Corner Brook
Planning Together

Integrated Municipal Sustainability Plan

Best Practice Paper

prepared by

UPLAND

for

CORNER BROOK

November 10, 2021

Contents

This page intentionally left blank.

1 Introduction

1.1 Purpose of this Paper

Since 2012, when the existing Integrated Municipal Sustainability Plan (IMSP) was developed and adopted by City Council, there have been many changes in Corner Brook. Within the city, development and demographic patterns have changed, the economy has waxed and waned, and the climate has shifted. Just as these changes have occurred, so too have different tools and strategies used across cities and towns to plan and manage growth and development while addressing the fundamental challenges associated with urban development.

This Best Practice Paper explores tools and strategies that will help the City of Corner Brook address the key challenges it will face over the next decade while also helping to manage growth and development and ensure a sustainable future. The Best Practices represent approaches to policy, regulation, and programming development that seek to create positive, effective change in Corner Brook.

The Best Practices discussed in this paper will not necessarily be implemented in Corner Brook, but, rather, they are meant to initiate a discussion on potential options for the city. Additionally, the Best Practices explored in this paper do not represent an exhaustive list of potential innovative strategies.

Glossary

Integrated Municipal Sustainability Plan or IMSP is the primary land use planning document for the City that establishes the vision, goals, and policies for growth in Corner Brook.

Development Regulations means the document that contains the regulations and legal requirements that must be satisfied before development can be undertaken.

1.2 Corner Brook's Key Challenges

Corner Brook is situated in a naturally beautiful environment with a rich history and culture. Throughout the city's history, it has grown to become the healthcare, service, and education hub for Western Newfoundland, and Corner Brook represents one of the most populous centres in all of Atlantic Canada. Despite these strengths and the successes of Corner Brook, the city is facing ongoing and emerging challenges that could threaten the future success of Corner Brook and the community.

With its legal basis in the *Urban and Rural Planning Act, 2000*, and with the overall goal to guide land use and development, this Best Practice Paper seeks to help the City address the four key challenges that it will face over the next decade through the Integrated Municipal Sustainability Plan. While these are not the only challenges the city will face, they are those that the City can look to directly or indirectly tackle through the Integrated Municipal Sustainability Plan and the Development Regulations. The four key challenges are:

- Climate Change
- Urban Sprawl & Housing Choice
- Ageing Infrastructure
- Demographic & Economic Uncertainty

These challenges are discussed on the following pages.

1.3 Climate Change

Glossary

Climate change mitigation means efforts undertaken to reduce the causes of climate change, particularly the reduction in greenhouse gas emissions.

Climate change adaptation means efforts undertaken to reduce the impacts of climate change on humans and the environment.

The rugged terrain, dramatic topography, and natural landscape all contribute to the character and quality of life in Corner Brook. As a city that is highly integrated with and shaped by the environment, however, climate change will pose significant challenges to the city and community over the next decade and beyond. Changing weather and climate patterns will require the City to think differently about how and where development happens.

Climate change describes the process whereby the earth's climate is changing due to human activity; particularly, the burning of fossil fuels and other activities associated with industrialization that result in the release of carbon dioxide and other greenhouse gases.[1] Between 1990 and 2019, greenhouse gas emissions in Newfoundland and Labrador increased from 9.5 to 11.1 megatons of carbon dioxide equivalent,[2] with worldwide emissions of carbon dioxide continuing to rise each year.[3]

For Corner Brook, climate change will create unique challenges. Firstly, climate change is expected to result in a warmer climate (especially during the winter) and a wetter climate (both in terms of precipitation intensity and duration) with more frequent extreme precipitation events.[4] Low-lying areas and areas adjacent to the city's watercourses are already susceptible to flooding and erosion—impacts that may be exacerbated with the expected increase in precipitation.

Increased precipitation will also increase the pressure on the City's already stretched stormwater management system—all the precipitation that flows into storm drains flow through the City's stormwater system.

Topography—particularly, Corner Brook's steep slopes—may also create specific challenges for development in Corner Brook. Steep slopes are already at risk of landslides and erosion; however, during significant rainfall events or storms, the risk of landslides may increase, especially in areas with steep slopes that have unstable soils.[5]

Although climate change is expected to result in a wetter climate, the potential for an increase in the number of forest fires should also be considered. In 2018, Newfoundland and Labrador experienced 132 forest fires, 18 more than the 10-year average.[6] As a largely forested city, forest fires could pose a significant threat to Corner Brook.

Another significant impact that climate change will have on Corner Brook is rising sea levels. Sea level rise is caused by the thermal expansion of the earth's oceans (as water warms, it takes up a larger volume) and the melting of the Arctic and Antarctic ice sheets and ice caps.[7] The Province of Newfoundland and Labrador projects that sea levels will rise 80-90 centimetres above 2000 levels in western Newfoundland by the year 2100.[8] As sea levels rise, communities and infrastructure along the shoreline may be susceptible to temporary inundation or permanent flooding, while increased storm surge may also increase the rate of coastal erosion. Communities in Newfoundland, such as Daniel's Harbour, have already been significantly impacted by coastal erosion.[9]

The Best Practices in this report look to prepare the City with adaptive strategies to prepare for the impacts of climate change while also looking at strategies to mitigate climate change altogether.

1.4 Urban Sprawl & Housing Choice

Urban sprawl is described as a style of development that prioritizes low-density residential and commercial development that stretches out from the downtown core of cities and communities. In Corner Brook, much of the development that has occurred could be characterized as sprawl, whereby upland urban expansion of low-density uses has resulted in sprawling infrastructure costs. The direct and indirect costs of urban sprawl are placed on the City, and ultimately residents and business owners.

While new development on the outskirts of the city may provide additional sources of property tax revenue, the City must then take on the costs and liabilities for the long-term maintenance of infrastructure and its eventual replacement. A study completed by Halifax Regional Municipality found it could save hundreds of millions of dollars by promoting more dense urban development rather than low-density urban sprawl.[10]

Not only does sprawl create new infrastructure that the City must maintain, but new development that happens on the perimeter of the city places additional pressure on the older and ageing municipal infrastructure in the central parts of the city. As the city is challenged with ageing infrastructure (discussed on the following page), sprawling residential development will ultimately perpetuate a cycle of infrastructure development, maintenance, and renewal that Corner Brook is currently experiencing: older subdivisions now require significant infrastructure investment but revenues do not allow such investments to be made because the costs associated with maintenance exceed the City's ability to generate revenue.

