



# breathe

EDMONTON'S GREEN NETWORK STRATEGY

Strategic Plan

April 2017



Edmonton

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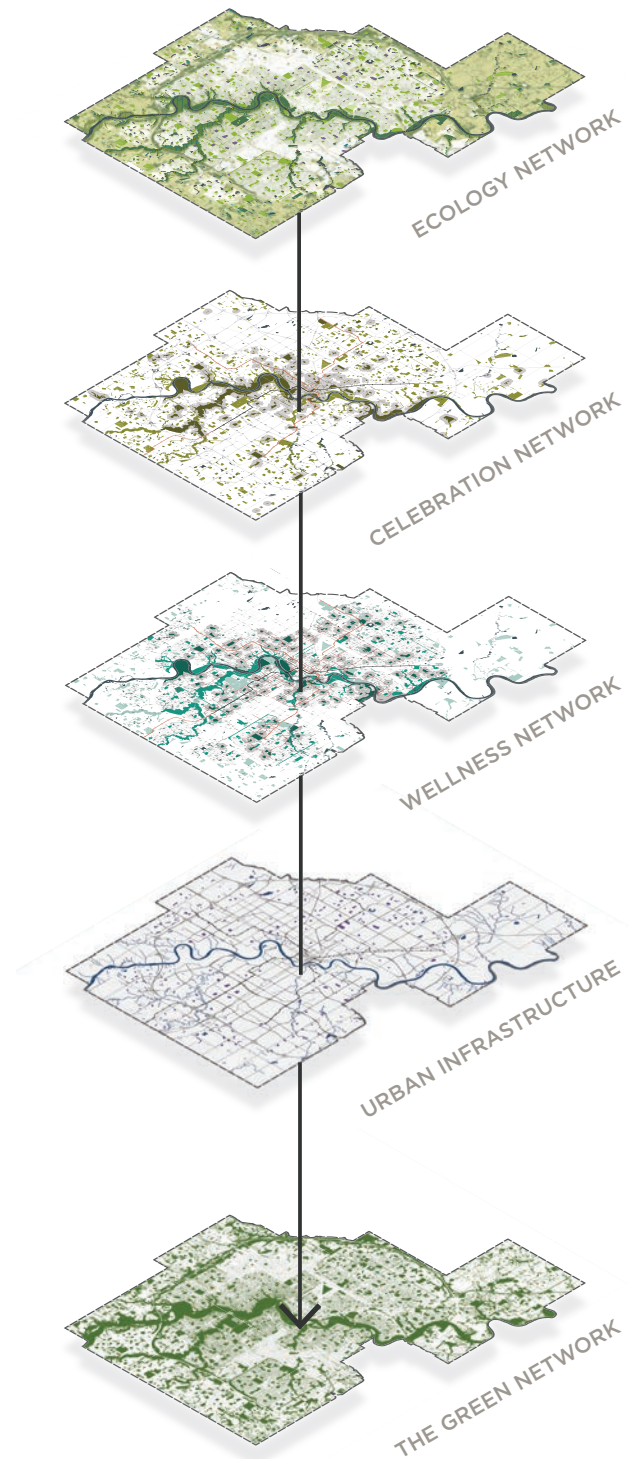
# Executive Summary

Open spaces define Edmonton. Our parks, squares and pathways help make this city among the world's most livable. To help prepare for the future and meet the needs of an increasing population, *BREATHE*: *Edmonton's Green Network Strategy* sets direction for the sustainable care and expansion of our open spaces. Recognizing the value of open spaces in improving the health and wellbeing of our residents, the *Green Network Strategy* outlines how to preserve the integrity of our environment while celebrating our community spirit and identity.

## AN INNOVATIVE APPROACH

*BREATHE* is a transformative strategy, based on a network approach. This approach acknowledges the interconnected nature of open spaces across the city, and the way that many different urban networks coexist and overlap to form an integrated, multifunctional green network. The Strategy considers the amount, function and configuration of not only municipal parks, but all publicly accessible open spaces, in order to form a comprehensive picture of how the entire green network performs.

This approach will ensure that while the city grows, every neighbourhood will be supported by an integrated, multifunctional system of green and open spaces.



## SUPPORTING EVIDENCE-BASED DECISIONS

*BREATHE* was realized through a rigorous process of research, analysis and engagement. The Strategy incorporates a geospatial database containing an inventory of all the open spaces in the city, and accompanying information about function and connectivity. This database informs a comprehensive understanding of the green network and the issues confronting it, and provides the City of Edmonton with a tool to make integrated, data driven, spatially explicit management decisions about the future of open spaces in Edmonton.

## A COHERENT POLICY FRAMEWORK

The green network is part of a connected network of open spaces and corridors providing multiple services to humans and the environment, which we call functions. Functions broadly encompass the following benefits, which are arrayed in networks across the city:



### ECOLOGY

Supports and enhances the environment by sustaining healthy and resilient ecosystems.



### CELEBRATION

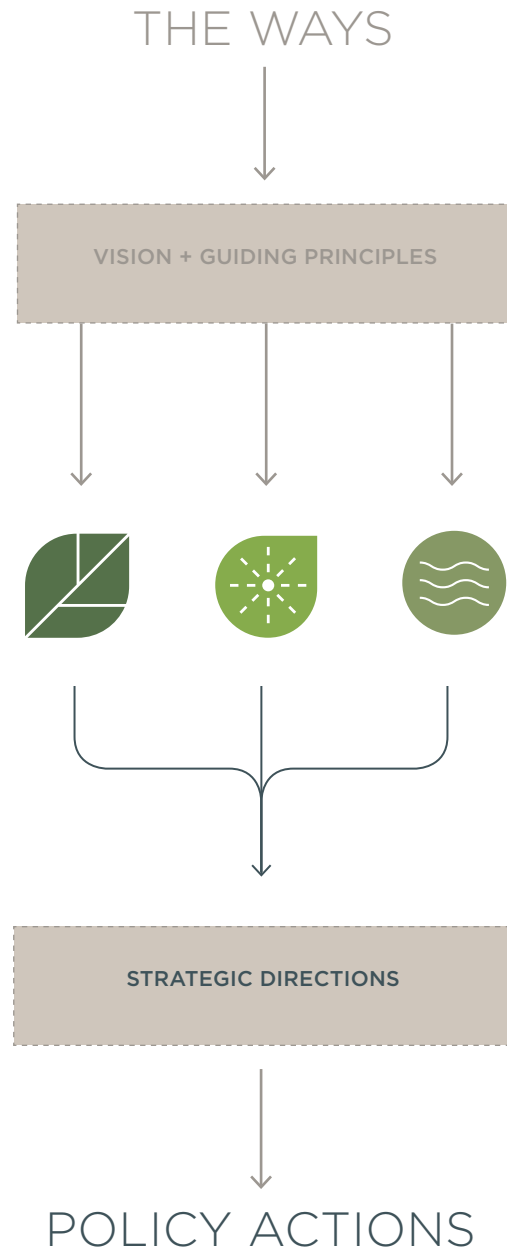
Connects people to one another and builds a sense of place by providing places for communities to thrive, gather and celebrate.



### WELLNESS

Promotes healthy living and fosters wellbeing through diverse kinds of recreation, mobility and environments.

The performance of the green network was analyzed according to these themes. Incorporating direction from *The Way Ahead* and *The Ways*, Edmonton's Strategic Plans, and from the *BREATHE* Vision and Guiding Principles, the functional analysis was used to develop ten Strategic Directions and subsequent policy actions.



## STRATEGIC DIRECTIONS

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**SAFE + INCLUSIVE:** Ensure that the green network is safe, accessible and inclusive.

**VIBRANT SPACES:** Make open spaces vibrant, sustainable and functional to support community identity and needs.

**COMMUNITY ENGAGEMENT:** Empower people to become active participants and stewards in planning, sustaining and using the green network.

**EDUCATION + AWARENESS:** Improve awareness of open space opportunities and appropriate use.

**DISTRIBUTION + SUPPLY:** Ensure an adequate supply, quality, diversity and distribution of open space throughout Edmonton.

**PUBLIC ACCESS + CONNECTIVITY:** Improve open space access for residents and visitors.

**ECOLOGICAL INTEGRITY:** Preserve and enhance the ecological quality and connectivity of the green network.

**ADAPTIVE MANAGEMENT + FLEXIBLE SPACES:** Adaptively manage changing trends in growth, demographics and preferences.

**COLLABORATIVE PLANNING:** Improve collaborative open space planning among City stakeholders, community partners and other jurisdictions.

**SUSTAINABLE FUNDING:** Develop a sustainable funding model that responds to operational requirements, community capacity and local needs.

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### ADDRESSING OPEN SPACE PROVISION

The value of the green network depends on multiple factors, including the way open spaces are used, the benefits they provide and the quantity available for use. In order to incorporate a comprehensive understanding of the green network, *BREATHE* establishes provision strategies that consider measures of:

- » **Distribution:** The arrangement of, and access to, open spaces across the landscape.
- » **Quality:** The functionality of an open space, considering the condition of its infrastructure/amenities and the value of the functions it provides.
- » **Diversity:** The range of different open space types and functions within the landscape.
- » **Supply:** The physical amount of open space.

These provision strategies recognize that multifunctionality is an essential tool to make the most efficient use of public land as a scarce but valuable civic resource.

### A VALUABLE DECISION MAKING TOOL

*BREATHE* serves as a tool for collaborative decision making and provides guidance on high-level objectives and priorities for the Edmonton green network. Now, spatially explicit, functional valuations for each and every Edmonton open space enable green network managers to avoid ad hoc acquisition, disposal and programming decisions in favour of well supported interventions targeted to the communities where they are most needed.

The Strategy is supported by a separate Implementation Plan that provides concrete actions and guidelines for open space development, and a Technical Report that explains the methodologies used to analyze the green network. Further information can be found on the project website at [edmonton.ca/breathe](http://edmonton.ca/breathe).













# Foundations

# 1.1 The Need for a Green Network Strategy

Edmonton's green network is an integrated system of open spaces, municipal parks and connections that provide value to residents and the environment. It includes all the outdoor land and water that is publicly owned or publicly accessible, such as parks, plazas, pedestrian-priority streets, natural areas, greenways and green infrastructure.

This network makes Edmonton among the world's most livable cities. But as the city grows, we will need to do better. The City of Edmonton was incorporated in 1904, and has since evolved into a vibrant and growing centre of 900,000 people. The city is situated within the traditional territories of many First Nations, and is an important homeland for the Métis Nation. Edmonton serves as a gathering place for creating and maintaining relationships among communities and peoples from all over the world.

Edmonton is a great place to live, work and play. It boasts a strong economy, friendly people, a rich cultural heritage and a world-class network of parks and open spaces. Our diverse green network provides a wide range of amenities, experiences and opportunities that support the integrity of the environment and the health and wellbeing of residents. Additionally, open spaces attract visitors and support economic growth and urban vitality.

*BREATHE: Edmonton's Green Network Strategy* provides an opportunity to revisit the role open spaces play in ensuring ecological integrity and quality of life. Edmonton's green network, like many other park and open space systems worldwide, is challenged by the pressures of population growth, changing demographics, limited resources, evolving trends in recreation and shifting environmental conditions. This Strategy will ensure better access to well-connected, highly functioning open spaces that support other city planning objectives and respond to diverse needs.

Cities everywhere are recognizing the value open spaces add to the urban system — the way green infrastructure provides ecological services, civic squares create sense of place, and recreational amenities support health and wellness. Edmonton has the potential to be a leader in open space planning by creating and implementing a strategy based on sound evidence, Indigenous and community engagement, and an integrated network-based approach. The *Green Network Strategy* is an opportunity to create a bold vision for a better future — to think strategically about what approaches and actions are needed to build the best possible green network for Edmonton.





## 1.2 Purpose of the Strategy

The *Green Network Strategy*:

- » Provides a framework for explicit and defensible multiple-objective decision making about Edmonton's open spaces.
- » Contributes to the City's broader strategic goals and vision as set out in the City of Edmonton strategic plan, *The Way Ahead*.
- » Consolidates and updates the previous *Urban Parks Management Plan* and *Natural Connections Strategic Plan*.
- » Establishes strategic directions and policy actions to guide open space development, management and use into the future.

The scope of the Strategy is limited to outdoor open spaces that are publicly owned or publicly accessible, and the primary focus is on planning physical infrastructure, as opposed to programs or other methods of animation.

This Strategy was developed in the context of a renewed Corporate Land Management Policy, which emphasizes that public lands are scarce resources, and as such, that the City has a responsibility to allocate and manage them as efficiently as possible. Now, spatially explicit, functional valuations of all Edmonton open spaces enable planners and land managers to avoid ad hoc acquisition, disposal and programming decisions in favour of well-supported interventions targeted to the spaces and communities where they are most needed, and where they would provide the greatest benefit to overall network functioning.

## 1.3 Structure of the Document

This *Green Network Strategy* is structured in five parts:

- » Part 1 explains the vision and approach of the Strategy, and provides background information surrounding planning and policy context in Edmonton.
- » Part 2 provides more detail about Edmonton's green network and its constituent functions and open spaces.
- » Part 3 describes the state of open space provision in central core, mature, established, developing and industrial neighbourhoods, and establishes provision strategies appropriate for each area.
- » Part 4 provides 10 Strategic Directions and supporting policy actions to guide the City and its community partners in planning open spaces.
- » Part 5 concludes with a summary of challenges and opportunities, and an overview of the next steps needed to implement *BREATHE*.

*BREATHE* includes a separate Implementation Plan that explains in greater detail how to achieve the policy actions of this Strategy by providing concrete actions and projects for open space improvement. An additional Technical Report provides detailed information about the methodologies that were used to analyze the green network.

Finally, *BREATHE* is intended to be a living document. Even the most current and comprehensive information — the information used to build the Strategy — can become outdated as conditions change over time. This means that everyone responsible for implementing the Strategy must commit to keeping the document “alive” with new data, analytical methods and ideas for addressing issues as they evolve.

# 1.4 Planning and Policy Context

Edmonton exists within a nested series of natural, traditional and geopolitical jurisdictions. The North Saskatchewan River connects the City to adjacent municipalities and to larger regional and continental ecosystems from the Rockies to the prairies. The Parkland Ecoregion represents a highly biodiverse transition zone between boreal forests and prairie grasslands. The Edmonton Metropolitan Region includes Edmonton and surrounding municipalities, totaling nearly 12,000 square kilometres. Situated within Treaty 6 territory, the traditional territories of many First Nations, and the traditional homeland of the Métis Nation, Edmonton is the Capital of Alberta and the northernmost major city in North America.

*BREATHE* will influence, and is influenced by, a range of legislation, strategies, plans, programs and agreements that govern these relationships and determine how we plan, develop and manage the green network. (A comprehensive list of these associated policies is summarized in the *Green Network Context Report*, available at [edmonton.ca/breathe](http://edmonton.ca/breathe)). The North Saskatchewan Regional Plan, the River Valley Alliance Plan of Action and provincial and federal policies regarding wetlands conservation, endangered species and environmental impact assessments all influence the ecological network of the city. The Edmonton Metropolitan Region Growth Plan and the Municipal Government Act provide direction on growth, governance and land use. The *Green Network Strategy* can also help advance the recommendations of the Truth and Reconciliation Commission and City of Edmonton initiatives (e.g. the Urban Aboriginal Accord), which intend to honour the traditions and contributions of Indigenous peoples to this place.

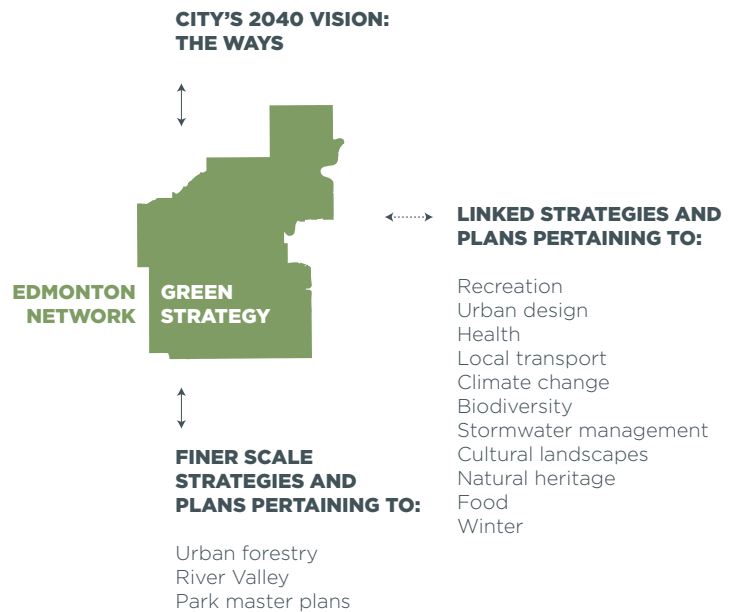


FIG. 1: Related City Plans and Policies

*BREATHE* must also support and align with other City plans and policies (see **FIG. 1**). The *Green Network Strategy* supports the civic priorities of *The Way Ahead: City of Edmonton Strategic Plan* and its six subsidiary strategic plans (*The Ways*), which establish a foundational vision and goals to direct the strategic work of the City. *BREATHE* provides a strategic foundation and policies to support complementary City plans and strategies, and provides direction for subsidiary municipal plans and projects (e.g. area structure plans, park master plans).

Together, this collection of plans and associated documents forms a **policy hierarchy** that provides important strategic guidance to *BREATHE*, and that in turn enables *BREATHE* to provide direction to the plans, initiatives, programs and projects that directly affect open spaces throughout the green network.

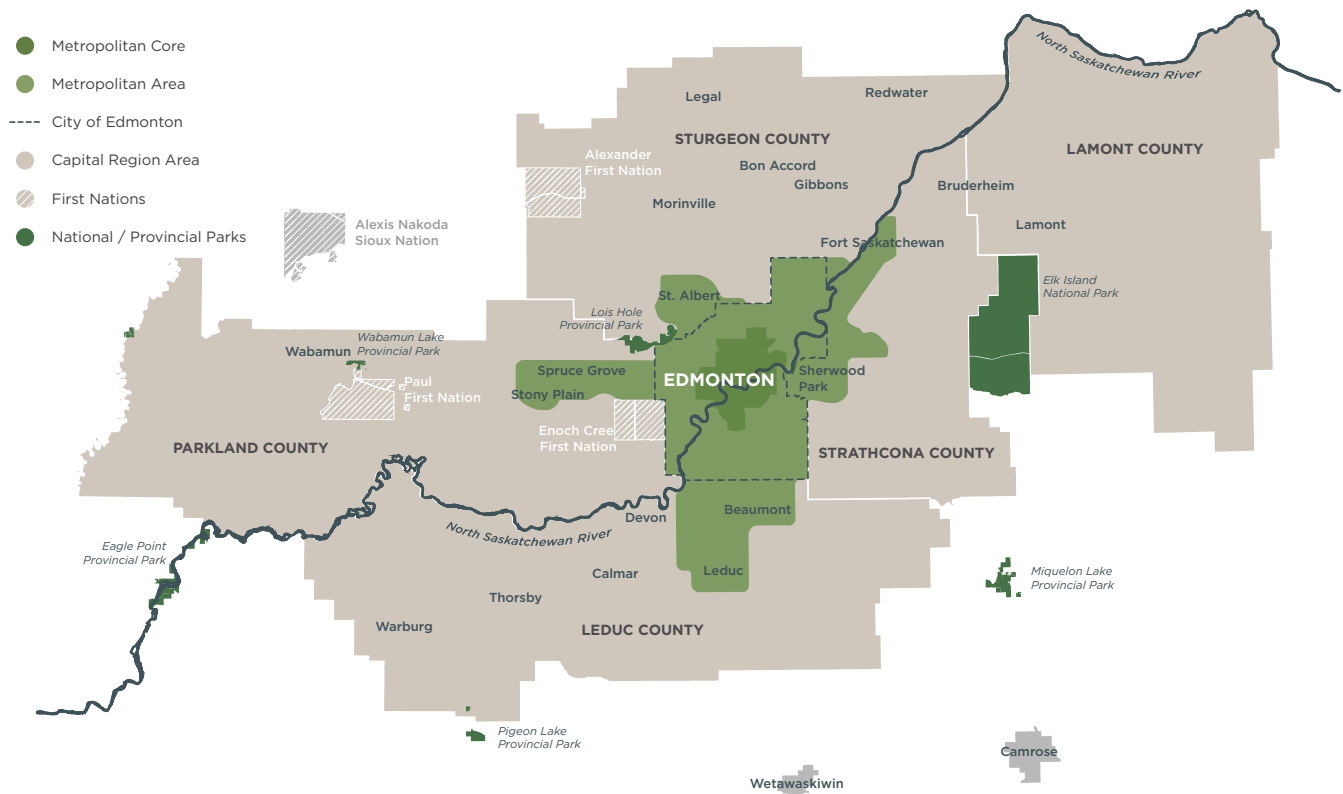
### 1.4.1 REGIONAL PLANNING CONTEXT

The Capital Region Board of the Edmonton Metropolitan Region (see **MAP 1**) consists of an elected representative from each member municipality, and was formed to coordinate planning for land use, transit, housing and geographic information systems across the Region. Regional planning is coordinated through the Edmonton Metropolitan Region Growth Plan.

The Plan indicates that over the next several decades, the Edmonton Metropolitan Region can expect 33,000 new people per year and 16,000 new jobs per year. Edmonton is anticipated to accommodate at least 70% of regional population growth, which means the City must “grow up, grow in and grow out” to accommodate regional targets for smart growth. The Growth Plan establishes targets for densifying greenfield development and Transit Oriented Development centres, and an intensification target that directs 25% of new residential development toward Mature neighbourhoods and the Central Core.

What these trends and targets imply for open space planning is that demands on the green network will increase, while enhancing open spaces becomes more important for supporting the quality of life in densifying communities. The *Green Network Strategy* intends to address the objectives of the Metropolitan Region Growth Plan by:

- » Providing for complete communities with sufficient and appropriate open spaces
- » Accounting for growth and densification with adequate servicing and provision guidelines
- » Promoting active transportation by supporting infrastructure connectivity
- » Protecting and restoring significant natural areas
- » Planning open spaces that enhance climate change resiliency and improve environmental quality region-wide
- » Encouraging urban agriculture and supporting local food vendors and activities
- » Considering recreational and ecological connectivity through the region and beyond



MAP 1: Edmonton Metropolitan Region



### 1.4.2 CITY PLANNING CONTEXT

*BREATHE* extends far beyond consolidating and updating existing open space policy. This *Green Network Strategy* responds to the unique and dynamic conditions of Edmonton, now and in the future. It identifies the key issues, considerations and policies that will achieve a vibrant and sustainable open space network to serve current and future populations.

The following pages provide local context for the plan.

#### THE WAY AHEAD & THE WAYS STRATEGIC PLANS

*The Way Ahead: City of Edmonton Strategic Plan* is the core planning document that directs the strategic work of the City. Its six subsidiary strategic plans (*The Ways*) explain how to achieve the corporate vision and goals for Edmonton in relation to growth (attractive and compact city), transportation (access to amenities and services), livability (health and wellness), environment, municipal finance and economy. Any subsidiary plan or strategy, including this *Strategy*, must align its actions and policies to accomplish the objectives of *The Ways*.

*BREATHE* is one of 23 City Priority Projects identified in *The Way Ahead Implementation Plan (2016-2018)*. According to the Plan, a successful open space strategy will ensure that parks and natural area growth support growing communities, and multifunctional landscapes meet the growing needs of diverse communities. In service of these objectives, *BREATHE* recommends planning, management and programming actions that align with each of the six strategic goals of *The Ways*.



### **Transform Edmonton's urban form.**

#### **The Way We Grow | Municipal Development Plan**

Open spaces and the connections among them are an important component in the network of land uses and infrastructure that influence how we grow. Well designed, strategically-located open spaces help build vibrant communities and facilitate a high quality of life for residents, especially as neighbourhood density increases across the City.

### **Enhance use of public transit and active modes of transportation.**

#### **The Way We Move | Transportation Master Plan**

The green network supports more sustainable, equitable transportation system. Pedestrian-friendly streets, walking and cycling pathways, and supportive wayfinding systems can help increase travel choices for Edmontonians and encourage more efficient movement of people through the City. Well-designed green and civic spaces can also create welcoming environments around transit nodes, helping to enhance sense of place and encourage ridership.

### **Improve Edmonton's livability.**

#### **The Way We Live | Edmonton's People Plan**

Safe, clean open spaces are a cornerstone of community livability. They are places for people to learn, recharge, recreate, gather and celebrate. They build a sense of community by providing welcoming places for everyone, and programming to bring people together. Open spaces enhance access to heritage, arts and entertainment opportunities, creating unique urban experiences.

### **Preserve and sustain Edmonton's environment.**

#### **The Way We Green | Environmental Strategic Plan**

Open spaces encompass the urban ecosystems that are essential to environmental sustainability. These ecosystems clean our air and water, mitigate the effects of climate change and provide habitat for plants and animals. Open spaces can provide sites to support resilient food systems in the region, including production, processing, storage, transportation, buying, selling, eating and waste management activities. Conserving, connecting and expanding open spaces is imperative to achieving this goal.

### **Ensure Edmonton's financial sustainability.**

#### **The Way We Finance | Financial Sustainability Plan**

Maintaining and expanding the green network requires substantial financial resources, which must be balanced with many other City priorities. As key amenities that reinforce Edmontonians' quality of life, open spaces should remain high on that list of priorities. In turn, if properly managed, open spaces can financially benefit the City by attracting residents and visitors, increasing the taxable value of nearby properties, and providing valuable ecosystem and green infrastructure services.

### **Diversify Edmonton's economy.**

#### **The Way We Prosper | Economic Development Plan**

Edmonton is a city that supports a diverse local economy. The green network provides the quality of life that is key to retaining a strong workforce and spurring local investment. Open spaces can also provide the inspiration or the testing ground for innovative technologies, cultural initiatives and businesses such as farmers' markets, recreation service providers or ecotourism operators.

## THE NORTH SASKATCHEWAN RIVER VALLEY AND RAVINE SYSTEM

The River Valley and Ravine System form the core of the green network, and provide important habitat for plants and animals, regional connectivity throughout the City and beyond, as well as cherished open spaces for human use. Planning in and around the valley involves a delicate balance between preserving ecological integrity and providing for sustainable human use. This Strategy establishes policy that addresses issues of environmental degradation, optimizing usage patterns and opportunities for long-term use and preservation.

## WINTER CITY FUNCTIONALITY

As a proud northern city, Edmonton recognizes that the green network should celebrate our unique winter climate. The green network encourages residents and visitors to embrace winter life by providing spaces for winter recreation (e.g. cross-country skiing, skating, snowshoeing and tobogganing), community gathering (e.g. warming huts, heated outdoor patios) and celebration (e.g. festivals and other events). At the same time, open spaces should be designed to promote access to sufficient sunlight and shelter that mitigates darker, cooler winter conditions, and infrastructure should be maintained to ensure safe, barrier-free environments for people of every age and ability.

## RECREATIONAL TRENDS

Active and passive recreational spaces are important elements of the green network. Much of the network land base is comprised of sports fields, recreation centres, pathway systems and other active living facilities. Changing recreational trends have significant implications for strategic open space planning. For example, busy schedules and limited leisure time have resulted in declining participation in organized sports and an increasing preference for more flexible, individualized fitness and wellness experiences. An aging population in Edmonton increases the demand for lower impact recreational activities such as gardening, walking and nature appreciation, while an increasing population of new Canadians may have recreational preferences currently under-supported by the green network. Strategies that support active living and the provision of recreation facilities (such as the Recreation Facilities Master Plan and Live Active Strategy) will align and partner with the *Green Network Strategy* in considering and responding to these trends.

## POPULATION GROWTH

The population of Edmonton is projected to double to nearly two million residents. The City is taking action to help ensure that new growth is attractive and compact by encouraging the urban form to “grow up” through higher density redevelopment and Transit Oriented Development, “grow in” through neighbourhood intensification and infill, and “grow out” through responsible development of new neighbourhoods. The City must provide for diverse and changing demands using limited budgets. Strategic provisioning of open space includes acquisition of new areas, as well as enhancement and responsive management of existing spaces. The green network will support vibrant, healthy communities by supplying sufficient, diverse and wisely stewarded open spaces that meet anticipated needs into the future.





