirical ranking process) represent any meaningful progress towards achieving this goal.
2. Do the design guidelines as organized seem appropriate? If not, can you provide suggestions for improvement?

GPG: The design guidelines seems appropriate, but I do not have much expertise in this area.

AR: When you say "design guidelines", do you mean the Getting Started section on p. 10? I think the Planning Process you outline in a visual on p. 11 is helpful. Overall, I think if your intended audience is academic your report reads extremely well. If you're wanting to have your paper read and used by a municipal and community audience, I think you may wish to make it read quite simple and direct. Maybe later on you offer a different version that could appear in a publication like Municipal World for example.

JA: The guidelines are not yet clear in definition, and the checklist is too vague to be used. For example, how does one map "mountains"?

DB: I believe you must revisit your starting principles. These guidelines are 'justified' at the outset of your report by an uncritical acceptance of the theories of Richard Florida and his acolytes. These theories have considerable merit, but they are by no means immune to valid criticism, which is abundant in the literature. I think it is important that you review the literature in this area much more carefully and critically, as the residents of the very communities you are attempting to assist with these design guidelines are likely those who would question Florida's theories most vociferously. Many of the guidelines you propose (securing financing, finding champions, encouraging public consultation and participation in decision making, etc.) are well-established and necessary parts of the greenway planning process - but they are generic, and do not automatically emerge as components of a universally-supported campaign to attracting the creative classes to rural communities.

3. The amenity and qualities-of-place attractors were developed into an analysis framework based on a literature review. They form a fourth zone within a multi-objective greenway design - a proposed 4th generation.

   a. Does this new zone appear to be useful?

GPG: I thought this aspect of the proposal was the most innovative and adds a great deal to the design project. It also helps develop the regional approach that is advocated in the guide.

AR: Not knowing much about greenway planning I was hoping the final pages would shed some light on that, and the section titled "Applying Guidelines: A Demonstration of the Fourth Zone". I thought the reference to Leeds and Grenville is great and the maps. However, at times I wasn't sure what I was looking at and then the paper just ended. It doesn't seem to have a nice wrap-up and conclusion. Just me.

JA: After reading the guide, I'm still not clear what the 4th zone is? The guide should be consistent in terminology and include definitions, or narratives that define key terms and concepts such as 4th zone.
**DB:** In principle, the intellectual shorthand of describing an inclusive regional greenway planning process involving amenity mapping as '4th generation' might be useful.

But I do not think you have provided sufficient literature evidence to justify the need for specific terminology to describe what is, in many ways, a logical extrapolation of the regional planning process, applied with greenways as a central focus.

b. Do you think there are any other amenity and/or qualities of place considerations needed? If so, what could these be?

**GPG:** One of the issues that is not discussed is the importance of "Third Places," for promoting quality of life. I believe this may be an especially important issue for tourism as well. Third places provide opportunities for residents to develop a sense of place and make important connections.

**AR:** Perhaps outdoor recreation? Is Natural Heritage (geography) part of Greenway Planning?

**JA:** Generally, the guide is complete.

**DB:** Attempts at qualitative ranking of amenities and qualities of place are notoriously difficult, since they involve the artificial quantification of highly subjective value judgements that are readily open to alternative interpretation. To even begin to use such tools, one must clearly articulate the starting assumptions of such a process, and map out exactly how quantitative ranks are assigned to the various amenities under consideration. Vague allusions to a 'literature review' are not sufficient, and your one reference on the topic (LaGro 2008) is a broad-based site analysis text, not a specific methodology.

Apart from an initial broad categorization of attractors on page 15 of your report, you provide no substantive details about how these ranks are assigned, manipulated, tallied, or consolidated to aid in the greenway design or decision making processes. Furthermore, there appears to be conflation between the concept of 'rank', and the use of ranked data to produce some kind of empirical scoring outcome that is used to inform decisions.

4. Given the proposed ranking system, do you have any suggestions and/or recommendations to strengthen it?

**GPG:** No, I believe it provides a good guideline for this effort.

**AR:** I noticed that "Amenties" is missing an "i" on p. 15. Only suggestion might be to use an example of how the ranking system could be used. Can you provide an example from Leeds and Grenville to show the ranking system in action?
**JH:** I find the ranking system to be vague and unlikely to yield consistent results. I suggest testing the guide on some of your LA student colleagues - see if they can use it.

**DB:** The report as presented provides no example of how its target audience might go from the relatively straightforward step of identifying attractors in their region, to the much more difficult process of weighting and ranking their importance (a process that is inherently fraught with all sorts of self-interested political, economic, and cultural agendas).

I would recommend that you either a) eliminate this pseudo-quantitative approach completely, confining your discussions to a more fulsome exploration of the qualitative dimensions of the attractor categories that you have identified, or b) provide a much more robust, field-tested, literature-substantiated process to engage in the quantitative scoring that you are proposing.

