Setting a Context

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Contemporary social, economic, and environmental transformations are forcing small town leaders and administrators to rethink urban policies and planning strategies. This chapter explores the nature of these complex changes and the theory behind the decision-making that looks to grapple with them. After first defining the key attributes of small towns, we will proceed to map the variety of transformations underway—social, economic, and environmental. This is followed by a general discussion of the nature of urban decline and renewal. Finally, we establish the principles of sustainable urban planning as a theoretical framework that offers a way forward in an era of complex change.

1.1   A Place of Reference

Located 31 miles (50 km) east of Finland's capital Helsinki is the city of Porvoo. With a population of 49,000, this community adheres to many environmental, social, and economic sustainable development principles. Initiatives introduced by the city include renewable energy projects, innovative public transportation systems, and measures to accommodate the needs of senior citizens. In a bid to become a leader in green tech, the municipality also put concerted efforts into attracting specialized enterprises (Jaakkola 2007). Additionally, Porvoo paid special attention to the urban renewal of the city's old centre.

Waves of settlers first arrived in Porvoo in the fourteenth century, and over the periods that followed, the settlement had to continuously fight for its existence. Be it a result of natural catastrophes or damages caused by conquering armies, the town had to rebuild itself time and again. Despite this history of conflict and change, the settlement has maintained a large part of its original urban form and architectural style (Sparre 1897).

As to this form and style, the paved cobblestone streets in the historic centre are edged by neatly painted two- and three-storey wooden structures (Fig. 1.1). The place is a mix of residential and commercial buildings, and among the stores that

Fig. 1.1 Views of old and new Porvoo, Finland

serve the locals are businesses that cater to tourists like me. A short distance from the town centre, along the Porvoonjoki River that runs through the city, one can find rows of the red-painted shore houses. Originally used for storage of boat-important goods, these structures have since been converted into residences.

The old centre, and in particular the shore houses, served as inspiration for the design of a new neighbourhood across the river: Skaftkarr. Architect Tuomo Siitonen embedded several sustainable principles into the new design, including walkability, design for active living, diversity of dwelling type, and energy efficiency. The saffron and red ochre-painted new homes are a visual link to the past but designed in a contemporary style.

In essence, Porvoo stands for what this book is about, namely, it represents one of the many examples that this book seeks to explore on urban renewal in small towns achieved through adherence to sustainable principles. This is a shining example of a place that respects its past—a place that builds on this past without losing sight of its future needs. In fact, the restoration was used as an economic leverage and inspiration for the generation of new wealth and innovative development.
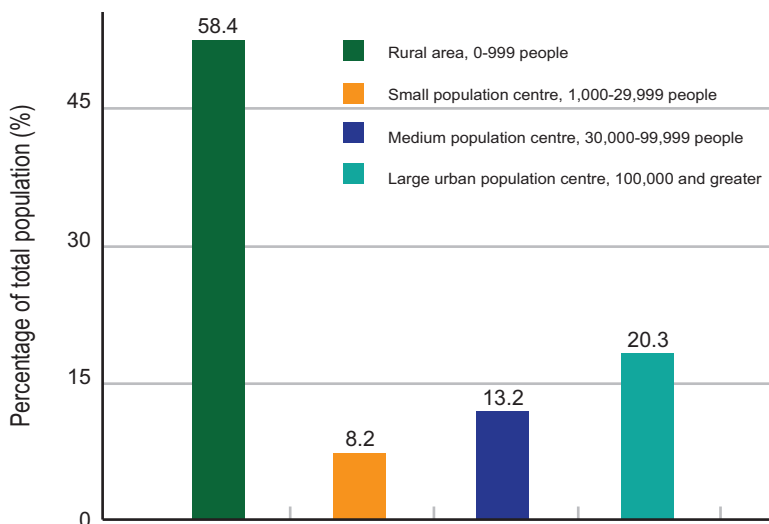
Fig. 1.2   Distribution of Canada's population by place of residency

1.2   Defining Characteristics of Small Towns and Mid-Sized Cities

A variety of measures and criteria have been introduced in an effort to define small towns, with population size measured area being the leading yardsticks. For example, Ofori-Amoah (2007) suggests that small cities are loosely defined as those with less than 100,000 residents, while French (2005) defines these areas as those with populations of between 2500 and 25,000 inhabitants. Naturally, due to the geographical differences between nations, the definitions may also vary country to country. For example, in Canada, the Centre for Justice Statistics (2006) suggests that a small town is "any urban area that has a minimum population of 1,000 persons and a population density of at least 400 hundred persons per square kilometer".

In addition to small towns, "mid-sized cities" or "mid-sized towns" are also commonly referred to by the literature. By some definitions "mid-sized" includes urban areas with populations between 50,000 and 100,000 people. In this book, municipalities whose population does not exceed 100,000 inhabitants are considered small towns; the term "small" will here also include "mid-sized".

North American statistics demonstrate that the majority of the population live in small, rural, and mid-sized communities. For example, as shown in Fig. 1.2, in a sparsely populated nation like Canada, 58.4% of the population lives in rural areas, while 21.4% live in small- to mid-sized towns, and the remaining 20.3% live in large urban centres (Statistics Canada 2011). According to the United States Census

Bureau (2009), in 2006 54% of Americans lived in cities with populations between 10,000 and 250,000. Of them, 40% lived in cities between 10,000 and 100,000. In Europe, the percentage of those who live in small- and mid-sized communities is reaching 38% (European Union 2011). Considering the staggering global population growth and a trend toward urbanization, one can assume that new small towns will also be developed and rural hubs expanded.

Unlike highly populated cities that wield political and economic power in a nation, small towns are rarely the focal point of federal politicians and often receive little national media attention (Ofori-Amoah 2007). For example, a single square mile in New York City could house upwards 18,000 residents (10,500 residents per square kilometre). Therefore, population wise, 2 mi^2 of a large city has approximately the same population of a small or mid-sized town. Yet, as noted above, the combined number of those residing in small towns might, in some nations, be greater than those who reside in big cities. At times, this can direct policies in their favour.

Historically, small towns have originated in various locations and for a variety of reasons (as will be discussed in Chap. 2). Some (primarily post-World War II towns) have been built on the outskirts of cities to form urban metropolises, while others are geographically isolated and less dependent on large cities. Of course, a small town may also be located somewhere between these two ends of the spectrum. In general, the number of small towns within a country depends on its overall level of development, namely, developed nations tend to be more urbanized and have more large cities, whereas developing countries, with their economies more closely tied to agriculture, will have more small towns and villages.

In regard to what motivates people to migrate to small towns, Filion (2010) suggests that urban systems are first shaped by a demand for staples and, subsequently, by the "dichotomy between an industrial heartland and resource-based hinterland" (p. 517). As a result, unique opportunities, such as very cheap land, lead to migration and eventually to the establishment of a community. In other times, small towns have attracted those who crave both traditional social values and a unique physical environment. Other documented reasons to migrate to a small town are specialized employment opportunities, proximity to family, and housing affordability (Tabuchi et al. 2005).

Small towns can also be distinguished according to their economic drivers, of which are largely dependent on a place's location. Due to a limited workforce, a town may attract fewer enterprises and rely on a single resource or employer, which might be natural such as mining or forestry. Additionally, when a place is endowed with inviting natural scenery, it may draw in visitors to support a tourist industry (often times seasonally). Location near a major national or local highway is another crucial factor, making the offering of services to travellers a central economic pillar. Another consideration is the establishment of a large institutional or service centre, such as a university, that will create a plethora of jobs in those facilities (Fig. 1.3).

A smaller community will also impart a more intimate social behaviour among the townsfolk. Having less people generally implies that neighbours can get to know and see each other more often, and this familiarity can develop into a unique form of kinship (Adams 1960; Lampard 1965). The small scale also encourages a more laid-back lifestyle compared to the hectic rhythm of a large city. A place's unique

Fig. 1.3   One of the economic pillars of Hanover, New Hampshire, is Dartmouth College

cultural traditions, which often have decades of practice, will further distinguish a small town from a city setting. The sense of place represented among others by the imagery, noises, and smell will leave its own impression on locals and visitors, making a place truly unique (Fig. 1.4).