Other significant impacts of sprawl include:

- Loss of natural lands impacts precipitation retention, erosion control, and carbon dioxide sequestration.
- Increased impervious surfaces such as roads and parking lots may increase stormwater runoff and the risk of erosion and flooding.
- Reinforced reliance on private cars for transportation increases greenhouse gas emissions. The costs associated with car ownership—financing, insurance, fuel, etc.—also add to the burden of needing to own a car to move throughout the city.
- Reduced efficiency of services and infrastructure including roads, sewer, water, and public transit.

The impacts of sprawl have also resulted in a limited style of housing development—predominately low-density housing options. While nearly 35% percent of the housing stock in Corner Brook is made up of a combination of apartments, row houses, and semi-detached houses or duplexes, there are no apartment buildings in the city in excess of five storeys in height. As the city's demographics continue to shift—largely to an older population—new styles of housing will be needed to ensure current community members can "age in place" while also being able to attract new residents to the city.

The Best Practices in this report look to promote development that limits urban sprawl while also diversifying the availability of housing options.

1.5 Ageing Infrastructure

One of the City's primary roles is to provide access to infrastructure and services to ensure the health and safety of its residents. The provision of clean drinking water, appropriate wastewater and stormwater disposal, and safe transportation facilities for pedestrians, cyclists, and motorists are but three responsibilities of cities and municipalities. However, like the flooring in our homes, after a certain period of time, infrastructure needs to be upgraded or replaced because of its age.

In total, the City of Corner Brook manages:

- 175 kilometres of drinking water pipes;
- 105 kilometres of storm sewer infrastructure;
- 137 kilometres of sanitary sewer lines; and
- 146 kilometres of streets and 52 kilometres of sidewalks.

Much of the City's above-ground infrastructure—particularly roads—need repair and investment. On average, the City budgets $1.5 million for road maintenance each year, with approximately 50% of the City's road in need of new asphalt.

Of the existing underground infrastructure, a large percentage of it is also in need of significant repair. Emergency repairs are often required for the City's drinking water system and much of the stormwater system is very deteriorated. For example, of the 175 kilometres of drinking water pipes, 76 kilometres (43%) are considered to be in poor or extremely poor condition. This will require investment from the City to replace these pipes to ensure they are functioning appropriately.

As Corner Brook has grown outwards from the city-centre over its history, it has entered a vicious cycle of inheriting new infrastructure (roads, water lines, sewer lines, etc.) as development occurs but at the same time, it is unable to adequately address the already deteriorating infrastructure. Eventually, what was once new infrastructure, ages and needs repair or replacement.

Solving the problem of ageing infrastructure must come from re-balancing growth patterns (sprawl vs. intensification) to maximize the use of existing assets while increasing revenue through intensification efforts. This should be undertaken while simultaneously looking to take pressure off the existing infrastructure systems through innovative technologies and methods.

1.6 Demographic & Economic Uncertainty

The last key challenge the City of Corner Brook is facing and will continue to face over the next decade is the demographic and economic uncertainty as local and regional population and economic trends shift. Population and economics are inextricably linked and the future of Corner Brook must be based upon efforts to strengthen the city's economy to support a younger, growing population.

Since 2001, the City of Corner Brook has experienced a modest population decline in the range of 0% to 1% per census period. Corner Brook has one of the highest median population ages among urban areas in Canada (47.2 years), with the birth rate shrinking substantially between 2001 and 2017.[11] Statistics Canada reports that the demographic shifts happening in Corner Brook have and will continue to impact the economic potential of the city. Corner Brook's workforce peaked in 2007 (15,100 people working or looking for work) and declined to 14,800 in 2018. Between 2008 and 2016 the number of residents of Corner Brook reporting Canada Pension Plan income (a signal of a person's retirement) grew by 45%.[12]

Although economic indicators at the municipal level are difficult to quantify, anecdotal observations suggest Corner Brook is experiencing a somewhat uncertain economic future. In the city's downtown core, many commercial storefronts remain vacant, and as recently as 2019, the Corner Brook Pulp and Paper Mill shut down for two weeks because of economic uncertainty. As one of the city's largest employers, any temporary or permanent closure of the mill would have significant direct and indirect consequences.

At a regional and provincial level, economic changes, particularly the shrinking of the oil and gas sector, which makes up a significant portion of the Province's economy, will have impacts on the city, region, and province. Projections for 2020-2021 suggest the Province will have $631 million less in revenue, primarily as the result of shrinking worldwide demand for oil.[13]

While land use planning can not in and of itself create economic opportunities or stem the demographic decline, it can create the conditions for economic development to happen and for businesses to thrive. The Best Practices discussed in this report seek to support economic development and activity in Corner Brook to create positive demographic changes.

2 Best Practices

2.1 RESIDENTIAL INFILL DEVELOPMENT

WHAT IS IT?

- Residential infill is a style of development that integrates different forms of housing, including secondary suites, garden suites, duplexes, row houses, and multi-unit dwellings, into neighbourhoods that are predominantly single-detached dwellings.
- Residential infill development can include provisions outlining how new buildings should be designed to ensure new development is compatible with the existing neighbourhoods.

WHY IS IT SUITABLE FOR CORNER BROOK?

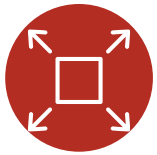
- Corner Brook's housing stock is predominantly single-detached dwellings meaning lot sizes are significantly large enough to accommodate larger or additional residential structures without impacting the overall character of residential areas.
- Corner Brook already enables residential infill development but this could be expanded to enable a greater variety of housing options and styles.

HOW COULD IT HELP TO ADDRESS CORNER BROOK'S KEY CHALLENGES?

Climate Change

Residential infill limits the amount of natural land that needs to be cleared for development as infill occurs in areas that are already developed.