## NEIGHBOURHOOD DECLINE AND RENEWAL

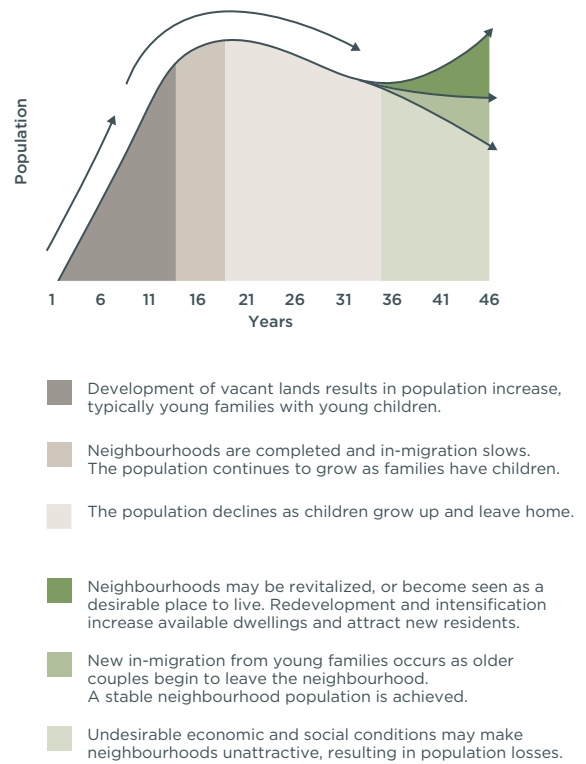
Unlike developing neighbourhoods, whose populations are projected to grow, some mature and established areas have experienced significant population decline over the past several decades (see **FIG. 2**). School closures, or school sites declared surplus to school board needs, present an opportunity for redevelopment as community open spaces, but they may also be sold or redeveloped for other land uses. City infill and open space renewal initiatives in older neighbourhoods could help reverse population decline while improving the condition of aging parks and infrastructure.

## CLIMATE CHANGE

Climate change is a global issue that impacts Edmonton in numerous ways, including severe storm events (which produce flooding and accelerated infrastructure deterioration), drought, heat waves, shorter or milder winters, and changes in long-term weather patterns. Plants and animals that find habitat within the green network are challenged to adapt to these stressors and associated effects, such as increased vulnerability to disease or pests, and potential shifts in their habitat range. The green network contributes to a more climate resilient city by reducing the urban heat island effect and mitigating the impacts of climate change.

## FLOODING

Although the open spaces of the River Valley and Ravine System help prevent damage from flooding of the North Saskatchewan River, older areas of the City face increasing risks from overland flooding due to high proportions of impervious land surfaces, and aging stormwater infrastructure not designed to accommodate current usage or weather patterns. This Strategy explains how the green network can be leveraged to provide land for upgraded stormwater management facilities like dry ponds, and Low Impact Development (LID) stormwater management alternatives.



**FIG. 2: The typical lifecycle of a neighbourhood**

### THE LIFECYCLE OF A NEIGHBOURHOOD

All neighbourhoods change as they go through a typical lifecycle process. When they are first building out, new neighbourhoods experience rapid population expansion as the community develops, new households are formed and household size grows. They then tend to stabilize for a period of time, which is followed by population decline as children grow up and leave home. Neighbourhoods can then experience a variety of transitions and different outcomes over time. They may continue to shrink as household size declines, or they may grow again as new generations of Edmontonians move in and expand their household size.

# 1.5 Public and Stakeholder Engagement

Significant public engagement and dialogue were key components in the development of *BREATHE*'s findings and policy actions. The quality of Edmonton's open spaces is propelled by strong citizen participation, so our residents are uniquely placed to offer their insight.

A total of 3,750 individuals and 94 stakeholder and community organizations were engaged through online surveys (including a questionnaire and mapping tool), a stakeholder discussion guide, and more than 45 events and discussions, including:

- » Interactive public open houses
- » Stakeholder meetings or workshops
- » Pop-up engagement sessions at festivals and public events
- » Meetings with communities of interest (e.g. children, youth, older adults, persons with disabilities, newcomers, etc.)

## INDIGENOUS ENGAGEMENT

In addition to public and stakeholder engagement, meetings were convened with Indigenous communities with connections to Edmonton. The City reached out to First Nations communities in Treaty Six, the Métis Nation of Alberta, communities from Treaty Seven and Treaty Eight with traditional territories in the Edmonton region, Indigenous organizations and urban Indigenous peoples. The meetings helped participants to share project information, gather input, and continue to engage in an open dialogue about the future of the green network.

The engagement process has presented a unique opportunity to engage people in a conversation about their open spaces. A summary of engagement results is available in the What We Heard Reports available at [edmonton.ca/breathe](https://edmonton.ca/breathe).



## 1.6 Stages of BREATHE

The *Green Network Strategy* is based on the best available evidence in order to build the most comprehensive understanding of the green network. The project development process used research, discussion, geospatial data, analysis and coordination with other City plans and initiatives to inform conclusions about the strengths and weaknesses of the network and opportunities for improvement in the future.

*BREATHE* was developed over five project stages:

### » Stage 1: Review the Context

The project team evaluated existing approaches to the planning, design, management and funding of valued open space functions, including the best practices available from other jurisdictions. Key municipal, regional, provincial and federal plans and policies were also reviewed to determine how they might influence the green network or this Strategy.

### » Stage 2: Understand the Supply

The project team used spatial analysis to understand the key characteristics of the green network in Edmonton, and compiled a GIS database to inventory and analyze features like natural areas, recreational amenities and trail networks. A summary report outlined the types of existing open spaces in the city, and identified where gaps in access and connectivity occur.

### » Stage 3: Understand the Demand

Based on public and stakeholder engagement, user data and socio-demographic information, both current and future demand for open spaces were analyzed to provide a basis for the policy actions of the Strategy.

### » Stage 4: Objectives and Priorities

The purpose of this stage was to collect and synthesize all of the data, engagement feedback and analysis from the previous three stages to establish a series of Strategic Directions.

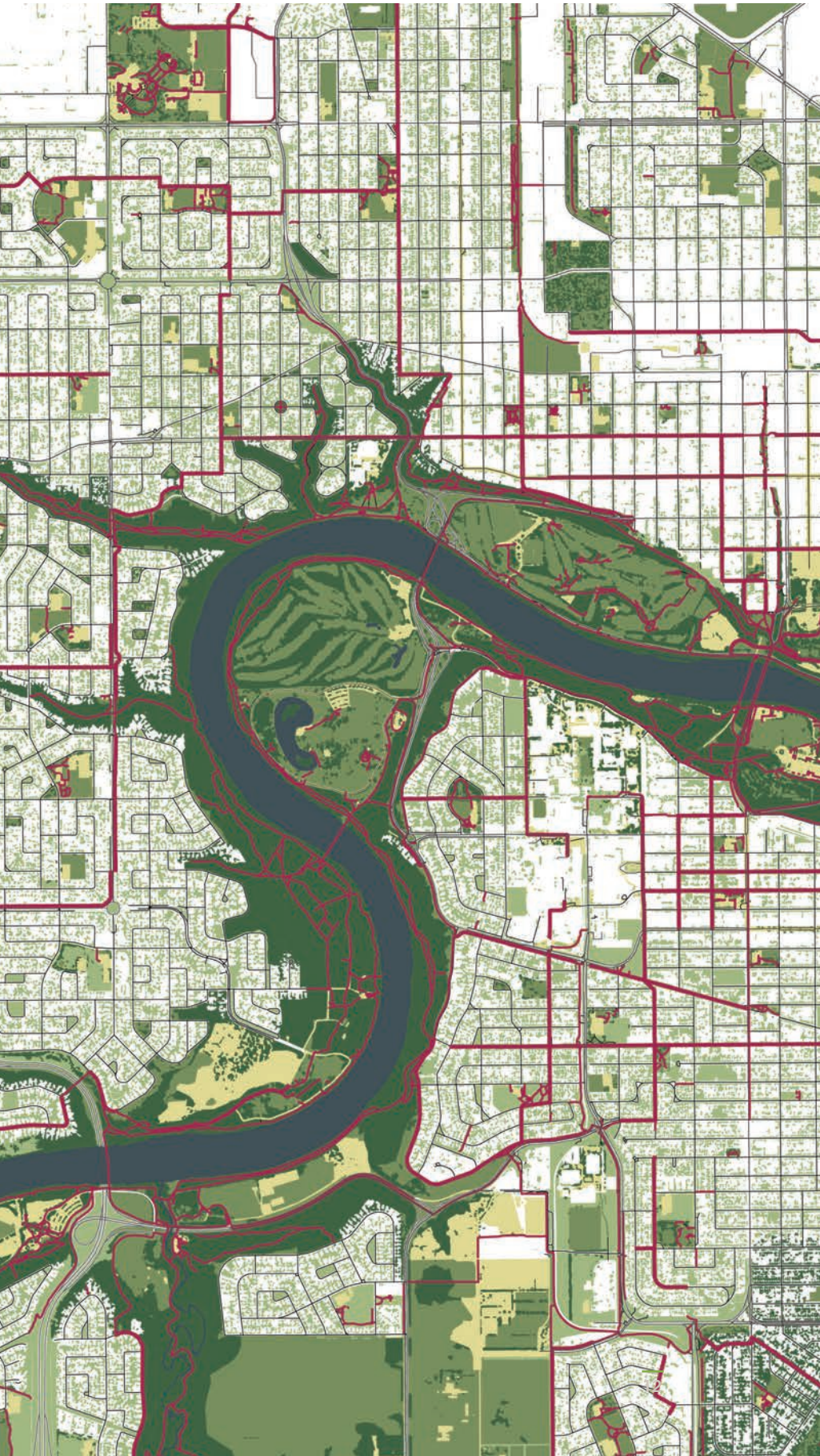
### » Stage 5: Prepare Final Deliverables

This stage was reserved for the project team to examine the priorities identified in Stage 4, and compare them with other city goals and best practices to develop policy actions for open space management moving forward.





## 1.7 A Vision for Edmonton's Green Network



*Edmonton offers an integrated, multifunctional network of parks and open spaces that is renowned as an iconic and defining feature of Alberta's capital city.*

*The green network supports healthy ecosystems and diverse wildlife habitats, and meets the needs of communities present and future by connecting people with year-round opportunities to learn, commute, recharge, recreate, gather and celebrate.*

*Edmontonians are proud of their green network and enjoy sharing the diverse environmental, economic and quality-of-life benefits the green network provides.*

# 1.8 Guiding Principles

*The Green Network Strategy is founded on the following guiding principles:*

---

## **Recognizable and Unique**

Edmonton's signature green network highlights its unique cultural and ecological character, and celebrates the relationship between Indigenous peoples and Edmontonians in meeting the needs of a culturally diverse, rapidly growing, thriving Metro Region.

## **Integrated and Multifunctional**

Edmonton's green network integrates, connects and layers multiple open space types and functions to form a complete system.

## **Equitable and Accessible**

Edmonton's green network is inclusive and equitably accessible for people of all ages, cultures, genders, abilities and income levels.

## **Connected and Coherent**

Edmonton's green network facilitates safe, legible and easily navigable connections for people and wildlife throughout the Metro Region.

## **High Quality Public Realm**

Edmonton's high-quality public realm connects people to its unique natural and cultural heritage, and contributes to an attractive, compact city.

## **Community Capacity**

Edmontonians understand the value of open space and are empowered to be active participants in the creation, stewardship, programming and use of Edmonton's green network.

## **Ecological Integrity and Conservation**

Edmonton's green network sustains healthy and resilient ecosystems and fosters a sense of connection with nature.

## **Safety**

Hazards are prevented and risks are mitigated to create a resilient, welcoming green network for all to enjoy.

## **Wellness**

Edmonton's green network promotes the health and wellbeing of Edmontonians through active living, access to the natural environment and connection to a vibrant, inclusive and caring community.

## **Financial Resilience**

Edmonton's green network is flexible and financially sustainable in delivering open space services to changing and growing communities.



## 1.9 The Policy Framework

The following framework (see **FIG. 3**) informs and organizes the analysis and policy actions of the *Green Network Strategy*.

### **The Way Ahead + The Ways**

*The Way Ahead* and *The Ways* are the highest level strategic planning documents of the City of Edmonton, and together they provide direction for any subsidiary corporate plan or initiative that relates to growth, transportation, livability, environment, municipal finance or the economy.

### **Vision + Guiding Principles**

Based on the direction enshrined in *The Ways*, the Vision and Guiding Principles establish desired broad outcomes for the green network. The subsequent strategic direction and policies contained in the Strategy are oriented to accomplish these outcomes.

### **Themes + Functions**

The functional benefits provided by open spaces to humans and the environment are organized into 15 functions, which fall within three overarching themes: **Ecology, Celebration** and **Wellness**. The current and future performance of the green network has been analyzed according to these themes and functions to determine issues and opportunities.

### **Strategic Directions**

Using inspiration from *The Way Ahead* and *The Ways* strategic plans as well as *BREATHE*'s Vision and Guiding Principles, and incorporating a strong understanding of green network issues and opportunities, the Strategic Directions establish overarching initiatives through which higher level outcomes can be achieved.

### **Policy Actions**

Finally, the Policy Actions provide clear details on the steps required to achieve the Strategic Directions and the ultimate goal of an integrated, multifunctional green network. More detailed actions can be found in the *BREATHE* Implementation Plan.

FIG. 3: The *BREATHE* Policy Framework

# THE WAY AHEAD + THE WAYS



## 1.10 Conceptual Approach to the Green Network

The *Green Network Strategy* adopts a multifunctional network planning approach to ensure a range of highly-valued open space functions and services are well distributed throughout the city. The Strategy evaluates the amount, function and pattern of not only municipal parks, but all publicly accessible open spaces, to review the functional performance of the entire open space system. The functions of open spaces are broadly grouped within three component network themes of Ecology, Celebration and Wellness (briefly described below). The functionality of individual open spaces is assessed for all themes, as well as their overlapping network functions (refer to **SECTION 2** for details).

While the location of the Ecology, Celebration and Wellness layers of the network vary, the *Green Network Strategy* seeks to maximize areas with overlapping functionality, to provide more effective use of public land. In addition, the green network complements, supports and leverages other City objectives, including those related to land use, active transportation and drainage networks.

*BREATHE* reviews the supply and demand for open space both now and into the future. Rather than simply measuring the amount of open space available, the functionality of open spaces by theme as well as access by various modes, is considered. In many cases, improvements to functionality, connectivity or access are needed, rather than simply more open space. For example, providing better access to a park increases the catchment area and serves a larger population without adding parkland. This is especially relevant in the context of limited land and financial resources. Additionally, a network approach is needed where individual projects are considered not only at the local scale, but also with a broader systems lens.

The importance of a site may not be evident at the fine scale but becomes apparent when viewed more broadly (e.g. a vacant parcel may appear to have few local assets supporting Wellness but is in a strategic position for regional connectivity of the trail system). The approach aims to make improvements to the overall network, recognizing that alterations in one part of the network may provide benefits elsewhere and boost the performance of the entire system.



### ECOLOGY

Supports and enhances the environment by sustaining healthy and resilient ecosystems. The urban ecosystem supports biodiversity, climate regulation, food production, risk mitigation and waste and water management.



### CELEBRATION

Connects people by providing places for communities to gather and thrive. Open spaces support community activities through aesthetic value, community building, appealing destination and tourism spaces, heritage elements and public safety.



### WELLNESS

Promotes healthy living and fosters wellbeing through an array of environmental, mobility and recreational options. Open spaces promote wellness by supporting active transportation, mental health and wellbeing, and opportunities to learn, play and recreate.



### 1.10.1 AN INTEGRATED AND MULTIFUNCTIONAL GREEN NETWORK

Open spaces are the physical foundation of the green network. Open spaces promote health and wellbeing by providing space for recreation and mobility, as well as opportunities for relaxation and introspection. They support environmental sustainability and resilience by providing ecosystem services and protecting sensitive lands and habitats. People connect through the green network, building community and celebrating the beauty, heritage and vitality of their city in civic spaces.

The open spaces of the green network include not only municipal parks, but also a wide variety of other publicly accessible places: natural areas, civic squares, pedestrian-oriented streets, outdoor festival sites, municipal cemeteries and golf courses, school yards, provincially-owned parkland, institutional campuses and some privately-owned (but publicly accessible) spaces. The green network also includes marginal or undervalued spaces such as boulevards, stormwater management ponds and utility corridors.

The green network is more than a collection of parks and open spaces. Every open space, from the River Valley to a roadway green, is part of a connected network of green spaces and corridors providing multiple services to humans and the environment. While each open space in the city is characterized by a unique set of functions, they are also interconnected through the overlapping networks that support Ecology, Wellness and Celebration. The value of individual spaces is enhanced by their position in, and connectedness to, broader networks. In other words, the whole is greater than the sum of its parts. The components of the green network are designed to function across multiple scales, from the block and the neighbourhood, to citywide and metropolitan region levels.

*As populations rise and demands on public lands grow, the multifunctionality of Edmonton's open space resources becomes increasingly important.*

*The green network supports multiple values and functions by providing diverse, well-connected, multifunctional open spaces throughout the city. For example, a natural wetland can provide stormwater management, aesthetic, educational, recreational and habitat functions simultaneously.*

*Where functions overlap, the City must coordinate its departments and community partners to determine how best to accommodate and complement different uses.*



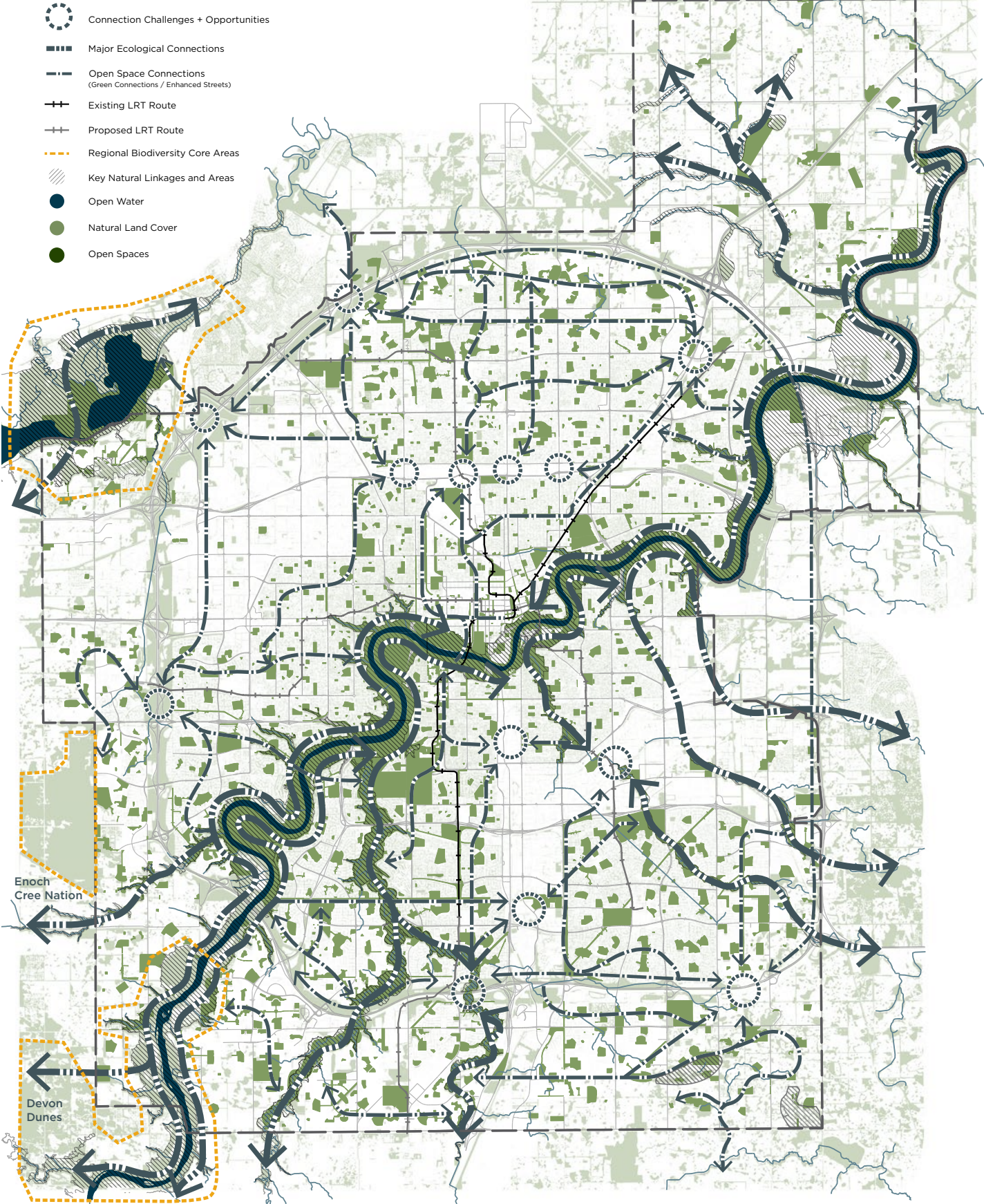
## A WELL-CONNECTED GREEN NETWORK

The green network does not begin and end at the boundaries of any single open space (see **MAP 2**). Streets, alleys, sidewalks and natural corridors provide varying levels of connection between open spaces, as humans and wildlife move throughout the city. Habitats, refuges, gardens and other functional open spaces are found across Edmonton, bolstered by the urban tree canopy, complete streets and private properties. Ensuring strong linkages between these components will help maintain the natural functioning of the landscape: providing wildlife with means of moving between habitats, maintaining hydrologic connectivity between waterbodies, and retaining natural land cover throughout the urban area.

Recreational and commuter travel through the green network is another essential aspect of a functioning system of urban open spaces. By maintaining a well-connected and clearly communicated pathway network throughout the city, residents have increased opportunities to choose active transportation for both work and play. Ensuring that neighbourhoods are connected to the pathway system allows the people of Edmonton to more easily access the open space system. *BREATHE* adds real value to the city by ensuring access to natural areas and other ecological spaces, encouraging community events in Celebration spaces and promoting active living through nearby Wellness spaces.



**MAP 2: Conceptual Spatial Connections**





## COMPONENTS OF THE GREEN NETWORK

The open spaces of Edmonton's green network provide a wide variety of important functions for the city, encompassed by the themes of Ecology, Celebration and Wellness. People and wildlife move through the city in response to varying objectives and desires for a diversity of resources and experiences, and the functional components of open spaces contribute to the experiences offered in each space (see FIG. 4).

**Ecology:** **Core areas** provide important habitat for plants and animals, and are often buffered by spaces that support our outdoor recreational and social needs. **Wetlands** and **riparian areas** provide valuable flood mitigation services, climate change mitigation and stop-over sites for migrating species. **Ravines, greenways** and **urban forest stepping stones** ensure that ecological and hydrological connections are maintained through the urban matrix.

**Celebration:** **Event spaces, heritage sites** and **community spaces** provide residents and visitors with the opportunity to gather, interact and celebrate the diverse cultures of the city. Well-vegetated urban forests and **pedestrian-oriented streets** ensure that the city is a beautiful, scenic destination that encourages exploration.

**Wellness:** Broadly distributed **trails, corridors** and **sporting amenities** ensure that a high quality recreation and active living network is provided throughout the city.

While this Strategy focuses on publicly-accessible open spaces, the green network spreads across the landscape regardless of property boundaries and jurisdictions. Ensuring a well-connected and highly diverse set of open spaces helps to make the city a satisfying and bountiful experience for residents and visitors alike.

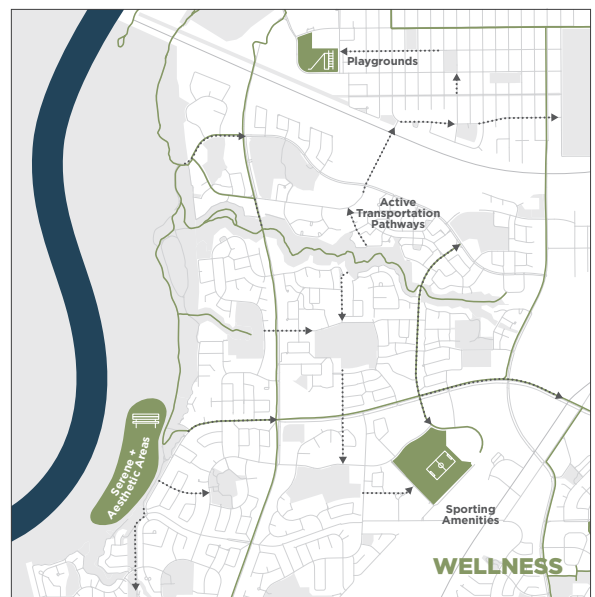
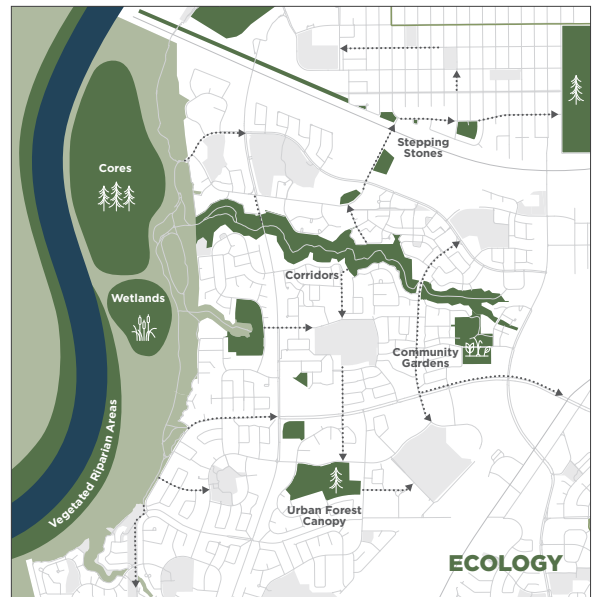


FIG. 4: Conceptual Components - Combined Ecology, Celebration + Wellness



## OPEN SPACE AS GREEN INFRASTRUCTURE

The green network provides measurable value that corresponds to the value provided by the more traditional infrastructure engineered to serve us. The roads, sewers, treatment plants, hospitals and schools constructed to support and improve our lives – our grey infrastructure – find a parallel in the green infrastructure services supplied by the green network:

- » **Provisioning Services** that supply us with the raw materials for life, including food, fresh water, habitat, fuel, fibre and other goods.
- » **Regulating Services** that help keep our environment safe and optimal, including mitigation of urban heat island effect, carbon sequestration, stormwater and air purification and disease regulation.
- » **Supporting Services** that enable fundamental ecosystem processes, including soil formation, pollination and nutrient cycling.
- » **Cultural Services** that support humans' non-biological needs, including education, aesthetic values, cultural heritage, Indigenous traditional uses, recreation and tourism.

Open spaces supply green infrastructure services at various scales, from the forests of the River Valley and Ravine system to the street trees on Whyte Avenue. A River Valley park contains natural ground cover that

provides regulating and supporting services, while a community garden within that park provides provisioning and cultural services. Green infrastructure can include natural features, like wetlands, woodlands and naturalized landscapes, and features that have been constructed or engineered by humans to provide some ecological service, like stormwater ponds. Some green infrastructure has been deliberately engineered to reduce pressures on grey infrastructure, like the bioswales, green roofs or permeable pavement that help manage stormwater on site rather than directing it toward conventional stormwater sewers. In this way, the economic value of open space increases with increasing functionality.

The last category of green infrastructure services, Cultural Services, acknowledges that the green network supplies not only ecological value to Edmonton and its people, but also cultural and social value. Open spaces impact people by providing a “home” for outdoor recreation, education, socialization and celebration – essential services for a healthy society. We impact open spaces by using, modifying and improving them for human and ecological benefit alike. In other words, the green network is a socio-ecological network where environmental and anthropogenic components influence one another in diverse, yet inseparable ways.





## 1.10.2 GEOSPATIAL TOOL FOR PLANNING AND LAND MANAGEMENT

*BREATHE* developed a geospatial database containing an inventory of all the open spaces in the city, and accompanying functional and connectivity analysis results. This database provides the City of Edmonton with a tool to make integrated, data driven, spatially-explicit management decisions about the future of open spaces in Edmonton.

Compiling the geospatial database involved collecting and integrating over 75 relevant datasets to create an open space inventory containing 1,889 polygons and 124 attributes (see **FIG. 5**). The new database will help open space planners, designers and operators make decisions about how best to build and manage the green network, and how to prioritize capital and operational investments. Many of these diverse datasets were already available from different sources within the City, but had never been assembled and organized into a comprehensive database to support open space decision making. The goal of *BREATHE* is to leverage existing information to build an innovative, effective management tool to support integrated, evidence-based open space planning.