5. Is there anything within the design guidelines that you believe is not necessary? Please identify this/these.

**GPG:** No

**AR:** No

**JA:** no

**DB:** The ranking process you have employed is not useful or necessary in its current form, for the reasons described above.

You might also profitably review your guidelines for statements which, though relevant, are phrased in a way that makes them seem trivial and simple. ‘Create, plan, and manage amenities’ and ‘[develop] maintenance, user safety, and risk management programs’ are indeed important steps - but to confine them to single, incidental bullet points is to diminish and trivialize components of a greenway design strategy that are indispensible.

**Design Application**

6. In review of the Concept Plan, does the integration of a fourth zone and the greenway system into the rural landscape seem reasonable?

**GPG:** Yes, it should apply to many rural communities.

**AR:** I think incorporating qualities of place attractors is important.

**JA:** I cant say because I dont understand it.

**DB:** As mentioned earlier, it is intellectually appealing to develop a theoretical framework that encapsulates and codifies new dimensions of a planning process, and to give it a name. However, it is still not evident to me that taking a regional approach to greenway
planning is novel or distinctive in any way, as similar approaches have been evident in the regional planning literature for decades. What, specifically, differentiates this greenway-focussed strategic approach from any other regional planning exercise? If you can identify that component, then you may have a case for new nomenclature. Otherwise, it may scan as obfuscatory jargon, and serve to alienate the audience it was intended to engage.

7. Do you feel the approach of determining the location of the greenway system and the ranking system used to identify community nodes are reasonable?

GPG: Yes, I think this is the most likely way to make this decision.

AR: I think so, but providing a real life example to see how it can be used in addition to describing is a suggestion.

JA: In principle, yes. The logic and references make a good case for greenways and the multiple benefits they can provide. The actual process for defining nodes and connections is not clear to me.

DB: No. You have not provided any mechanism or examples of the procedures you undertook to arrive at the regional greenway map for Leeds-Grenville on page 25 of your report. Despite mentioning a ranking system for attractors, there is no evidence given as to why certain attractors were included in the greenway network, while others were ignored.

Furthermore, you have not provided any rationale for why the corridors are oriented in the way that they are, or any insight into the critical realities of land ownership along the greenway routes you have identified. Positioning these corridors in the landscape requires a sensitive knowledge of ownership and jurisdictional realities along each route, as well as a reasonable prospect that the landowners or managers are predisposed to cooperate.

Overall Comments:

8. Do you believe an integrative amenity-linked greenway network can contribute to a strategy for rural revitalization by attracting tourists and permanent residents?

GPG: I believe it has the greatest potential for attracting tourists. I am less convinced that it will lead to an increase in permanent residents in these regions. Other factors seem to be more important for these decisions. Also, it would appear that this plan would work best in areas in commuting distance to larger urban areas. It is not clear how effective this might be in more isolated regions.

AR: I believe it can.

JA: Yes. However, the method/ranking system needs to be clear, consistent and replicable in order to be useful and defensible.
DB: Absolutely! This work has enormous potential. However, I do not agree that the starting premise of attracting the creative classes to rural municipalities is a very robust foundation for initiating this process. The socioeconomic realities of both the resident and the target populations for this kind of strategy are much more diverse than your analysis implies, and must be understood much better before proceeding with the development of a prescriptive guide to regional greenway development.

9. Overall, do you believe this type of system will improve quality of life?

GPG: I do believe it will enhance the recreational opportunities and amenity value of living in these communities.

AR: Yes I do.

JA: if implemented according to the project goals, yes.

DB: Yes. Literature examples and personal experience have convinced me that the establishment of an integrated network of greenways and trails is an excellent way to facilitate alternative transportation, economic development, recreation, environmental conservation, and broad-based social integration within and amongst our communities.

10. Overall, do you believe this type of system will preserve rural quality of place?

GPG: I am a bit skeptical that this type of system alone will generate the anticipated impacts. There are numerous other issues, such as housing and labor market issues, that may limit the movement of the creative class to rural communities. Most of the examples in the guide seem more appropriate for tourism.

AR: Yes I do.

JA: if it could be clarified to guide and inform a consistent implementation, yes.

DB: This depends entirely upon how the system is designed, implemented, and maintained, and the range of uses to which it is subjected. Publicly-accessible footpaths and bridle paths have been established features of the British countryside for centuries, and contribute immeasurably to the character and quality of rural areas throughout the UK. Private rural landowners in North America, however, are not always comfortable with this kind of unconstrained access.

Conversely, the design standards for suburban and nodal greenways (paved pathways, manicured greensward, standardized signage) may be completely out of place in rural communities. Similarly, the trail-related activities of rural populations (snowmobiling, ATV riding, dirt bikes, motocross) may be jarring to urbanites and suburbanites seeking undisturbed natural peace and tranquillity in rural areas.
11. Are there any other comments you would like to offer?