New buildings must also meet modern building code standards which require a higher energy efficiency than many existing residential structures.



Urban Sprawl & Housing Choice

Residential infill promotes growth in existing residential areas and usually does not require the expansion of services such as road, sewer, or water. It also enables a greater variety of housing options and styles to be developed.

Ageing Infrastructure

Residential infill helps to increase the overall tax revenue of an area without needing significant expansion of municipal services. This revenue can be spent on fixing existing infrastructure as opposed to expanding services to outlying areas.

Demographic & Economic Uncertainty

Increasing residential density may result in higher use of local services and amenities such as shops and restaurants, supporting local commercial growth opportunities.

The addition of dwelling units to a lot, such as a backyard suite, can supplement or replace income for property owners, adding money to the local economy.

HOW COULD IT BE IMPLEMENTED IN CORNER BROOK?

- Residential land use zones that prioritize low-density development could be updated to permit residential uses with a higher number of units (e.g., two-unit dwellings) as permitted uses and include standards and guidelines to ensure the use is appropriately integrated into existing neighbourhoods.
- The City could develop and adopt a stand-alone set of guidelines for infill residential development. Cities such as Saskatoon, SK, and Calgary, AB, have adopted similar guidelines in response to growing development pressures in established neighbourhood areas.

Residential Infill Development
MiNo Homes

2.2 REDUCED PARKING REQUIREMENTS

WHAT IS IT?

» Minimum parking requirements establish the minimum number of parking spaces that must be provided for development.

» Some jurisdictions across Canada have removed minimum parking requirements from their planning documents. In these jurisdictions, homeowners and businesses can now choose the number of parking spaces to provide instead of being required to provide a certain number.

WHY IS IT SUITABLE FOR CORNER BROOK?

» Corner Brook has a vast supply of on-street and off-street parking across the many residential and commercial areas of the city.

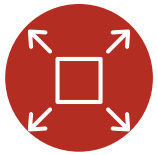
» There is limited developable land in the city and removing parking requirements could help create new development opportunities (e.g., on existing parking lots) and remove barriers to development (e.g., where the cost of providing parking would otherwise be a barrier).

HOW COULD IT HELP TO ADDRESS CORNER BROOK'S KEY CHALLENGES?

Climate Change

Reducing parking requirements limits the amount of land that's needed for development and could help keep more of the city's natural landscapes in place.

Reducing parking requirements could also promote greater uptake of active forms of transportation (e.g., cycling, walking, etc.), lowering the overall carbon footprint of the city.



Urban Sprawl & Housing Choice

Reduced parking requirements allow land to be used more efficiently, slowing urban sprawl. It also creates new development opportunities in already developed areas (e.g., existing parking lots could be turned into housing).

Ageing Infrastructure

By using land more efficiently for development instead of parking, the tax revenue generated from the increased development can be used to fix and maintain existing infrastructure.

Reducing the number of parking spaces could also decrease the pressure on the City's stormwater management system as parking lots create significant amounts of runoff compared to natural areas.

Demographic & Economic Uncertainty

Reducing parking requirements can decrease barriers to development (e.g., the cost to create parking or the need to purchase a larger lot to accommodate minimum parking requirements) while increasing land use efficiency.

Costs associated with parking often get passed onto a consumer (rent, groceries, etc.) meaning indirect costs could potentially be reduced.

HOW COULD IT BE IMPLEMENTED IN CORNER BROOK?

» The City could complete a Parking Study to determine to what extent parking is being over-supplied in Corner Brook. Cities such as Edmonton, AB, have completed such studies to understand their parking needs.

» Minimum parking requirements could be reduced or eliminated throughout the city or only in specific areas (e.g., the downtown). Businesses owners and homeowners would still have the option to provide parking spaces to meet their needs if parking requirements are eliminated.

Significant areas of downtown Corner Brook are dedicated to parking

2.3 CORRIDOR GROWTH PLANNING

WHAT IS IT?

» Corridors represent many of the primary transportation routes but also the major commercial destinations in a city.

» Cities like Saskatoon, SK, are looking to promote more residential, commercial, and mixed use growth along major corridors, which also coincide with existing and future transit routes. Emphasis has been placed on facilitating a high-quality urban environment for pedestrians through enhanced open spaces, parks, and infrastructure to support residential and commercial uses.

WHY IS IT SUITABLE FOR CORNER BROOK?

» Corner Brook has several key transportation routes that have the capacity for additional residential, commercial, and mixed use growth. This may include streets such as West Street, Broadway, and Main Street.

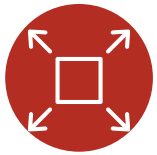
» As demographics continue to change, the demand for different housing options close to services and amenities will increase.

HOW COULD IT HELP TO ADDRESS CORNER BROOK'S KEY CHALLENGES?

Climate Change

Like residential infill, corridor growth planning promotes growth in already developed areas, and, therefore, natural land does not need to be cleared.

As corridors generally support a mixture of residential and commercial uses, residents living along corridors may not need to use or own a private automobile to access the services and amenities they need.



Urban Sprawl & Housing Choice

Corridor growth planning promotes growth in central, serviced areas of the city where new infrastructure is not needed.

This type of growth also supports "apartment-style" residential units, further differentiating the existing housing stock.

Ageing Infrastructure

Corridor growth planning maximizes the use of existing infrastructure while also increasing the tax revenue in a given area through added commercial or residential units.

Demographic & Economic Uncertainty

Corridor growth planning promotes mixed use development, including a variety of housing options. This could, in turn, enable more people to be able to afford to live in Corner Brook.

Because this type of growth supports higher residential densities, it could also help to support commercial development in these areas as residents access services and amenities.

HOW COULD IT BE IMPLEMENTED IN CORNER BROOK?

» Land use regulations within the central areas of Corner Brook, such as West Street, Broadway, and Main Street, could be updated to prioritize medium-scale commercial, residential, and mixed use growth. Provisions may include minimum building heights (e.g., two storey minimum heights), promoting a mix of residential and commercial uses, and landscaping requirements.

West Street is a significant commercial street and transportation corridor in Corner Brook

2.4 FLOODPLAIN DEVELOPMENT RESTRICTIONS

WHAT IS IT?