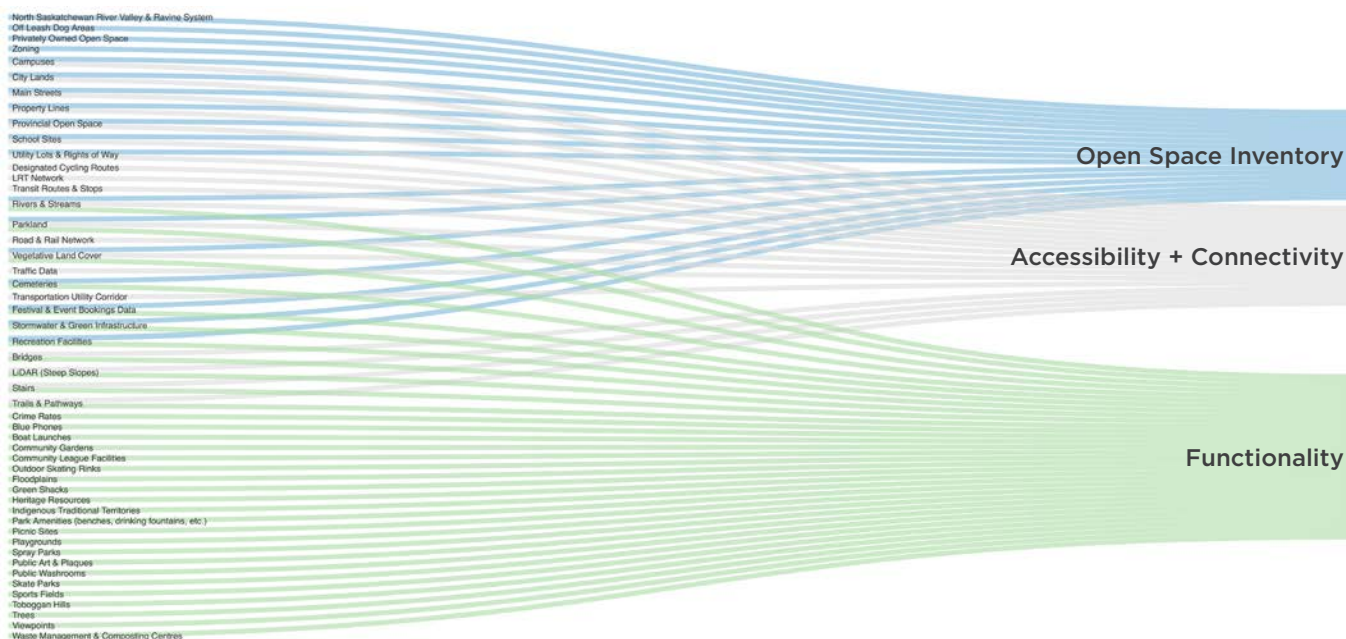
More information about the data used and analyzed for *BREATHE* can be found in the Technical Report.



### WHAT IS GIS?

A Geographic Information System (GIS) is a computer-based system for recording, storing and displaying data related to geographic locations on the Earth's surface. GIS software enables the user to visualize multiple types of data about a place, and to manipulate that information to understand patterns and relationships.

For *BREATHE*, GIS is being used not only to inform the project maps and analyses, but also to provide the City of Edmonton with a tool to help make management decisions about the green network into the future.



**FIG. 5:** Example Datasets Used for GIS Analyses









# 2

## Edmonton's Green Network: Layers + Functions

## 2.1 The Functions of the Green Network

*BREATHE* adopts a multifunctional network approach to open space planning. The Strategy considers the amount, function and configuration of not only municipal parks, but all publicly accessible open spaces, in order to form a comprehensive picture of how the entire green network performs. Understanding both the structure of the green network and the value of the services it provides is important for developing a *Green Network Strategy* that addresses the needs of humans and the environment, and that enables decision makers to optimize public land use using a defensible, evidence based approach.

### THE FUNCTIONAL ANALYSIS

The project team evaluated the supply and demand for open space both now and into the future. But rather than simply measuring the amount of open space available, the team sought to obtain a holistic perspective on the green network by assessing functionality and access as well. Evaluating the green network from a functional perspective was a novel approach that required the project team to categorize and measure the services the network provides – how open space amenities and characteristics combine to improve the urban environment, provide places for people to come together, and contribute to human health and wellness.

As a first step, the project team defined 15 functions that encompass those services. The functions were developed through research and valuable expertise from park managers, urban planners and urban ecology experts, who sought to capture the myriad of ways that open spaces can provide value to humans (e.g. providing recreational amenities) or the environment (e.g. improving habitat). The *Green Network Strategy* considers the functions in terms of their contribution to three overarching values or themes: **Ecology**, **Celebration** and **Wellness**.

Next, every open space in Edmonton was assigned a functional “score” based on the degree to which its amenities and characteristics supported each function. For instance, an open space with a large amount of natural land cover results in a better score for biodiversity and climate regulation functions, and contributes to aesthetic value as well.

The network maps in the following pages show a summary of how well each open space supports each theme: Ecology, Celebration and Wellness. The darker the colour, the better the open space supports the functions that contribute to the theme. Larger versions of these maps are available in **APPENDIX C**.

For more information about how the evaluation was performed, see the *Stage 2 Summary Report* available at [edmonton.ca/breathe](http://edmonton.ca/breathe).



ECOLOGY

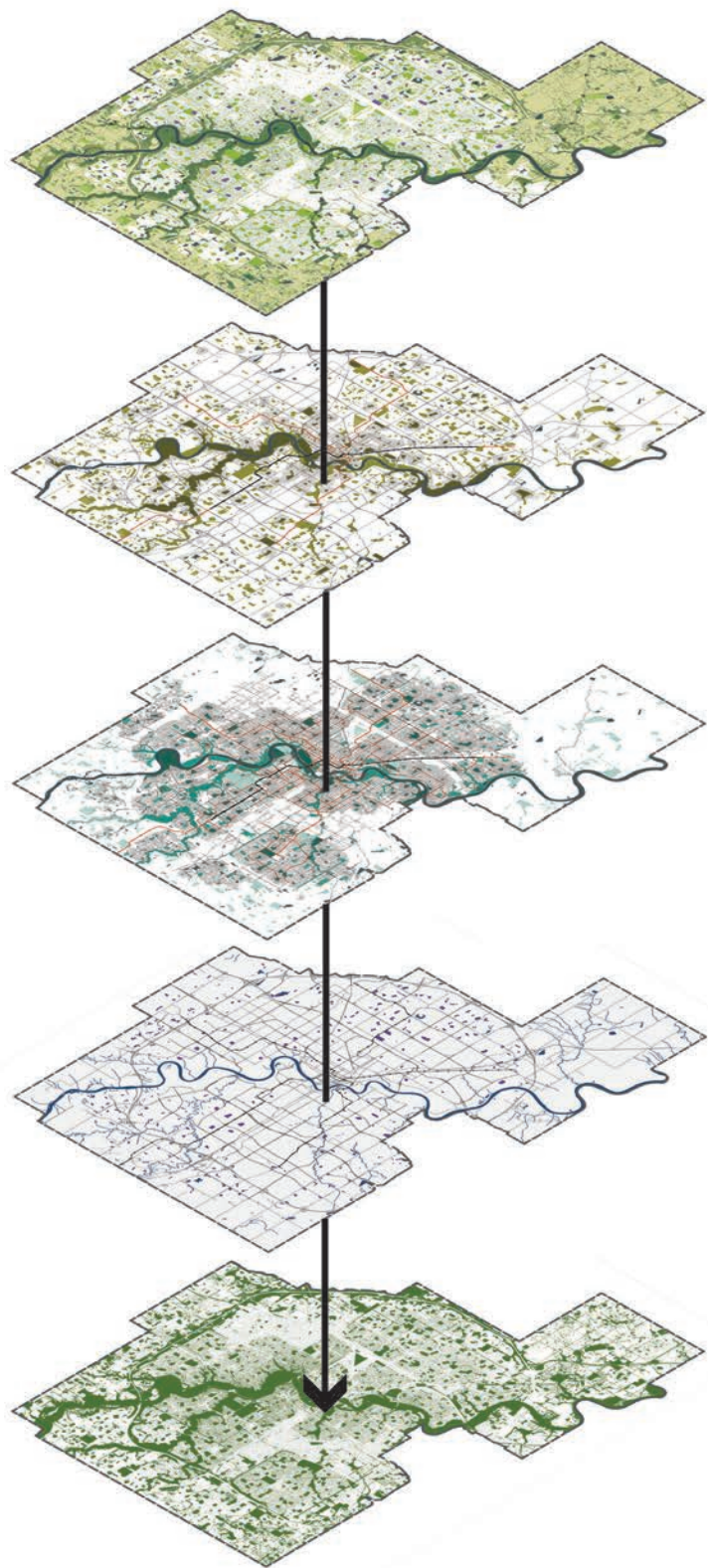


CELEBRATION



WELLNESS





### Ecology Network

- › Environmentally Sensitive Areas
- › Natural and Semi-Natural Areas
- › Community Gardens
- › Waterbodies
- › Wetlands
- › Stormwater Features and Ponds
- › Hydrology
- › Wildlife Connectivity and Habitat
- › Urban Forest Canopy



### Celebration Network

- › Festival and Event Spaces
- › Community Gathering Spaces
- › Historic and Culturally Significant Landscapes
- › Main and Pedestrian-Priority Streets
- › Squares, Plazas and Promenades
- › Public Art
- › Ceremonial Spaces
- › Special Purpose Facilities



### Wellness Network

- › Scenic and Serene Spaces
- › Sports Fields and Athletic Amenities
- › Educational Activity Centres
- › Pathways and Trails
- › Cycling Routes
- › Playgrounds and Spray Parks
- › Outdoor Ice Rinks and Skating Trails
- › Ski Hills and Cross Country Trails



### Urban Infrastructure Network

- › Road and Pathway Network
- › Transit Network
- › Drainage Infrastructure
- › Power and Water Networks
- › Communications Infrastructure
- › Land Use and Development

### The Green Network

Publicly accessible open spaces contributing the city's:

- › Ecological Function
- › Operational Capacity
- › Recreational Potential
- › Social Community
- › Health and Wellbeing

FIG. 6: Functional Layers of the Green Network



## 2.2 The Ecology Network

### 2.2.1 ECOLOGY NETWORK STRUCTURE

Edmonton's Ecology Network is a mosaic of natural or near natural vegetated core areas, stepping stones and corridors, set in a matrix of urban development. The Ecology Network influences the flow of species, energy, nutrients, and water moving through the city. The following “indispensable landscape patterns” (after Forman, 1995) are closely linked to important ecological processes and should be maintained within the city.

- » Core areas of natural vegetation which provide natural habitat, increase species diversity, and support natural ecological functioning
- » Connectivity between natural areas in the form of low-disturbance vegetated corridors
- » Vegetated riparian areas along ravines, streams, and rivers provide functional species movement, erosion control, water quality and habitat
- » Stepping stones of natural vegetation through developed areas to support habitat and animal movement

In Edmonton, these “indispensable patterns” are manifested in the following network components.

#### NATURAL AREAS

**Regional Core Natural Areas:** Large natural or near natural areas supporting a diversity of species by providing larger contiguous habitats. Core areas maintain natural ecological processes, and provide unique recreational and cultural experiences. Important natural areas include Enoch Cree Nation and Lois Hole Centennial Provincial Park.

**Local Natural Areas:** Natural or near natural areas providing important habitats within city limits.

**Pocket Natural Areas:** Small remnant natural habitats that are important for resident local species with lower mobility (e.g. plants, birds, insects, smaller mammals).

**Natural Area Buffers:** Allow for conflicting land uses to coexist by protecting natural areas and linkages from negative impacts, development and activities.

### CORRIDORS, LINKAGES AND STEPPING STONES

Open spaces are connected with one another through corridors used by humans and wildlife for travelling throughout the city. Likewise, habitat and open space functionality is extended into the matrix through the urban tree canopy, complete streets and even residential backyards.

**Regional Landscape Corridors:** The North Saskatchewan River Valley acts as a regionally important wildlife movement corridor, and provides important habitat areas.

**Ravine Corridors:** Linear corridors following many creeks and streams in the city, including Whitemud Creek Ravine, Mill Creek, Fulton Creek and Oldman Creek Ravines.

**Greenway and Utility Corridors:** Semi-natural linear corridors designed for human movement, rights-of-way and/or pipeline and utility corridors, but may also be used by local wildlife, provided the areas are not routinely disturbed by human activity.

**Stepping-Stone Corridors:** Groups of natural open spaces that can act as “stepping stones” that provide refuge during movement through otherwise impassable areas.

### THE URBAN MATRIX

The natural core areas, stepping stones and corridors of Edmonton exist within a matrix of urban development. The ability of this highly altered matrix to support species and ecological values can greatly influence overall biodiversity and ecological functioning in the city. Within the matrix, enhancement of the urban forest tree canopy and understory vegetation can mitigate urban heat island effect, reduce stormwater runoff, sequester carbon and provide improved habitats for birds and localized species. The Edmonton green network is embedded within a larger regional system that extends across and beyond the city at many different scales. Managing and preserving this system requires creative, committed collaboration with regional partners to ensure the network remains sustainable and resilient into the future.



# ECOLOGY

Supports and enhances the environment by sustaining healthy and resilient ecosystems.

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## OPEN SPACE FUNCTIONS

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### WATER MANAGEMENT

Open spaces can absorb storm water and prevent flooding, as well as provide water treatment and purification for the City.



### CLIMATE REGULATION

Vegetation in open spaces can mitigate urban heat island effect, improve air quality and mitigate climate change.



### BIODIVERSITY

Many types of open space provide habitat for plants and animals, which supports biodiversity and wildlife connectivity.



### RISK MITIGATION

Open spaces can minimize environmental risks by stabilizing slopes, protecting floodways and repurposing contaminated sites.



### WASTE MANAGEMENT

Open spaces can be used for waste management activities like composting and recycling/biofuel facilities.



### FOOD PRODUCTION

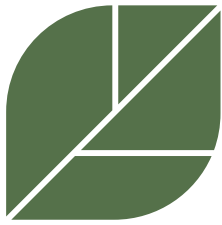
Local food production promotes food security, community interaction, and skill development.

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Open spaces support and improve the urban ecosystem by providing wildlife habitat and supplying valuable ecological services. How open spaces contribute to ecological functioning was evaluated based on six functions. Each of these functions was evaluated using metrics such as rainwater infiltration potential, green land cover, biodiversity, potential to integrate compost and other waste streams, flood

mitigation, and community gardens or edible landscapes. The results of the Ecology assessment are a combination of the 'scores' of its component open space functions.

Ecology functions are incorporated into the Ecology network illustrated in **MAP 3**.



## 2.2.2 ECOLOGY NETWORK SUMMARY

The Ecology Network (**MAP 3**) is intrinsically interconnected. It extends far beyond the boundaries of the City's open spaces. The River Valley and Ravine System forms a unique and highly functional natural core distributed widely throughout the city, but it relies on continuous natural processes that flow into and out of the natural areas, interacting with the more developed and highly used lands surrounding it. The health of the natural core is dependent on what occurs around it, and the city must be managed as a single connected system to ensure its long-term sustainability.

*BREATHE* recognizes that humans are part of the ecosystem, and that we impact, and are impacted by, the ecological functioning of the green network. Stewardship of the Ecology Network must ensure the structural and functional connectivity of the landscape. The continuity of the natural landscape must be strengthened by retaining existing natural areas, mitigating fragmentation and reclaiming disturbed areas. The functional connectivity of the landscape can be improved by extending the urban tree canopy, increasing the use of native vegetation in plazas and fields, and developing more complete streets with a mix of uses and resources. Robust linkages between core natural areas must be maintained.

It is imperative that human use of natural areas, and the lands around them, does not cause disturbance and disruption to the ecological processes that maintain the system. As the city expands, dense residential areas and the road networks that support them can cause severe disruption to the connectivity of the landscape. Habitat loss from development can be compounded by avoidance effects due to overused or poorly designed infrastructure, leading to declining populations and loss of the natural character which initially attracted people to the area.

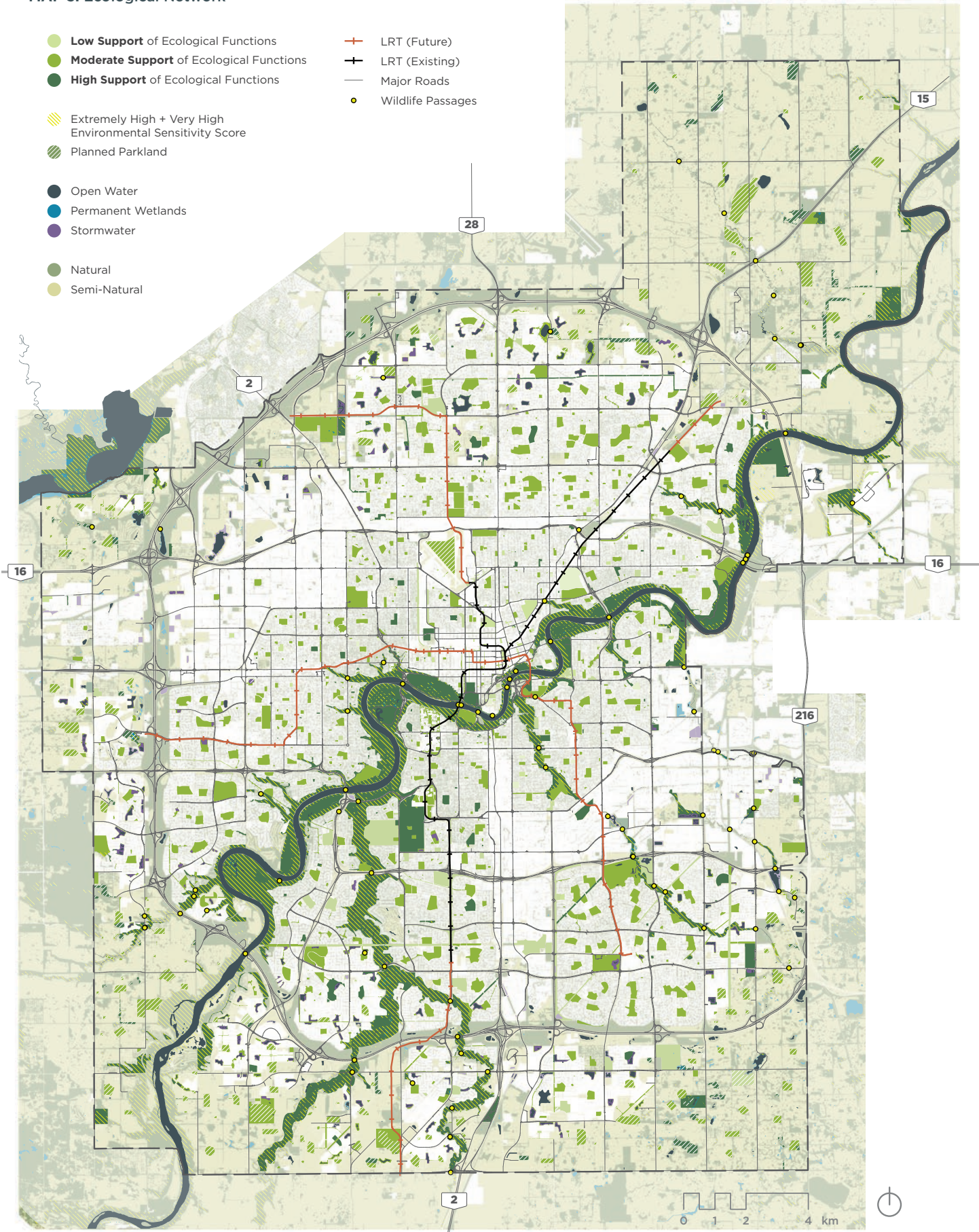
Avoiding development and managing access in areas of highly significant or sensitive ecological value is the most essential aspect of wise stewardship. Following that, mitigation through design can substantially lower our impact. Wildlife passages placed on, under or over roadways can reduce wildlife road mortality, and thoughtful lighting design can reduce nighttime impacts on the natural character of landscapes. Well-designed wetlands and other semi-natural areas can increase their ecological functionality and ensure neighbourhoods are not isolated from the natural areas that surround them. Well-connected and sustainably accessible networks of open space are highly valuable for residents and native species, providing a better sense of connection to nature while minimizing barriers to ecological function.





**MAP 3: Ecological Network**

- Low Support** of Ecological Functions
- Moderate Support** of Ecological Functions
- High Support** of Ecological Functions
  
- Extremely High + Very High Environmental Sensitivity Score
- Planned Parkland
  
- Open Water
- Permanent Wetlands
- Stormwater
  
- Natural
- Semi-Natural
  
- LRT (Future)
- LRT (Existing)
- Major Roads
- Wildlife Passages





## 2.3 The Celebration Network

### 2.3.1 CELEBRATION NETWORK STRUCTURE

The Celebration network is a vibrant assemblage of multifunctional open spaces, providing a range of cultural gathering areas and services. Celebration spaces include civic plazas, festival and event areas, cultural or historic landscapes, and community gathering areas. In addition, main streets, complete streets, pedestrian oriented streets and roads temporarily closed to traffic for special events are used for celebration functions. These spaces need to be flexible and adaptive, supporting a range of uses from major city events and festivals to the more localized needs of the community for picnics, parties, and gatherings. The transit and active transportation networks support access to celebration spaces.

#### CIVIC CELEBRATION SPACES

Civic celebration spaces provide support for festivals, concerts and activities. The capability of an open space to support celebration functions and events relies on the quality, size, design and distribution of these spaces as well as their infrastructure and facilities. Appropriate celebration spaces provide aesthetic value, support for community building, public safety, heritage value, and tourism destination support. They bring people together, helping to build social capital and combat social isolation, particularly among vulnerable populations like seniors or newcomers.

Celebration spaces include not only large open spaces like the Provincial Legislature grounds or Hawrelak Park, which host widely popular events drawing very large crowds, but also local open spaces, such as pocket parks and community parks that host community league events, parties, and picnics. Civic Spaces are primarily concentrated in the core of the city but better distribution is needed as populations grow and facilities reach capacity.

#### CELEBRATION STREETS

Accounting for approximately 25% of a city's land area, streets are often single purpose spaces intended for vehicle conveyance. However, appropriately designed main streets, complete streets and pedestrian oriented streets, as well as streets temporarily closed to traffic, for special events have enormous potential to support Celebration and other functions.

#### CELEBRATION ACCESS CORRIDORS

The primary corridors and modes of transportation used to access open spaces for large Celebration events are transit and private vehicles. Secondary corridors for smaller scale events and gatherings include pedestrian pathways and cycling routes.





# CELEBRATION

Connects people to each other and builds a sense of place by providing places for communities to thrive, gather and celebrate.

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## OPEN SPACE FUNCTIONS

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### AESTHETIC VALUE

Attractive and welcoming design is key in placemaking.



### COMMUNITY BUILDING

Gathering spaces facilitate social interaction and community programming.



### PUBLIC SAFETY

Open spaces can provide traffic calming, buffer zones and “eyes on the street”.



### HERITAGE

Open spaces can highlight the cultural and/or historical value of a site or feature.



### DESTINATION + TOURISM

Open spaces can draw people from the region, the nation and beyond.

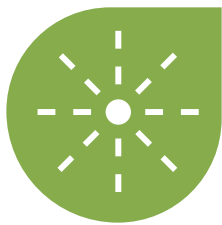
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Open spaces provide opportunities for socializing, building community identity, and acknowledging our culture and heritage. They provide protection for heritage resources, and act as gathering spaces, bringing people together in celebration. How open spaces support social and celebratory activities was evaluated based on five functions. Each of these functions was assessed based on the presence of historical structures or historically significant landscapes, how well the space ensures safety in the

context of human risk, the use of a space for community events and festivals or the presence of scenic features like ornamental gardens and view points. The results of the Celebration assessment are a combination of the “scores” of its component open space functions.

Celebration functions are incorporated into the Celebration network illustrated in **MAP 4**.



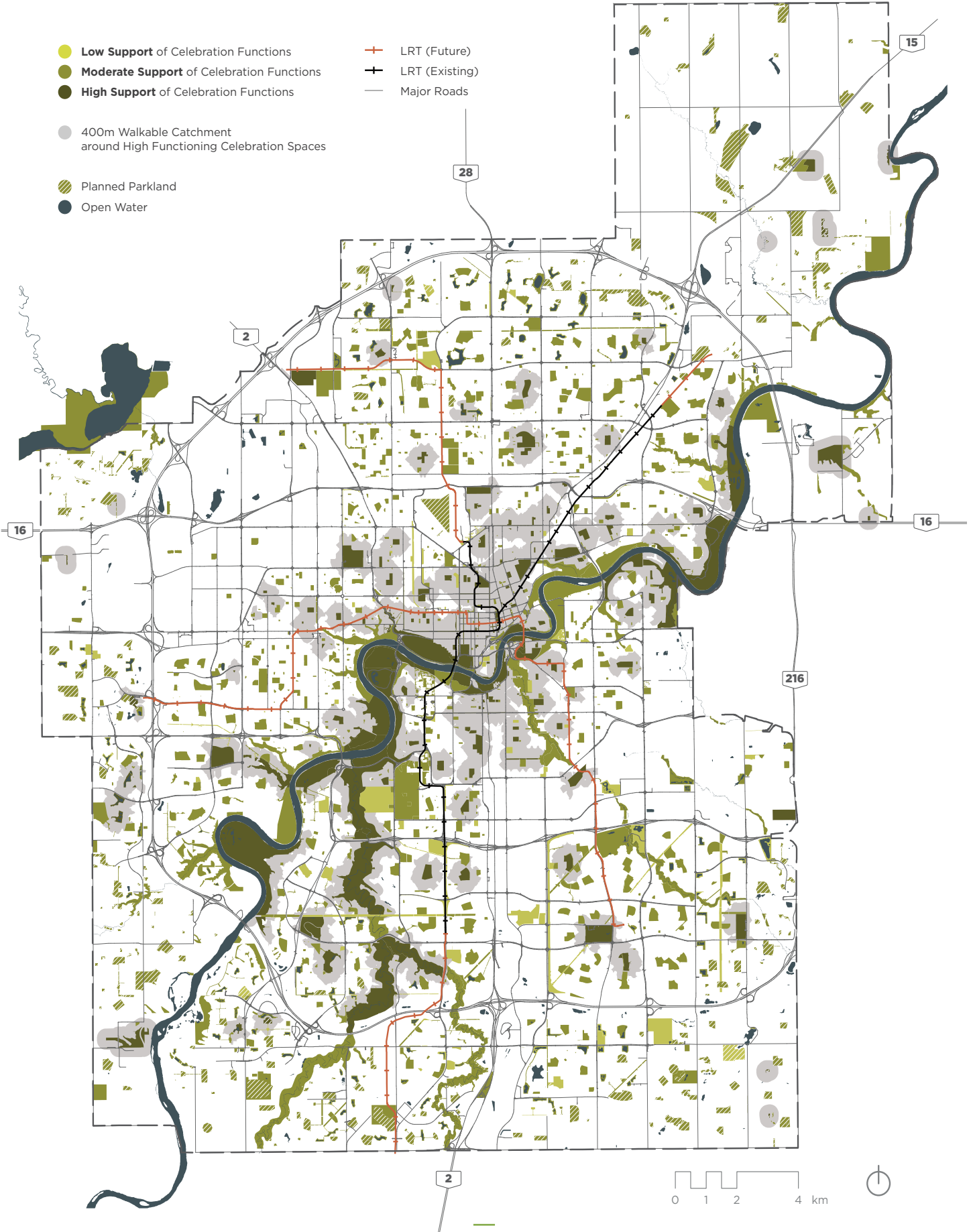


### 2.3.2 CELEBRATION NETWORK SUMMARY

A wide variety of open spaces throughout the city are appropriate as Celebration spaces (**MAP 4**), although there is substantial variation in their size and the possible scope of community events and festivals. Public input has highlighted the transit network as the most frequent means of access for Celebration. As the City expands its LRT network, larger portions will become appropriate to host and participate in festivals and other community events. As residents benefit from local gathering spaces for markets, picnics and other community-led initiatives, the broad distribution of small-scale Celebration spaces is important. Many streets throughout the city could be closed temporarily in order to accommodate events, festivals and gathering opportunities, which would help increase the supply and distribution of Celebration spaces for these and other ephemeral uses. At the same time, larger events require more planned infrastructure to support the numbers of attendees and therefore cannot be broadly distributed throughout the city. Alignment with LRT stations and other substantial transit hubs will reduce the need for sprawling parking lots that compete for usable space.