Small towns' folksy and relaxed attitude seems to attract people who value such attributes. The public perception is that these towns appear to be a suitable place to raise a family while also providing a low-key, natural vibe. One drawback to living in a small town is its limited human resources, services, and amenities, namely, goods that are produced or sold a distance away will have to be imported or ordered online or require long commute to obtain. Given the small population size and economy of scale, products tend to be more expensive as well.

1.3   Implication of Social Transformations on Retooling Town Centres

Despite the fact that small towns are removed from the political epicentre of a country, they are not immune to national and global social transformations. In a highly connected world where information can be easily accessed and economies are highly integrated, concepts or ideas that were originated halfway across the world may inspire other locations. At the outset of any urban renewal process, one needs to be aware of these trends and recognize what their potential implication might be. In this section, we will explore three domains of global transformation affecting small towns today: sociodemographic, environmental, and economic. I should note that the implications of these trends can be observed in most nations, yet they are highly noticeable in Western societies.

Fig. 1.4 Images of Woodstock, Vermont, USA

1.3.1 Sociodemographic Trends

In the last 50 years, the world has witnessed its proportion of senior citizens increase more rapidly than any other age bracket. In 1950, 205 million inhabitants were age 60 or over. Half a century later, this figure has increased threefold and is expected to reach 2 billion by 2050 (UN 2002). What's more, there has been a significant decrease in the potential support ratio as mortality rates decline and fertility in more developed regions fall well below their replacement levels. This tipping dependency ratio means that health and pension funds will continue to be supported by a relatively smaller number of economically active citizens (UN 2002).

In Canada, for example, with the ageing of the "baby boom" generation, the number of older persons has been gradually increasing (Fig. 1.5), so much so that the average population age has grown by 10.2 years over the past 30 years alone, making the average Canadian citizen aged 41 years old. This number is especially notable compared to 1982, when the median age was 31. Even more, all age groups 45 years and over have showed at least a hundred percent increase since the established 1982 tabulation (Statistics Canada 2015).

Small towns tend to suit older people due to the relaxed lifestyle they support but also because they generally offer more affordable living and closer proximity to basic amenities and commerce. On the other hand, seniors can just the same leave a small town for a city that offers more amenities, such as specialized medical care and entrainment. To meet the needs of its ageing population and compete with the attraction of big cities, small towns will have to accommodate seniors in a number
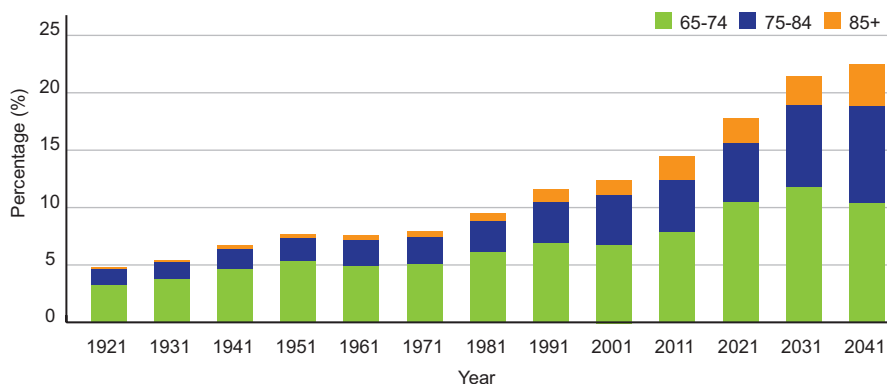
Fig. 1.5 Canadian seniors by age groups as percentage of the total population, 1921–2041

of ways. Investing in creative residential housing solutions, such as the multigenerational arrangements discussed in Chap. 5, will be key to maintaining a town's population level. Public and private investment will have to be made in healthcare facilities and public transit to suit older generations by introducing specialized service for those with reduced mobility. Further, some municipal public events may have to be rescheduled since the elderly find it challenging to take part in late-night activities.

Another demographic-related challenge that is faced by small towns is the departure of young people in pursuit of higher education or employment in large cities. A decrease in the number of younger residents will negatively affect the local economy since younger cohorts have a decidedly more robust spending pattern than older generations and consume different products and services. Therefore, it is vital for a small town to keep and attract new families in order to maintain a vibrant and diverse economy. In addition, a common demographic trend, especially in Western nations, is a steady decline in household size. The long-term outcome for small towns might be a future reduction in the number of taxpayers whose contributions fund the social services upon which older generations depend.

With rising global migration trends, small towns stand to benefit from new arrivals who may find these places affordable and attractive. Some may choose to reside in the town's centre where apartments are commonly found, which works to contribute to the core's overall renewal. Yet, according to Hyndman et al. (2006), few immigrants are opting for small towns and are rather choosing to live in larger cities. The majority of immigrants flocking to Canadian cities was drawn to large cities because they had a greater number of employment opportunities and because they preferred to live near people from their native country. Simply put, few immigrants seek to live in smaller towns where they may feel culturally isolated. A study by Brennan and Hoene (2007) found that more than 76% of the population of small towns were ethnically white, while a city such as Markham, Ontario (a suburb of Toronto), has a population that is made up of nearly 73% ethnic minorities (Statistics Canada 2015). Although this example is dramatic, these demographic statistics are

important for small towns to consider, given. Ultimately, attracting immigrants by way of a welcoming social policy may prove vital to the long-term prosperity of these places.

1.3.2 Environmental Concerns

A defining aspect of the twenty-first century is a need to counter and reverse the negative ramifications of climate change. It is a global challenge that will require rethinking urban planning and economic development policies and intervention by a wide spectrum of participants. Local decisions in small towns, such as reducing carbon footprint, that seem insignificant at first due to the small number of inhabitants, can have a valuable cumulative implication when other communities adhere to the same objective. Effectively, it may also stand to benefit the town economically since it will consume less power; the town may even be able to export some if public buildings use solar power.

Another important consideration is urban sprawl. Due to their location, small towns are often composed of low-density homes with big physical footprints, large lots, and wide roads. Such planning patterns lead to more driving and, as a result, high levels of emissions (Fig. 1.6). For example, in the USA it was found that residents living in communities with higher densities tend to drive three times less than those who live in neighbourhoods with single-family homes (Rodrigues et al. 2006).
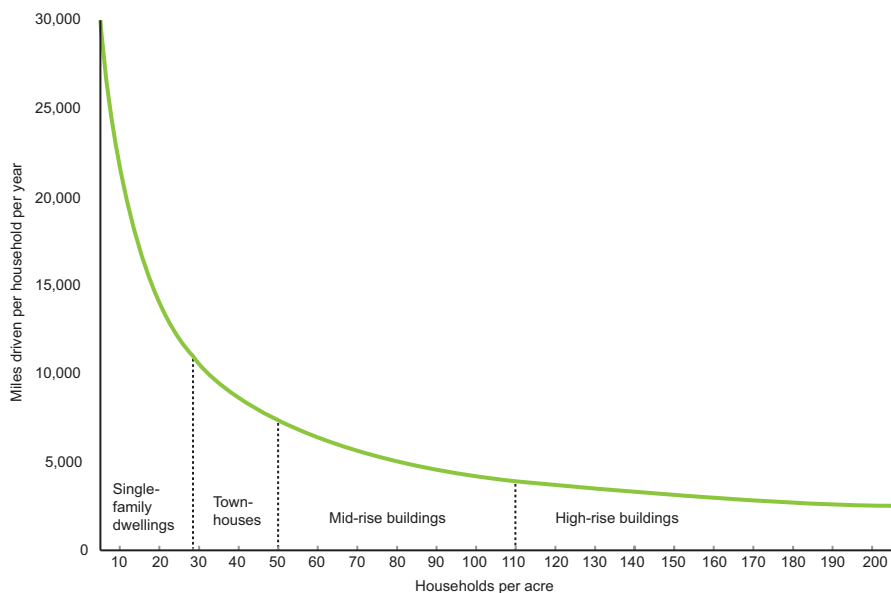

Fig. 1.6 Residents living in US communities with higher densities tend to drive three times less than those who live in neighbourhoods with single-family homes

It has therefore become apparent that denser cities and towns have smaller carbon footprints (a topic which will be discussed in Chap. 3).