**GPG:** Overall, this is a well-conceived project that will provide rural communities with an organized structure to promote conditions for rural revitalization. These efforts will require significant collaboration across communities in a region. It should be recognized that this collaboration raises important issues about how benefits and costs are shared across the region. It is highly likely that some communities may receive the majority of benefits yet may not pay a proportionate share of the costs associated with maintaining the infrastructure to support natural and cultural amenities.

**AR:** None.

**JA:** Good work, certainly captures the main arguments in support of greenways, however needs clarification of terminology, especially the 4th zone, and more specific guidelines for rankings.

**DB:** I am assuming that this report is a draft, and that revisions are possible. As mentioned, I agree completely with the premise of your report (i.e., that integrated regional greenway planning based on the best use of existing amenities is a good thing, useful for socioeconomic development and for enhancing and diversifying the dwindling populations of rural communities). However, I think that you need to revisit and address some of your starting assumptions and their implementation, before attempting to produce something as ambitious as a prescriptive set of guidelines for the greenway planning process.

That said - please take these criticisms as constructive suggestions. The overall enterprise is eminently worthwhile.
Appendix E | Design Framework Guide

The design framework begins on the following page.
A DESIGN FRAMEWORK FOR CREATING AMENITY-LINKED NETWORKS

BY AMY PURVIS
2018

ACKNOWLEDGEMENT

A special thank you to my advisor Associate Professor S. Kelly and committee member Dr. K. Landman for their support, enthusiasm, and guidance as this document is a culmination of a University of Guelph Master of Landscape Architecture Thesis.

In addition to the support provided by funding from the University of Guelph Graduate Scholarship, the author of this guide would like to thank the key evaluators for their invaluable contributions.

© A. Purvis (2018)
A Design Framework For Creating Amenity-Linked Networks
University of Guelph | SEDRD Guelph, ON
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SECTION 1

THE PURPOSE OF THE FRAMEWORK

This document is a guide to viewing landscape as amenity through your community.

What a community offers, including its local cultural, historical, and natural amenities and recreation opportunities, can improve the perceived quality of life that the community provides.

A community’s quality of life and sense of place enrich the lives of citizens and visitors.
Quality of life and authentic experiences play a significant role in attracting tourists and permanent residents. Communities that are livable, environmentally sustainable and amenity-rich are where people want to live and work. Business and investment will follow.

Sense of place refers to an individual’s ability to develop feelings of attachment to a particular setting based on a combination of use, attentiveness, and emotion (Stokowski, 2002).

Quality of life refers to the general well-being of individuals and society defined in terms of health and happiness rather than wealth (Quality of life definition and meaning | Collins English Dictionary, n.d.).

For the purposes of this research, rural Ontario is defined as areas with modest density within commuting distance of a medium to large population center, in areas that have a mix of forest, open areas, waterways, undulating topography and agricultural fields, with large amounts of undeveloped land (McGranahan & Wojan, 2007).

Connected greenways are increasingly seen as the amenity that no community can do without

(Krummenacher, Swanstrom, & Tranel, 2008).
THE PROBLEM

A shift in demographic, social, and economic development is occurring in rural communities across North America (Goshell & Abrams, 2011; Green, Deller, & Marcouiller, 2005; Stolarick, Denstedt, Donald, & Spencer, 2010).

Three key factors for this shift include:
1. Restructuring of the agricultural sector,
2. Transitioning from manufacturing and extraction industries, and
3. The loss of young, educated workers.

Non-metro census divisions are losing their youth and young adults to migration who are not returning on a net-basis (Bollman & Rural Ontario Institute, 2015).

These are challenges for rural communities in their ability to promote economic growth. To counteract the decline of their local economies, many municipalities have turned to tourism as a primary rural development strategy (Dissart & Marcouiller, 2005; Fleischer & Felsenstein, 2000; Green et al., 2005; Stolarick et al., 2010; Wilson, Fesenmaier, Fesenmaier, & Van Es, 2001). Although there are varying levels of success in using tourism as an economic strategy, rural communities seldom achieve the success level, economic diversity, and self-sustaining momentum required for a sustainable future (Fleischer & Felsenstein, 2000; Green et al., 2005; Stolarick et al., 2010).
To create an amenity-linked greenway network
To aid as a revitalization strategy

The Goal
BACKGROUND

Quality of life and authentic experiences play a significant role in attracting tourists and permanent residents. Communities that are livable, environmentally sustainable and amenity-rich are where people want to live and work. What a community offers, including its local cultural, historical, and natural amenities and recreation opportunities, can improve the perceived quality of life that the community provides (Bille, 2010; Mcgranahan & Wojan, 2007; Stolarick et al., 2010).