**MAP 4: Celebration Network**



## 2.4 The Wellness Network



### 2.4.1 WELLNESS NETWORK STRUCTURE

The Wellness Network adds an important layer of functionality to the green network. Open spaces promote active living, connection to scenic and serene spaces and are fundamental to physical and mental wellbeing. Many open spaces contribute to individual physical fitness, relaxation, active transportation, and work-life balance. Other spaces are more programmed and organized by communities or groups. It is important that the distribution of these spaces in the network enable easy access and encourages Edmontonians to live and play actively. Wellness open spaces such as sports fields, cycle networks, trails and pathways are supplemented by extensive indoor recreation facilities.

#### WELLNESS ELEMENTS

Wellness Elements are the open spaces that are highly supportive of Wellness activities. These spaces range in size from single amenity pocket parks with an exercise station or a playground to large parks with multiple amenities with an extensive network of walking and biking trails. Open spaces that are supportive of Wellness functions accommodate recreation, active transportation, mental health and wellbeing, and learn and play.

#### WELLNESS CORRIDORS

Wellness corridors can support access to open spaces, while simultaneously supporting Wellness functionality. For example, greenways often have bike routes and pedestrian paths passing through them, but are also large enough that they can support other recreational activities.

The primary corridors used by Edmontonians for Wellness are active transportation pathways and greenways.





# WELLNESS

Promotes healthy living and fosters wellbeing through diverse kinds of recreation, mobility and environments.

---

## OPEN SPACE FUNCTIONS

---



### RECREATION

High-quality sports facilities and outdoor recreation spaces promote healthy living.



### MENTAL HEALTH + WELLBEING

Open spaces can reduce stress and provide opportunities for therapeutic activities.



### ACTIVE TRANSPORTATION

Well-connected trails and pathways encourage active transportation and improve mobility.



### LEARN + PLAY

Programming and free-form play promotes learning, and nature is essential for children's development.

---

Open spaces support human health and wellness by providing opportunities for physical activity, emotional and spiritual fulfillment and healthy learning, socialization and development among children. How well open spaces provide those opportunities was assessed based on four functions. Each of these functions was evaluated based on amenities that support specific wellness activities, such as shared use pathways, sport fields, bicycle racks, playgrounds or

splash pads, and by amenities, services, programs or attributes that enhance human wellness, such as educational and recreational programs (e.g. Green Shack Program). The results of the Wellness assessment are a combination of the “scores” of its component open space functions.

Wellness functions are incorporated into the Wellness network illustrated in **MAP 5**.



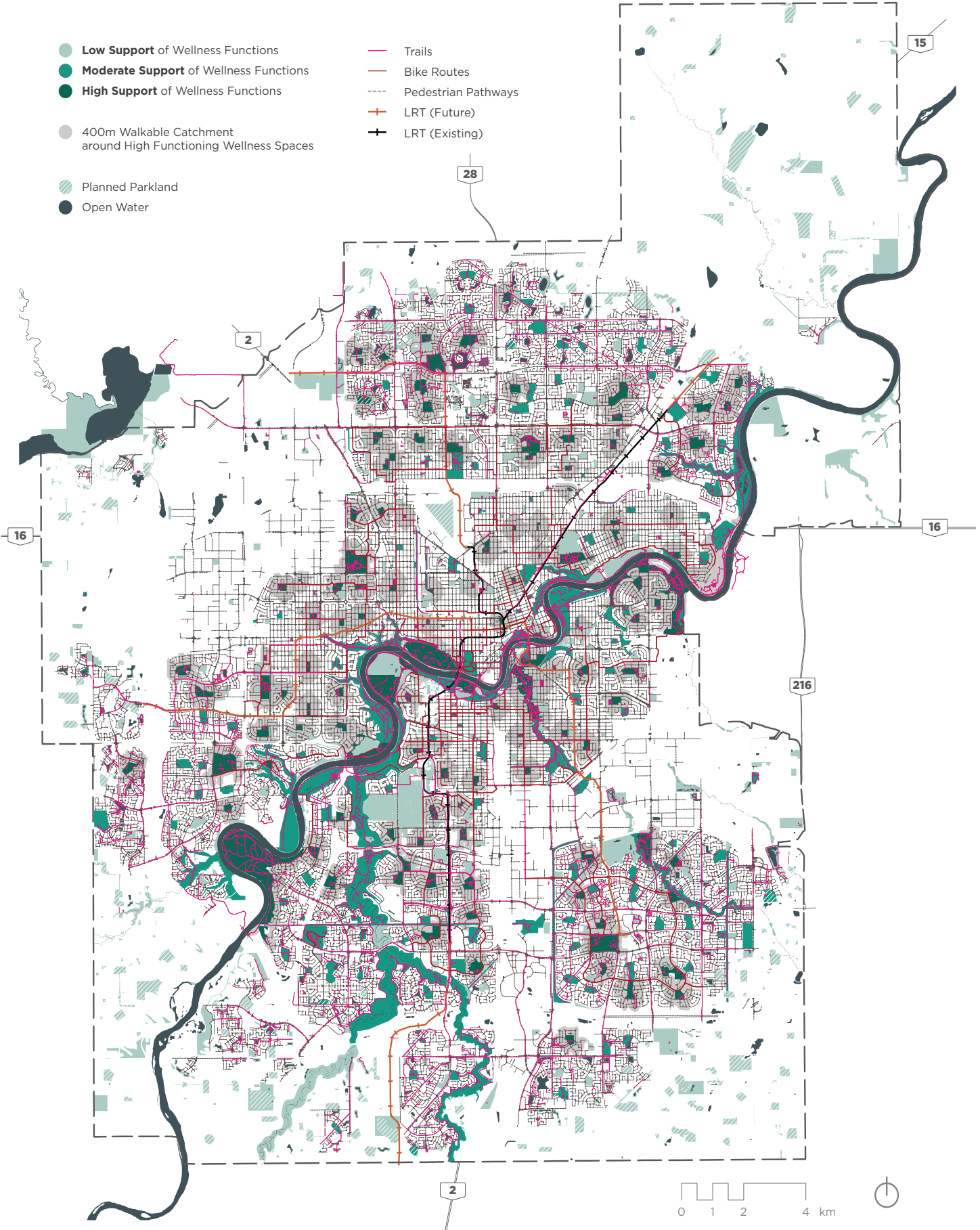
## 2.4.2 WELLNESS NETWORK SUMMARY

Although the provision of Wellness functionality is distributed throughout the city (**MAP 5**), many residents still dwell beyond an easily walkable distance to open spaces that provide high Wellness function, as highlighted by the 400 metre walkable catchments surrounding high-scoring open spaces. Active transportation routes (shared-use pathways and cycle tracks) are a key component of the Wellness network, connecting communities and open spaces together and providing broader access to the city. There are substantial gaps in this network, as industrial lands partition residential communities from the River Valley and Ravine System, and high traffic commuter roads and bridges pose substantial challenges to commuters using active transportation. In the winter months, City Operations personnel are challenged to efficiently manage snow and ice on the trails and pathways of the green network in order to sustain year-round recreational opportunities for residents, and also to control wear and tear on recreational infrastructure. In natural areas, a balance must be struck between the development of the paved trail system and more natural unpaved pathways. Erosion and overuse of trails leads to safety and upkeep concerns; therefore, regular monitoring and maintenance is a critical aspect of the long-term viability of the pathway system.



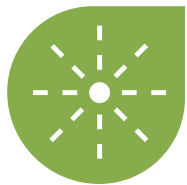
**MAP 5: Wellness Network**

- Low Support of Wellness Functions
- Moderate Support of Wellness Functions
- High Support of Wellness Functions
- 400m Walkable Catchment around High Functioning Wellness Spaces
- ▨ Planned Parkland
- Open Water
- Trails
- Bike Routes
- - - Pedestrian Pathways
- + LRT (Future)
- + LRT (Existing)





## 2.5 The Multifunctional Green Network

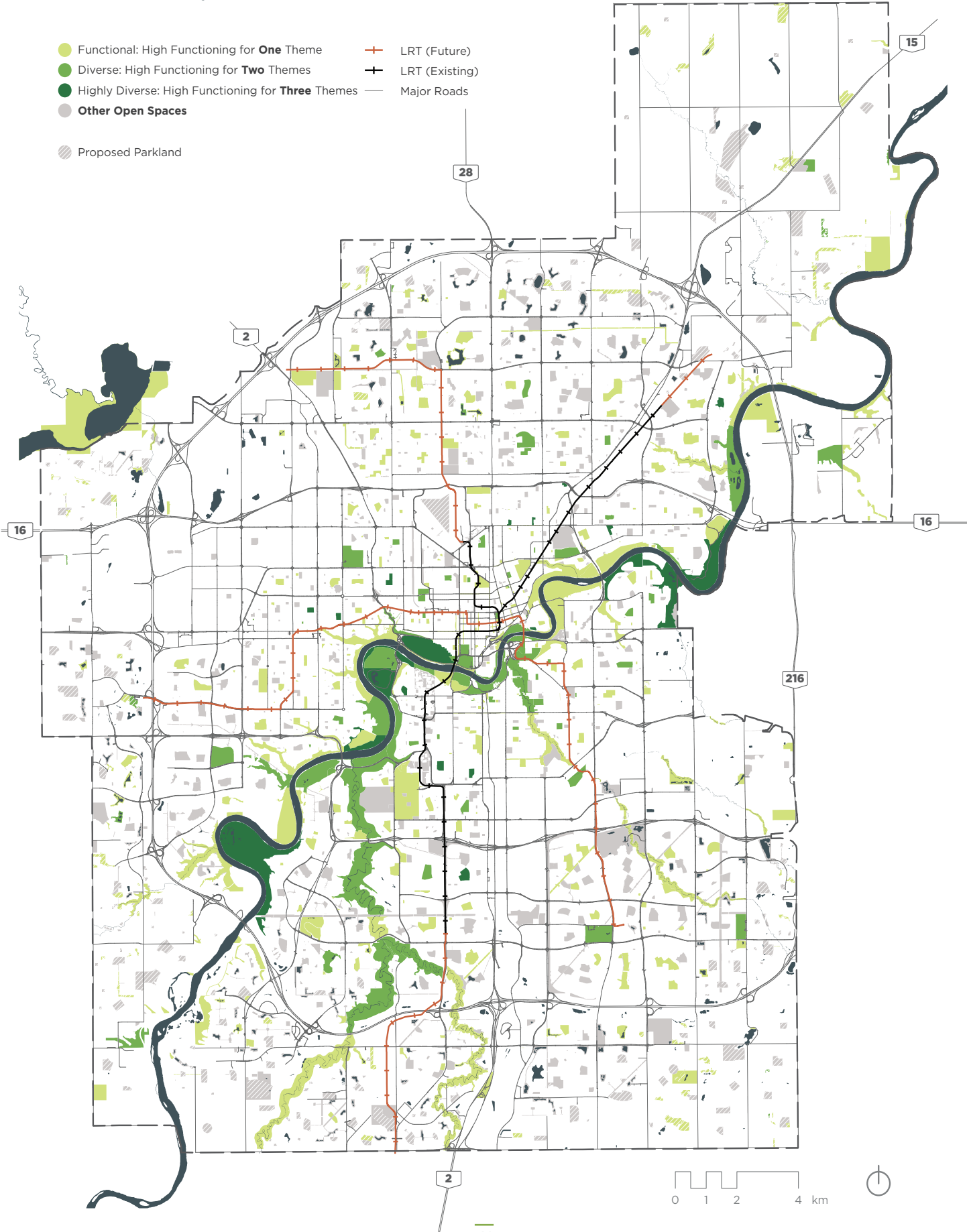


Understanding the functional strengths and weaknesses of open space networks provides valuable information for future planning. It allows more targeted investment to address specific gaps or under-served areas, where certain open space functions are not well supported. A focus on the functionality of open spaces, in addition to total area, allows for a more nuanced understanding of what each open space provides to the community it serves, greatly aiding open space programming and management. The functionality of open spaces may be enhanced to provide more functionality in areas where additional parkland is difficult to acquire, such as the Central Core.

Multifunctional open spaces that provide a wide range of experiences and amenities are highly desirable destinations. These open spaces provide valuable services and opportunities for a broad range of the population, and often serve as high profile attractions for visitors. However, multifunctional open spaces are subject to challenges, such as programming and maintaining them to avoid user conflicts, the impacts of overuse, and optimizing booking and communication processes. Multifunctional open spaces are highly desirable both for the end user (who is provided more diverse experiences at a single destination) and for the City, allowing limited public space to serve multiple roles and contribute to the overall value of the neighbourhoods that contain them.

**MAP 6** highlights the multifunctionality of Edmonton's open spaces. In general, most multifunctional high-scoring open spaces are larger parks with district or citywide service areas. They contain more amenities, programs and services because of their larger size and their importance as destinations for the city and the region. Usually these parks include a variety of recreational amenities and facilities such as playgrounds, splash pads, sports fields, picnic sites, tobogganing hills, pavilions and recreation centres. In addition, as they attract more people, these open spaces also have enhanced park amenities such as washrooms, drinking fountains, parking facilities and shared-use pathways. Many of Edmonton's multifunctional parks are located within the River Valley and Ravine System, which encompasses large natural areas that contribute to high scores for the functions of Ecology.

**MAP 6: Multifunctionality of the Green Network**











# 3

Providing  
Open Space



# 3.1 The Challenge of Open Space Provision

Edmonton, along with many other cities, is challenged with providing open space that meets the needs of a growing and changing population. Determining how much is “enough” open space involves more than a measurement of land area alone. Rather, the value of the green network depends on multiple factors, including the way open spaces are used, the benefits they provide and the quantity available for use. In order to incorporate a comprehensive understanding of the green network, *BREATHE* examines open space provision and establishes strategies that consider measures of:

- » **Distribution:** The arrangement of, and access to, open spaces across the landscape.
- » **Quality:** The functionality of an open space, considering the condition of its infrastructure/ amenities and the value of the functions it provides.
- » **Diversity:** The range of different open space types and functions within the landscape.
- » **Supply:** The physical amount of open space.

Each measure is an uniquely important element of an integrated, multifunctional green network. They are also interrelated; ensuring provision of one element usually influences provision of another. Improving the supply of open spaces in a neighbourhood also expands opportunities for higher quality or more diverse experiences for its residents. Targeting an appropriate distribution of open spaces across the City enables residents to access a sufficient and diverse supply of open spaces nearby.

The current range of funding and acquisition tools in Edmonton are only effective for a portion of open space needs. They fail to accommodate the diverse and evolving circumstances of a growing metropolitan area. Variations in location, history and population mean that neighbourhoods of different ages and densities have different needs and opportunities for future open space development and ongoing support.

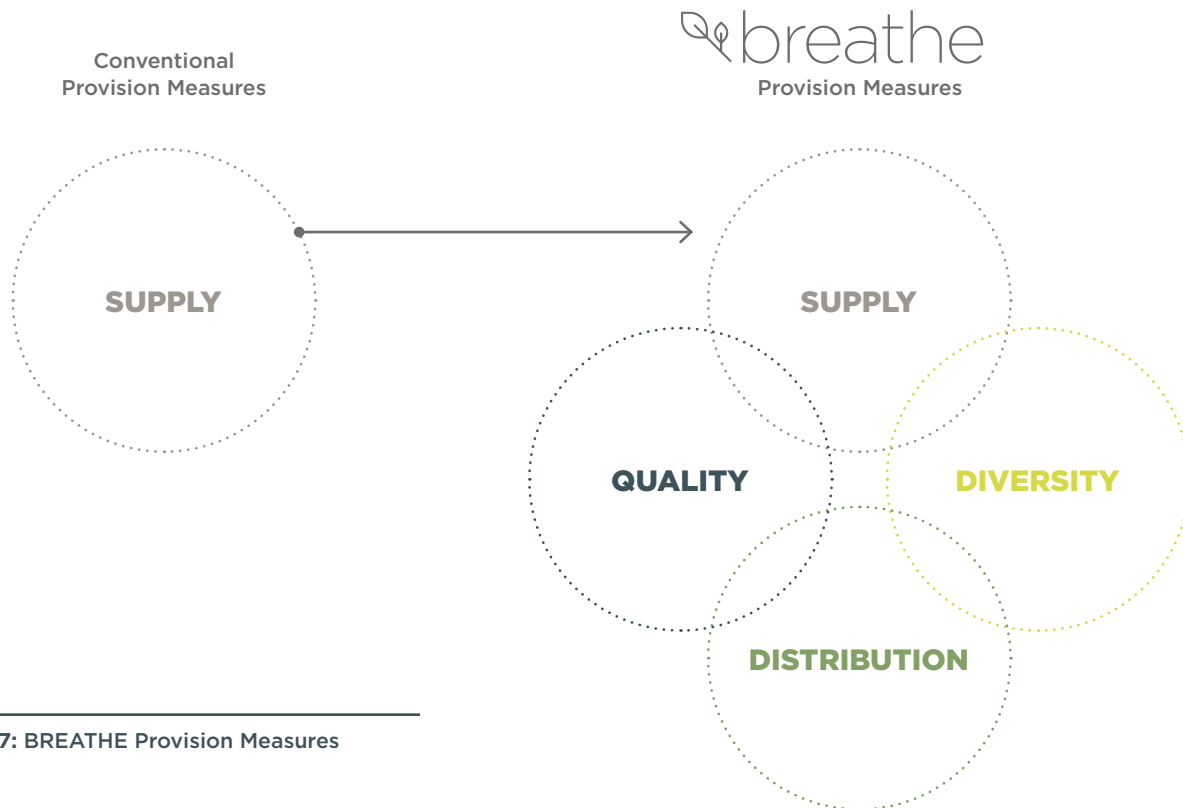


FIG. 7: BREATHE Provision Measures

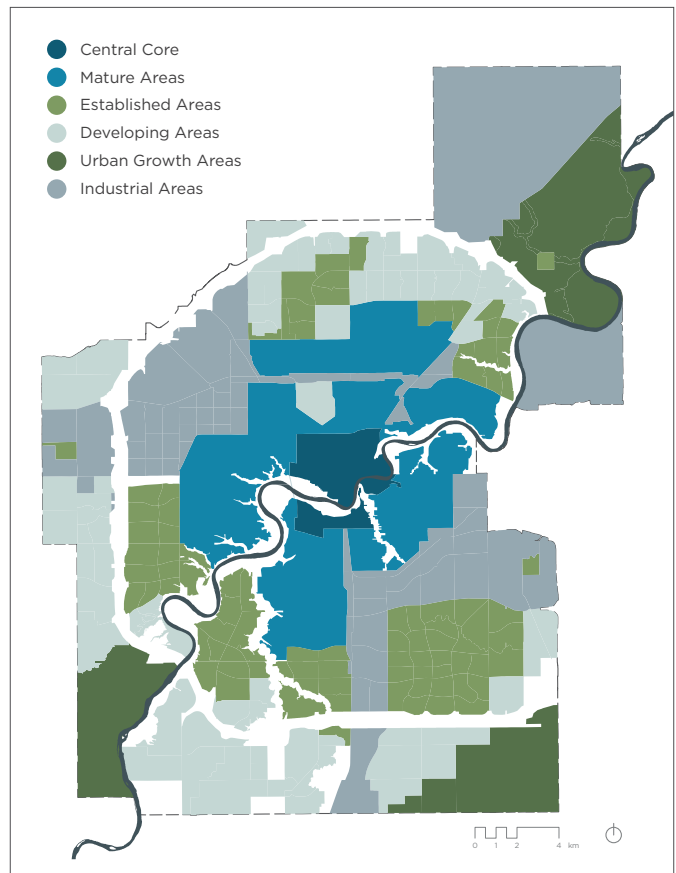
## 3.2 Provisioning

- » In new communities, the lands provided by developers through the subdivision process are allocated to many different civic uses, so innovative strategies may be required to accommodate open space programming requirements.
- » In mature and existing neighbourhoods, there are fewer opportunities to acquire suitable lands for new open space development to supply population growth and provision must focus on quality and diversity instead. In neighbourhoods where the population has declined or stagnated, underused or surplus open spaces present an opportunity for repurposing or a resource to support future intensification.

Recognizing the fundamental differences in existing conditions and future opportunities among different parts of Edmonton, the following sections describe current and recommended provision for its Central Core and Mature, Established, Developing, Urban Growth and Industrial neighbourhoods. Provision strategies consider budgetary constraints and corporate priorities related to growth and multifunctionality in relation to each area, but also a general acknowledgment that land is a valuable civic resource that is more readily preserved than acquired. Specific directions regarding when, what and how to implement these strategies, along with which areas should be prioritized for action, are included in the Implementation Plan.

The Provisioning section examines 2017 baseline and projected provision levels in greater detail, and establishes strategies designed to achieve an integrated, multifunctional green network as the city grows. This level of detail is shown in three ways:

- » A breakdown of provision into elements of supply, distribution, quality and diversity.
- » A breakdown of provision into different types of open space, according to the Open Space Classification System (see **APPENDIX B**).
- » A breakdown of provision into the different neighbourhood classes of Edmonton (see **FIG. 8**):



**FIG. 8: Edmonton Neighbourhood Classes**



### 3.2.1 OPEN SPACE ACCESSIBILITY

Access to open space is assessed using a servicing area catchment analysis; these catchments are visible on **MAP 4** and **MAP 5**. A catchment represents the area surrounding an open space that corresponds to a reasonable traveling distance to that open space. This is similar in principle to a school catchment area, which uses a geographic circumference around each school (together with capacity and travel factors) to identify the neighbourhoods where children should attend that particular school.

400 metres, or approximately 10 minutes' walking distance, was selected as an appropriate walkable distance to open space, based on best practice research and route analysis. To define the 400-metre walkable catchment surrounding each open space, the road network dataset was refined to include only roads that have sidewalks alongside them. These "walkable" roads were combined with shared-use pathways and off-street pedestrian paths and trails to form the city's walkable network. Each open space has a catchment based on the proximity to the walkable network. Most residential areas (94%) are within a 400-metre walking distance (along walkable roads and paths) of at least one open space.

#### WHAT DID WE MEASURE?

The figures you read on this and subsequent pages are based on measurements of different types of open spaces. Noting the difference among the metrics is important for understanding provision across the city.

Any metrics for "open space" or "all open space" include all the different kinds of spaces described in Section 3.3 Open Space Classification System, like parks, civic spaces, roadway greens, campuses, cemeteries and golf courses.

Any metrics for "municipal parks" include only those City-owned spaces used as parkland, like community parks, greenways and ecological parks.

		Population			Provision (All Open Space)			
		Total population (x 1000)	Planned population increase	Population density (people/hectare)	Total Number ***	Total hectares within neighbourhood class ***	Percent of all open spaces (by area) ***	Hectares (accessible) per 1,000 people
Citywide	2017 Baseline*	899	—	13.1	1,889	9,582	100%	7.6
	Future**	1,799	100%	26.1	—	—	—	3.8
River Valley + Ravine	2017 Baseline*	—	—	—	36	2,616	27%	—
	Future**	—	—	—	—	—	—	—
Central Core	2017 Baseline*	77	—	47.8	157	304	3%	7.0
	Future**	248	222%	154.2	—	—	—	2.2
Mature Areas	2017 Baseline*	285	—	26.2	575	1,433	15%	8.0
	Future**	361	27%	33.2	—	—	—	6.3
Established Areas	2017 Baseline*	295	—	30.6	323	1,623	17%	7.5
	Future**	369	25%	38.3	—	—	—	6.0
Developing Areas	2017 Baseline*	239	—	16.8	588	2,195	23%	10.8
	Future**	595	149%	41.9	—	—	—	4.3
Urban Growth Areas	2017 Baseline*	1.5	—	0.2	131	595	6%	423.7
	Future**	209	13.4%	29.7	—	—	—	3.1
Industrial Areas	2017 Baseline*	1.5	—	—	78	767	8%	215.9
	Future**	15	905%	—	—	—	—	71.9

\* 2017 baseline population from Edmonton Municipal Census 2016

\*\* Approximated from approved (re)development plans and citywide projections

\*\*\* Citywide totals include Transportation Utility Corridor (not shown)

**FIG. 9: Open Space Provision Summary**

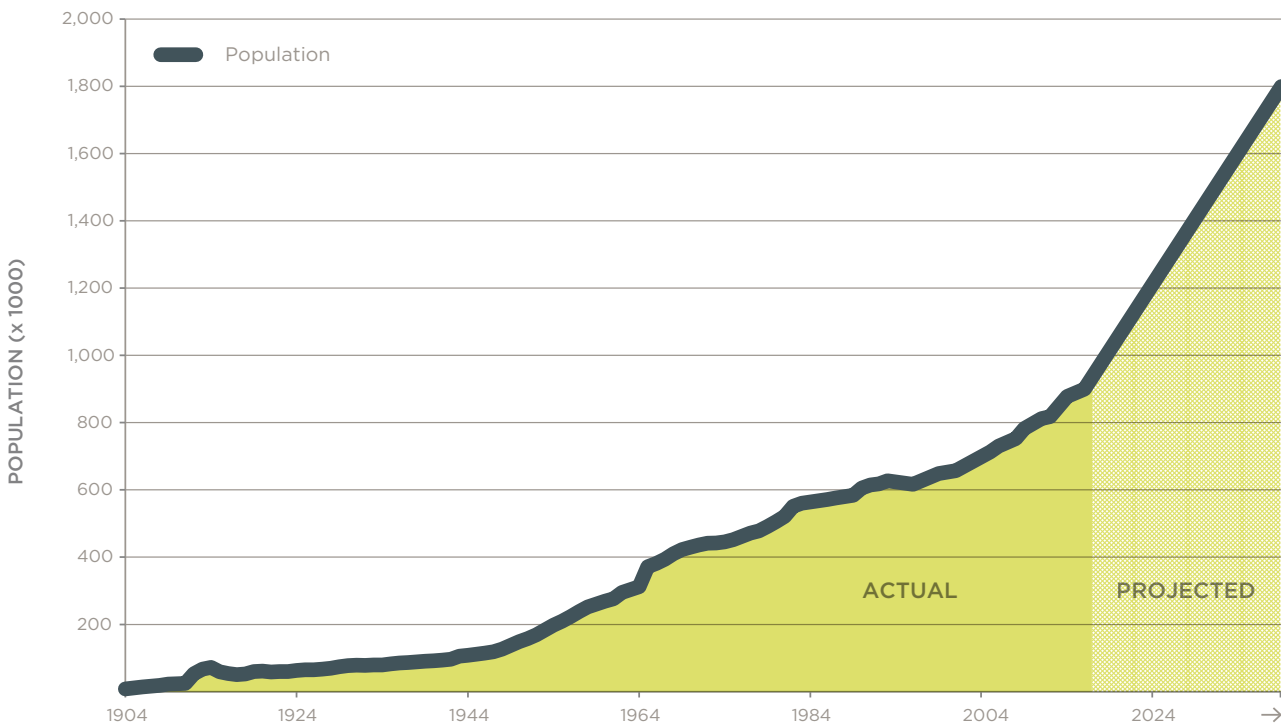
### 3.2.2 CITY-WIDE PROVISIONING

The supply of open spaces and municipal parks is presented on **MAP 7 – MAP 10**, and summarized in **FIG. 9** (facing page). Although the provision of these spaces is shown by neighbourhood, the amount of space available also includes open spaces or municipal parks accessible within walking distance (400 m) of the neighbourhood. For example, many neighbourhoods adjacent to the River Valley and Ravine System have a moderate amount of open space within their boundaries, but in reality their residents have access to a much larger amount of open space just beyond the neighbourhood borders. In this way, open space planners can account for all the open spaces that can be reasonably accessed by the residents of a neighbourhood (both within and adjacent to neighbourhood boundaries), providing a much more holistic picture of provisioning overall.