Reducing reliance on private vehicles and increasing density can pose a challenge for small towns since, more often than not, people were attracted to them for their abundant and cheap land in the first place. In addition, regional services and amenities such as specialized medical care or large-scale commerce are often only available in major urban hubs and require long-distance commute by private cars when public transit is not available or infrequent. In fact, a study about suburbs in the USA found that the average distance between a family's home and their primary grocer was 3.4 miles (5.5 km) (Ver Ploeg et al. 2015). Of course, this high level of driving generates a staggering amount of greenhouse gas emissions; according to Rodrigues et al. (2006), road transport sectors (excluding rail, air, and sea) generate 74% of the global CO_2 emissions (equivalent to billion kilogram of CO_2).

When new small towns are planned or when their core is renewed, there may be a need to revisit density yardsticks. To this extent, the introduction of mixed land-use practices in the centre is one possible approach. This would require amendment of bylaws to permit mixed-use buildings where residents live above ground-floor commerce. Other carbon-efficient strategies that a town can pursue may include the requirement for new buildings to have higher energy efficiency, use products made of recycled materials, have green roofs, and use water-efficient appliances.

1.3.3   Economic Transformations

Global and local economic transformations are having a profound effect on small towns in the areas of wealth generation and, as a result, on the lives of individuals. Recent fluctuations have resulted in unstable job markets or a rise in unemployment, primarily among young cohorts. The unstable nature of the economy has also caused hesitation among investors, employers, and workers alike, at times resulting in stagnation. In the long term, these fluctuations may trigger the start of new enterprises or bring about an end to existing ones.

When the economy of a small town is reliant on a single employer who chooses to close or to relocate, the negative consequences on the community at large will be significant. What may be considered a minor setback in a large city will cause a big one in the livelihood of small town's residents. To avoid such occurrences, a diverse and resilient economy needs to be established and particularly one that is less reliant on global market fluctuations or a single employer. In addition, the need to initiate and patronize local businesses must ultimately be a goal of a town's leadership and citizens (Fig. 1.7).

A desirable economic outcome happens when an employer moves to a town, when jobs are generated, when disposable income increases, when new households migrate in, and when new taxes are collected. Eventually, these factors spring the need for further residential development as well as improved public services and renewed infrastructure. This kind of cycle often makes the availability of affordable housing all the more relevant. People, primarily young households, will move into

Fig. 1.7 Promoting local
shopping in a small town
in Vermont, USA

a community if jobs and affordable housing are available. The cycle demonstrates
the connectivity between urban renewal and a place's overall economic
performance.

   In recent decades, the general nature of commerce has changed, and the line
between global and local has become blurred. Using digital communication, com-
panies no longer need to be tied to a single location but can run their affairs from
afar as depicted in Fig. 1.8. What has become apparent is that online shopping has
expanded to rival personal purchases with devastating effects on small town centres.
These trends are likely to affect the way people consume and as result local econo-
mies suffer. It is also hard to predict whether large format stores will be as trendy in
the years to come or whether mom and pop stores will thrive again. The need to
further foresee the evolution of commerce and the effect of a "hyper-connected"
world is necessary to the understanding of the economies of small towns and will be
discussed in Chap. 7.

1.4   Anatomy of Places' Decline and Renewal Challenges

A town centre's decline can follow several scenarios. It can be a relatively rapid
process lasting several years (often times as a result of a departure of major
employer) or a slow one spanning several decades (e.g. the outcome of change in
consumption pattern). In North America, the 1950s federal investment in highway
construction, the affordability of private automobiles, and the cheap petroleum cou-
pled with the proliferation of suburbia marked the start of a gradual decline in small
towns' centres (Robertson 1999; Smith 2008). Having easy access to a vehicle and
comfortable roads to drive on was also noticed by developers, who went on to build
commercial and office parks away from old core areas. Shopping strips, malls, and
later "big box" retail outlets offered plenty of parking, heated and air-conditioned
interiors, and lower-cost products with which the owners of mom and pop stores
could not compete (Smith 2008; Powe et al. 2009). Some town's leaders, against the

Fig. 1.8 The old Marble Work's factory in Middlebury, Vermont, USA, now houses small businesses, many of which operate online only

interest and action of local retailers, even invited and welcomed supersized outlets who they believed contributed to the community's tax base and created jobs. Often, a single large retailer sold merchandise similar to several small downtown stores, who eventually had to close as illustrated in the scenario in Fig. 1.9. Visually, the big outlets were "off the shelf" enormous buildings set in a sea of asphalt, with no windows, roofline, or attempt to respect the local architectural character (Beaumont and Tucker 2002).

According to Knox and Mayer (2009), other factors that might lead a town to financial, sociological, and environmental decline are reduction in public services, lack of growth opportunities, or social isolation. Knox suggests that, when one pillar declines, others can support the one who is on a downturn. For example, a small town with a thriving business sector may also boast a high level of equity among its citizens but might not be environmentally-friendly. In this case, the town would be able to count on its prosperous community to develop habitat protection programmes, attract volunteers, or fundraise for a clean-up. However, it would be much more challenging for a town to recover once it experiences the complete failure of one of the domains. For example, a total economic collapse can devastate the other two.

With the loss of business, unemployment rates will rise to further aggravate the situation and require a complete retooling of the town's economy—a process which will take time. As a whole, if a town wishes to maintain a functioning urban centre, all three domains need to be working together and be considered equally. Though the reasons for a town's decline may be caused by specific events, it is worthwhile to analyse a broader set of issues and factors prior to the start of the renewal. Aspects

New edge
commerce is
built and
elevated
online
shopping

Patrons and
residents stay
away or move

Local merchant
cannot
compete

Act of
vandalism
and abandonment

Store closing

Municipal
government
fails to take
action

Departure of
secondary
services (banks,
offices, etc.)

Fig. 1.9 Possible scenario of a town centre's decline

such as historic evolution, sociological makeup, and cultural attitude need to be investigated to preserve a community's original integrity and to cast a foundation for the town's new beginning (Fig. 1.10).

In general, when a decline lasts very long, it is an uphill battle to chart a new course. On occasion, attempts were made to attract large retailers to downtown locations. However, these attempts ultimately proved unsuccessful due to the lack of large plots or high land cost, which thereby directed developers to the outskirts of towns. In addition, these modern malls often had a second storey with leasable office space. Gradually, service amenities such as accounting offices, medical clinics, and law firms that once drew people downtown moved to these new locations, thereby contributing to the creation of additional vacant commercial areas (Robertson 1999).

Some small towns lack the in-house knowhow and necessary funds to reverse a downward spiral trend. Others failed to alter old bylaws that limited mixed land use that layered residences over commerce. Gradually, the area became vacant after hours and on weekends, ultimately because there was no local population to support commercial activities or animate the streets. On occasion, random acts of vandalism rendered those places unsafe, which further escalated their condition and mandated more policing.

Type	Definition	Characteristics
Entrepreneurial	• Culture of initiation and im-plementation	• Pro-growth • Steady leadership • Ample resources • Capable implementers • Broad population support
Analytical	• Overly studied communities	• Each process begins with a study • Take long time to decide • Weak implementers
Defender	• Rejects new ideas and initiatives	• Content with the status quo • Avoid decision-making • Lack of vision • Population rejects initiatives
Destroyer	• Action results in negative consequences	• Poor consultation process • No understanding of cause and effect • Poor reading of global trends • Do not resist external pressure
Desperate	• Action is driven by desper-ation ("loss of major empl-oyer")	• Poor strategic thinking • Hasty decision-making • Under pressure by population • Willing to offer incentive

Fig. 1.10 Type of communities and their attitude to economic development

Fig. 1.11 To encourage pedestrian activity, many towns like Potsdam, Germany, closed their centres to vehicular traffic during certain hours

Investments in creating welcoming environments have been attempted, and they are ongoing in many small towns. The thrust of these efforts was to foster a walkable environment and ameliorate their appearance through façades and signage improvements, sidewalk enlargements, and better lighting installations as was the case in Potsdam, Germany (Fig. 1.11). Drawing people in for a short time by staging events was another strategy used by other communities.