» Floodplain development restrictions place restrictions on the types of developments that can happen in areas that are prone to flooding. For example, Halifax Regional Municipality completed a study to assess the floodplains along two of its rivers and updated its land use planning documents to reflect the risk of flooding. New development is limited to uses that minimize risk to people and buildings such as resource, agriculture, forestry, fishing, open space, and recreation.

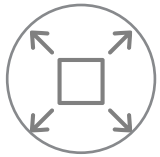
WHY IS IT SUITABLE FOR CORNER BROOK?

» Corner Brook has several floodplain areas, especially along the Corner Brook Stream, that are prone to flooding. The City completed a study in 2013 that outlined the areas that could be flooded in a 1-in-20 year flooding (5% annual chance of happening) or a 1-in-100 year flooding (1% annual chance of happening).

» As weather and climate patterns change—which may result in higher levels of precipitation—floodplains and flood prone areas need to be considered for where future development should go.

HOW COULD IT HELP TO ADDRESS CORNER BROOK'S KEY CHALLENGES?

Climate Change



Urban Sprawl & Housing Choice

Ageing Infrastructure

Demographic & Economic Uncertainty

Floodplain development restrictions help to minimize risk to humans and development, especially as Corner Brook can expect higher levels of precipitation in the future.

Floodplain development restrictions may also help to preserve natural areas which help to attenuate flooding risk while helping to mitigate climate change.

HOW COULD IT BE IMPLEMENTED IN CORNER BROOK?

» Development within the floodplains in Corner Brook could be limited to uses that minimize risk to humans and structures (e.g., parks, open spaces, and resource uses).

» The City could develop a stand-alone incentives program to promote property owners in floodplains to redevelop outside of the floodplains (e.g., density transfers, reduced/eliminated permit fees, reduced/eliminated parking requirements, etc.). The City could also undertake a floodplain study which includes potential mitigation designs and a preferred design approach to incorporate natural solutions for floodplain and storm water management.

During high precipitation events the Corner Brook stream can flood

2.5 COASTAL SETBACKS

WHAT IS IT?

» Sea level rise adaptation includes measures that reduce the potential for hazards to people and property. It takes the form of retreating (i.e., moving away from flood-prone areas), accommodating (e.g., elevating a building), preventing development in flood-prone areas, and protecting (e.g., building a sea wall to protect property).

» Minimum vertical and horizontal coastal setbacks look to prevent development in areas that may be temporarily or permanently flooded or which may be prone to erosion.

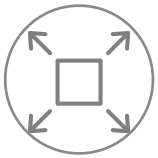
WHY IS IT SUITABLE FOR CORNER BROOK?

» As a coastal city, many areas in Corner Brook could become threatened by sea level rise and may result in areas becoming permanently inundated or temporarily flooded during storm events. In Corner Brook, sea levels are expected to be 80-90 centimetres higher in 2100 compared to 2000 levels.

» Due to the threat of sea level rise, areas below 4 metres in elevation are at risk of flooding, with areas within 30 metres from the shoreline at risk of erosion. Areas above 4 metres in elevation may be at risk of flooding in some areas.

HOW COULD IT HELP TO ADDRESS CORNER BROOK'S KEY CHALLENGES?

Climate Change



Urban Sprawl & Housing Choice

Ageing Infrastructure

Demographic & Economic Uncertainty

Minimum vertical coastal setbacks help to ensure development is outside of areas that are at risk of sea level rise and storm surge, while minimum horizontal elevations work to protect areas from coastal erosion.

HOW COULD IT BE IMPLEMENTED IN CORNER BROOK?

» Horizontal setbacks (to minimize erosion risk) and vertical setbacks (to minimize flooding risk) could be updated to protect people and property along the coast. Conditions could be included to ensure uses that need to be along the shoreline, such as wharves or marinas, can still do so.

» The City could implement other tools outside of the IMSP, including structural (e.g., sea walls) and non-structural (e.g., beach naturalization) implementations. Other initiatives may include updating the City's Health Emergency Plan and coastal land acquisition by the City for protection purposes.

Sea level rise may result in significant damage to areas along the shoreline

2.6 DENSITY BONUSING

WHAT IS IT?

» Density bonusing is a voluntary process that allows a developer to build taller than the maximum height allowance in exchange for a public benefit. It is a process that is normally only enabled in 'downtown' cores and not in rural or suburban areas.

» A public benefit can include public art, community spaces, heritage preservation, affordable housing, etc. The value of the public benefit that's required is calculated based on land values and the additional height or floor area a developer can achieve.

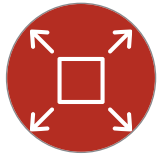
WHY IS IT SUITABLE FOR CORNER BROOK?

» Land availability is limited in Corner Brook and density bonusing gives developers a tool to maximize the use of their land by building taller than what would otherwise be permitted.

HOW COULD IT HELP TO ADDRESS CORNER BROOK'S KEY CHALLENGES?

Climate Change

Density bonusing, when strategically applied, can promote development in already developed areas of the city, reducing the need to open up new land for development.



Urban Sprawl & Housing Choice

In residential structures, density bonsuing could result in additional units being created, promoting densification and housing diversification.

Ageing Infrastructure

Density bonusing helps to maximize the use of existing infrastructure when associated with development in already serviced areas.

Demographic & Economic Uncertainty

Density bonusing may incentivize developers to develop under-utilized lots, providing growth and economic opportunities for the city.

HOW COULD IT BE IMPLEMENTED IN CORNER BROOK?

» Land use zones in the downtown could be updated to enable developers to build taller buildings than the maximum height allowance (e.g., one storey taller than what is permitted) in exchange for a public benefit. The Town of Wolfville, NS, permits one additional storey in its downtown zones provided developers provide a public benefit.

» The City could commission a study to understand the feasibility of density bonusing in downtown.

Density Bonusing could enable taller structures in the downtown

2.7 URBAN AGRICULTURE

WHAT IS IT?