The 2017 baseline amount of open space per 1,000 residents in the City of Edmonton averages around 7.6 ha/1,000 citywide, and ranges from 7.0 ha/1,000 in the Central Core to 423.7 ha/1,000 in the sparsely

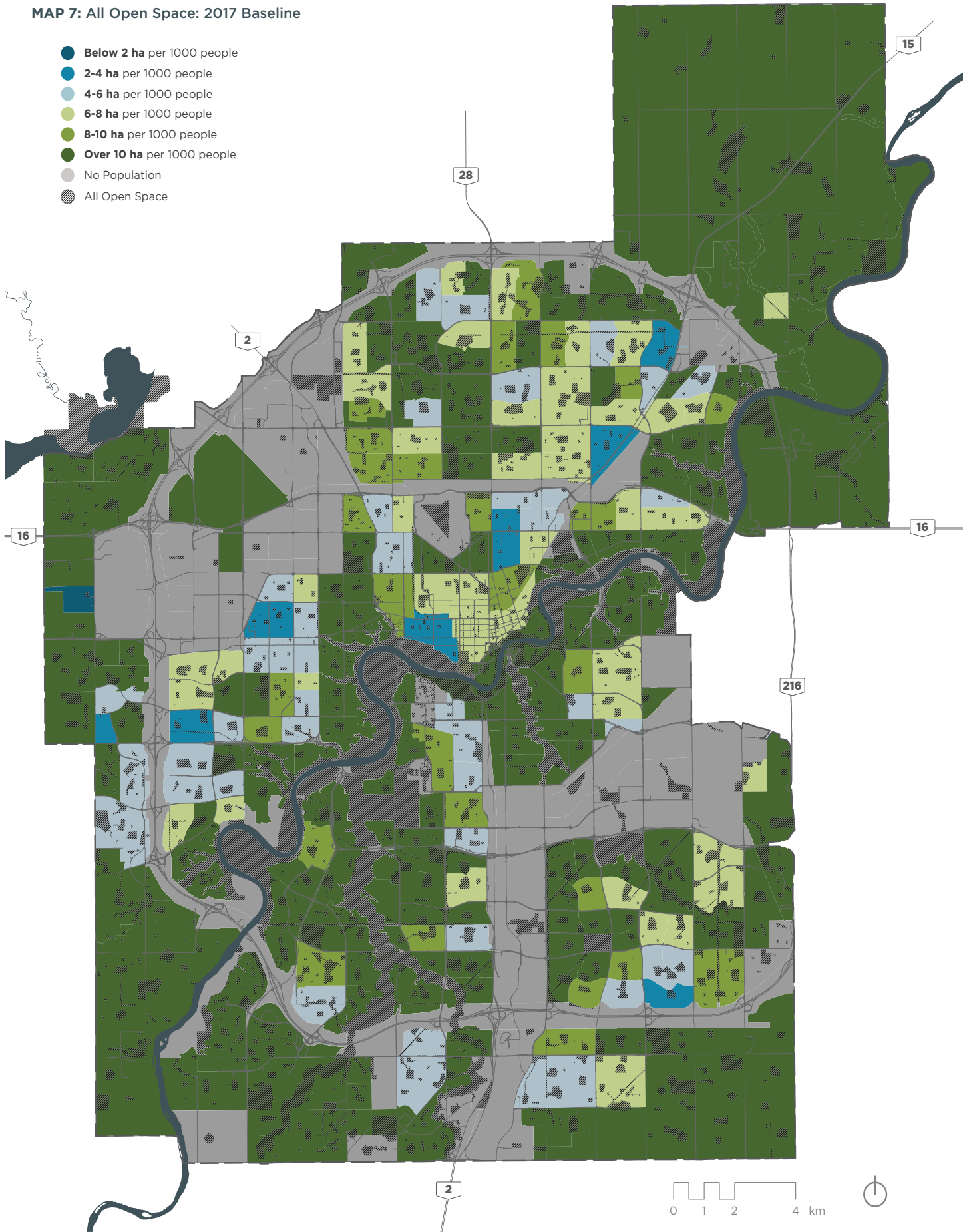
populated Urban Growth Area. However, since the City’s incorporation, Edmonton’s population has grown at nearly an exponential rate, with total population doubling every 20 to 25 years. As a result, urban development is expected to change these values as neighbourhoods are (re)developed and more residents move into new homes.

Based on projected population increases and areas of parkland proposed in the area development and redevelopment plans approved by Council, future open space supply is estimated to be 2.2 ha/1,000 residents in the Central Core, 6.3 ha/1,000 in Mature areas, 6.0 ha/1,000 in Established areas, 4.3 ha/1,000 in Developing areas, and 3.1 ha/1,000 in Urban Growth Areas (within existing City boundaries and once buildout is complete). These findings show that the city is anticipated to remain well-served in the future with regards to open space supply, with exceptions in some Mature neighbourhoods and Downtown. However, ongoing monitoring, and a focus on open space quality, diversity and distribution, will be required as the city grows.



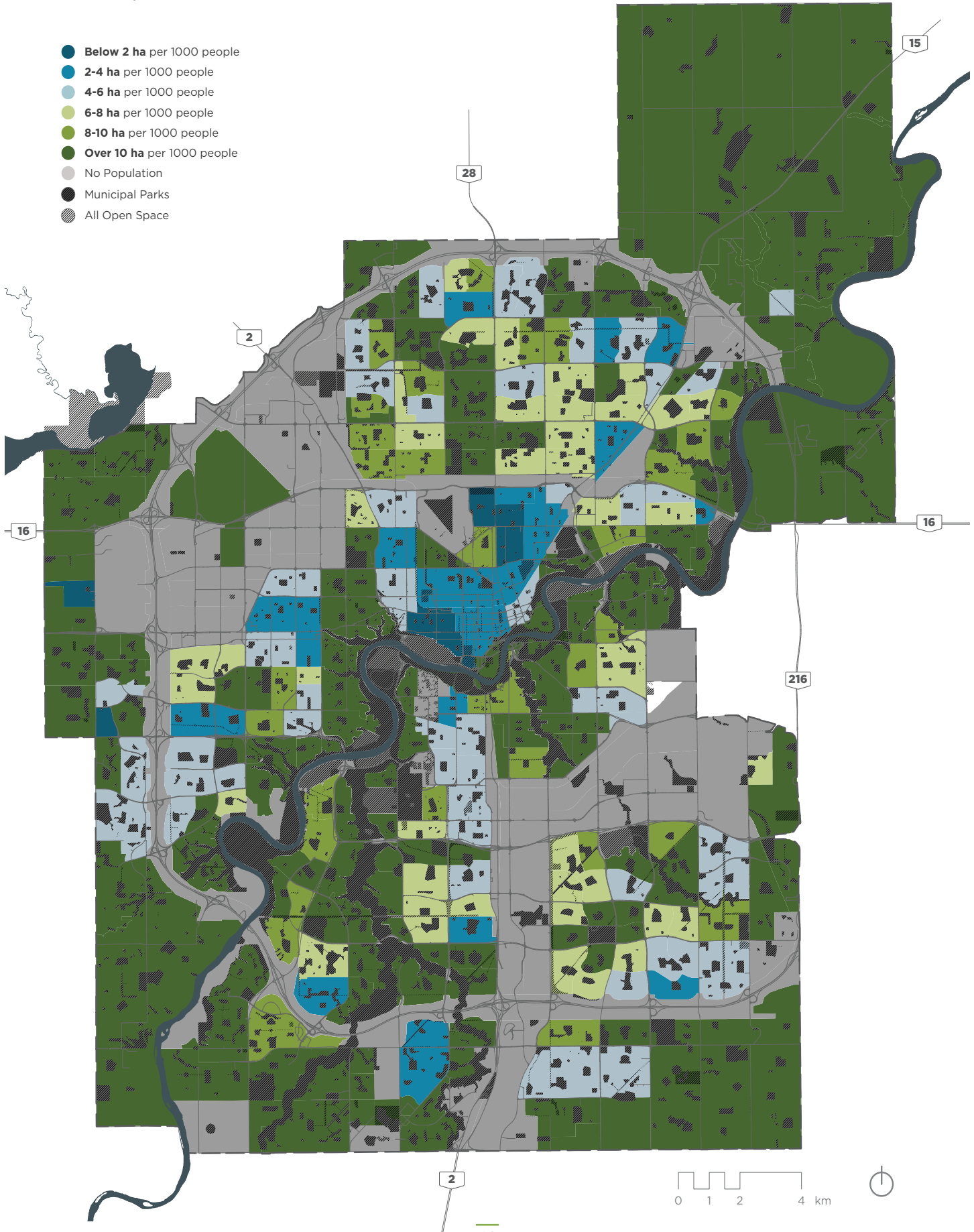
**FIG. 10: Edmonton Population 1904 to future**

MAP 7: All Open Space: 2017 Baseline

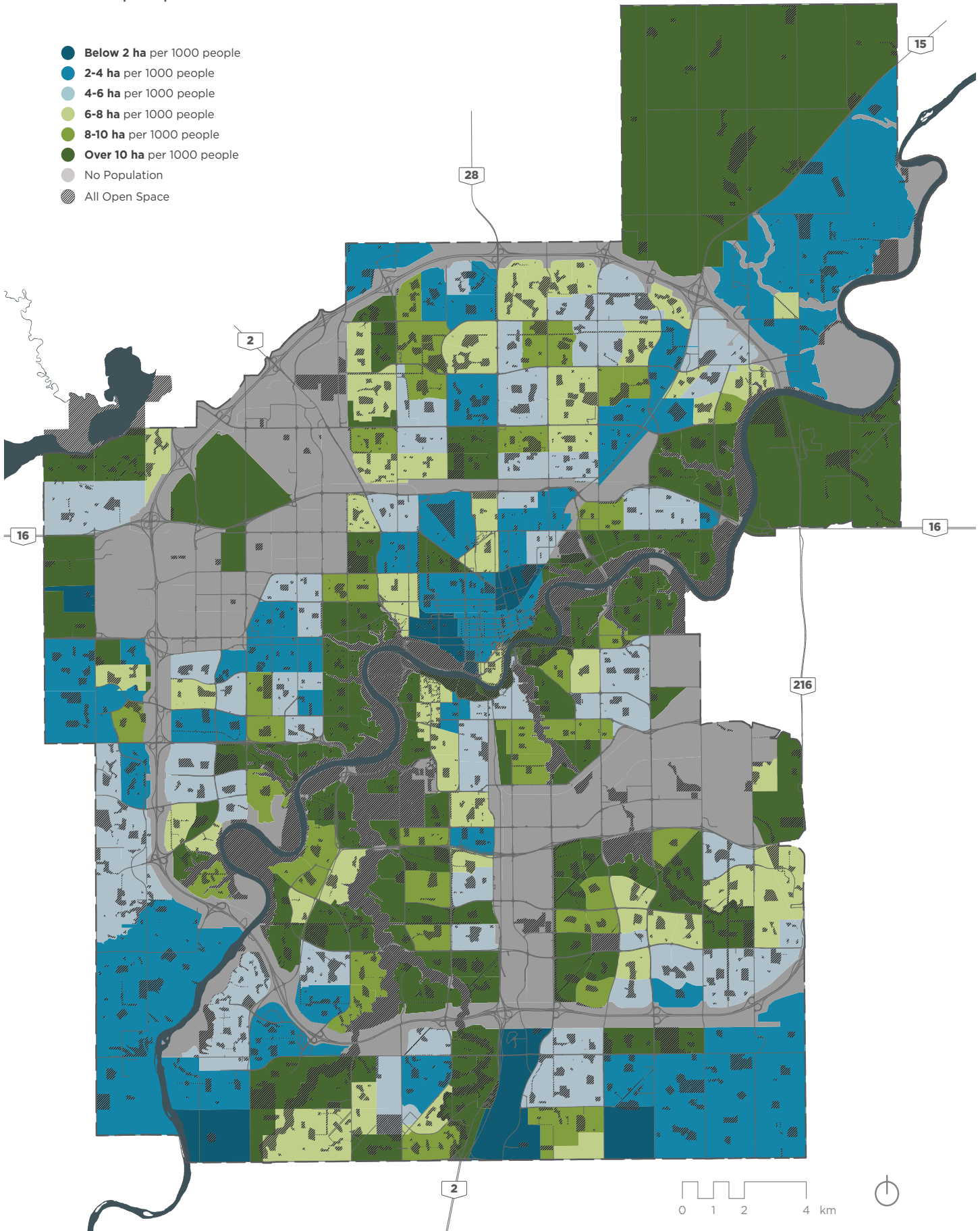




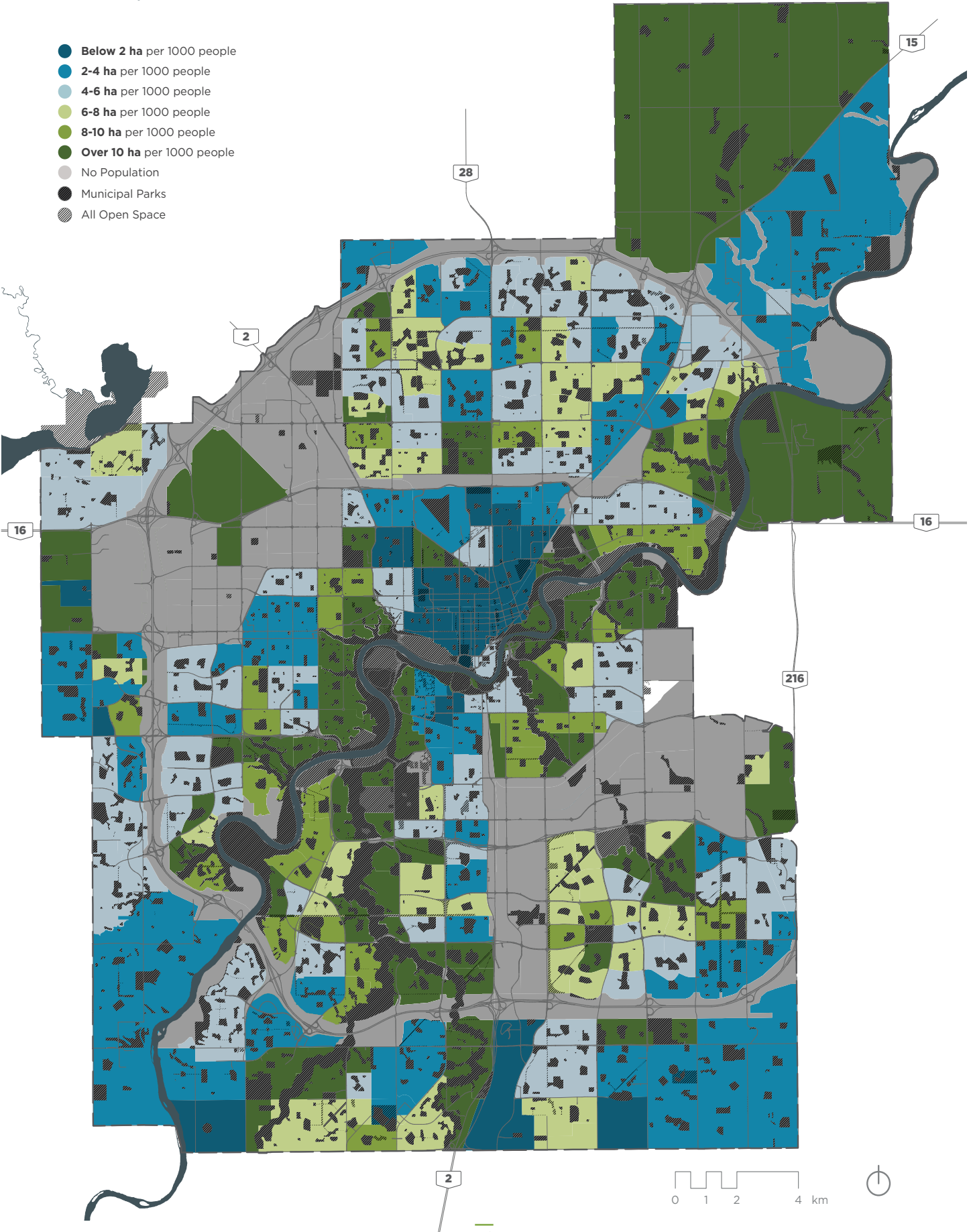
MAP 8: Municipal Parks: 2017 Baseline



MAP 9: All Open Space: Future Conditions



MAP 10: Municipal Parks: Future Conditions





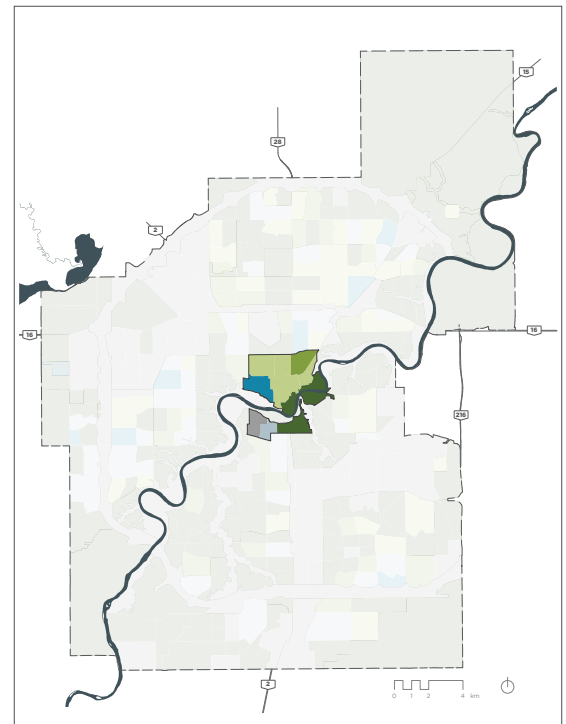
### 3.2.3 CENTRAL CORE

#### 3.2.3.1 NEIGHBOURHOOD OVERVIEW

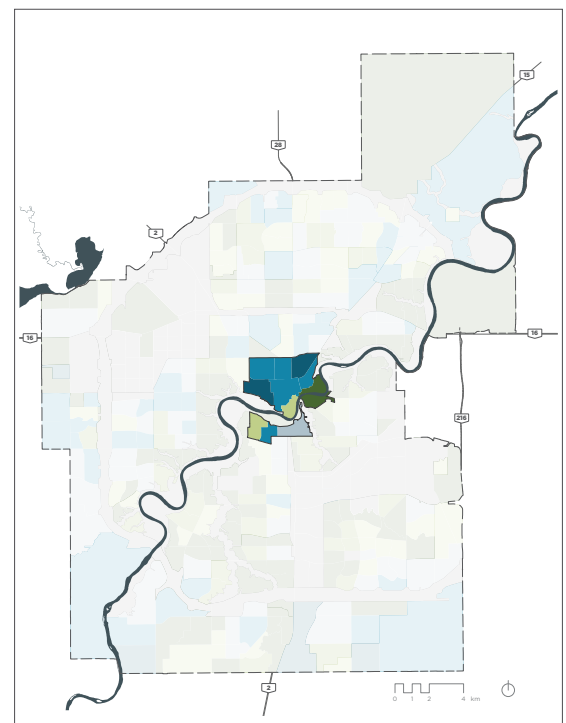
The Central Core has a wide diversity of open spaces including municipal parks, plazas, promenades, streetscapes and the Provincial Legislature grounds. The adjacent River Valley is easily accessible to those living near its access points, which provides connections to extensive green space and multiple amenities. Walking trails and sidewalks, combined with the street grid structure, contribute to the high walkability and ease of access to existing open space. However, the total amount of both municipal parks and other publicly-accessible open space within the Central Core is limited. Residential populations will rise considerably in the future, making improvements in amount, quality and functionality of open space increasingly important. Access to private open space is also limited within higher-density areas. This, combined with the expected substantial increase in the residential population, supports the need to provide increased high-quality, multifunctional and publicly accessible open space.

While the figures supplied in approved Area Redevelopment Plans indicate that the general population of the Central Core is expected to more than double, a 2016 report to the Edmonton Public School Board shows that projected growth among school-aged children and youth is more modest. This growth accounts for a small fraction (under 1%) of the growth in school-aged population citywide. With the City of Edmonton's goal to provide a more family-friendly Central Core, additional recreational opportunities will be required in the medium and long-term to address deficits in child-oriented amenities (e.g. minor sports fields, playgrounds, nature-based play) and attract families.

The current supply of open space in the Central Core provides limited Wellness functions in terms of active spaces, trails and areas for passive relaxation.



**MAP 11: Central Core: Current Conditions (All Open Spaces)**



**MAP 12: Central Core: Future Developments (All Open Spaces)**

### 3.2.3.2 ISSUES

#### Amount and Access to Open Space

- 1 Population in the Central Core is expected to more than double in the future. Currently, there are 157 open spaces within the Core itself, providing 7.0 hectares of open space (within and accessible to the Core) per 1,000 people. If no additional open spaces are provided, 2.2 hectares per 1,000 people will be available in the future.
- 2 Over 84% of the current population is within walking distance of a municipal park of some kind. However, some of the projected population growth will occur in areas that have limited open space access. Additional parks will be needed in those areas.
- 3 Additional accessible parkland in the adjacent River Valley is available to those living within 400 metres of River Valley access points. Currently, if accessible parkland adjacent to the Core is included, 4.5 hectares of municipal parkland per 1,000 people (1.4 ha/1,000 in the future) is available to those living in the Core. However, this is disproportionately distributed, favouring those living near the River Valley.
- 4 Access to the River Valley from Downtown, Strathcona and Garneau should be improved.
- 5 Civic space for those living in the Core is reasonably distributed and provides approximately 0.4 hectares of civic space per 1,000 people.
- 6 Pedestrian connectivity of parks, greenways, enhanced streetscapes and plazas is incomplete in many areas.
- 7 The Legislature grounds are a highly used and recently refurbished destination space that would benefit from better pedestrian connection to the river; however, 105 St. and River Valley Rd. pose significant barriers.

METRIC	2017 Baseline*	Future**
<b>Total Population</b>	76,800	247,700
<b>Provision — All Open Space</b>		
Total number	157	—
Hectares (accessible) per 1,000 people	7.0	2.2
<b>Provision — Municipal Parkland</b>		
Total number	105	—
Hectares (accessible) per 1,000 people	4.5	1.4
<b>High Function Open Spaces</b>		
% of open spaces providing high <b>Ecology</b> function	28.9%	—
% of open spaces providing high <b>Celebration</b> function	48.1%	—
% of open spaces providing high <b>Wellness</b> function	6.4%	—
<b>Access to High Function Open Spaces</b>		
% of population within walking distance to high function <b>Ecology</b> spaces	55.3	—
% of population within walking distance to high function <b>Celebration</b> spaces	81.9	—
% of population within walking distance to high function <b>Wellness</b> spaces	30.2	—
<b>Multifunctionality</b>		
Total number providing high functionality for <b>3 themes</b>	2	—
Total number providing high functionality for <b>2 themes</b>	26	—
Total number providing high functionality for <b>1 theme</b>	72	—

\* 2017 baseline population from Edmonton Municipal Census 2016

\*\* Approximated from approved (re)development plans and citywide projections

**FIG. 11: Open Space Provision (Central Core)**



## Quality and Functionality of Open Space

- 8 Among all open spaces, 6.4% provide a high level of Wellness function. Conversely, 48.1% of open spaces provide high Celebration function and 28.9% provide high Ecology function.
- 9 While 107 St., 104 St. and 96 St. have undergone significant streetscape improvements, other streetscapes would benefit from refurbishment.
- 10 Some parks in the Central Core require full redesign while many others require additional maintenance to mitigate infrastructure deterioration and to improve user satisfaction.
- 11 Open spaces that promote active living and relaxation are limited in the central core. With changing lifestyles and a diversifying population, this deficiency must be addressed.
- 12 Some open spaces are not designed for multifunction or year-round use and require additional or retrofitted amenities.
- 13 Seventy-three per cent of open spaces in the Central Core provide high function for either Ecology, Celebration or Wellness. Nearly 27% of open spaces do not provide high functionality for any theme. Just over 1% have high functionality for all three themes, emphasizing the need for multifunctionality as a means to support residential intensification.

## Acquisition of Open Space

- 14 Open space acquisition in the Central Core is limited by land availability and high cost. In addition:
  - › Smaller parcels with diverse ownership make land assembly difficult.
  - › Reserve funds for land acquisition in the downtown are financed through cash in lieu collected in other parts of the city. The amount collected is based on the market value of land throughout the city, making it difficult to acquire an equivalent area of land in the downtown.
  - › Land values in the Central Core are appreciating faster than the accumulated value of reserve funds.
  - › The City must compete with other parties to acquire land in the Central Core.

### 3.2.3.3 PROVISION STRATEGIES

#### Amount and Access to Open Space

- a) Provide increased delivery of currently undersupplied open space functions, particularly wellness, recreation and active living, by providing new multifunctional parks, plazas, promenades, pathways and complete streets.
- b) Increase the supply of open space in undersupplied areas of the Central Core by expanding existing open spaces when suitable opportunities arise (e.g. expand into adjacent available lands and street or lane rights-of-way). When valuable open spaces are privately owned, acquire land through opportunity purchase mechanisms.
- c) Negotiate improvements and additions to publicly-owned open space and public access to privately-owned open space through:
  - › Cash in lieu of open space provision and density bonusing directed to Central Core open space improvements.





- › For publicly accessible, but privately-owned open space, ensure design, functionality and connections are complementary to the public open space system.
  - › Build capacity to encourage public-private collaboration to co-create or co-produce publicly accessible open space.
  - › Explore creative means to cluster or combine the contributions of multiple landowners (as land or cash in lieu) to supply larger, higher quality or more functional spaces that can either be physically connected or functionally connected.
- d)** Design buildings, streets and alleyways to provide additional public, pedestrian-oriented open space and commercial frontage. In addition, alleyways in the Central Core should provide multiple functions for emergency, servicing, residential and commercial vehicular access, stormwater management and safe non-motorized movement.
- e)** Create new multifunctional open spaces through the following means:
- › Convert appropriate, strategically located, vacant public parcels into parkland or civic spaces.
  - › Close select public roads and alleys to traffic seasonally to create temporary open spaces.
  - › Redesign and convert strategically located public road or lane right-of-ways to shared vehicular/pedestrian oriented open space accompanied by investment in landscape, public art and creatively-designed amenities.
  - › Consider creating elevated open space above laneways, rail corridors and roadways where other options are unavailable or have been exhausted.
  - › Encourage the use of publicly-accessible green roofs. Consider a linked system of public green roofs.
- f)** Connecting new and existing spaces through complete streets and strategic land acquisition or conversion of adjacent lands.
- g)** Enhance the Central Core's network of promenades, greenways and pedestrian-oriented streets.
- h)** Improve physical access to, and activation of, the River Valley and Ravine System. Expand Victoria Promenade and consider a continuous top-of-bank promenade along the River Valley edge, including the south bank in the Strathcona neighbourhood.
- i)** Expand and enhance the Ribbon of Steel/ Raintown Greenway.
- j)** Use laneways, on-street bikeways and dedicated cycle routes to enhance non-motorized circulation.

### **Quality and Functionality of Open Space**

- k)** Improve existing spaces by increasing design quality and providing greater multifunctionality.
- l)** Improve existing asset condition, through replacement, refurbishment and improved maintenance regimes.
- m)** Create new designed ecological space(s) in the Central Core. This may be achieved by:
- › Daylighting buried watercourses (e.g. Mill Creek).
  - › Conversion of all, or part of, select existing parks to more ecologically-supportive species.
  - › Establishment of a community based “Green Streets” program to provide enhanced ecological plantings in roadway greens.
- n)** Maintain and enhance the urban forest of the Central Core.
- o)** Retrofit or upgrade aging stormwater infrastructure with more multifunctional open space amenities, where appropriate.