In some cases these efforts proved successful in reversing a decline, or at least for a while. In other places they failed entirely. The lure and the staying power of the well-financed large retail outlets on the edge of town was hard to compete with and win against, further leading to stores closing and enforcing the area's negative stigma. A variety of strategies for strengthening a town's core and successful renewal cases will be outlined throughout the book's chapters.

1.5   Principles of Sustainable Planning for Urban Renewal

As noted above, being *resilient* is essential to a town's ability to cope with sudden pressure—be it economic or environmental. Another aspect which in recent decades has become a central preoccupation of planners is to place a community on *sustainable* footing. By definition, for a town to be sustainable, it needs to consider present needs without compromising the ability of future generations to meet their own

needs (WCED 1987). This section articulates the principles of sustainable development and the context in which these principles were developed.

Since the mid-1970s, many local and international organizations were formed in response to rising concerns over the state of the environment and the realization that the amount of non-renewable resources is finite and rapidly depleting (CMHC 2000). In addition, the consumption patterns of these resources in most nations increased several folds to reach unsustainable levels. The work of several thinkers set the stage for a new paradigm about the relationship between people and their environment. Rachel Carson (1962) exposed the harmful effects of certain man-made chemicals, and E. F. Schumacher (1973) studied the effects of globalization. The three Rs—which stand for *reduce*, *reuse*, and *recycle*—were put forward by Kibert (1999). According to Kilbert, although a substantial damage has already been done to the environment, it can still be repaired. Among others, measures that need to be taken are pollution control and the development of technologies that are in sync with natural systems (Kibert 1999). This mind-set should be extended to the planning of communities and design of buildings and their subsystems so that they too may be fabricated using renewable means.

The three original pillars of sustainable development put forward by Wheeler (2004) were social equity, economic, and environmental aspects. However, it later became abundantly clear that culture and governance must also be part of any attempt to implement sustainability initiatives if the implementation process is to succeed. The first concern among these aspects reflects and responds to the social requirement of a small town's inhabitants and their values. Social needs and equity are broad, all-compassing concepts that can be explained and interpreted in a multitude of ways. For example, when the creation of a sustainable healthcare system is an objective, a contribution to public health can be achieved by encouraging fitness. It has been shown that people with an active lifestyle are less likely to suffer from cardiovascular- and diabetes-related illnesses. It is, therefore, in the best interest of a small town that the urban renewal of the centre will include bicycle and pedestrian pathways and that residential and non-residential functions are integrated.

Promoting vernacular culture and preserving local traditions and heritage buildings also contribute to society in direct and indirect ways. Old buildings that are worth preserving are visible reminders of human history, and people who pay homage to the past might contribute to the quality of future buildings. Conserving and converting old buildings also avoids demolition, thus working to reduce the consumption of natural resources that may otherwise be used in new construction. This is a crucial topic that will be discussed in depth in Chap. 6.

Fostering economic sustainability is another objective with ramifications for small town's renewal. The aim is to avoid the transfer of the costs incurred by bad present decisions to future generations. Building unnecessarily and excessively wide roads rather than narrow streets, for example, will have long-term economic implications. The streets will need to be resurfaced periodically, and more snow will accumulate and need to be removed in cold climate regions. When a development is privately initiated, the cost of wider roads will raise the price of each house, forcing

buyers to borrow more money that they will have to repay over a longer period of time, thereby putting at risk their own financial sustainability.

Environmental sustainability is concerned with ecological attributes created by the construction and upkeep of a development, including its roads, open spaces, and homes. A "cradle-to-cradle" cycle assessment is necessary when a renewal process is to begin. It regards not only the initial effect of choice of materials, for example, but also their long-term performance and their recyclability once their use has ended. Asphalt-covered roads will make run-off stream to manholes, while creating streets with permeable surfaces will return rainwater to nature and save the building of run-off sewer systems.

Governance is another vital aspect of sustainable development. Strategies and concepts, innovative as they may be, will not be implemented unless a municipal leadership can set appropriate policies and explain its long-term vision to the citizens. An effective political system will also draw new younger participants to public service, thereby creating a continuity of ideas and actions (Fig. 1.12).

On a more detailed level, sustainable urban renewal may also be achieved by observing the following principles. The *path of least negative impact* is a course of action that will ensure limited short- and long-term negative ramifications of the process. To ease the effort and ongoing contributions by all parties involved, a *self-sustaining system* should be sought. Any method that generates its own income,

Fig. 1.12 Young participants are invited to take part in a street survey in Haarlem, the Netherlands

Self-sustaining generators   Supporting relation   Cradle-to-cradle
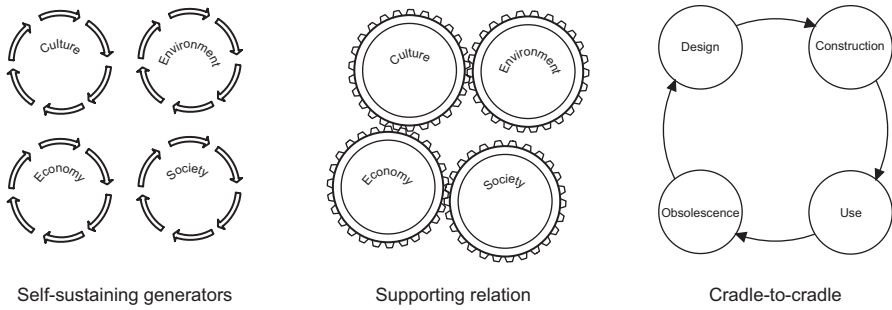
Fig. 1.13 Key principles of sustainable systems

improves the environment, and contributes to social equity should be sought after. If the relationship between the sectors is *supportive,* it will likely reduce costs and improve performance of all sectors. Finally a *lifecycle approach* sees the built environment as subjected to an ongoing change and evolution by being flexible and able to easily adapt across various realities (Fig. 1.13).

The five pillars and the principles that were described above can be viewed and followed independently. Yet, when the inner workings of an urban renewal process are examined, one can notice that the confluence of all the aspects is essential. This confluence is, in essence, an additional focus of this book. These issues are presented here as a way by which concepts will be formed and applications illustrated.

1.6   Retooling for Sustainability

1.6.1   Cornwall, Ontario

One example of a mid-sized city that sought to revitalize its declining core sustainably is the community of Cornwall in the province of Ontario, Canada (Fig. 1.14). The town was founded in the 1700s as an agricultural settlement, but by the early 1900s, it had become a vibrant textile manufacturing hub due to its proximity to the St. Lawrence Seaway canal, through which cotton was delivered to its mills and fabrics were shipped to markets. Expanded industrial production contributed to its modest success, and its population eventually grew to the 47,000 residents it boasts today.

The town's economic downturn began with the relocation of its textile manufacturing plants to low-wage countries in the 1970s. The overall decline also resulted in a deterioration of the town's centre which saw many businesses close and residents move away. The building of a new sprawling shopping centre in the area made the old downtown's stores less attractive and out of step with modern commerce. Efforts to reverse course have been made by the town's leadership, having tried to revive the area mostly by ameliorating the place's visual appearance. These efforts included the installation of new light poles and the replacement of sidewalks, but

Fig. 1.14   Images of downtown Cornwall, Ontario, Canada

these attempts have ultimately produced less-than-satisfactory results (Courtaulds Fibers Canada 1993; Kyte 1983; McCullough 1992).