- Urban agriculture is an activity that can include the growing of food or the raising of animals in an urban setting. These activities may take place on a private lot or in a communal setting (e.g., a community garden).
- Animals are often limited to chickens (hens), rabbits, or bees. Other, larger animals are not usually permitted in an urban setting for reasons related to the health and safety of the animals and to reduce the potential for land use conflicts.

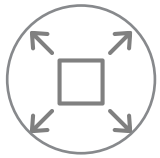
WHY IS IT SUITABLE FOR CORNER BROOK?

- There is a high level of interest in Corner Brook regarding local food production and consumption.
- Corner Brook currently permits urban chickens through a stand-alone policy but this activity could be further enabled.
- The COVID-19 pandemic has made more residents aware of issues of food insecurity and created a desire for food security as Newfoundland once was historically.

HOW COULD IT HELP TO ADDRESS CORNER BROOK'S KEY CHALLENGES?

Climate Change

Generally, food grown locally has a smaller carbon footprint compared to food from international markets as it does not need to travel large distances.



Urban Sprawl & Housing Choice

Ageing Infrastructure

When incorporated into hard surfaces, such as a rooftop garden, urban agriculture can help to absorb precipitation, thus preventing it from running into the City's stormwater management system.

Demographic & Economic Uncertainty

Urban agriculture can provide property owners an additional source of income, all the while promoting healthy communities, and fostering social interaction.

HOW COULD IT BE IMPLEMENTED IN CORNER BROOK?

- Land use zones that prioritize residential development could be updated to permit additional livestock, such as bees, on residential lots. Other livestock (e.g., cattle, horses, swine, goats) would continue to be prohibited in urban areas. The City could also permit the sale of food grown on a residential lot as an urban agricultural use.
- The City could develop a program to allow community groups to use underutilized properties for community garden purposes.
- Other livestock may be permitted in rural areas on lots of sufficient size. The permitted livestock would be limited to a certain type and quantity of livestock to ensure the health and wellbeing of the animals and to reduce the potential for land use conflicts.

Urban agriculture is an increasingly popular activity in Corner Brook

2.8 SHOPPING MALL REDEVELOPMENT

WHAT IS IT?

» As the function and utility of shopping malls has changed, cities have initiated processes that enable these sites to be redeveloped to include a mix of residential and commercial uses.

» Shopping mall redevelopment focuses on integrating streets and city blocks into shopping mall properties, adding parks and open spaces, and mixing commercial and residential uses.

WHY IS IT SUITABLE FOR CORNER BROOK?

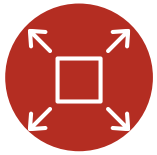
» Corner Brook has several shopping malls that could be redeveloped over the life of the IMSP to include a mix of residential and commercial uses.

HOW COULD IT HELP TO ADDRESS CORNER BROOK'S KEY CHALLENGES?

Climate Change

Shopping mall redevelopment promotes residential and commercial development on already developed properties without needing to clear natural lands for new growth.

This type of development can also include reintroducing green spaces in urban areas that can help to mitigate climate change.



Urban Sprawl & Housing Choice

In contrast to sprawl, shopping mall redevelopment promotes higher density residential and commercial growth in central areas.

Ageing Infrastructure

Shopping mall redevelopment maximizes the use of existing infrastructure and supports increased tax revenue in a given area. Introducing green spaces or natural spaces back into the urban environment could also help a site retain precipitation and reduce the pressure on the city's stormwater management system.

Demographic & Economic Uncertainty

As commercial and residential trends shift, shopping mall redevelopment provides an opportunity to developers and shopping centre owners to adapt the use of their sites which are normally large in scale. This could result in adding residential density to the city and thus helping to support local businesses and services.

HOW COULD IT BE IMPLEMENTED IN CORNER BROOK?

» Land use zones that enable shopping mall development could be updated to allow shopping centres to be redeveloped to include commercial, residential, and mixed use uses and include standards and guidelines to help ensure the redevelopment meets a specific set of criteria or goals. Penhorn Mall, in Halifax, NS, was demolished in 2018 and is now subject to a redevelopment that includes a mix of residential and commercial development, parks and open spaces, and active transportation connections.

» Stand alone uses may also be permitted within existing shopping mall parking areas.

Millbrook Mall

2.9 BLUE-GREEN CORRIDORS

WHAT IS IT?

» Blue-green corridors are areas of natural lands, usually linear in nature, that help to protect natural and riparian areas from development. Blue-green corridors often follow the trajectory of existing natural assets (watercourses).

» From an ecosystem services perspective, blue-green corridors help to maintain and preserve terrestrial and aquatic ecosystems while also helping to reduce habitat fragmentation.

WHY IS IT SUITABLE FOR CORNER BROOK?

» Corner Brook has a number of watercourses and natural areas that can be protected from development, and as Corner Brook develops, habitat loss and fragmentation will continue to occur as the city grows outwards into undeveloped areas.

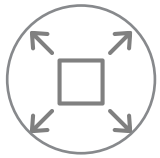
» Many of Corner Brook's trails are located within natural areas and these linear connections can function as wildlife corridors through the city as well.

HOW COULD IT HELP TO ADDRESS CORNER BROOK'S KEY CHALLENGES?

Climate Change

Establishing blue-green corridors will help to preserve natural landscapes and habitats and thus help to mitigate climate change.

Additionally, preventing development in riparian areas will help the city manage increased precipitation as a result of climate change and issues of flooding.



Urban Sprawl & Housing Choice

Ageing Infrastructure

Blue-green corridors preserve natural areas and thus intercept and absorb precipitation before it enters the City's stormwater management system.

Demographic & Economic Uncertainty

HOW COULD IT BE IMPLEMENTED IN CORNER BROOK?

» Protective buffers along watercourses in the city could be applied to protect these areas from development while existing green spaces could also continue to be protected through the land use zoning to establish a blue-green corridor network.

» The City could develop a stand-alone planning document that looks at all human and natural processes to maximize green space and watercourse protection. Halifax Regional Municipality completed its Green Network Plan which includes land use recommendations such as terrestrial and aquatic buffers, landscaping requirements, and discretionary planning and subdivision requirements to ensure ecological connectivity.