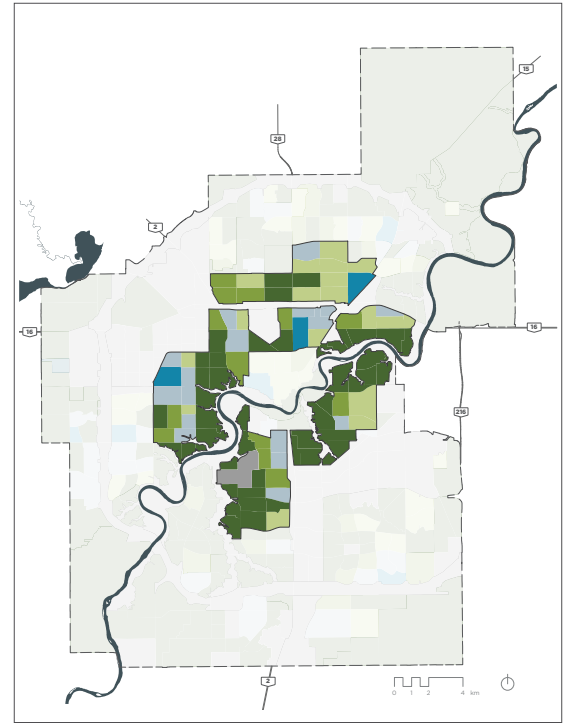
### 3.2.4 MATURE NEIGHBOURHOODS

#### 3.2.4.1 NEIGHBOURHOOD OVERVIEW

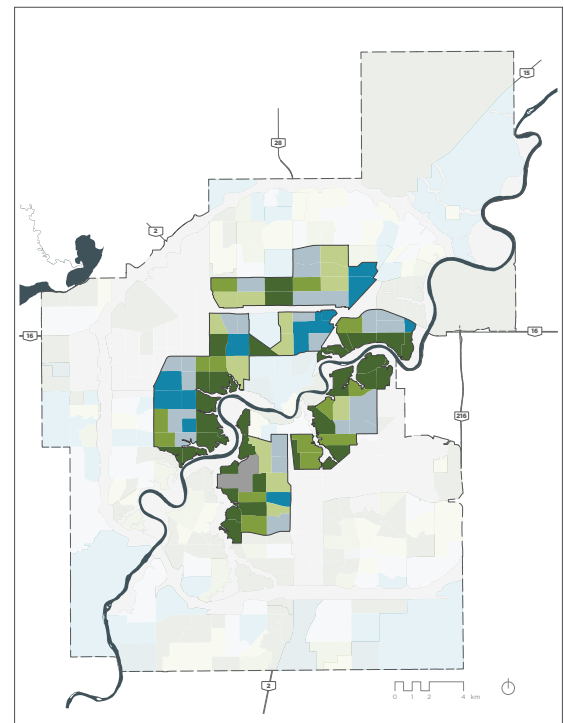
Mature neighbourhoods comprise older, primarily low-density neighbourhoods developed in the post-war era. There has been a significant population decline in some mature neighbourhoods over the past 40 years, resulting in some school sites being declared surplus and redeveloped. However, according to the figures provided in approved Area Redevelopment Plans and resulting from significant City infill initiatives, total populations are expected to increase by approximately 27%. A 2016 report to the Edmonton Public School Board projects that school-aged children and youth are projected to increase by around 10% (from 2014 populations) by 2029, although that growth is unevenly spread among different areas; some neighbourhoods are expected to grow significantly (e.g. Griesbach and Inglewood – the former targeted for transit-oriented redevelopment) while others continue to decline, leading to further potential school closures or surplus site declarations.

The demographic profile and economic status of the neighbourhoods vary considerably. Some Mature neighbourhoods comprise the lower end of the economic distribution of the city, leading to reduced capacity of community organizations to provide matching infrastructure and park development funds. Access to programs and amenities by youth and lower income families is therefore problematic, and City-led initiatives provide real benefit for increasing broad access to recreation and educational opportunities.

The area contains a small fraction of Civic Spaces but the highest number of the city's District Parks (27%). In general, multifunctional gathering spaces are rare, and the open space inventory is dominated by Pocket and Community Parks.



**MAP 13: Mature Areas: 2017 Baseline**  
(All Open Spaces)



**MAP 14: Mature Areas: Future Developments**  
(All Open Spaces)

### 3.2.4.2 ISSUES

#### Amount and Access to Open Space

- 1 Currently, there are 575 open spaces within the area, providing 8.0 hectares of accessible open space per 1,000 people.
- 2 Over 87% of the current population is within walking distance of a municipal park of some kind.
- 3 Additional accessible parkland in the adjacent River Valley is available to those living within 400 metres of River Valley access points. Currently, if accessible parkland adjacent to Mature neighbourhoods is included, 6.3 hectares of municipal parkland per 1,000 people is available. However, this is disproportionately distributed, favouring those living near the River Valley and Ravine System.
- 4 Few greenways are available across this area and although 118 Ave is a vibrant cultural destination, the pedestrian connectivity of parks, greenways and enhanced streetscapes is incomplete.
- 5 Access across the Yellowhead Corridor partitions these areas from the communities to the north, limiting commuter travel and reducing route options for active recreation.
- 6 High functioning Ecology spaces make up just 13.9% of all open spaces in Mature areas. Access to natural settings is scarce for residents of these neighbourhoods (only 32.4% of the population is within walking distance of these open spaces).

#### Quality and Functionality of Open Space

- 7 Only 2.6% of open spaces provide high function for all three themes.
- 8 Many parks in Mature areas were developed decades ago, and there are concerns regarding the quality and safety of the amenities they provide. As many are located within lower-income

METRIC	2017 Baseline*	Future**
<b>Total Population</b>	284,700	360,900
<b>Provision — All Open Space</b>		
Total number	575	—
Hectares (accessible) per 1,000 people	8.0	6.3
<b>Provision — Municipal Parkland</b>		
Total number	523	—
Hectares (accessible) per 1,000 people	6.3	5.0
<b>High Function Open Spaces</b>		
% of open spaces providing high <b>Ecology</b> function	13.9%	—
% of open spaces providing high <b>Celebration</b> function	12.9%	—
% of open spaces providing high <b>Wellness</b> function	12.5%	—
<b>Access to High Function Open Spaces</b>		
% of population within walking distance to high function <b>Ecology</b> spaces	32.4	—
% of population within walking distance to high function <b>Celebration</b> spaces	33.6	—
% of population within walking distance to high function <b>Wellness</b> spaces	38.0	—
<b>Multifunctionality</b>		
Total number providing high functionality for <b>3 themes</b>	15	—
Total number providing high functionality for <b>2 themes</b>	29	—
Total number providing high functionality for <b>1 theme</b>	123	—

\* 2017 baseline population from Edmonton Municipal Census 2016

\*\* Approximated from approved (re)development plans and citywide projections

**FIG. 12: Open Space Provision (Mature Areas)**





neighbourhoods with high social vulnerability, long-term community funding of upkeep and maintenance poses challenges.

- 9 While the area hosts a wide variety of park types, the functionality of many of them is poor and provides limited options for activities within any given open space.
- 10 In some open spaces, aging infrastructure has surpassed its life cycle, requiring replacement. Other open spaces require more preventative maintenance to mitigate rapid deterioration.
- 11 Existing infrastructure is typically designed to accommodate neither year-round use nor diverse demographics and abilities. Such infrastructure requires adaptation and seasonal alterations.
- 12 Large, outdoor community gathering space is rare, and few opportunities for picnic and festival spaces exist, apart from larger, higher profile parks such as Borden or Coronation Park.
- 13 As demographics shift, the need for school sites has decreased, causing a need to repurpose these spaces into more functional forms.

### Acquisition of Open Space

- 14 As the area currently has an adequate amount of open space, blanket acquisition of new lands throughout the ring of Mature neighbourhoods is not an appropriate provision strategy.
- 15 Targeted acquisition in underserved neighbourhoods may be necessary in cases where provision objectives are not being met.

### 3.2.4.3 PROVISION STRATEGIES

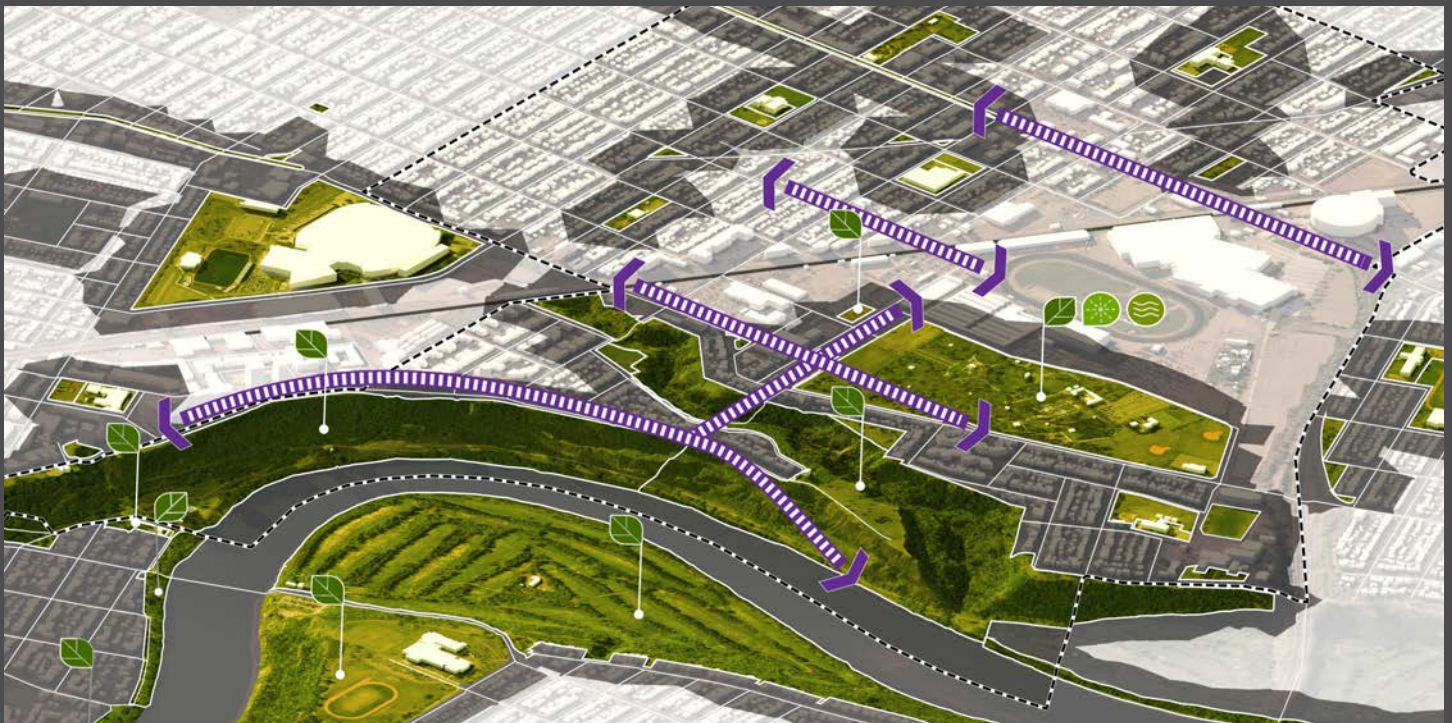
- a) Improve the quality and multifunctionality of parks. Many existing open spaces provide low functionality in all themes, and improvements may have great impact on the communities they serve. Improved active living and child-friendly spaces, community plazas, small designed ecological spaces, and co-location with community and recreation facilities should be considered for some parks.
- b) Retain existing public open spaces, parkland or otherwise. As the City implements infill initiatives to promote densification and as demographic regeneration occurs, a per capita provision may decrease. Sale or conversion to other land uses may appear desirable in the short term, but the long-term consequences are the permanent loss of open space from the City inventory.
- c) Land sale, together with swap or purchase of other strategic lands may be considered in some instances to rationalize the size and location of some open spaces.
- d) Select surplus school sites and other underused spaces may be repurposed into new community gathering, community garden or ecological spaces, with a focus on providing broader functionality to neighbourhoods.
- e) Encourage naturalization and Low Impact Development initiatives in underused open spaces to increase ecological functionality and mitigate flooding in Mature neighbourhoods.
- f) Improve green network connections throughout Mature neighbourhoods, especially to and from the River Valley and Ravine System.
- g) Maintain and expand multipurpose corridors along existing and future LRT lines, providing an ecological Greenway trail alignment together with transit.



- h) Improve connections to the south for communities situated north of the Yellowhead Corridor, and connect to the greenways that run to the east of Inglewood and Westmount. Pedestrian and active transportation routes through this area should be prioritized, to bolster the connection from the downtown core. In addition, there is potential for a well designed multifunctional ecological park in this area.

### CASE STUDY: MATURE NEIGHBOURHOODS

Work to establish better connections into the River Valley parks, and improve community walkability by increased focus on pedestrian priority streets, plazas and community gathering spaces.



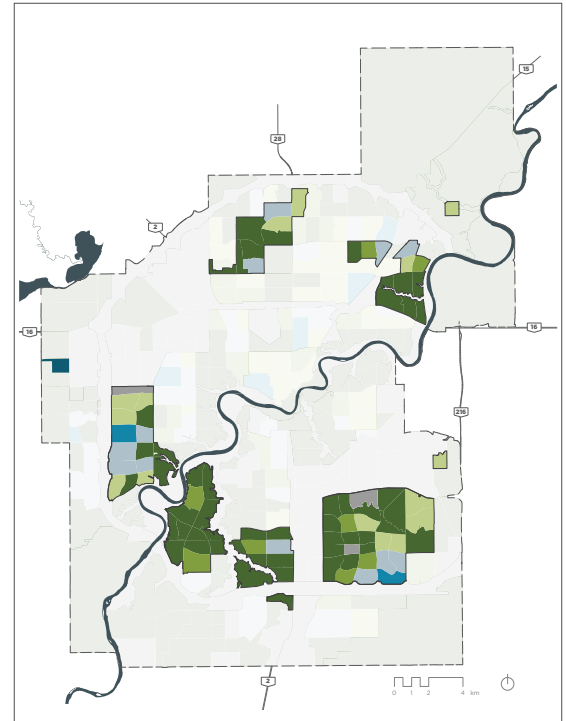
### 3.2.5 ESTABLISHED NEIGHBOURHOODS

#### 3.2.5.1 NEIGHBOURHOOD OVERVIEW

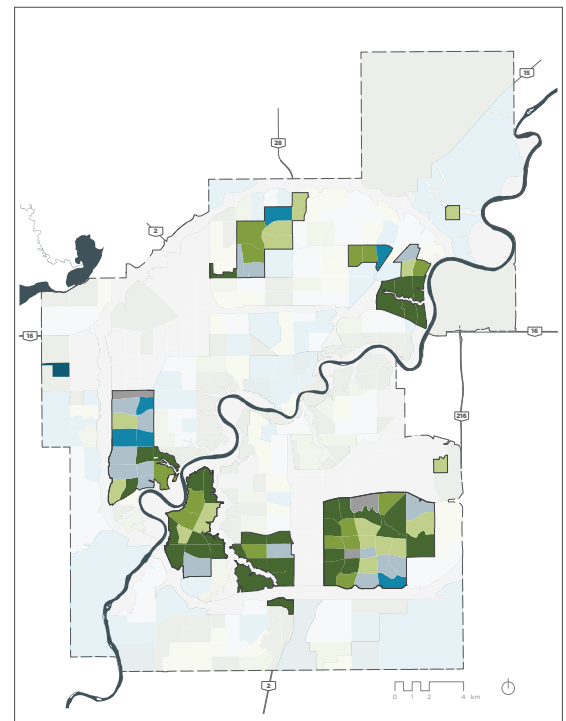
Generally located between the older Mature areas and Anthony Henday Drive, Established neighbourhoods encompass development from the 1970s through to around 2000. While boasting a higher population density than most Mature neighbourhoods, Established neighbourhoods are spacious, with an overall density of 30.6 people per hectare.

A projected increase in population of 25% will bring this value up to 38.3 people per hectare. By contrast, one 2016 report to the Edmonton School Board projects that school-aged children and youth are expected to decline by over 8% (from 2014 populations) by 2029, at which point the population should stabilize. While some neighbourhoods are expected to increase in population (e.g. Beaumaris, Dunluce and Callingwood – the former two adjacent to proposed LRT extensions), other areas are expected to decline.

The 323 open spaces found in these neighbourhoods comprise 17.1% of all open spaces in the city, 235 of which are Municipal Parks. Many neighbourhoods have easy access to the River Valley and Ravine system, however neighbourhoods further from these natural features lack ready access to large natural settings.



**MAP 15: Established Areas: 2017 Baseline (All Open Spaces)**



**MAP 16: Established Areas: Future Developments (All Open Spaces)**



### 3.2.5.2 ISSUES

#### Amount and Access to Open Space

- 1 The population of Established neighbourhoods will see an overall increase of approximately 25% in the future. Currently, there are 323 open spaces providing 7.5 hectares of accessible open spaces per 1,000 people.
- 2 Over 80% of the current population is within walking distance of a municipal park.
- 3 Additional accessible parkland in the adjacent River Valley is available to those living within 400 metres of River Valley access points. Currently, if accessible parkland adjacent to Established neighbourhoods is included, 6.3 hectares of municipal parkland per 1,000 people is available. However, this is disproportionately distributed, favouring those living near the River Valley.
- 4 Linear pipeline rights-of-way penetrate many neighbourhoods, providing long sight-lines and easy travel across long distances. Thirty per cent of the population is within walking distance of a greenway. However, these greenways and corridors are not well developed and are not presently serving as commuter or recreation spaces. Narrow, winding connectors and under-developed greenways provide connectivity between the neighbourhoods and nearby parks. When absent, adjacent neighbourhoods are poorly linked.
- 5 The Yellowhead Corridor partitions the Established communities in the north from the open spaces to the south, limiting commuter travel and reducing route options for active recreation. Residents in these areas tend to use and focus on parks closer to home, more than is typical in other areas of the city.

METRIC	2017 Baseline*	Future**
<b>Total Population</b>	295,200	369,300
<b>Provision — All Open Space</b>		
Total number	323	—
Hectares (accessible) per 1,000 people	7.5	6.0
<b>Provision — Municipal Parkland</b>		
Total number	235	—
Hectares (accessible) per 1,000 people	6.3	5.0
<b>High Function Open Spaces</b>		
% of open spaces providing high <b>Ecology</b> function	15.2%	—
% of open spaces providing high <b>Celebration</b> function	5.9%	—
% of open spaces providing high <b>Wellness</b> function	10.5%	—
<b>Access to High Function Open Spaces</b>		
% of population within walking distance to high function <b>Ecology</b> spaces	28.2	—
% of population within walking distance to high function <b>Celebration</b> spaces	16.0	—
% of population within walking distance to high function <b>Wellness</b> spaces	26.2	—
<b>Multifunctionality</b>		
Total number providing high functionality for <b>3 themes</b>	2	—
Total number providing high functionality for <b>2 themes</b>	11	—
Total number providing high functionality for <b>1 theme</b>	74	—

\* 2017 baseline population from Edmonton Municipal Census 2016

\*\* Approximated from approved (re)development plans and citywide projections

**FIG. 13: Open Space Provision (Established Areas)**





- 6 Similarly, the Mill Woods neighbourhoods in the southeast are isolated from the rest of the city, cut off by the industrial lands to the north and west of the residential areas. Commuter travel towards downtown via active transportation is limited. Travel routes between the east and west have few cycle routes, and heavily used arterial roads pose barriers.
- 7 The extensive ravine system borders many of these neighbourhoods, providing easy access to natural experiences for those who live nearby. However, a more developed pedestrian and cycle network is needed to provide a more complete connection into and along the ravine system, and into the River Valley and the Central Core.

### Quality and Functionality of Open Space

- 8 The area hosts a wide variety of park classes of relatively large size. However, only 26.9% of these open spaces provide high function for either Ecology, Celebration or Wellness and only 0.6% provide high functionality for all three. There is a need to provide more comprehensive programming and amenities.
- 9 Only 16% of the population in these neighbourhoods has walkable access to Celebration spaces. There is a need for a more distributed system of gathering spaces.
- 10 Only 26% of the population has walkable access to high-functioning Wellness spaces and 28% has access to high functioning Ecology spaces. Neighbourhoods further from the ravine systems have less opportunity for relaxation, outdoor recreation and nature enjoyment.

- 11 Some aging infrastructure has surpassed its life cycle, requiring replacement and others require more preventative maintenance to mitigate rapid deterioration.
- 12 Older existing infrastructure is not designed for year-round use and requires adaptation and seasonal alterations.
- 13 As demographics shift, the need for school sites has decreased, causing a need to repurpose these spaces into more functional forms.
- 14 A wide variety of ethnic backgrounds are found in these areas, which may benefit from more direct community involvement in the programming of open spaces in their neighbourhoods.

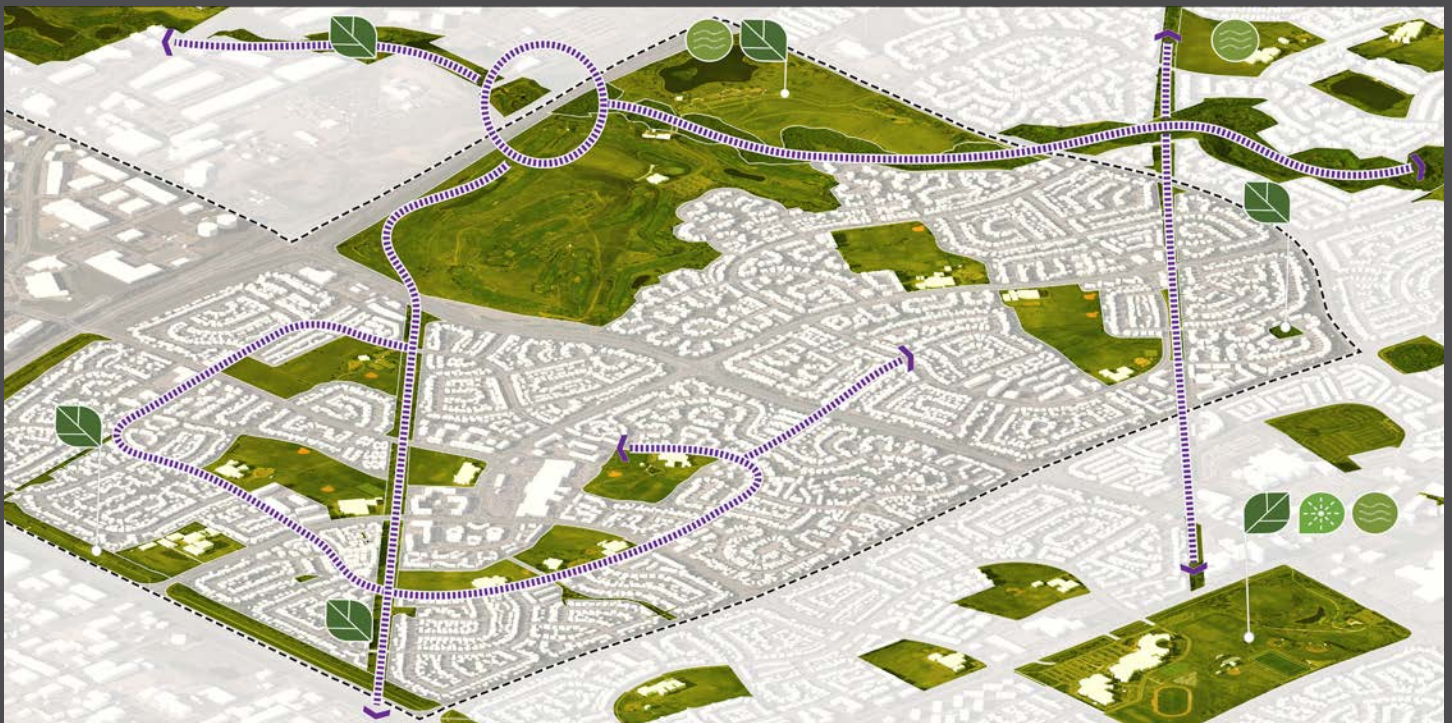
### 3.2.5.3 PROVISION STRATEGIES

- a) Improve linkages between parks and neighbourhoods through a connected walking and cycling greenway network.
- b) Examine opportunities on select streets to transform portions of wide roadway pavements and greens to provide additional greenway pathway corridors, connecting parks and communities.
- c) Improve connections from communities to and between the River Valley and ravines.

- d) Improve east-west connections between communities across industrial areas.
- e) Examine the use of some parks for potential repurposing and increased functionality.
- f) Examine the potential of transmission rights-of-way for other recreational or ecological spaces.
- g) Revegetate roadway greens with low-maintenance species.
- h) Consider revisions to vegetation and facilities in Parks to match actual use. Link maintenance regimes to type and intensity of use.
- i) Refurbish sports open spaces to create high-quality spaces that encourage more people to actively use existing amenities for wellness activities, and promote co-location of recreation facilities and buildings..
- j) In consultation with communities, examine the potential for the creation of ecological spaces in some parks and school yards.

### CASE STUDY: ESTABLISHED NEIGHBOURHOODS

Daylighting creeks, programming linear corridors, and improving connections across industrial areas will improve the overall connectivity of these areas, providing more direct access to high functioning ecological spaces, and increase the walkable connections between neighbourhoods.





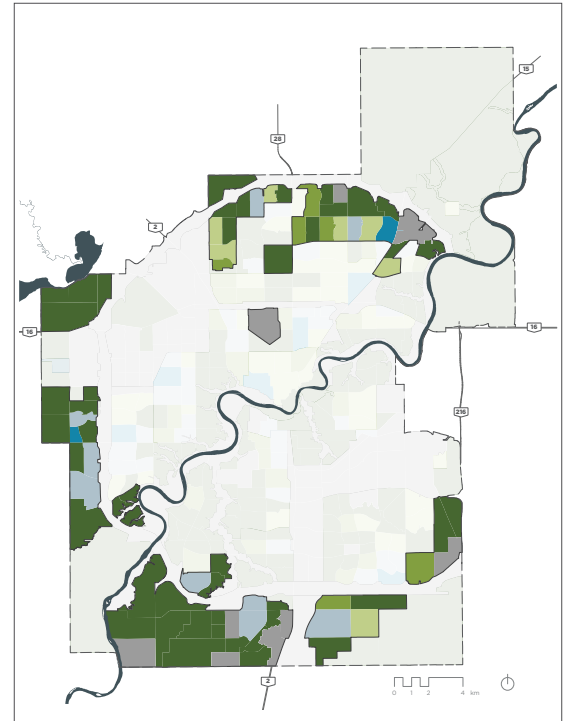
### 3.2.6 DEVELOPING NEIGHBOURHOODS

#### 3.2.6.1 NEIGHBOURHOOD OVERVIEW

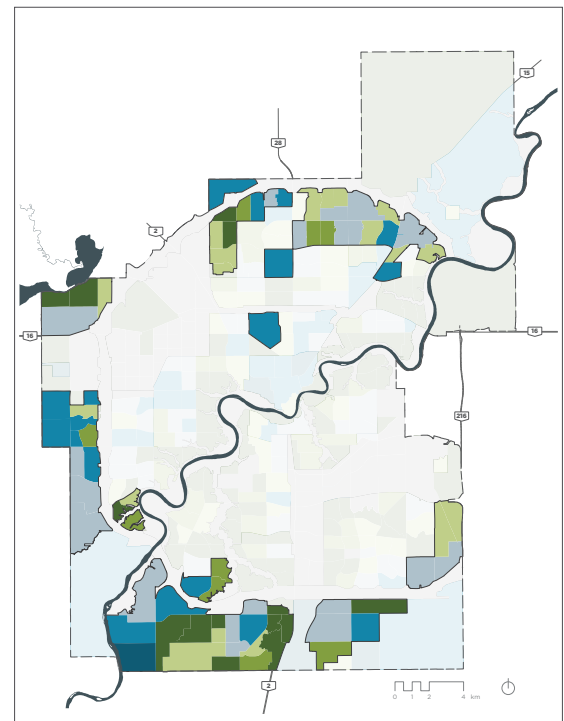
Developing neighbourhoods are the principal sites of Edmonton’s current growth and development, located in the periphery of the City, predominantly in the central north, southwest and southeast. While many of these areas are already built, extensive near-term development is ongoing, and the current population is expected to see an increase of 149% based on the figures provided in approved (re)development and strategic plans. In particular, developing areas are projected by a 2016 report to the Edmonton Public School Board to account for almost 90% of the growth in school-aged children and youth by 2029, placing further pressure on Reserve dedications to supply land for school and joint use sites.

Most developments in the south of the city occur outside the Anthony Henday Drive, posing significant access challenges for residents seeking to use active transportation. As these areas are currently under development, much planned parkland has not been constructed or programmed, and may be subject to change as the communities they serve form around them. Currently, a high proportion of the population in these areas has walkable access to high-functioning Ecology open spaces. However, it remains to be seen how this functionality is impacted as populations increase and subdivision development continues.

Few residents have walkable access to high-functioning Wellness or Celebration spaces, but as programming and amenities are developed, better access may be realized. Similarly, it remains to be seen what challenges these areas will bring to the City with regards to their long-term upkeep, maintenance and programming, and the funding provisions that sustain them.



**MAP 17: Developing Areas: 2017 Baseline (All Open Spaces)**



**MAP 18: Developing Areas: Future Developments (All Open Spaces)**

### 3.2.6.2 ISSUES

#### Amount and Access to Open Space

- 1 Developing neighbourhoods will see an overall population increase of approximately 149% in the future. Including built and approved open spaces, there are 588 open spaces within the area, providing 10.8 hectares per 1,000 people (including the accessible parks surrounding these neighbourhoods).
- 2 Over 80% of the current population is within walking distance of a municipal park of some kind.
- 3 Limited access across Anthony Henday Drive partitions the Developing communities in the west and south from the communities and ravine system in the metropolitan core, limiting commuter travel and reducing route options for active recreation. Residents in these areas must rely on automobiles and transit to access the bulk of the City's open spaces.
- 4 There are no Main Streets or Pedestrian Priority Streets in Developing neighbourhoods. Connector pathways are commonplace, but lack programming, wayfinding or other amenities to encourage their use.