Numerous studies have been conducted on defining amenity and amenity values, examining the supply and demand for natural amenities, exploring existing public policy and planning, and identifying the link between amenity and quality of life. These studies demonstrate that specific amenities and local characteristics have a profound effect in the relocation decisions of creative workers and amenity migrants.
CREATIVITY AND CULTURE ARE POWERFUL DRIVERS IN BUILDING LOCAL ECONOMIES AND STRENGTHENING QUALITY OF LIFE.


Both amenity migrants and creative workers are attracted to high-amenity communities and have the potential to become permanent residents to rural communities due to their mobility, talent, and ability to help stimulate high-tech growth.

Business and investment will follow. Greenways can increase the overall attractiveness of a region, both for tourism, and ultimately, for attracting new business and young professionals to an area (Carruthers & Mundy, 2006, p. 211)
BACKGROUND

Greenways generate economic, environmental, and social vitality by increasing connections between people and places (Krummenacher et al., 2008). They are networks of linear land elements that are planned, designed, and managed for multiple purposes including ecological, recreational, cultural, and aesthetic (Ahern, 1995). The spatial arrangement of a multi-objective greenway system can be woven into an existing rural fabric with minimal disruption (Sears, 1995).

Greenways provide opportunities for exploration and play and are multi-objective—addressing the needs of wildlife, decreasing flood damage, improving water quality and other infrastructure needs, and improving aesthetics for communities and recreation. They can foster stewardship and education across ethnic, cultural and class lines. Greenways can mitigate or prevent environmental harm caused by development while providing:

- Social
- Health
- Environmental, and
- Economic benefits.

The rise of regional greenways is a response to changing recreational patterns. More people are adopting active lifestyles, involving hiking, jogging, bicycling, inline skating, and cross-country skiing. Greenways are even viewed as drivers of regional economic development (Krummenacher et al., 2008). Corporations, creative workers, amenity migrants and tourists seek out high quality-of-life places. The presence of certain amenities are more important than the costs of production or access to markets (Florida, 2004; Pratt, 2008). Creative class workers value easy access to recreation to recharge after working intensely for long hours; they need parks or trails nearby (Florida, Møllerander, & Stolarick, 2009). Properly designed and managed greenways can also tie diverse neighbourhoods together (Hellmund & Smith, 2006) and deepen people’s sense of community.

GREENWAYS CAN INCREASE THE OVERALL ATTRACTIVENESS OF A REGION, BOTH FOR TOURISM, AND ULTIMATELY, FOR ATTRACTING NEW BUSINESS AND YOUNG PROFESSIONALS TO AN AREA

(CARRUTHERS & MUNDY, 2006, P. 211)
SECTION 2

A SUCCESS STORY AND KEY FINDINGS
Greenway as a Revitalization Strategy

A Precedent: Chattanooga River Park, TN

When new environmental regulations were implemented to improve air quality, this once-strong manufacturing economy declined. A task force was formed to brainstorm, research, and find a solution. A 20-mile long greenway was created as a revitalization strategy. The system linked amenities through trail systems and connected the downtown core to the river through a series of walkways. The "Chattanooga Process" was coined and included a strong vision, community support, and collaboration. A master plan was developed by multiple stakeholders, including community citizens. To assure uniformity across the final greenway, a set of design guidelines were specified.

IMPACTS:
- Improved the economy
- Received numerous awards and had delegates from 150 cities to study or visit to understand and duplicate its success in 2000.
- Continuous planning and community involvement are vital to the success.
- Generated over $133 million dollars in revenue during the 1st year of operation due to greenway amenities.

Residents along the greenway felt the adjacent trails added to appeal of the property when making decisions to buy or rent.

Greenway users felt that trail corridors greatly contributed to their community’s quality of life.
The Chattanooga Process: 4 factors imperative to its success:

1. A “wake up” call
2. A “mover and shaker” in the community
3. Community participation and stewardship
4. Partnerships at every stage of the project

The amenity value of parks and other open space has potential for enhancing the economic viability of communities (Shafer, Scott, & Mixon, 2000). Companies that are small and low resource dependent are significantly more likely to locate in communities that have good open space, parks, and related recreational opportunities. The community benefits because greenways create new markets in the community, such as tourism and outdoor recreation activities (Markeson, 2007).

Tourists are drawn to areas with a combination of natural, cultural, and built amenities, and many of these same qualities that are used to attract tourists also attract creative workers and amenity migrants who then become permanent residents (Stolarick et al., 2010). Specific amenities and local characteristics thereby have a profound effect on the relocation decisions of creative workers and amenity migrants. These local amenities are therefore vital in rural revitalization, and thus the need to identify what they are and where they are.
“THE AMENITY QUALITY OF LANDSCAPE IS DESTINED TO ACT AS THE MAIN RESOURCE FOR RURAL AREAS DEVELOPMENT IN THE 21ST CENTURY”

(Domon, 2011, p. 339)
SECTION 3

GETTING STARTED

This section of the guide is intended to assist in initiating a discussion by community champions with an interest in preservation and revitalization. The guide is designed to assist local champions to evaluate existing opportunities in their communities and become stewards in initiating the proposed revitalization strategy.
THE FOURTH ZONE

Traditionally, multi-objective greenways are designed with three key zones: ecological, recreation, and culture/history.