Corner Brook Stream is a significant watercourse

2.10 SMALL-SCALE CLEAN ENERGY

WHAT IS IT?

» As the price to produce clean energy has decreased, options have become available for individual property owners to implement small-scale energy production systems to help meet their energy needs.

» Most often, these production systems come as small-scale solar or wind energy production systems, and can be used to power homes/structures.

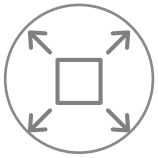
WHY IS IT SUITABLE FOR CORNER BROOK?

» While commercial-scale clean energy production systems (where energy is sold back into the electricity grid) are not permitted in Newfoundland and Labrador, individual property owners can implement small-scale energy systems to help meet their energy demand.

HOW COULD IT HELP TO ADDRESS CORNER BROOK'S KEY CHALLENGES?

Climate Change

Local renewable energy development reduces the overall carbon footprint of a property as energy is produced on site and not acquired from the electricity utility.



Urban Sprawl & Housing Choice

Ageing Infrastructure

Demographic & Economic Uncertainty

Promoting small-scale clean energy production could help diversify the local economy and provide employment opportunities for the manufacturing and installation of these systems.

HOW COULD IT BE IMPLEMENTED IN CORNER BROOK?

» Residential and commercial land use zones in the central areas of the city could be updated to enable on- and off-building solar energy production systems. In the less-dense, rural areas of the city, larger solar energy systems in addition to micro wind turbines could be enabled.

Small-scale on-building solar installation

2.11 ADAPTIVE REUSE OF STRUCTURES

WHAT IS IT?

- Adaptive reuse is a concept whereby existing buildings, that may no longer serve their original purpose, are adapted by using the structure for other uses such as commercial or recreational spaces.
- Adaptive reuse can apply to any structurally sound existing building within the city
- Adaptive reuse is commonly seen in old industrial structures where the core tenant has left, leaving the space vacant.

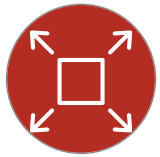
WHY IS IT SUITABLE FOR CORNER BROOK?

- Corner Brook has a number of older commercial, industrial, and institutional structures that could be adapted to serve a different use rather than needing to construct new buildings.

HOW COULD IT HELP TO ADDRESS CORNER BROOK'S KEY CHALLENGES?

Climate Change

The development of new structures results in a significant amount of greenhouse gas emissions, including from demolition, land clearing, and redevelopment.



Urban Sprawl & Housing Choice

As adaptive reuse does not require the development of new structures, it promotes commercial, residential, mixed use or industrial activity in areas that already have structures.

Ageing Infrastructure

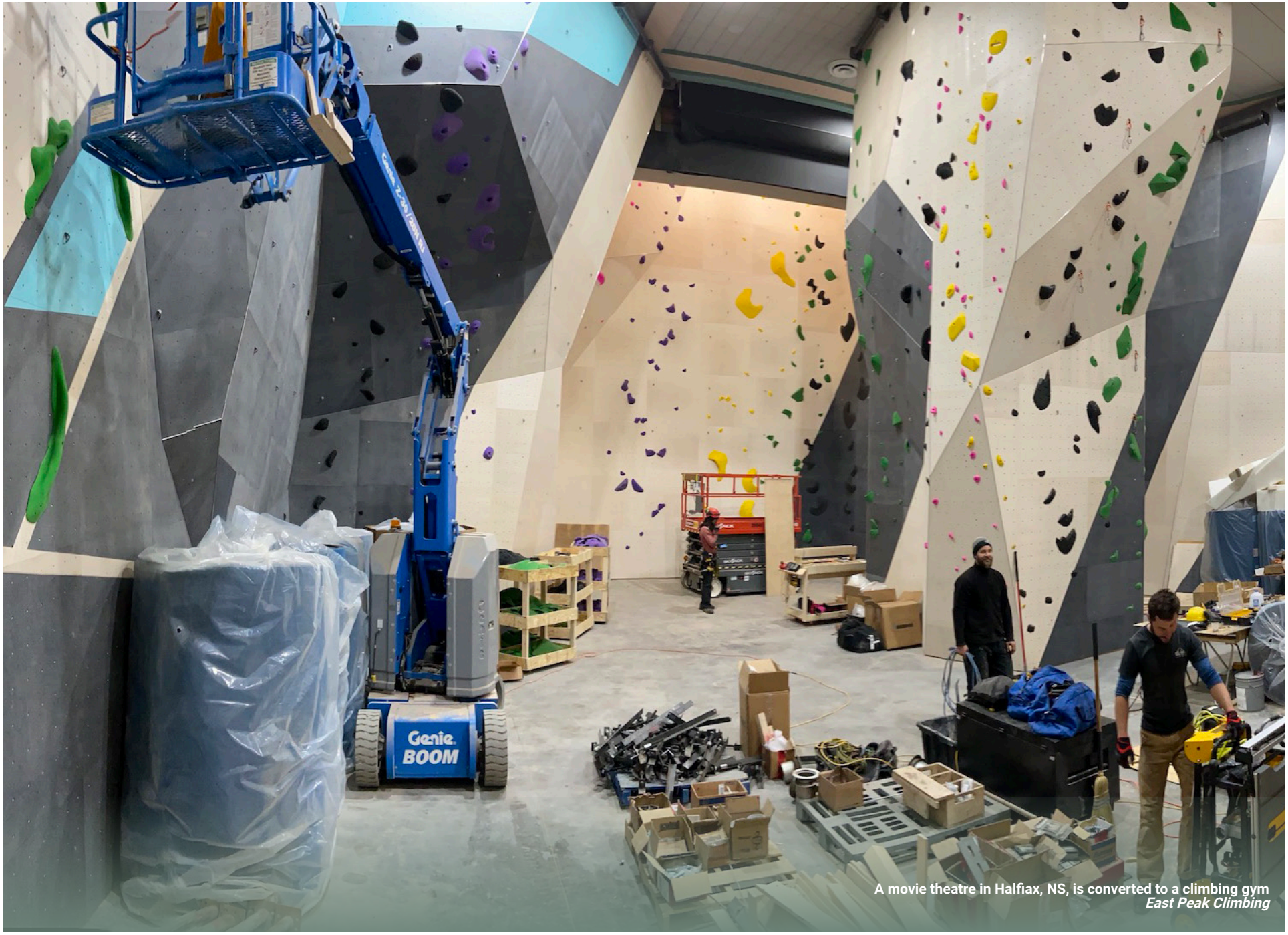
Adaptive reuse helps to increase the overall tax revenue of an area without needing the extension of new services.