#### Quality and Functionality of Open Space

- 5 Multifunctionality in these areas is currently limited. Only 17.7% of these open spaces provide high function for Ecology, Celebration or Wellness, and only 1% provides high functionality for two. No open spaces in this area provide high functionality for all three themes. More comprehensive programming and amenities are needed as these neighbourhoods develop.

METRIC	2017 Baseline*	Future**
<b>Total Population</b>	238,900	594,600
<b>Provision — All Open Space</b>		
Total number	588	—
Hectares (accessible) per 1,000 people	10.8	4.3
<b>Provision — Municipal Parkland</b>		
Total number	451	—
Hectares (accessible) per 1,000 people	9.4	3.8
<b>High Function Open Spaces</b>		
% of open spaces providing high <b>Ecology</b> function	16.7%	—
% of open spaces providing high <b>Celebration</b> function	2%	—
% of open spaces providing high <b>Wellness</b> function	1%	—
<b>Access to High Function Open Spaces</b>		
% of population within walking distance to high function <b>Ecology</b> spaces	32.5	—
% of population within walking distance to high function <b>Celebration</b> spaces	4.5	—
% of population within walking distance to high function <b>Wellness</b> spaces	2.7	—
<b>Multifunctionality</b>		
Total number providing high functionality for <b>3 themes</b>	0	—
Total number providing high functionality for <b>2 themes</b>	6	—
Total number providing high functionality for <b>1 theme</b>	104	—

\* 2017 baseline population from Edmonton Municipal Census 2016

\*\* Approximated from approved (re)development plans and citywide projections

**FIG. 14: Open Space Provision (Developing Areas)**



- 6 Only 4.5% of the population in these neighbourhoods has walkable access to Celebration and community spaces. There is a need for a more distributed system of gathering spaces and associated community facilities.
- 7 Only 2.7% of the population has walkable access to high-functioning Wellness spaces, but 70% has access to high-functioning Ecology spaces. Further development may provide increased access to Wellness functions as parks are further assembled and developed over time. Future park development should not compromise existing ecological functions.
- 8 Currently, the high fraction of children and youth make school sites a high demand use of open spaces. However, there is a need to ensure that these spaces provide broader multifunctionality to serve the entire community.
- 9 A diversity of ethnic backgrounds are found in these areas, dominated by young families who may benefit from more direct community involvement in the programming of their neighbourhoods' open spaces.

### 3.2.6.3 PROVISION STRATEGIES

- a) Ensure linkages between parks and neighbourhoods are secured through a connected walking and cycling greenway network, including connecting structures over or under Anthony Henday Drive and Whitemud Drive where appropriate.
- b) Examine opportunities on select streets to transform portions of wide roadway pavements and boulevards to provide additional greenway or pathway corridors, connecting parks and communities.
- c) Improve connections from communities to and between the River Valley and ravines.
- d) Ensure that proposed park developments contain amenities and infrastructure that can be practically maintained over the long term.





- e) Ensure new and existing parks are designed and programmed to increase the multifunctionality of the space. Consider the need for multi-generational and culturally appropriate activities in response to more diverse ethnic populations.
- f) Examine the potential of transmission rights-of-way for other recreational or ecological spaces, where possible.
- g) Vegetate roadway greens with low-maintenance species.
- h) Consider revisions to vegetation and facilities in parks to match actual use. Link maintenance regimes to type and intensity of use.
- i) Develop sports open spaces to create high-quality spaces that encourage more people to actively use facilities for wellness activities, and promote co-location of recreation facilities and buildings.
- j) In consultation with communities, examine the potential for the creation of ecological spaces in some parks and school yards

### CASE STUDY: DEVELOPING NEIGHBOURHOODS

Improving the multifunctionality of parks and open spaces will provide better opportunities for provision as these areas are further developed. Increased programming and use of the linear spaces in these neighbourhoods will help to foster community connections.



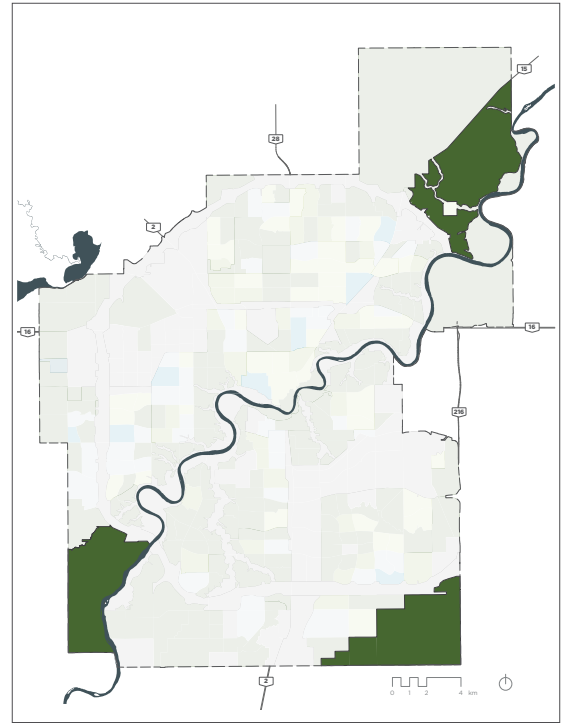
### 3.2.7 URBAN GROWTH AREAS

#### 3.2.7.1 NEIGHBOURHOOD OVERVIEW

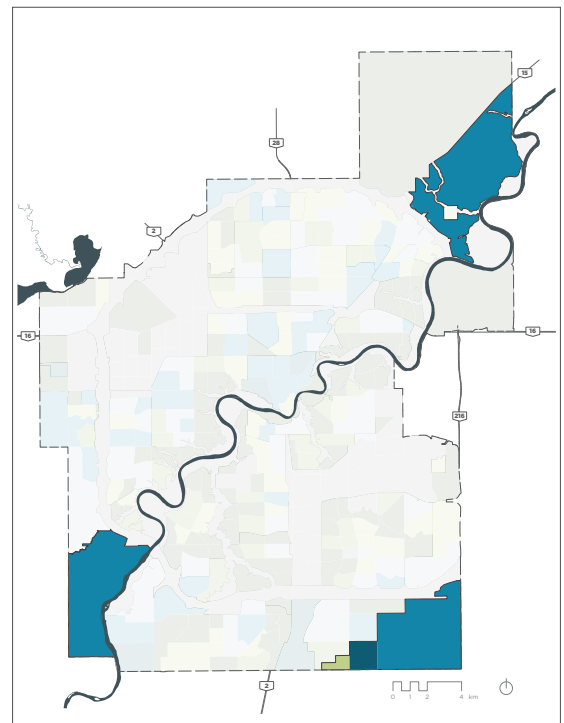
The Urban Growth Areas are large regions of planned greenfield development in the northeast, southwest and southeast of the city. Currently, these areas have sparse rural dwellings, interspersed with agricultural lands and stretches of undisturbed native forest, rolling hills and wetlands. However, over the coming decades, an increase of approximately 200,000 individuals has been approved in varying densities across this area, bringing a wholesale transformation of this landscape. In particular, a report to the Edmonton Public School Board indicates that these areas are projected to account for almost 90% of the growth in school-aged children and youth by 2029, which places pressure on Municipal Reserve dedications to supply land for school and joint use sites.

Approximately 470 hectares distributed across over 118 planned parkland sites are identified as part of the approval for these developments, presenting the City with an opportunity for the concerted development of a green network in these areas. At the same time, their large anticipated population makes the provisioning of highly multifunctional spaces a high priority. Planned open spaces provide an estimated future 3.0 hectares of municipal parkland per 1,000 people, in accordance to the 2.0 hectares/1000 provision standard under which they were planned and approved.

The relatively undisturbed nature of the landscape in these areas provides the opportunity to ensure that significant natural, heritage and agricultural features are maintained during development. The City must work to ensure developers are aware of the value of the lands they intend to develop. Additionally, the City must work to deliver comprehensive programming for parkland in this area, to ensure that new developments offer a sense of place and community. As these areas are far removed from the metropolitan core, a strategy to ensure the provision of transit and active transportation linkages from these peripheral regions will help to keep the city connected.



MAP 20: Urban Growth Areas: 2017 Baseline (All Open Spaces)



MAP 19: Urban Growth Areas: Future Developments (All Open Spaces)

### 3.2.7.2 ISSUES

#### Amount and Access to Open Space

- 1 The population of Urban Growth Areas will see an overall increase in the future. There are 131 existing and approved open spaces within the area, providing 423.7 hectares per 1,000 people (including open spaces within walking distance of these neighbourhoods). Based on projected population growth, this figure settles at 3.1 ha/1,000 in the future.
- 2 Only 57% of the potential future population will be within walking distance of a municipal park of some kind. Planning for transit, cycle connections and vehicular access will be critical to ensure that parks are well attended once developed.
- 3 Limited access across Anthony Henday Drive may pose a challenge to commuters and park-users. Although the eventual LRT extension in the northeast and south will offer flexible commuting options, many may rely on automobiles to access the bulk of the city's other open spaces.
- 4 Reliance on collector roads that have high traffic volumes and restricted access points via “estate entries” may result in a limited number of neighbourhood access points.
- 5 Current plans highlight a lack of accessible civic spaces and pedestrian priority streets.
- 6 Metropolitan Parks and the core of the River Valley will be poorly accessible.

METRIC	2017 Baseline*	Future**
<b>Total Population</b>	1,500	209,100
<b>Provision — All Open Space</b>		
Total number	131	—
Hectares (accessible) per 1,000 people	423.7	3.1
<b>Provision — Municipal Parkland</b>		
Total number	108	—
Hectares (accessible) per 1,000 people	401.4	3.0
<b>High Function Open Spaces</b>		
% of open spaces providing high <b>Ecology</b> function	30.7%	—
% of open spaces providing high <b>Celebration</b> function	6.6%	—
% of open spaces providing high <b>Wellness</b> function	0	—
<b>Access to High Function Open Spaces</b>		
% of population within walking distance to high function <b>Ecology</b> spaces	30.7	—
% of population within walking distance to high function <b>Celebration</b> spaces	6.6	—
% of population within walking distance to high function <b>Wellness</b> spaces	0	—
<b>Multifunctionality</b>		
Total number providing high functionality for <b>3 themes</b>	0	—
Total number providing high functionality for <b>2 themes</b>	5	—
Total number providing high functionality for <b>1 theme</b>	44	—

\* 2017 baseline population from Edmonton Municipal Census 2016

\*\* Approximated from approved (re)development plans and citywide projections

**FIG. 15: Open Space Provision (Urban Growth Areas)**







**7** Recently approved area structure plans include densities approaching 35-40 units per hectare. The allowable Municipal Reserve (MR) dedication amount has been sufficient to provide for existing provision standards (2.0ha/1,000) in recent ASPs (e.g. Decoteau, Riverview). However, increasing the area per population standard or increasing population densities may prove taxing on the fixed MR availability.

**Quality and Functionality of Open Space**

- 8** As open spaces in these neighbourhoods are planned and programmed over time, high functioning spaces must be maintained and park plans implemented to highlight existing and increase overall functionality of these and other spaces.
- 9** The natural connections provided by the existing River Valley and Ravine System in these areas must be preserved and their characteristics more closely studied to ensure that natural functioning in these lands is not unduly disturbed or disrupted.



**3.2.7.3 PROVISION STRATEGIES**

- a)** Adopt a “No Net Loss” strategy for preserving existing high functioning lands, and mitigate potential disturbances as these areas are developed.
- b)** Design new open spaces in Urban Growth Areas that are multifunctional and support active/passive recreation so that spaces are flexible, visible, accessible and functional.
- c)** As these areas are predicted to see high proportions of children and youth, park amenities should reflect this to provide a range of attractive recreational and social elements (e.g. skateboard park, sports courts, social gathering spaces), while ensuring they remain attractive and functional over time, for a variety of ages and abilities.
- d)** Ensure that neighbourhoods are well-connected and provide multi-modal transportation linkages between residential areas and destinations, including connecting structures over or under Anthony Henday Drive and Whitemud Drive where appropriate.

- e) Cluster compatible and complementary services to create activity centres or neighbourhood hubs that serve the greatest number of residents.
- f) Plan for weather and all seasons through enhanced open space design.
- g) Implement the provision of the *Municipal Government Act* that allows for an additional 5% of required reserve dedication where proposed subdivision would result in densities of 30 units per hectare or greater.

### CASE STUDY: URBAN GROWTH AREAS

Planned development in greenfield areas must take advantage of existing natural features to ensure the provisioning of high functioning ecological spaces. Connections between the new areas and existing developments will require planning to prevent these areas from being isolated from the rest of the city.



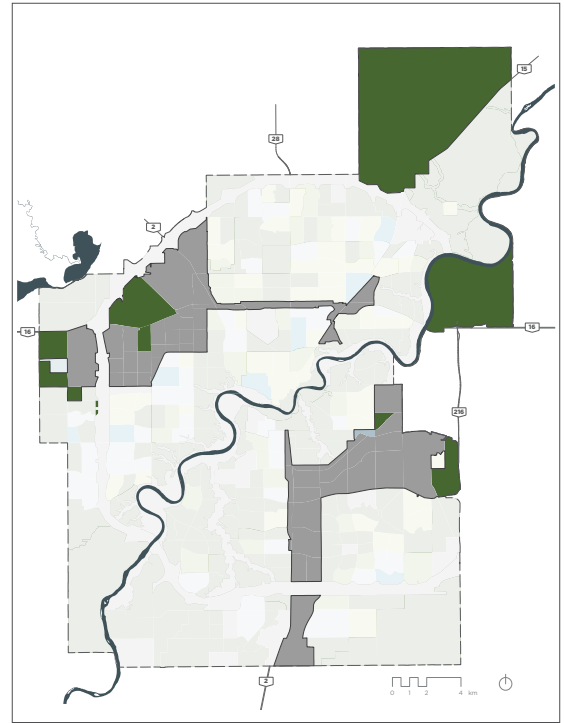
### 3.2.8 INDUSTRIAL NEIGHBOURHOODS

#### 3.2.8.1 NEIGHBOURHOOD OVERVIEW

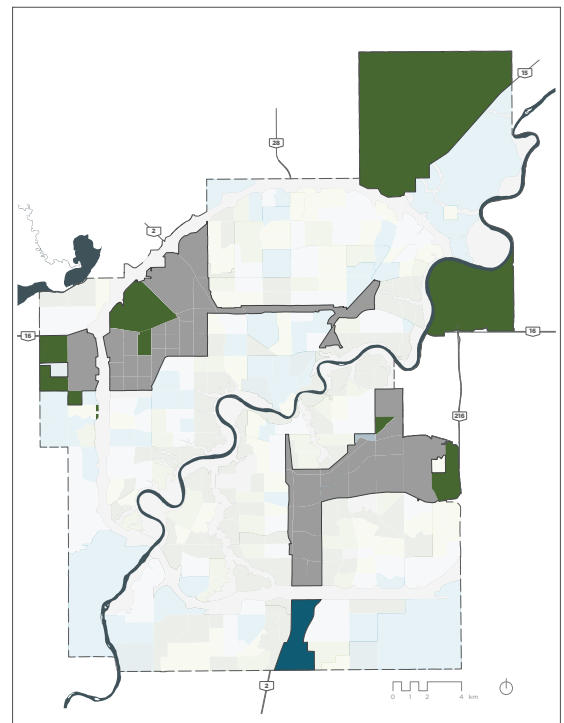
The Industrial areas of Edmonton are distributed predominantly in the northwest, the northeast and the southeast. While few people reside in these areas, they are the site of employment for many in the city. They also contain a variety of open spaces, providing recreation, relaxation and access to nature for those working in this area.

However, the industrial focus of these lands poses serious challenges to the connectivity and functioning of the green network. Fifty per cent of the open spaces in Industrial areas do not provide any high functionality, and of the remainder, 44.9% provide only a single high function (predominantly Ecology, although a handful of sites have Celebration functionality).

The primary challenges of open space management in these areas include the maintenance of ecological connectivity between open spaces, the provision of better Wellness functionality in parks near industrial campuses, and the access challenges posed by large industrial lots and high traffic roads.



**MAP 21: Industrial Areas: 2017 Baseline (All Open Spaces)**



**MAP 22: Industrial Areas: Future Developments (All Open Spaces)**





### 3.2.8.2 ISSUES

#### Amount and Access to Open Space

- 1 A total of 78 open spaces are found in the Industrial areas, of which 82% are municipal parks. Access to and use of these parks by those working in the area is a challenge, as lack of sidewalk infrastructure, fencing and large block sizes make pedestrian or active transportation access problematic.
- 2 The industrial lands to the north and west of Mill Woods pose a major hurdle to recreational and commuter-based active transportation, as the Mill Creek ravine is disrupted by industrial yards and railway lines.
- 3 From an ecological perspective, the highly transformed landscape of Industrial areas makes an inhospitable matrix, even when surrounding high-functioning open spaces.

#### Quality and Functionality of Open Space

- 4 Since the industrial matrix poses challenges to natural processes in less disturbed landscapes, it is remarkable that 46% of the open spaces in these areas display high Ecology functionality. It is important to preserve and expand this functionality. However, it is also imperative that these areas do not act as population sinks for wildlife in the surrounding lands. Attractive natural areas, surrounded by a highly inhospitable matrix, can draw wildlife into areas in which they are likely to experience high mortality. Connectivity into the surrounding lands should, therefore, be carefully managed.
- 5 The Industrial areas are not presently described in terms of the nature of the industrial use found within them. This makes it difficult to identify the nature of the disturbances that wildlife will experience in these areas.

METRIC	2017 Baseline*	Future**
<b>Total Population</b>	5,100	15,400
<b>Provision — All Open Space</b>		
Total number	78	—
Hectares (accessible) per 1,000 people	215.9	71.9
<b>Provision — Municipal Parkland</b>		
Total number	61	—
Hectares (accessible) per 1,000 people	575.6	57.3
<b>High Function Open Spaces</b>		
% of open spaces providing high <b>Ecology</b> function	46.5%	—
% of open spaces providing high <b>Celebration</b> function	9%	—
% of open spaces providing high <b>Wellness</b> function	1.3%	—
<b>Access to High Function Open Spaces</b>		
% of population within walking distance to high function <b>Ecology</b> spaces	11.2	—
% of population within walking distance to high function <b>Celebration</b> spaces	2.7	—
% of population within walking distance to high function <b>Wellness</b> spaces	0.5	—
<b>Multifunctionality</b>		
Total number providing high functionality for <b>3 themes</b>	0	—
Total number providing high functionality for <b>2 themes</b>	4	—
Total number providing high functionality for <b>1 theme</b>	36	—

\* 2017 baseline population from Edmonton Municipal Census 2016

\*\* Approximated from approved (re)development plans and citywide projections

**FIG. 16: Open Space Provision (Industrial Areas)**



**6** The extensively graded nature of industrial lots has highly disturbed the natural watercourses of these areas. Stormwater management and runoff from industry are significant issues that must be jointly managed across City operations.

### 3.2.8.3 PROVISION STRATEGIES

- a)** Where feasible, daylighting disturbed watercourses, coupled with connections to pathway networks in surrounding neighbourhoods, will help to lessen the barrier effect of these Industrial areas.
- b)** Explore the potential of Industrial areas to supply lands for district or metropolitan level parks, or for specialty community or recreational facilities, where land assembly in residential areas is unfeasible or undesirable. Location of parkland or facilities should be encouraged in Industrial areas where such uses would not create nuisance noise, lighting, traffic or parking for neighbouring residential areas (e.g. large sports tournament sites). Agreements with area business owners should be encouraged to supply shared parking, where usage of the parkland or facility occurs primarily outside business hours. Appropriate site access, including transit and safe active transportation connections, must be maintained.

- c)** Residential development, mixed-use development or live-work development within industrial neighbourhood types must be supplied with open space.
- d)** Acquire lands for green buffers between incompatible uses where setbacks are insufficient to mitigate nuisance or hazard.
- e)** Use Environmental Reserve dedications to protect existing wetlands and watercourses.
- f)** Where appropriate, industrial redevelopment should ensure more diverse industrial campuses, complete streets, bioswales, constructed wetlands (including public access pathways for area employees) and active transportation greenways as part of the 30% required public utilities/ROW dedication.



## 3.3 Open Space Classification System

Edmonton's open spaces provide a wide range of functions through a variety of hardscaped, landscaped and natural spaces. This can include small pocket parks where children gather to play; large natural areas with extensive trail systems; public plazas that host music concerts, farmers' markets and festivals; and community parks where schools, sports fields and community spaces are located.

Although municipal parkland forms the core of any green network, the *Green Network Strategy* is designed to consider open spaces from a holistic perspective. This means that open spaces like road boulevards, utility corridors and pathways are valued for their important role in connecting different parts of the network. Ecological parks provide wildlife habitat and climate regulation services, even though they might not have many amenities for humans. Main streets are useful for transportation purposes, but they also provide opportunities for social interaction on the sidewalk or patio, and for celebration during special events.

A classification system is useful to characterize different types of open space for the purposes of management and strategic implementation. The *BREATHE* classification system encompasses the many ways that Edmontonians use and benefit from open spaces. The *Green Network Strategy* considers City-owned parks, civic spaces, campuses, other public lands and the connections among them.

Distinguishing among these categories enables the City and its community partners to tailor their planning and management activities to the amenities, objectives and service guidelines specific to each open space type. For example, most people will drive or take transit to destination spaces, such as festival grounds, stadiums or metropolitan parks, but will walk to their local playground or community park. Transportation-mode

characteristics such as these could help planners decide which types of open spaces need more parking, and which need better pedestrian or cycling access.

**Open space classes** represent the different types of open space, such as community parks, greenways, school sites, main streets, etc. All classes are organized into **thematic groups** based on the roles that different open spaces play in the green network. The classes within each group typically have a similar managing entity, amenities, access or purpose, making these groups a convenient basis for developing planning objectives in the remainder of this Strategy.

The open space classification system is illustrated in **APPENDIX B**, along with a complete description of the classification system.







**Municipal Parks** are the “backbone” of the green network. Collectively, they are intended to provide comprehensive open space multifunctionality to their respective catchment areas, including opportunities for recreation, relaxation and introspection, social and spiritual fulfillment, nature appreciation, heritage appreciation, learning and events. They also support ecological functions such as water management, climate regulation and wildlife habitat. Municipal parks include:

- » Metropolitan parks (e.g. Borden Park)
- » District parks (e.g. The Meadows District Park)
- » Community parks (e.g. Giovanni Caboto Park)
- » Pocket parks (e.g. Michael Phair Park)
- » Ecological parks (e.g. Poplar Lake)
- » Greenways (e.g. Hazeldean Greenway)



**Civic Spaces** are City-owned gathering places that are largely hard landscaped and are associated with more commercial, institutional or mixed land-uses. They typically support good urban design, and ideally perform social or celebratory functions in the network. Civic spaces include:

- » Squares, plazas and promenades (e.g. Sir Winston Churchill Square)
- » Main streets (e.g. Jasper Avenue)
- » Pedestrian-priority streets (e.g. the Armature)



**Corridors** are vegetated spaces that feature a trail, pathway, maintained grass (turf) or naturalized vegetation connecting adjacent neighbourhoods, roads or core open spaces. Corridors may or may not be located in association with roadways or utility corridors. Corridors include:

- » Connectors (e.g. neighbourhood pathway corridors)
- » Roadway greens
- » Utility corridors (e.g. Hodgson Altalink Utility Corridor)

**Other Jurisdictional Parkland.** Many important cultural, social, natural or recreational parks are managed by other jurisdictions (e.g. the Government of Alberta). These spaces are often developed and/or maintained in partnership with the City, and provide valuable open space functions at the community and city level. Other jurisdictional parkland includes:

- » Campuses (e.g. University of Alberta)
- » Provincial parkland (Provincial Legislature grounds)
- » Federal parkland (none currently existing)



**Other Public Open Space.** There are several types of “other” open spaces that are part of the green network from a functional perspective, but are not “parks.” Some of these lands are not currently formally managed as open spaces, but still function as open spaces by providing green cover, acting as gathering spaces or otherwise contributing to the functions of open space. Some of these open spaces may eventually be developed into other land uses (e.g. select vacant city holdings). Other public open space include:

- » Special purpose facilities (e.g. River Valley Zoo)
- » School sites
- » Municipal cemeteries (e.g. South Haven Cemetery)
- » Municipal golf courses (e.g. Riverside Golf Course)
- » Select vacant City holdings
- » Utility lots



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Because of implementation challenges, this Strategy does not contain a separate category for River Valley and Ravine parks. The *Green Network Strategy* considers the open spaces of the River Valley and Ravine system within the categories of the classification system (e.g. metropolitan parks, municipal golf courses, special purpose facilities, etc.).

Several other documents are available to help the City plan the River Valley and Ravine system in a cohesive manner, such as the Ribbon of Green and North Saskatchewan River Valley Area Redevelopment Plan. These documents and others should be consulted in concert with the *Green Network Strategy* to address the unique preservation and connectivity issues in these spaces.









4

# Policy Actions

## STRATEGIC DIRECTIONS

- 4.1** Ensure that the green network is safe, accessible and inclusive.
- 4.2** Make open spaces vibrant, sustainable and functional to support community identity and needs.
- 4.3** Empower people to become active participants and stewards in planning, sustaining and using the green network.
- 4.4** Improve awareness of open space opportunities and appropriate use.
- 4.5** Ensure an adequate supply, quality, diversity and distribution of open space throughout Edmonton.
- 4.6** Improve open space access for residents and visitors.
- 4.7** Preserve and enhance the ecological quality and connectivity of the green network.
- 4.8** Adaptively manage changing trends in growth, demographics and preferences.
- 4.9** Improve collaborative open space planning among City stakeholders, community partners and other jurisdictions.
- 4.10** Develop a sustainable funding model that responds to operational requirements, community capacity and local needs.

In the following sections, each Strategic Direction is prefaced by an explanation of the **major issues and background context** relevant to the topic.

Accompanying the preface are **function icons** (see **SECTION 2.1**) that show how the Policy Actions of each Strategic Direction help to support the diverse functions of open spaces; the brighter the icon, the better the Policy Actions support that function. The **Policy Actions** will address the identified issues and accomplish the goal of an integrated, multifunctional green network. Within each Strategic Direction, the Policy Actions are categorized under the following headings to illustrate their intent:

- » **Planning + Design**, i.e. effective and creative planning and design actions, including further strategies in defined subject areas to enhance, restore and expand the green network
- » **Management + Operations**, i.e. ongoing and shifting approaches to management to ensure that the green network is healthy, safe, diverse and accessible
- » **Engagement + Partnerships**, i.e. the active support and engagement of the City, public and private sector stakeholders, other levels of government, agencies, and Indigenous communities
- » **Analysis + Monitoring**, i.e. tracking and monitoring of key metrics and variables to see where progress is being made and where adaptive management may be required

Although the Policy Actions are generally directed toward the City of Edmonton, some require collaboration and action by other parties as well. Community leagues, Indigenous communities, non-profit organizations, school boards, the development industry, provincial and federal governments, businesses and individuals all have a part to play in ensuring *BREATHE*'s success.

Many of the Policy Actions contain direction for initiatives that should be undertaken to accomplish the Vision and Strategic Directions. Further direction related to some of these actions is provided in the associated *BREATHE* Implementation Plan.

## 4.1 SAFE + INCLUSIVE

*Ensure that the green network is safe, accessible and inclusive.*



The green network is an important community asset, which means its open spaces should be designed, provisioned and operated for people of diverse incomes, genders, ages, ethno-cultural identities and physical abilities. In practice, this can involve a challenging balance between meeting the needs of the majority of open space users, and ensuring that some of our City's most vulnerable people are not excluded. Creating inclusive spaces requires that the green network provides appropriate physical infrastructure for visually or mobility-impaired community members; signage, equipment, access points and pathways can greatly impede or enable accessibility. Even amenities like washrooms and benches can help encourage participation by children and older adults who may require more frequent breaks than other users. However, equally important are adjustments to policies, procedures and processes that expand opportunities for participation and create spaces that celebrate diverse cultures and needs.