The Fourth Zone will incorporate amenities and qualities-of-place attractors into the greenway design process. These zones, together, generate a strong quality of life and sense of place.

Identifying key amenities & qualities-of-place attractors within your community will determine the location of nodes and linkages within the greenway system. Thereby, connecting multiple communities with high attractors into the greenway fabric.

A ranking system will aid in the design of access points, trail linkages, community node hierarchy and locations, and overall connectivity.

This will ensure a strong amenity-linked network is created based on the level of preference for the attractors identified by amenity migrants and creative workers and associated guidelines outlined within the ranking system and greenway elements.

Through this process, purposeful linkages, access points, and community nodes will be created, thereby strengthening the region’s quality of life and sense of place. This process of developing an amenity-linked network will be known as the Fourth Zone.

“Leaders invested in the holistic improvement of a community can stir up ideas and motivation”

(Markeson, 2007, p. 1514)
WHAT ARE AMENITIES ATTRACTORS?

Amenities are elements of a region that contribute to an attractive place to live and work (Green et. al., 2005; Green, 2001; Moss, 2006).

There are three main categories of amenities, each with specific attractors that are valued by people in general. The quality and quantity of each, including convenient access across multiple jurisdictions, increases the perceived value.

Below is a checklist to be used to identify, inventory, and assess existing amenities.

### AMENITIES CHECKLIST

<table>
<thead>
<tr>
<th>Natural/ Environmental</th>
<th>Built</th>
<th>Cultural</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Land Formation</strong></td>
<td><strong>Recreational</strong></td>
<td><strong>Tangible</strong></td>
</tr>
<tr>
<td>☐ Topographic features</td>
<td>☐ Programmed</td>
<td>☐ Historic buildings</td>
</tr>
<tr>
<td>☐ Ravines</td>
<td>☐ Non-Structured</td>
<td>☐ Historic Sites</td>
</tr>
<tr>
<td>☐ Valleys</td>
<td>☐ Skiing (Downhill &amp; Cross Country)</td>
<td>☐ Historic Landscapes</td>
</tr>
<tr>
<td>☐ Moraine</td>
<td>☐ Trails (off-road, multi-use)</td>
<td>☐ Museums</td>
</tr>
<tr>
<td>☐ Peninsula</td>
<td>☐ Bicycle Lanes</td>
<td>☐ Art Galleries</td>
</tr>
<tr>
<td></td>
<td>☐ Sports Fields/ Community Centers</td>
<td>☐ Universities/Colleges/ Learning Institutions</td>
</tr>
<tr>
<td><strong>Water</strong></td>
<td><strong>Parks</strong></td>
<td><strong>Orchestras</strong></td>
</tr>
<tr>
<td>☐ Rivers</td>
<td>☐ Open Space</td>
<td>☐ Fine Dining</td>
</tr>
<tr>
<td>☐ Lakes</td>
<td>☐ Town Parks</td>
<td>☐ Cemeteries</td>
</tr>
<tr>
<td>☐ Streams</td>
<td>☐ Shipwrecks</td>
<td><strong>Intangible</strong></td>
</tr>
<tr>
<td>☐ Wetlands</td>
<td>☐ Underwater parks</td>
<td>☐ Living Culture</td>
</tr>
<tr>
<td></td>
<td></td>
<td>☐ Ethnographic Culture</td>
</tr>
<tr>
<td></td>
<td></td>
<td>☐ Rural Way of Life Values</td>
</tr>
<tr>
<td></td>
<td></td>
<td>☐ Myths/Stories/Legends</td>
</tr>
</tbody>
</table>

Note: Mountains were removed from land formation category as not applicable to Ontario.
WHAT ARE QUALITIES-OF-PLACE ATTRACTORS?

Qualities-of-place are attractors that both amenity migrants and creative workers deem attractive and signify strong quality of life. Active lifestyles and authentic experiences play a significant role in sense of place.

Amenity migrants and creative workers value environment, art and history, rurality and lifestyle amenities. These are referred to as qualities-of-place attractors.

Below is a checklist to be used to identify, inventory, and assess existing qualities-of-place attractors.