An invitation was extended to my team and I to develop ideas and a plan for renewal based on the aforementioned sustainable principles (Fig. 1.15). The process began with an analysis of the existing conditions that were posing as crucial issues in the area's overall approach to land use and organization of public spaces. The general conclusion was that Cornwall did not use the land in the core resourcefully. Specifically, it did not take advantage of its waterfront near which the downtown is located, it lacked sufficient parking, and the housing being offered was not innovative or affordable. In addition, many of the empty lots, some of which were owned by the city, were not well-maintained. The area's main artery, Pitt Street, had clearly seen its small commerce fall into a state of disrepair and was in dire need of strong renewal ideas to attract residents and visitors.

To revitalize the area, four key strategies were suggested: development of the waterfront, reconfiguration of a typical block, revamping Pitt Street, and complete redesign of the parking and circulation. To take advantage of the vacant waterfront land, my team proposed to rebuild two residential blocks. Typically, the blocks in the core were inefficient and did not reflect current urban needs. It was proposed to divide the larger blocks into smaller ones to increase density, make them walkable and liveable, and improve circulation in the area for all users be they pedestrians, motorists, or cyclists (Figs. 1.16 and 1.17).
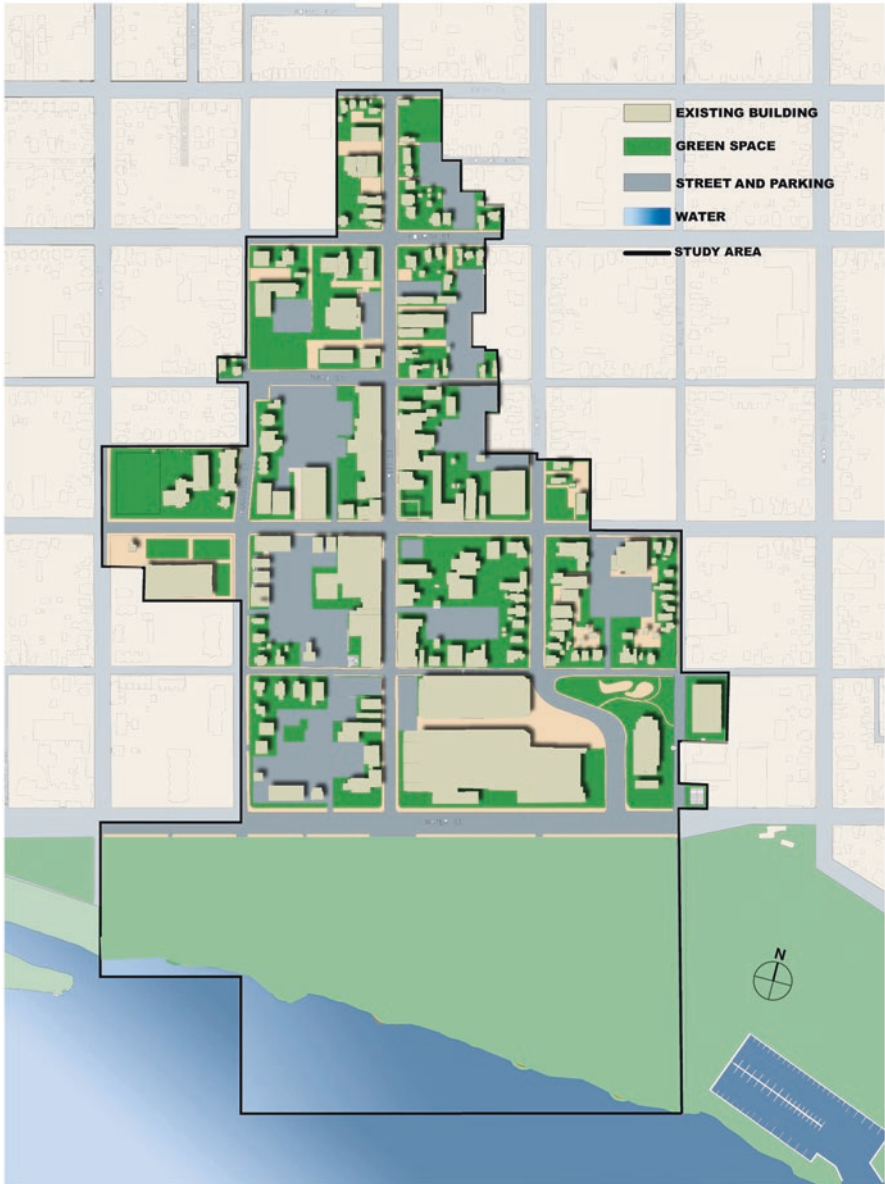
Fig. 1.15 The project's area

Repairing the dilapidated public spaces was strongly encouraged as well. In addition, it was argued that Pitt Street and its businesses needed more foot traffic to truly thrive; thus several interventions were suggested. They included conversion of an old existing structure to a historic textile museum, building a privately funded art gallery, and the overhaul of the street's building facades by initiating a cost-sharing
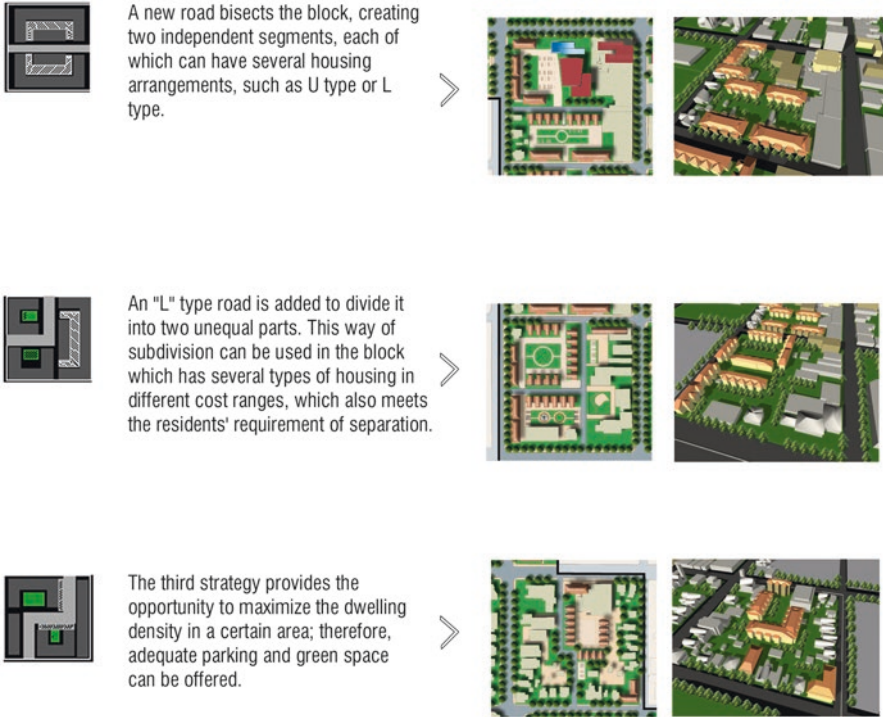
A new road bisects the block, creating two independent segments, each of which can have several housing arrangements, such as U type or L type.

An "L" type road is added to divide it into two unequal parts. This way of subdivision can be used in the block which has several types of housing in different cost ranges, which also meets the residents' requirement of separation.

The third strategy provides the opportunity to maximize the dwelling density in a certain area; therefore, adequate parking and green space can be offered.

Fig. 1.16 The guiding urban design principles

programme between the city and the building owners. To have mixed-use buildings, it was suggested to change the current zoning bylaws that prohibited such projects.

Lastly, new circulation opportunities were also part of the proposal. Since most of the streets in the downtown were one-way, a situation that limits access for people who want to reach the stores by public transit or bicycle, it was proposed to turn some to two-way streets. Also, it was suggested to provide more underground parking spots so as not to alter the streetscape by having many on-ground parking lots. As far as commercial and institutional land use in the area was concerned, it was suggested that Pitt Street would be a place for mom and pop businesses to maintain the place's original intimate feel and scale. Second Street, another key artery, would focus on galleries and the historical aspects of Cornwall. Additionally, all blocks would ideally have residences above these commercial and public spaces (Fig. 1.18).