Demographic & Economic Uncertainty

The adaptive reuse of a site reduces barriers and hurdles associated with greenfield development such as zoning, financing, and construction costs. Due to cost-friendliness, these spaces are ideal for new businesses to start and grow, supporting the local economy.

HOW COULD IT BE IMPLEMENTED IN CORNER BROOK?

- Land use zones that prioritize commercial or industrial development could be updated to promote and enable the adaptive reuse of abandoned or vacant commercial or industrial properties. This could include enabling additional land uses in these zones (e.g., enabling a farmers' market use in an industrial zone) provided certain criteria and standards can be met and achieved.
- The City could develop an inventory of vacant industrial or commercial spaces to provide potential developers with a list of sites that could be reused or develop an adaptive reuse incentives program to provide financial and regulatory incentives to reusing formerly abandoned or derelict structures.



A movie theatre in Halfiax, NS, is converted to a climbing gym
East Peak Climbing

2.12 TREE PLANTING INCENTIVES

WHAT IS IT?

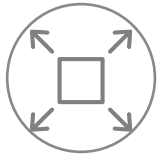
- Cities like the City of Portland offer a one-time rebate to homeowners for planting a tree on a residential property. The rebate is issued as a credit to a homeowner's sewer/stormwater/water utility bill.
- The amount the rebate/credit is worth depends on the species of the tree and how large it will end up growing to be.
- Some studies have shown that mature trees can help to increase property values.

WHY IS IT SUITABLE FOR CORNER BROOK?

- In areas of Corner Brook that have limited tree canopy due to land clearing or lack of landscaping requirements, tree planting incentives could incentivize property owners to plant a tree on their property.

HOW COULD IT HELP TO ADDRESS CORNER BROOK'S KEY CHALLENGES?

Climate Change



Urban Sprawl & Housing Choice

Ageing Infrastructure

Demographic & Economic Uncertainty

Trees provide a number of ecosystem services that can, directly and indirectly, mitigate climate change. Trees help to reduce carbon dioxide in the atmosphere, directly mitigating climate change, while they also provide shade and cooling during the summer months which can reduce the energy demand in the summer.

Trees intercept and absorb precipitation before it enters the City's stormwater management system, taking pressure off the system as a whole.

HOW COULD IT BE IMPLEMENTED IN CORNER BROOK?

- The City could develop a rebate/credit program to promote tree planting to ensure a healthy urban tree canopy. If such a program is adopted, the City should look to determine the types and species of trees that it would like to enable.

2.13 MUNICIPAL LAND BANKS

WHAT IS IT?

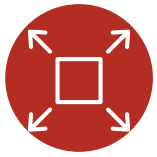
- A municipal land bank is a formal quasi-governmental entity of a municipality that manages the purchase and sale of land.
- Land banks actively buy, develop, and sell land in an effort to ensure an adequate supply of serviced land is available in a municipality. The land bank can apply conditions to land sold to ensure a high-quality urban environment.
- The City of Saskatoon's municipal land bank is entirely self-financed through the revenue generated from land sales.

WHY IS IT SUITABLE FOR CORNER BROOK?

- The City of Corner Brook has an existing portfolio of property assets that it manages and a municipal land bank could help the city to repurpose properties across the city for future development.

HOW COULD IT HELP TO ADDRESS CORNER BROOK'S KEY CHALLENGES?

Climate Change



Urban Sprawl & Housing Choice

Through the purchase of strategic lots, the City could make lots "development ready" in central areas within Corner Brook.

Ageing Infrastructure

The revenue generated from a municipal land bank could be used to fund infrastructure renewal programs.

Demographic & Economic Uncertainty

By targeting underutilized, vacant, or abandoned properties, the City could spur economic development by making properties "development ready" with any necessary infrastructure (roads, sewer, water, etc.).

HOW COULD IT BE IMPLEMENTED IN CORNER BROOK?

- While the City of Corner Brook manages a land portfolio, the City could take on a more active role in the supply of serviced land in Corner Brook. Through the strategic supply of serviced land, the City can help facilitate the orderly growth of Corner Brook while also contributing to more civic projects and programs.

2.14 STOREFRONT VACANCIES STRATEGY

WHAT IS IT?

» Studies have found there are both site-specific and regional factors that impact storefront vacancies. As such, solving this problem first requires an understanding of why storefronts are vacant in the first place.

» Two possible strategies to manage vacant storefronts are tenant attraction and temporary activation and appearance.

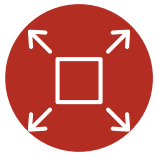
WHY IS IT SUITABLE FOR CORNER BROOK?

» Corner Brook has several vacant storefronts and commercial spaces within the City.

» Even temporary vacancies can have a negative impact on the perception of a commercial area's vitality and quality of the consumer shopping experience.

HOW COULD IT HELP TO ADDRESS CORNER BROOK'S KEY CHALLENGES?

Climate Change



Urban Sprawl & Housing Choice

In Corner Brook, a number of low density commercial areas have been developed in recent years. By filling vacant storefronts, it could help to reduce the need to develop low dense commercial areas.

Ageing Infrastructure

Demographic & Economic Uncertainty

Understanding why storefronts are vacant and deploying initiatives to fill those vacancies could result in stronger commercial areas and revitalized commercial centres.

HOW COULD IT BE IMPLEMENTED IN CORNER BROOK?

» The City could appoint a staff member to regularly consult with storefront owners to understand the reasons for vacancies. This staff person could also explore tenant attraction and temporary activation and appearance strategies to manage and fill vacant storefronts.

There are several vacant storefronts in downtown Corner Brook

2.15 GREEN STREETS

WHAT IS IT?