### QUALITIES-OF-PLACE CHECKLIST

<table>
<thead>
<tr>
<th>Environmental</th>
<th>Lifestyle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mountains</td>
<td>Sports</td>
</tr>
<tr>
<td>Forests</td>
<td>Fitness</td>
</tr>
<tr>
<td>Open space/ Areas</td>
<td>Parks</td>
</tr>
<tr>
<td>Sunny Winters</td>
<td>Cycle Lanes</td>
</tr>
<tr>
<td>Art &amp; History</td>
<td>Off-road trails</td>
</tr>
<tr>
<td>Concerts &amp; Theatre</td>
<td>Outdoor Recreation (cycling, biking, rollerblading)</td>
</tr>
<tr>
<td>Art Exhibits</td>
<td>Tourism Opportunities</td>
</tr>
<tr>
<td>Art Museums</td>
<td>Free, Non-institutional fitness</td>
</tr>
<tr>
<td>Cultural Landscape</td>
<td>Off-road trails</td>
</tr>
<tr>
<td>Literature/ Knowledge</td>
<td>-</td>
</tr>
<tr>
<td>(College/Universities)</td>
<td>-</td>
</tr>
<tr>
<td>Cultural Heritage</td>
<td>-</td>
</tr>
<tr>
<td>Science Centers</td>
<td>-</td>
</tr>
<tr>
<td>Historic Buildings &amp;</td>
<td>-</td>
</tr>
<tr>
<td>Monuments</td>
<td>-</td>
</tr>
<tr>
<td>History/ Museums</td>
<td>-</td>
</tr>
<tr>
<td>Lower-Density Environment</td>
<td></td>
</tr>
<tr>
<td>Slower Pace</td>
<td>-</td>
</tr>
<tr>
<td>Ease of Access</td>
<td>-</td>
</tr>
</tbody>
</table>

- Sunny Winters means areas that have more days with sun during the winter months
- Open Space/ Areas refers to large expanses of land (i.e.: Woodlands, Agricultural Land)
Ranking System

The amenities and qualities-of-place attractors (QoP) have been combined into a ranking system informed by a literature review. This ranking system will aid in the planning and design of access points, trail linkages, community node hierarchy and locations, and overall connectivity. This will ensure a strong amenity-linked network is created based on the level of preference for the attractors identified by amenity migrants and creative workers. The ordinal scale system allows for rank order of preference and not the relative degree of difference between the attractor type. All attractors are valued by creative workers, amenity migrants, and existing residents.

Preference Scale: 1st = Highly Valued .......... 4th = Less Valued

**Type of Attractor**

<table>
<thead>
<tr>
<th>Rank</th>
<th>Amenities</th>
<th>QoP</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>Natural/ Environmental</td>
<td>Environmental</td>
</tr>
<tr>
<td>2nd</td>
<td>Built</td>
<td>Lifestyle</td>
</tr>
<tr>
<td>3rd</td>
<td>Cultural</td>
<td>Art &amp; History</td>
</tr>
<tr>
<td>4th</td>
<td></td>
<td>Rurality</td>
</tr>
</tbody>
</table>

**Quality and Quantity**

- The increased quantity of each amenity and qualities-of-place attractors, and the quality of each within a concentrated area, raises the rank.
- i.e.: A Parkett= 2 built + 2 lifestyle + 5 (amount of parketts) + good condition/well maintained    Total: 10 pts

**Convenient Access**

- The proximity of each attractor to settlement areas, including education facilities and residential areas, raises the rank.
- Access to each attractor found within a 10-minute walk from residential and business/office zones raises its rank.
Greenway Elements

Traditionally, multi-objective greenways are designed with three key zones: ecological, recreation, and culture/history. The Fourth Zone will incorporate amenities and qualities-of-place attractors into the greenway design process to support an integrative amenity-linked network. These zones, together, generate a strong quality of life and sense of place.

Connectivity

• Connectivity refers to the extensive process of connecting the various parts of the Fourth Zone design framework to one another.
• Connections are to be designed to link community nodes, settlement areas, and attractors, thereby making a purposeful pathway and/or trail network.
• Pathway and/or trail connections will link an amenity and/or QoP attractor.
  o Physical connections can be created through trails, paths, and greenspaces that connect directly to an attractor.
  o Visual connections can be created through framed views, vistas, etc. depending on land-ownership status and design intent. This connects the viewer to the landscape or architectural element through line-of-sight.
  o The strategic placement and composition of these physical and/or visual connections can significantly heighten the user’s experience while allowing for the appreciation of the specific element regardless of its location and ownership.

Community Nodes

• Community nodes refer to the intersection of pathways and/or trails to a central connecting point.
• Nodes are to provide convenient access and can be multi-jurisdictional.
• Node points will be located in high-amenity/quality-of-place concentration areas.
• Identification and the ranking system results will decide the location of these nodes.

Access Points

• Access points refer to entrance sites that connect users to the greenway system.
• Key access points are to be located within a 10-minute walk from settlement areas, including education facilities, residential areas, and business/office areas.
INTEGRATIVE/COLLABORATIVE PLANNING APPROACH

Rural hamlets, villages, and towns are too small to plan on their own for amenity migration and retention of creative workers. It is strongly encouraged for these groups to come together in a regionally-scaled, multi-jurisdictional, collaborative planning process to promote each other’s amenities and to develop a collective management strategy (Chipeniuk, 2004, 2008).