1.6.2   Stony Plain, Alberta

The town of Stony Plain, in the province of Alberta, Canada, has seen its population rise dramatically to today's total of 16,000. Given this change it was forced to update its master plan to better meet future growth. As a result, my team and I were
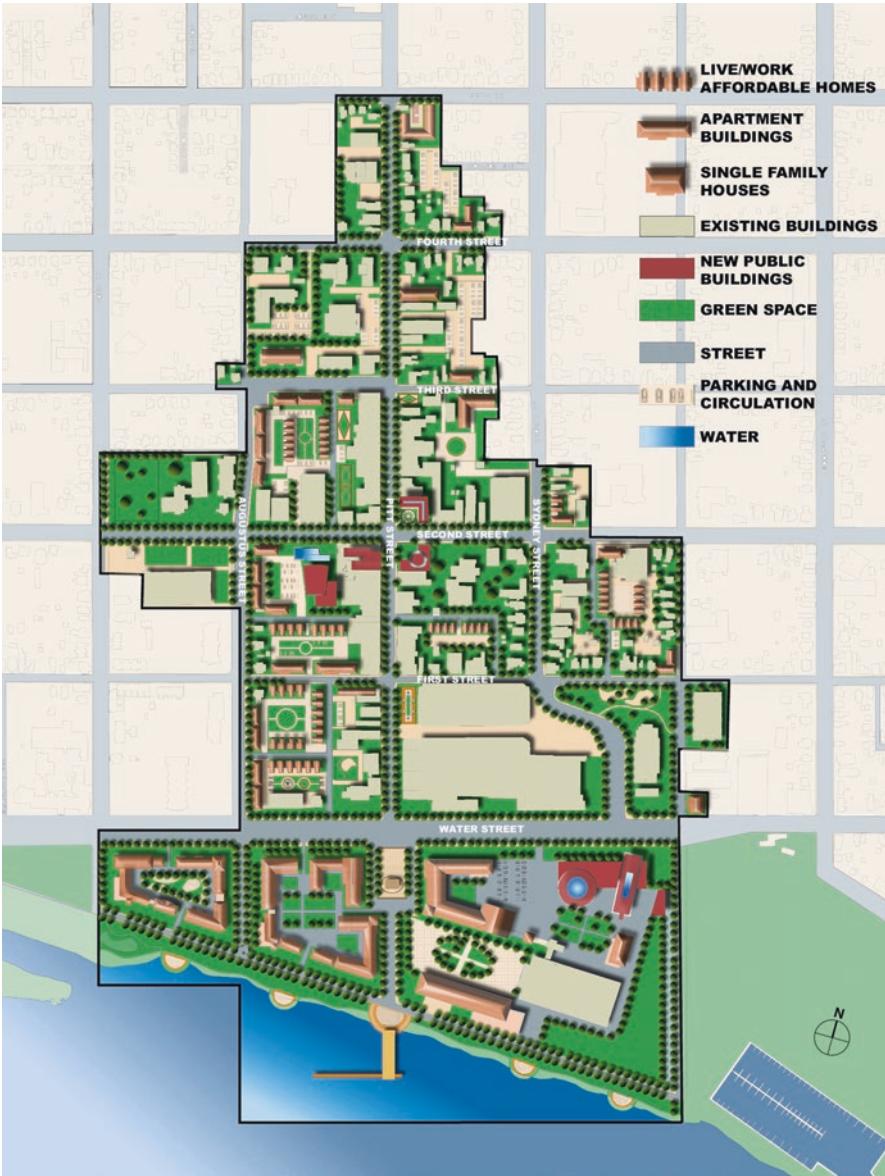
Fig. 1.17 Proposed urban intervention

invited to propose a new plan to chart its expansion along sustainable principles. In-migration was prompted by the town's growing prosperity, high quality of life, and the relative affordability of housing compared to the capital of Edmonton. The town also boasted quality schools, a low crime rate, and many green and open public spaces. Stony Plain's area covers over 6.56 mi^2 (17 km^2) with a railway line and

Fig. 1.18 One of the blocks showing the inserted dwelling units

is crossed by a key highway (Figs. 1.19 and 1.20). This highway connects the town to Edmonton and to several farming communities that use Stony Plain as a service centre.

Stony Plain was founded in 1881, and its historic core was laid out in a traditional Midwest gridiron pattern which featured a main arterial street lined by a mixture of institutional, commercial, and residential buildings. As the town grew, new neighbourhoods expanded outwards, and the direction of growth was often dictated by the availability of land rather than by a master plan. In this process, the town's east side saw further residential development, and industrial buildings were built along the highway. The historical layout of the town was not imitated in the new low-density housing that takes up the majority of the town's area. The town's centre is highly accessible by foot or bicycle with a well-developed network of paths popular with residents.

Fig. 1.19   Images of Stony Plain, Alberta, Canada

To meet the demands of growth, several suggestions that considered social, economic, environmental, and cultural factors have been made. Most importantly, the town's historic centre is to be retooled due to its vitality role in the community. One of the larger changes within the master plan was made to future residential areas. A new mid-density neighbourhood was proposed for the north-west part of the town and denser developments in the north end. Though the town has grown sporadically over the years, it was proposed that these decentralized neighbourhoods be connected by mid-density housing. These portions would act as hallways of sorts between the existing residences and the downtown core (Figs. 1.21, 1.22, 1.23, and 1.24).

To strengthen the core, we recommended that the town limit the building of "big box" stores to an area south of the highway and encourage construction of taller apartment buildings with ground floor businesses along key streets. Encouraging work-live residential opportunities was also recommended. As the core becomes a
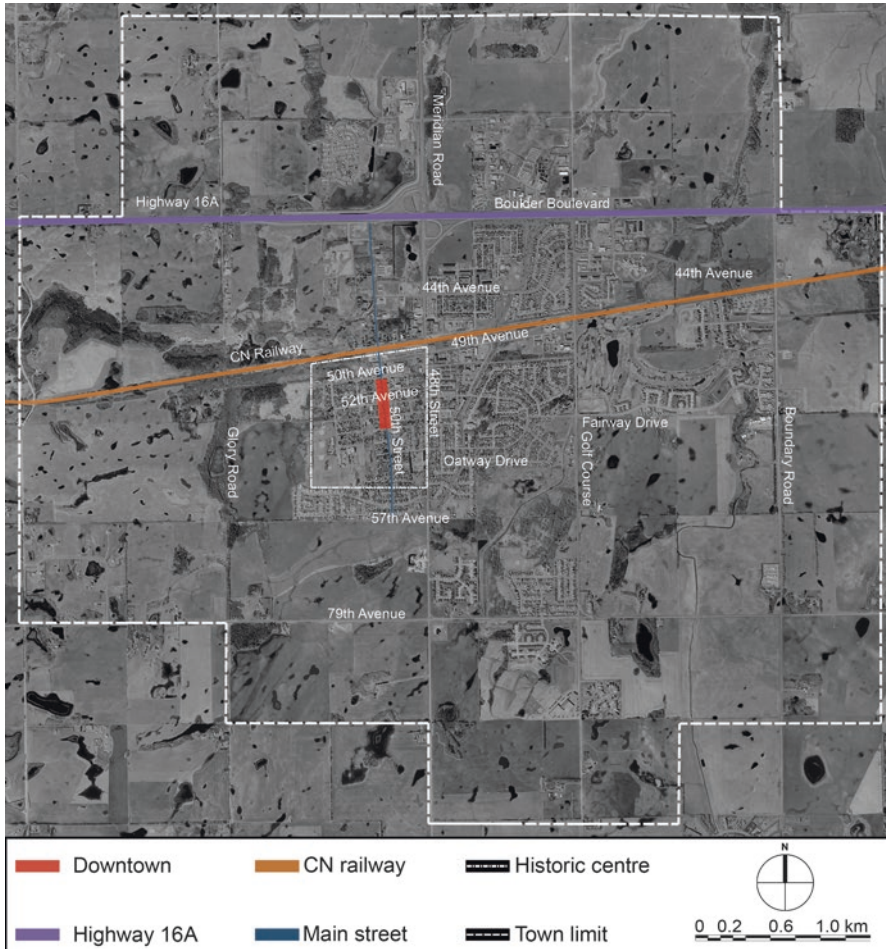
Fig. 1.20 A railway line and a highway cross the town of Stony Plain

draw, more effort needs to be invested in its appearance. Downtown must have architectural design guidelines to ensure harmony of forms, materials, colours, and proportions. To broaden its tax base, diversify its economy, and reduce the daily commute to Edmonton, the plans suggest development of a new light-industrial area off the highway to meet the land needs of the many companies which service the oil industry and are currently seeking locations.