» Green streets are those which have integrated natural plantings into traditional 'gray' infrastructure (e.g., underground pipes) to help manage stormwater runoff. Green streets collect and store precipitation before it reaches gray infrastructure.

» City staff are responsible for the maintenance of the green streets but some cities have also developed a stewardship program where volunteers can take care of vegetation in their neighbourhood.

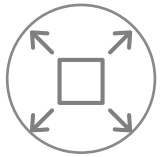
WHY IS IT SUITABLE FOR CORNER BROOK?

» Climate change may result in more frequent and intense precipitation events, putting increased pressure on the existing stormwater management system. Green streets could help to reduce the amount of water that flows into the city's stormwater management system.

» Green streets can also work to improve flood prone areas

HOW COULD IT HELP TO ADDRESS CORNER BROOK'S KEY CHALLENGES?

Climate Change



Urban Sprawl & Housing Choice

Ageing Infrastructure

Demographic & Economic Uncertainty

Green streets, which can include trees and other vegetation, help to reduce carbon dioxide in the atmosphere. Also, because green streets collect and attenuate the flow of stormwater, they can help to reduce flooding along watercourses in the city.

Green infrastructure reduces the need for traditional 'gray' infrastructure (e.g., sewer pipes) by collecting and treating stormwater on-site and can be more cost-effective than implementing 'gray' infrastructure. As climate change may result in more frequent and intense precipitation events, green infrastructure takes some of the pressure off the existing stormwater management system.

HOW COULD IT BE IMPLEMENTED IN CORNER BROOK?

» The City could develop a Green Street program whereby streets are selected for green infrastructure implementations. As part of the program, a management and volunteer strategy could be developed to ensure the green infrastructure is maintained.

Green streets help to manage stormwater runoff
UBC Blogs

2.16 BROWNFIELD DEVELOPMENT INCENTIVES

WHAT IS IT?

» Brownfield sites are those which were formerly used for industrial or commercial purposes but are not currently in use or are potentially contaminated and require remediation.

» Because some brownfield sites may be more challenging to develop, some cities have created incentives, such as a reduction in fees associated with development and tax incentives, for developing these properties.

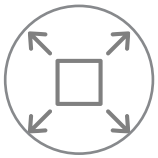
WHY IS IT SUITABLE FOR CORNER BROOK?

» Corner Brook has a number of former industrial sites that sit vacant that could be development opportunities in the future.

» Because Corner Brook has historically had an economy based around industrial activity, there may be sites within the city that require remediation in order for development to occur.

HOW COULD IT HELP TO ADDRESS CORNER BROOK'S KEY CHALLENGES?

Climate Change



Urban Sprawl & Housing Choice

Ageing Infrastructure

Demographic & Economic Uncertainty

Brownfield development incentives may persuade a developer to reuse a former industrial or commercial site for another use, contributing to and supporting the local economy.

HOW COULD IT BE IMPLEMENTED IN CORNER BROOK?

» The City could develop an incentives program to promote the redevelopment of brownfield sites. The City of Kitchener, ON, developed an incentives program that includes a reduction in development fees and a grant program to support brownfield site redevelopment.

There are several brownfield sites in Corner Brook

Endnotes

1 NASA. (2021). The causes of climate change. Retrieved from: https://climate.nasa.gov/causes/

2 Government of Canada. (2021). Greenhouse has emissions. Retrieved from https://www.canada.ca/en/environment-climate-change/services/environmental-indicators/greenhouse-gas-emissions.html

3 Hannah Ritchie and Max Roser. (2020) - "CO2 and Greenhouse Gas Emissions". Published online at OurWorldInData.org. Retrieved from: 'https://ourworldindata.org/co2-and-other-greenhouse-gas-emissions'

4 Province of Newfoundland and Labrador. (2021). Interdepartmental land use committee project evaluation. Pg. 24.

5 Province of Newfoundland and Labrador. (2021). Interdepartmental land use committee project evaluation. Pg. 25.

6 Province of Newfoundland and Labrador. (2019). Newfoundland and Labrador forest fire statistics. Retrieved from: https://www.gov.nl.ca/ffa/files/forestry-forest-fires-pdf-fire-stats-2018.pdf

7 NASA. (2021). Sea level. Retrieved from: https://climate.nasa.gov/vital-signs/sea-level/.

8 Province of Newfoundland and Labrador. (2021). Interdepartmental land use committee project evaluation. Pg. 24.

9 Luther, M. (2013). Coastal erosion in Daniel's Harbour. Retrieved from: https://www.semanticscholar.org/paper/Coastal-Erosion-in-Daniel%27s-Harbour-Luther/55bcd1db6cd5f5935fcceabcce0433dcde28cbf6.

10 Thompson, D. (2013). Suburban sprawl: Exposing hidden costs, identifying innovations. Retrieved from: https://institute.smartprosperity.ca/sites/default/files/sp_suburbansprawl_oct2013_opt.pdf.

11 Government of Canada. (2019). Economic profile series: Corner Brook, Newfoundland. Retrieved from: https://publications.gc.ca/collections/collection_2021/ircc/Ci4-193/Ci4-193-5-2019-eng.pdf.

12 Government of Canada. (2019). Economic profile series: Corner Brook, Newfoundland. Retrieved from: https://publications.gc.ca/collections/collection_2021/ircc/Ci4-193/Ci4-193-5-2019-eng.pdf.

13 Government of Newfoundland and Labrador. (2020). Provincial government releases 2020-21 fiscal and economic update. Retrieved from: https://www.gov.nl.ca/releases/2020/fin/0724n01/.

Icon Sources

1 Climate Change. Created by denimao. Retrieved from: https://thenounproject.com/search/?q=climate+change&i=3389596.

2 Economic. Created by fajar hasyim. Retreived from https://thenounproject.com/search/?q=economic&i=2996396.

3 Expand. Created by Alex Burte.

4 Sewer. Created by BomSymbols. Retrieved from https://thenounproject.com/search/?q=sewer&i=1639435.

UPLAND

Urban Planning + Design Studio

63 King Street, Dartmouth
Nova Scotia B2Y 2R7
+1 (902) 423 - 0649
info@uplandstudio.ca

Corner Brook

Planning Together