Existing policies need to be expanded and updated to include sustainable community development and a common language for amenity and creative worker migration (Chipeniuk, 2004, 2008; Corney et al., 2015; Deller et al., 2001; Gosnell & Abrams, 2011; Green, 2001; Moss, 2008; Pratt, 2008; Stolarick et al., 2010). Current mechanisms that afford regional approaches provided by the government of Ontario are:

- **Regional Tourism Organizations** provide leadership and coordination to support competitive, sustainable, tourism regions (Ontario Ministry of Tourism, Culture, and Sport, n.d.)

- **The Rural Economic Development Program (RED)** provides support to rural Ontario to generate investment and to create jobs while removing barriers to community economic development (Ontario Ministry of Agriculture, Food, and Rural Affairs, n.d.)
A Continued Management Strategy

Ownership and management of the completed greenway should be established. Multiple ownerships can be possible with regional systems as they offer a diversity of greenway types. These include:
- Private Ownership
- Public Ownership
- Mixed Ownership
- Protected Amenities & Attractors to acquire and/or protect.

Funding opportunities and funding sources should be identified. Knowing what your project will cost, who is going to fund it, and how to obtain funding is instrumental for success.

Maintenance, user safety and risk management programs should be developed. Greenways are a long-term investment so proper planning for each stage is vital.
Overarching Design Guidelines

A set of overarching design guidelines were created to summarize the Fourth Zone design framework. These overarching guidelines are recommended for regionally-scaled sites. The guidelines have been separated into three sub-headings: pre-design considerations, design considerations, and post-implementation considerations.

Pre-Design Considerations

1. Identify the problem(s)
2. Find a local ‘Champion’ in the community who can assist with leadership and funding throughout the entire process. This can be a philanthropist, a member of council, or a foundation and/or organization with a focus on sustainable development who can create momentum and champion the process.
3. Create a steering committee or task force with a range of stakeholders.
4. Develop a project goal, objectives and vision.
5. Invest in hiring a professional consultant, preferably a landscape architect with expertise in community engagement. Landscape architects provide landscape-based planning solutions and can facilitate the process with multiple stakeholders.
6. Develop a community engagement strategy to foster participation and stewardship.
7. Encourage collaborative planning amongst all stakeholder groups and municipalities to plan and promote each other’s amenities to increase tourism and entice potential permanent residents.

The Fourth Zone: Greenway Specific:
8. Conduct land-use analysis and environmental assessments.
9. Develop greenway system goals and objectives. The overall aim of the greenway must be to strengthen the integrity of the landscape, including both its natural and social components.
Design Considerations

Amenities & Qualities-of-Place

Attractor Specific:

1. Identify, inventory, and assess amenities and qualities-of-place attractors.
2. Rank these attractors using the ranking system.
3. Map the attractors and then identify phase 1 and phase 2 nodes based on the ranking results.
4. Provide a linked-network with convenient access to attractors within multiple jurisdictions to increase the appeal of the destination.
5. Provide convenient access to community nodes near all settlement areas, either directly or through linkages (i.e.: pathways, trail system).
Research shows successful access points are located within a 10-minute walk.
6. Design nodes to include physical linkages, framed views, and spiritual linkages. Physical linkages include trails, paths, and greenspaces that connect directly to an attractor. Framed views include line-of-sight connections that preserve a direct view to a specific attractor. Spiritual linkages include religious architecture and socio-cultural events.

The Fourth Zone: Greenway Specific:

7. The greenway system must be multi-functional; integration of historical, cultural, aesthetic, and recreational goals should be established during the planning stage.
8. The greenway system must function as a wildlife corridor, landscape feature, recreation resource, amenity-linked network, and a strategic break between adjacent areas of development.
9. Connectivity between natural, built and cultural amenities to population centers must be provided.
10. The connectedness, pattern and configuration of the land area are extremely important.

a. Placement of trails and/or pathways are to be designed to connect attractors, thereby creating purposeful linkages.
b. Viewsheds of highly valued visual attractors should be revealed, highlighted, and maintained.
Post-Implementation Considerations

1. Develop a collective, continued management strategy with all involved in the collaborative planning process. This strategy should include:
   a. Ownership and Management
   b. Funding opportunities and sources
   c. Maintenance, user safety and risk management program development.

Amenities & Qualities-of-Place Attractor Specific:

2. Create a plan and management strategy for existing and future attractors

The Fourth Zone: Greenway Specific:

3. The greenway system should be used as a form to structure communities and future development.
4. Develop and/or update community design standards that require the incorporation of this design framework into future development, with connectivity and linkages being key.
5. Plan and design future gray and green infrastructure together.
SECTION 4

APPLICATION: A DEMONSTRATION OF THE FOURTH ZONE
A Demonstration Site

The following section demonstrates the feasibility of creating an integrative, amenity-linked network, rich in amenity and qualities-of-place attractors, as a landscape-based approach to aid in the revitalization of rural communities.