Another key planning concept that was advocated by the town's people was maintaining the small town experience (Figs. 1.25, 1.26, and 1.27). To achieve that, it was decided that the lifestyle would be preserved by keeping a surplus of green spaces, parks, and multi-use buildings. An additional goal of the plan was to create community spaces and use, such as a public area located across from the Town Hall for that purpose. Throughout the planning process and especially in the core, there
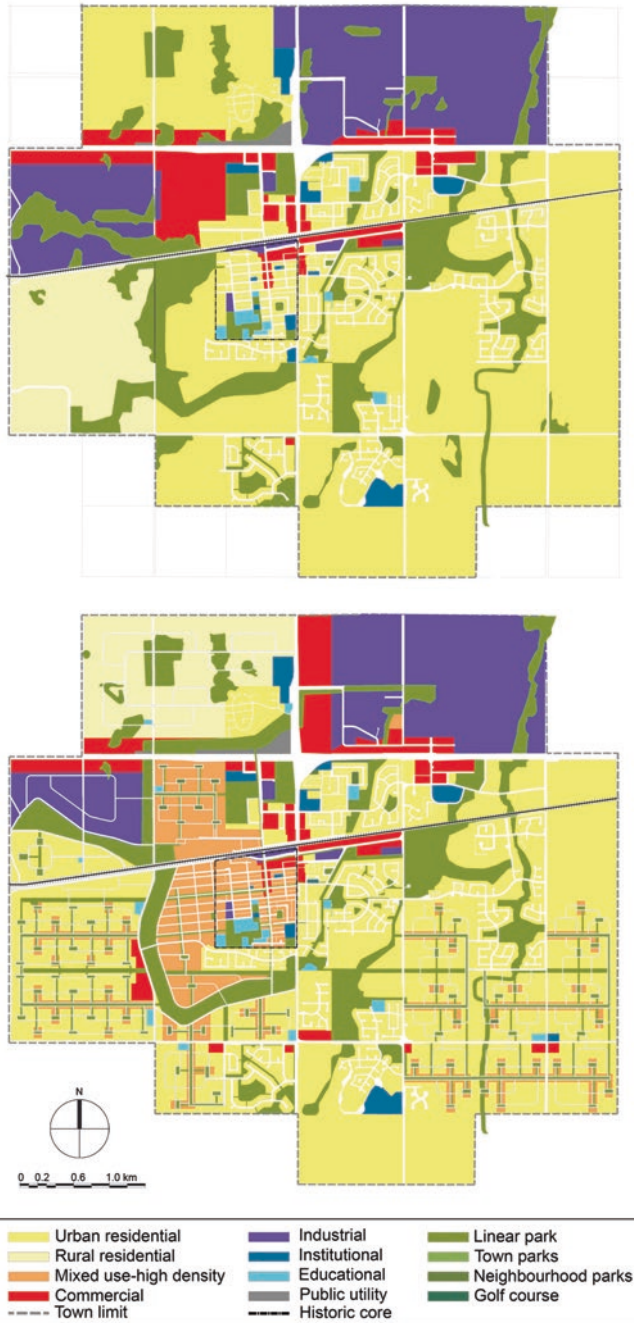
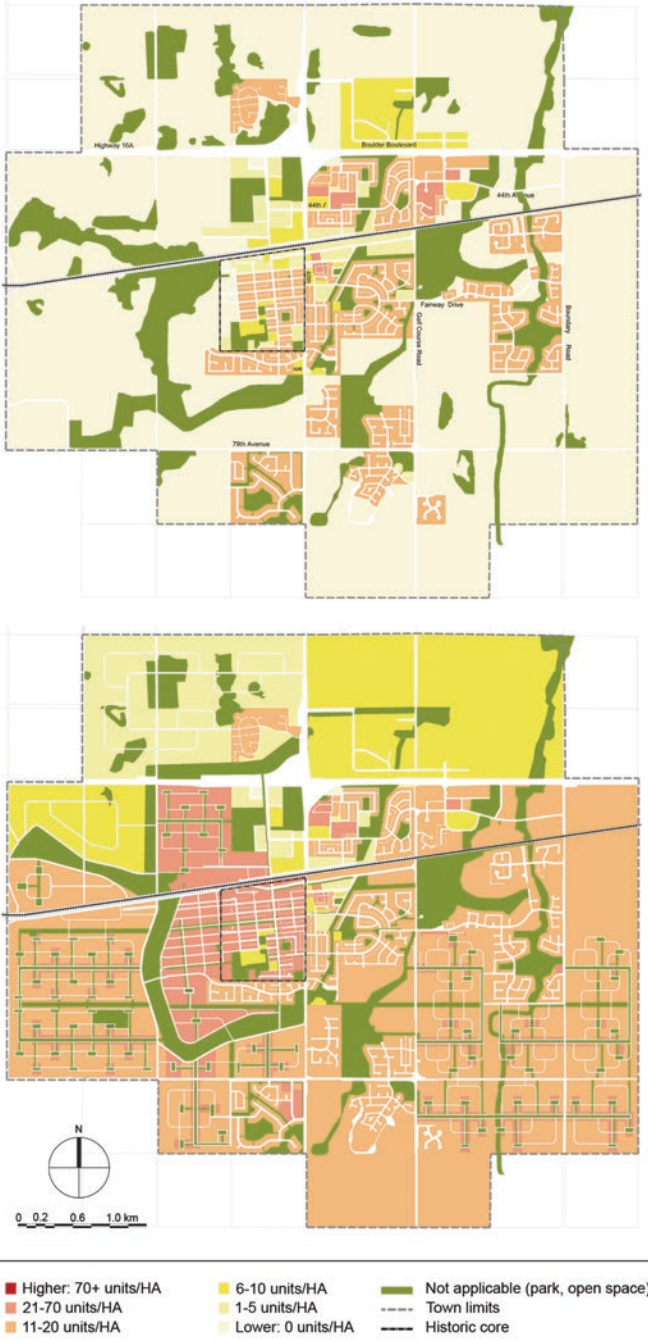**Fig. 1.21** Existing land use (*top*) and proposed (*bottom*)