Case Study Site: United Counties of Leeds and Grenville

Location: Eastern Ontario along the St. Lawrence River

Government Structure: The County is an upper-tier municipality with 10 lower-tier municipalities, including 7 Townships, 1 Municipality and 2 Villages. There are 4 settlement areas classified as small population centers (pop. 1,000-29,000) with the remaining settlement areas classified as rural (pop. <1,000) as per the Government of Canada's definitions.

Size: 3,350 square kilometers

Population: 100,546
Amenities & Qualities-of-Place

This table identifies existing amenity attractors within the project scope of the demonstration site.

<table>
<thead>
<tr>
<th>Identification of Amenity Attractors</th>
<th>Lower-Tier Municipalities within United Counties of Leeds and Grenville</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Township of Athens</td>
</tr>
<tr>
<td>Topographic features</td>
<td>•</td>
</tr>
<tr>
<td>Mountain</td>
<td>•</td>
</tr>
<tr>
<td>Granite</td>
<td>•</td>
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<tr>
<td>Valleys</td>
<td>•</td>
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<tr>
<td>Moraine</td>
<td>•</td>
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<tr>
<td>Peninsulas</td>
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<tr>
<td>Rivers</td>
<td>•</td>
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<tr>
<td>Lakes</td>
<td>•</td>
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<tr>
<td>Streams</td>
<td>•</td>
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<tr>
<td>Wetlands</td>
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<tr>
<td>Temperature</td>
<td>•</td>
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<tr>
<td>Amount of Sun</td>
<td>•</td>
</tr>
<tr>
<td>Water</td>
<td>•</td>
</tr>
<tr>
<td>Natural (Environmental)</td>
<td>•</td>
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<tr>
<td>Wetlands</td>
<td>•</td>
</tr>
<tr>
<td>Natural areas</td>
<td>•</td>
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<tr>
<td>Wildlife areas</td>
<td>•</td>
</tr>
<tr>
<td>Environmental quality</td>
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<tr>
<td>Scenic Views</td>
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<td>•</td>
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<td>Non-Structural</td>
<td>•</td>
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<tr>
<td>Skilling (Downhill &amp; Cross Country)</td>
<td>•</td>
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<tr>
<td>Trails (off-road, multi-use)</td>
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<tr>
<td>Recreation</td>
<td>•</td>
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<tr>
<td>Bike Park</td>
<td>•</td>
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<tr>
<td>Skiing</td>
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<tr>
<td>Open Space</td>
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<td>City Parks</td>
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<td>Sports Fields</td>
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<td>Cultural</td>
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<td>Historic Landscapes</td>
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<td>Museums</td>
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<td>Art Galleries</td>
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<td>Libraries/Colleges/Learning Institutions</td>
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<td>Orchestra</td>
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</tr>
<tr>
<td>Fine Dining</td>
<td>•</td>
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<tr>
<td>Cemeteries</td>
<td>•</td>
</tr>
<tr>
<td>Living Culture</td>
<td>•</td>
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<tr>
<td>Ethnographic Culture</td>
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</tr>
<tr>
<td>Trailhead</td>
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<tr>
<td>Characteristic Values</td>
<td>•</td>
</tr>
<tr>
<td>Behavioral Traits</td>
<td>•</td>
</tr>
<tr>
<td>Mythology/Traditions</td>
<td>•</td>
</tr>
</tbody>
</table>

Amenities and Attractive Qualities-of-Place Map

An amenities and qualities-of-place map was created for the case study site, identifying existing attractors by implementing the design framework outlined in this guide. The attractors are identified on the map using the ranking system.
Fourth Zone Greenway Concept Plan

An inventory and analysis process (LaGro, 2008) was executed to determine the suitable location of the greenway system, in addition to the Fourth Zone design framework. The following concept plan demonstrates an integrative amenity-linked greenway network (also known as the Fourth Zone) at a regional scale.
Summary

The concept for the United Counties of Leeds and Grenville demonstrates a landscape-based approach to creating an integrative amenity-linked greenway network. The network incorporates 3,350 square kilometers of land, 10 community nodes, 427 attractors, and 10 lower-tier municipalities which includes 7 townships, 1 municipality, and 2 villages. By understanding the function and intricacies of greenway system design, and the specific characteristics that attract people to locations and their level of preference for these attractors, a Fourth Zone can be designed into the multi-objective greenway process to support purposeful linkages, improve the overall connectivity and provide opportunities for education, stewardship, and community involvement at all stages of the process. An integrative and collaborative planning approach is recommended to develop a regionally-scaled, multi-jurisdictional collective management strategy. A continued management strategy should incorporate and outline the ownership, land acquisition and management of the completed greenway, along with a maintenance, user safety, and risk management program.
SECTION 5

REFERENCES
REFERENCES