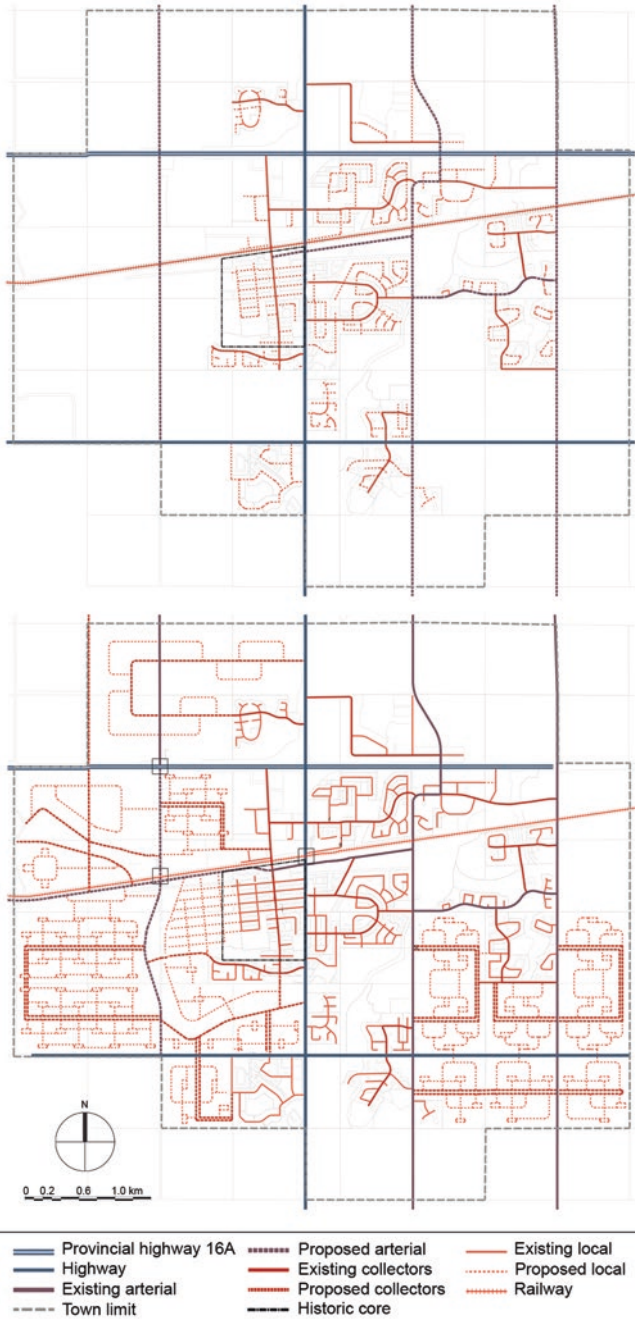**Fig. 1.22** Existing density (*top*) and proposed (*bottom*)

Fig. 1.23 Existing road network (*top*) and proposed (*bottom*)

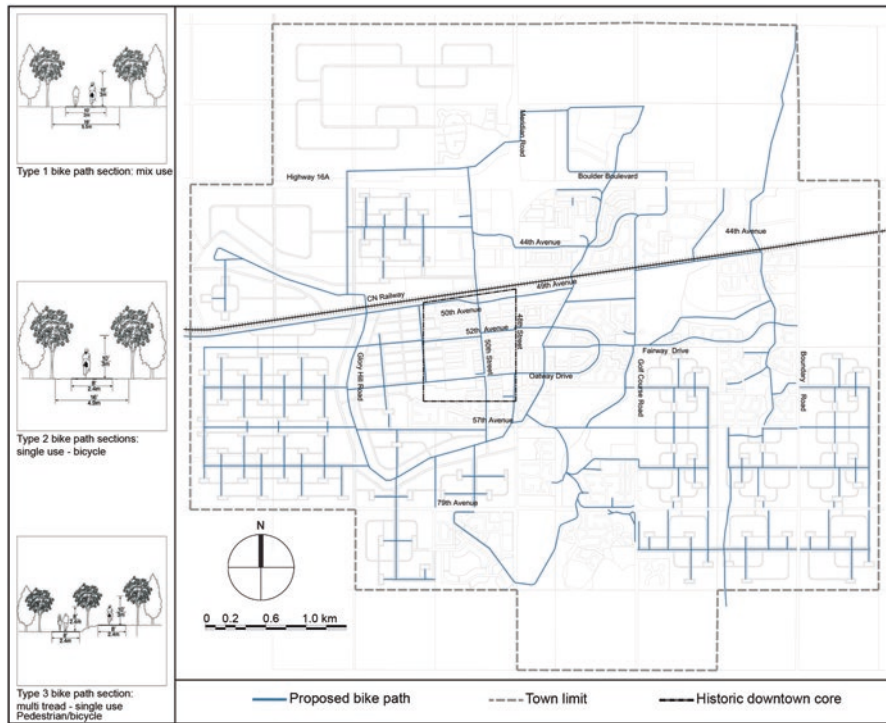**Fig. 1.24** Existing open spaces (*top*) and their use as commuting network (*bottom*)

Fig. 1.25 Proposed network of bike paths

has to be a cohesive architectural style that also fosters diversity among the buildings themselves. The development of multi-use buildings were encouraged, given that these structures accommodate housing with multigenerational living arrangements and so are compatible with community needs. For example, having apartments integrated into municipal buildings was recognized as a way to keep the community diverse, adaptable, and resilient to change.

1.7   Final Thoughts

Some small towns, particularly those in metropolitan regions, have experienced a decline in recent decades. The reasons for their demise are varied but in general are rooted in the evolution of transportation, the introduction of big-box retail and e-commerce, and poor land-use planning. A number of small towns lacked the resources necessary to tackle such issues as they arose and entered a downward spiral.

In addition, like any other community, small towns are facing a dire need to align themselves with various aspects of globalization, be it social, economic, and environment changes. Climate change, dwindling natural resources, ageing populations,
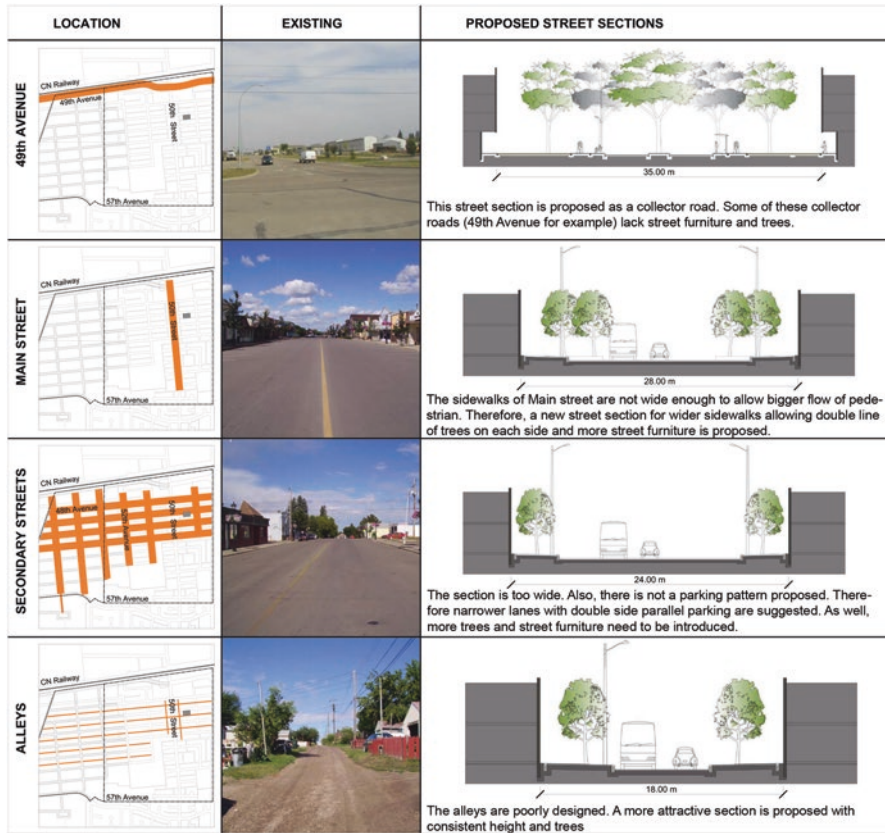
Fig. 1.26 Proposed street sections

wider diversity of household types, soaring housing costs, and the advent of new technologies have combined to create a perfect storm of circumstances that merit the retooling of old ideas concerning the built environment.

In the face of these immense problems, the *sustainability* perspective offers a way forward. A much talked-about term in many areas of contemporary policy and social thought, it provides a useful framework for new thinking about the urban renewal of small towns. The fundamental thrust is a thought process and action that let one recognize the future consequences of present development actions. Considering environmental, economic, social, and cultural aspects in parallel is the underpinning approach at the base of the idea.

Fig. 1.27 Rendering of the redesigned Main Street

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