A precondition of welcoming, inclusive urban environments is safety. Both real and perceived threats have the potential to compromise feelings of comfort or enjoyment, and can deter people from using problematic open spaces. Safety concerns identified during the *BREATHE* project development process include criminal activity, physical or verbal harassment and environmental hazards like unstable slopes,

malfunctioning equipment or foreign materials (e.g. glass) hidden in the ground cover. Other concerns arise from conflicts among different users of open space (see Section 4.4.3: Minimizing Conflicts). In many ways, concerns about safety intersect with opportunities to make open spaces more inclusive for the diverse peoples of Edmonton — for example, exploring means to redress racism and improve intercultural relationships.

Based on the breadth of safety and inclusivity issues discussed here, it should be emphasized that solutions must involve interdisciplinary, collaborative and creative action. Design interventions can help reduce crime, improve accessibility and mitigate hazards from unsafe environmental conditions, but these issues also require preventive contributions from enforcement and maintenance personnel. Marginalized or minority populations benefit from having their specialized needs considered during open space (re)development, but also from educational and engagement campaigns that shift attitudes and improve understanding. The City, Indigenous communities, community partners and citizens of every background will need to work together to ensure that Edmonton is a welcoming, vibrant place to live.



### 4.1.1 CRIME REDUCTION

#### Planning + Design

- a) Incorporate Crime Prevention Through Environmental Design (CPTED) principles in the (re)design and programming of open spaces and the facilities within them, including efforts to encourage passive surveillance and a sense of ownership over open spaces through animation, active uses and community building initiatives.
- b) Develop and regularly update a Park Safety Strategy to better understand threats to the safety and security of users in parks and open spaces.
  - › The Strategy should examine the sources of safety concerns and make recommendations that aim to enhance park-user safety, including the appropriate deployment of City and community resources for the purposes of crime prevention and enforcement. The Strategy should also make recommendations regarding the functionality, maintenance and deployment of Blue Phones or other emergency notification measures in high-crime locations.
  - › Encourage the participation of stakeholders and community partners in developing and implementing the Park Safety Strategy.

#### Management + Operations

- c) Ensure that City personnel involved in the design, construction and maintenance of open spaces are familiar with CPTED principles and methods to accommodate design for crime prevention alongside other open space priorities (e.g. ecological integrity, winter appropriate design).
- d) Collaborate among City departments, other public agencies and community partners to share data and information to identify where and how CPTED design principles should be implemented.

### 4.1.2 REDUCING HAZARDS

#### Planning + Design

- a) Consider sight lines and improved road-related safety amenities (e.g. fencing, controlled road crossings) in designing child-oriented open spaces.
- b) In accordance with **Strategic Direction 4.6 Public Access + Connectivity**, ensure that open spaces are designed to accommodate sufficient access for emergency or rescue vehicles and personnel, and appropriate routes for safe public ingress and egress during emergencies.
- c) In accordance with **Strategic Direction 4.7 Ecological integrity**, ensure that the Wildlife Passage Engineering Design Guidelines are implemented to reduce the potential for vehicular collisions with wildlife.

#### Management + Operations

- d) Maintain parks, open spaces and the public facilities, amenities and equipment within them to a level of quality that does not place the public at risk of danger or injury.
- e) Preserve natural vegetation and pursue designation/acquisition of open spaces to mitigate risks from natural hazards in areas prone to flooding, erosion or slope instability.
- f) Where open spaces are developed within the work area of abandoned oil and gas infrastructure, ensure that access and maintenance activities do not conflict with public usage of the open space.
- g) Ensure that use of open space for potentially hazardous activities such as construction or utility laydown areas does not negatively impact or conflict with public usage or existing amenities of the open space.

### 4.1.3 INCLUSIVE SPACES

#### Planning + Design

- a)** Wherever feasible, trails and pathways should be (re)designed and maintained to ensure universal access. While not every open space will provide accessible trails and pathways (e.g. some natural trails, mountain bike trails), the network as a whole will provide a diverse range of safe, challenging and accessible pathways for recreation and active transportation.
- b)** Develop guidelines for determining where barrier-free pathways (e.g. smooth surfaces and gentle grades) should be provided to enable natural experiences for persons with mobility challenges.
- c)** Adhere to universal accessibility guidelines when (re)developing public structures and facilities in parks and open spaces, including picnic facilities, washrooms, pavilions, etc.
- d)** When (re)developing play spaces and playgrounds, incorporate barrier-free play equipment, site designs, play elements and opportunities to foster and integrate play for all children, especially those with physical and cognitive disabilities.
- e)** Provide greater opportunities for those with mobility concerns to gain access into the River Valley and Ravine System and to the river edge by improving trails or pathways (e.g. surfacing, width, grade) or providing alternative means of access (e.g. funicular, lift).
- f)** Design signage to facilitate readability by the widest range of users, including those with visual impairments. Signage design should conform to City protocols and should consider addressing or incorporating braille, placement at eye level of seated persons, larger fonts, universal symbols and multiple languages.

#### Management + Operations

- g)** Provide open space opportunities and experiences for all Edmontonians, regardless of age, ability, socio-economic background, culture, sexual orientation or gender identity. When designing and programming open spaces, consider the socio-economic, cultural, physical and psychological accessibility needs of the intended users, and engage with the relevant communities accordingly.
- h)** In collaboration with the Homeless on Public Lands Committee, consider the use of temporary overnight shelters in open spaces on an as-needed basis when emergency shelter beds or other accommodation are unavailable or inaccessible.
- i)** Provide gender-neutral facilities in all new or renovated public washrooms and changerooms within parks, open spaces and the facilities within them.
- j)** Identify safe, designated areas for Indigenous communities to practice cultural activities (e.g. traditional harvesting activities, ceremonies, etc).
- k)** Ensure that parks and open space services and programs meet the needs of children, youth, older adults and their families by meaningfully engaging them in park planning and design, and by providing quality experiences that accommodate activities for all ages, including:
  - › Child-centred spaces that take a holistic, best practices approach to child development
  - › A combination of active and passive recreational opportunities for older adults
  - › Amenities and gathering spaces that promote a welcoming, inclusive environment for youth
  - › Elements of learning and play for all ages, which should not be limited to formal playgrounds (e.g. natural spaces and habitats, wading pools, climbing features, obstacle courses, etc.)

- › Co-locating amenities (e.g. playgrounds and adult fitness equipment) to support intergenerational recreation and play, where appropriate

### Engagement + Partnerships

- l)** Consult Accessibility Liaison Officers on all open space (re)development projects. Where appropriate, extend consultation to the Accessibility Advisory Committee.
- m)** Work with Community Outreach staff to connect homeless persons who are encamped in open spaces with safe alternate accommodations and support services, in accordance with City policy and Housing First principles.

- n)** Collaborate with corporations, non-profit organizations, community groups and other philanthropic organizations to create a fund that expands opportunities for low-income Edmontonians and their families.

- o)** Leverage public engagement, events and programs to support open space community outreach for socially isolated and other vulnerable populations.

### Analysis + Monitoring

- p)** Engage with community partners to evaluate and reduce the financial barriers to accessing Edmonton's open spaces (including special purpose facilities) and outdoor programs for low-income persons and families.





## 4.2 VIBRANT SPACES

*Make open spaces vibrant, sustainable and functional to support community identity and needs.*



Cities everywhere are investing in environments that attract and retain residents, workers and visitors. People need amenities that support their activity preferences as well as spaces that enable enjoyable experiences, encourage social gathering, evoke interest and beauty, reflect local cultures and create a sense of place. In Edmonton, the green network is effective at providing for many activities, but there is potential to make open spaces more multifunctional, innovative and flexible to elevate them from “effective” to “outstanding”.

An important concept in creating vibrant spaces is animation, or the extent to which they are well used. A busy, active park or streetscape is more likely to attract people than one that appears desolate. Edmontonians consistently express disappointment with local open spaces that seem underused or neglected, and prefer open spaces with a sense of character and beauty. Some even noted that they enjoy “people watching” as a favourite activity.

Animation is a challenging outcome to “design” through policies and recommendations, because human behaviour and preferences are often unpredictable. What makes a person want to spend time in a place? The best answers acknowledge that there are many different “recipes” for bringing people together, but often they involve some combination of:

- » Amenities or infrastructure that respond to community demand for a certain use;
- » Programming that introduces events, programs or activities to the space; and
- » Attractive or interesting design that promotes a unique sense of place and aesthetic appeal.

Vibrant spaces are not only created by animating places, but also by leveraging opportunities to recognize and celebrate Edmonton’s rich heritage and culture. Public art, historic sites or interpretive information and places to practice traditional or ceremonial activities enable people to connect with unique places and reinforce a sense of community identity, whether that community is the local neighbourhood or Edmonton at large.

## 4.2.1 LANDSCAPE + URBAN DESIGN

### Planning + Design

- a) Adopt best practices in landscape and urban design during open space (re)development to encourage social interaction and compatible relationships with surrounding uses.
- b) Incorporate a balance of sunlight and shelter to encourage user comfort in every season, and in variable weather. Develop guidelines outlining the circumstances under which it is acceptable to shadow open spaces, and required mitigation measures to improve pedestrian-level comfort in relation to sunlight and wind.
- c) Open spaces should contain sufficient trees or other shade structures, strategically situated to support social gathering and permit surveillance of adjacent activities.
- d) Develop a Lighting in Open Spaces Strategy that considers the appropriate application of lighting for safety, design and aesthetics, and situations where lighting is not appropriate due to ecological sensitivity or light pollution issues.
- e) Explore opportunities through landscape and urban design to recognize and emphasize Edmonton's ecological heritage and cultural connections to the land (e.g. native species and vegetation patterns).
- f) Promote a culture of excellence in open space design, including site planning, landscape architecture and amenities/facilities. Design should incorporate elements of interest, beauty and creativity wherever possible. The City should encourage open space design competitions and expand its support of extraordinary designs to promote public interest.
- g) Encourage year-round usage of open spaces by employing siting and design that promotes sheltering from winter climate impacts, and incorporating well-designed artificial lighting to extend winter hours of operation. Winter climate comfort can be achieved through various means, such as:
  - › Sheltering open spaces by framing them by surrounding development, with blocks and parcels oriented to optimize solar access
  - › Providing infrastructure and amenities that encourage winter use, including shared-use greenways for walking, cycling and cross-country skiing
  - › Landscaping with drought-tolerant and low-maintenance native vegetation species
  - › Designing the street pattern and orientation to shelter open spaces from prevailing winds
- h) Use vegetation and plantings in open spaces to introduce colour, shade, beauty and aesthetic value to the cityscape.
- i) Develop a toolkit of high-quality open space design interventions for use in different environments, outlining appropriate applications and capital/operating funding implications for each.
- j) Support placemaking in priority locations (e.g. main streets, transit nodes, downtown) and underutilized open spaces through high quality urban design and enhanced amenities.
- k) Through the development approval process, require proponents of open space (re)development to demonstrate how the design aspects of their project enhance the character, aesthetic value and quality-of-life of the public realm.
- l) Protect vistas, views and visual connections between the North Saskatchewan River Valley and Ravine System and the top of bank through implementation of top-of-bank development

standards, development of public roadways and view points, and responsible maintenance of vegetation.

- m) Where appropriate, incorporate elements into open space design that encourage people to gather and linger, such as seating, public art, lighting and shade structures.
- n) Ensure that open space designs consider accommodations for a range of individual, family (of different sizes) and large group use.

#### 4.2.2 PROGRAMMING

##### Planning + Design

- a) Leverage physical and cultural heritage to build community identity and sense of place within parks and open spaces. Public art, historic structures and heritage artifacts may be used to establish focal points or anchors for social gathering and activity.
- b) Use public art to enhance visual interest, cultural expression and social interaction in open spaces. Embrace opportunities for public art to function as recreational or play equipment, and for community facilities to function as public art.
- c) Encourage public art as a means of space activation and placemaking throughout the city, particularly in the Central Core.
- d) Create guidelines for the appropriate type and placement of art in different types of open spaces.
- e) Leverage food and urban agriculture opportunities (e.g. community gardens, edible forests and landscaping, farmers' markets, mobile food vendors) to encourage community gathering and social experiences.
- f) Develop a Festival City Strategy to evaluate, promote and strategically plan for events in open spaces. The strategy should identify means of

improving support for festivals such as new funding sources, streamlining booking/permitting processes and providing adequate infrastructure for a range of event needs throughout the year.

- g) Investigate locations for accommodating future events and festivals, considering available amenities, impacts on open space and surrounding neighbourhoods, and the distribution of, and access to, events and festivals citywide.

##### Management + Operations

- h) Encourage the (re)development and operation of safe, comfortable, attractive and active open spaces in order to retain visitors, who in turn create a sense of activity and vibrancy.
- i) Support programming related to awareness and educational opportunities, in accordance with **Strategic Direction 4.4 Education + Awareness.**
- j) Explore the potential for events, activities and programs to animate open spaces citywide.
- k) Support events and initiatives in open spaces that actively promote intercultural awareness, including outreach and welcome events for newcomers and other members of the community.
- l) Expand opportunities for temporary uses such as events, art installations, performances, food vendors, markets and pop-up experiences of every type (e.g. movie screenings, movable seating, winter warming shelters, parking space parkettes), and effectively communicate those opportunities to the public.
- m) Maintain and develop programming and amenities that encourage winter activity, and provide appropriate ancillary facilities, such as winter chalets, temporary shelters, washrooms, cleared pathways and active-transportation connections.



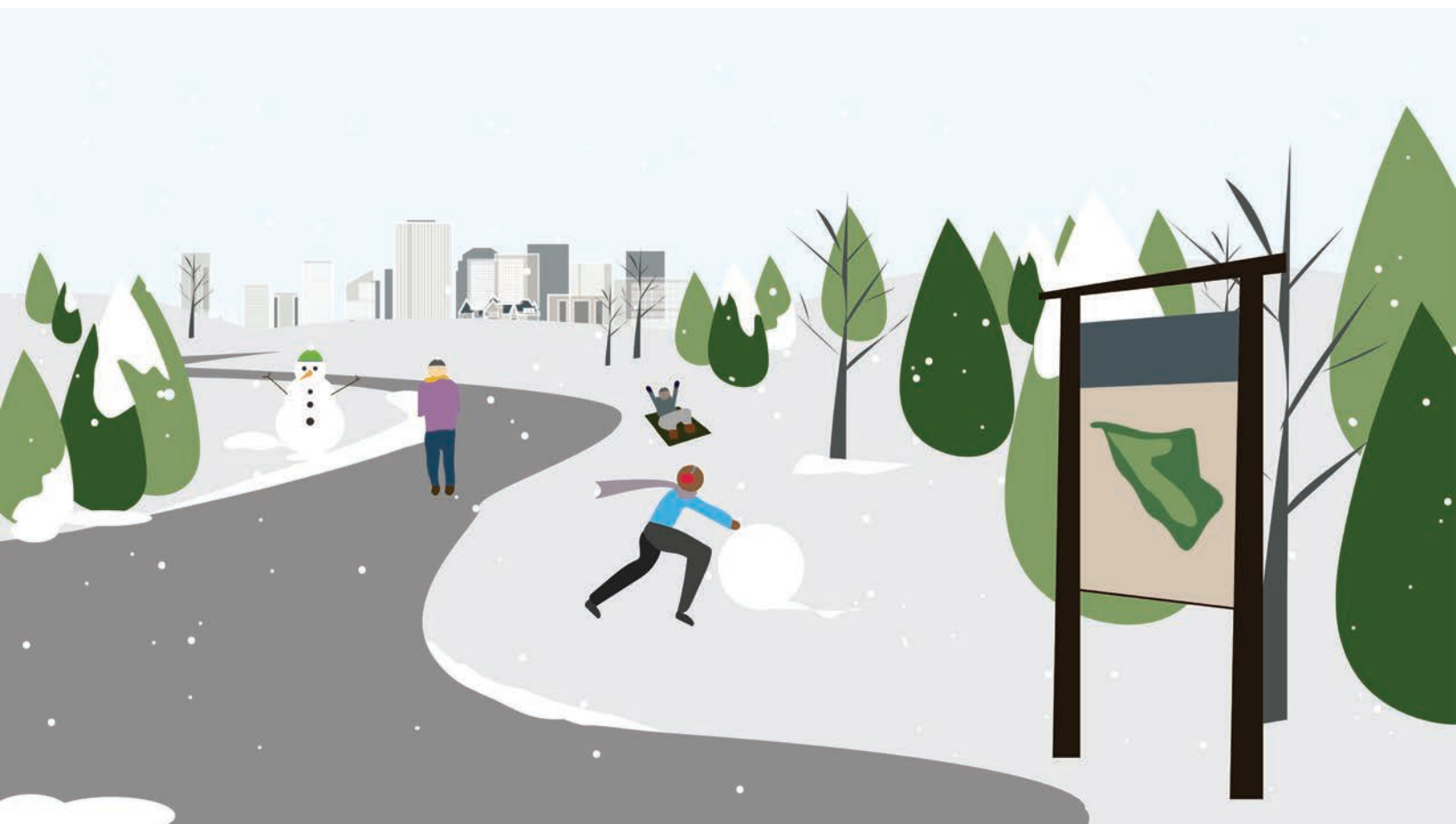
- n) Expand and maintain winter-oriented recreational and active transportation infrastructure, including cross-country skiing, snowshoeing and skating trails (e.g. the Victoria Park Iceway), tobogganing hills and neighbourhood skating rinks.
- o) Explore ways to promote outdoor patios, events and festivals year round in partnership with local business and community organizations.
- p) Prioritize open spaces for year-round use on a case by case basis, taking into account public demand and financial implication.
- r) Explore opportunities to communicate the value and variety of cultural and heritage experiences in open spaces among both residents and visitors in accordance with **Strategic Direction 4.4 Education + Awareness**.
- s) Collaborate with relevant stakeholders to protect and manage Edmonton's heritage in open spaces.
- t) Partner with the Edmonton Arts Council to engage Edmontonians regarding their satisfaction with and ideas for art in public places.

### Engagement + Partnerships

- q) Acknowledge and include Indigenous communities, heritage and culture (past, present and future) in placemaking initiatives.

### Analysis + Monitoring

- u) Maintain a comprehensive and spatially-explicit inventory of event and festival sites (including parks, pedestrian priority streets, and plazas, squares and promenades) and the amenities available to support them.



### 4.3 COMMUNITY ENGAGEMENT

*Empower people to become active participants and stewards in planning, sustaining and using the green network.*



The City is one of many agents working together to achieve a holistic, well-functioning green network. There are opportunities to engage residents and community partners in planning and funding open space (re)development, and to enhance their role as environmental stewards and community volunteers.

Community engagement is a cornerstone of open space planning in Edmonton. The City acknowledges the value of citizen involvement in decision making, and commits to engagement opportunities ranging from consultation to community empowerment. Existing processes incorporate an engagement component into open space planning at multiple levels, including this Green Network Strategy.

Given the ongoing nature of the conversation about engagement in Edmonton, both the City and communities must work together to build inclusive engagement processes that provide avenues for people to voice their aspirations, ideas and concerns. Progressive engagement processes actively extend those opportunities to people whose voices have been historically underrepresented in civic dialogues (e.g. Indigenous peoples, ethno-cultural minorities, renters and low income residents, children and youth, persons with disabilities). Additionally, the City must work to protect and enhance opportunities for residents to engage in the open space projects championed by their community partners (e.g. community leagues, school boards).

At the same time, civic participation extends far beyond public engagement. Indigenous communities were the first stewards of the green network; they have a unique historic and ongoing relationship with the lands of Edmonton. Community groups and sports groups also have a vested interest in the development or preservation of places important to them, and each contributes significantly to the planning, development, management and stewardship of the green network. Open spaces provide an opportunity for individuals to become involved in their community, resulting in improved social cohesion. In turn, communities can supplement and enhance City efforts to develop, program and maintain open spaces, alleviating pressure on limited municipal resources while tapping a greater public pool of knowledge and innovation.

Encouraging civic participation can take many forms, including direct support for residents who want to become involved (e.g. providing structured programs, financial or administrative support, materials and resources) or indirect support by removing barriers to involvement (e.g. streamlining City processes, addressing insurance and employment restrictions). Participation also includes community-based initiatives that improve open spaces through activities and events. In many cases, opportunities for participation already exist, so communicating opportunities, connecting people with resources and performing outreach can be the most efficient means of encouraging engagement.

### 4.3.1 COMMUNITY STEWARDSHIP

#### Management + Operations

- a) Investigate, review, expand and support opportunities for community stewardship of open spaces (including trails and pathways) and programs for stand-alone events, short term initiatives or projects, or longer-term involvement.
- b) Define, communicate, facilitate and manage volunteer opportunities through a centralized volunteer management system and user-friendly online portal. Explore other opportunities for integration of volunteer programs, such as cross-promotion or messaging alignment.
- c) Support community stewardship of natural or ecologically-sensitive areas by engaging with special-interest groups (e.g. nature clubs, mountain biking or cross country skiing clubs) and adjacent landowners, partnering with academic or conservation stakeholders, and reducing bureaucratic barriers to participation.

#### Engagement + Partnerships

- d) Facilitate community involvement through community liaison roles (e.g. park rangers, community recreation coordinators, festival and event liaisons) to enable continuous local dialogue, provide public education and increase City presence in open spaces.
- e) Support community-based efforts to engage youth in parks-based programs, advisory groups and consultations, and leverage academic work experience requirements to encourage youth volunteerism in open space initiatives.

- f) Encourage the participation of communities and individuals in planning, designing, programming and operating open spaces whenever possible to encourage a sense of ongoing personal investment.

Examples might include:

- › Temporary installations
- › Program and festival support
- › Tactics for communicating the opportunities available in Edmonton's open spaces
- › Pilot projects (e.g. pop-up open spaces, etc.)
- › Commemoration, storytelling and public art

#### Analysis + Monitoring

- g) Conduct an internal resource review to evaluate the City's ability to continue providing communities with user-friendly resource materials and professional support for community park fundraising and development. The review should identify strategies for rectifying any gaps or deficiencies, in collaboration with community leagues and other relevant stakeholders.

### 4.3.2 PUBLIC ENGAGEMENT

#### Engagement + Partnerships

- a) Include community engagement as an essential component of all public open space design, planning and programming projects. Engagement programs must conform to City principles and goals of engagement, including:
  - › Meeting communities where they are
  - › Involving the public early and through multiple phases
  - › Using a multitude of engagement tactics
  - › Tailoring engagement events to diverse groups
  - › Providing clear communication about how input is used, and how it informs project outcomes



- b) Identify and engage with existing and potential stakeholder and user groups during the open space planning process to ensure that the proposed program and design reflects local and city-wide needs and aspirations.
- c) During open space engagement processes, actively pursue representation from marginalized communities, including socio-economic and cultural minorities, children and youth, older adults and persons with limited mobility or visual impairments.
- d) Ensure that community-driven park improvement and development projects have employed appropriate, comprehensive engagement methods to ensure representation from a broad cross section of the affected community. Supplement community engagement efforts where necessary to ensure adequate participation opportunities for underrepresented groups.
- e) Coordinate City-led public engagement campaigns for related open space projects or initiatives in order to reduce redundancy, improve efficiency and avoid “engagement burnout” among citizens. Partner with community leagues, special interest groups, Business Improvement Areas and other stakeholders to coordinate their own public engagement processes with those of the City, in order to align messaging and clarify to the public their role in the decision-making process.
- f) Conduct a comprehensive program of targeted needs assessments to better understand how marginalized or underrepresented communities are using Edmonton’s open spaces and to identify opportunities for improved participation. The engagement process should employ alternative or grassroots outreach techniques to ensure a broad diversity of individuals are represented.
- g) Provide translation services and communication assistance (e.g. American Sign Language interpretation, closed captioning) to support community needs assessment and public meetings where needs exist.

### 4.3.3 INDIGENOUS ENGAGEMENT

#### Engagement + Partnerships

*The City acknowledges that it is situated within Treaty 6 territory; within the Métis Nation of Alberta Zone 4; among the traditional territories of many First Nations and an important homeland of the Métis Nation; and that many Indigenous peoples call Edmonton home.*

- a) Ensure meaningful opportunities for engagement when projects intersect with Indigenous interests and concerns, in order to raise awareness and contribute valuable insights about heritage, culture, open space planning, development and future land uses.
- b) Recognize and respect Indigenous protocols and processes during engagement. Honour the contributions, values, wisdom and traditional knowledge of Indigenous peoples, and empower engagement participants to collaborate and co-create solutions and opportunities for everyone.
- c) Commit to growing relationships between the City and Indigenous peoples, and celebrate our successes and achievements.



## 4.4 EDUCATION + AWARENESS

# *Improve awareness of open space opportunities and appropriate use.*



Exciting open space amenities and experiences are available throughout the City, but their potential sometimes remains unrealized because residents are not aware of the many opportunities their green network offers. As discussed in Strategic Direction 4.2: Vibrant Spaces, *BREATHE* consultation participants expressed dissatisfaction with desolate, underused open spaces, and usually attribute the problem to an inefficient allocation of open space supply, or a failure of open space programming to respond to community needs. In reality, people may be unaware of the location of open spaces, or the variety or calendar of programs and events within them. Connecting with residents and visitors can be challenging, especially among people who have difficulty accessing conventional methods of communication (e.g. unable to attend community meetings, limited comprehension of English), but the City and its community partners have a variety of tools — like wayfinding, online information and outreach events — that can help improve awareness.

Another important gap occurs when Edmontonians are unclear on the intended use of different open space types, or about how best to coordinate their activities with other users. The most visible manifestation of these misunderstandings is user conflict, as when dogs and cyclists interfere with one another along shared pathways, or when picnickers and frisbee players attempt to use the same space. In some cases, the open spaces themselves require improvements to

separate conflicting uses through design interventions, and future conflicts can be prevented by planning multifunctional open spaces with compatible uses. But often a more effective (and more cost effective) solution involves educating users about permissible uses and rules of use for different open space types. Such education can raise awareness about rights and responsibilities, and increase understanding among diverse user groups.

In addition to reducing user conflict, education can be leveraged to increase awareness of the cultural, historical and natural background of Edmonton and beyond. The green network can be considered an “outdoor classroom” that promotes learning experiences for people of all ages, from interpretive displays and nature playgrounds to orienteering programs and walking tours. Outdoor experiences also develop competencies, knowledge and skills that residents can apply in natural landscapes throughout Edmonton and beyond. Open spaces can be particularly important for sharing and interpreting historical and cultural information. The green network offers many opportunities for reconciliation through Indigenous ceremonies and traditional practices, and help build community across cultures and generations through outdoor festivals and events. Finally, education is essential for promoting and building greater awareness about conservation and stewardship initiatives by public and private stakeholders alike.



#### 4.4.1 EDUCATION

##### Management + Operations

- a) Partner with Indigenous communities, schools, community leagues, non-profit organizations, and other levels of government to explore educational and programming opportunities throughout Edmonton's open spaces. Opportunities should encompass a diversity of ecological, cultural, historical, social and recreational perspectives.
- b) Collect and share stories about Edmonton's open spaces among residents and visitors through on-site interpretative material, online collections, special events, etc.
- c) Celebrate Edmonton's natural and cultural heritage through the naming of open spaces, and ensure appropriate interpretive displays are provided to explain the name to visitors. Amend naming conventions to better acknowledge the contributions of Indigenous communities to the history and ongoing story of Edmonton.

##### Engagement + Partnerships

- d) Collaborate with Indigenous communities to promote opportunities for reconciliation and for celebrating Indigenous heritage and cultural practices in open spaces. Such opportunities should recognize the diversity of Indigenous peoples, experiences and narratives in Edmonton, and should engage Indigenous communities themselves to ensure their heritage is accurately and sensitively depicted and to avoid the risk of cultural appropriation.

#### 4.4.2 COMMUNICATION

##### Management + Operations

- a) Explore a variety of communication, interpretation, and outreach programs to promote the diversity of open spaces that are available to citizens.
- b) Provide accurate, comprehensive, and timely information about any changes, improvements, and public participation opportunities related to open spaces.
- c) Expand and improve the functionality and user experience of the online City of Edmonton parks and recreation portal, and consider integrating this information into a mobile app.
- d) Work with tourism agencies (e.g. Explore Edmonton, Travel Alberta) to promote and market Edmonton's open spaces by implementing a comprehensive communications and outreach strategy to highlight their beauty, value, multifunctionality, uniqueness and heritage.
- e) Improve public awareness of the location, distribution and opportunities of Edmonton's open spaces by developing site specific wayfinding signage installations and print/online materials that employ best practices and conform to City protocols.
- f) Identify City employees in public-facing roles (e.g. Community Recreation Coordinators, Festival and Event Liaisons, etc.) who have cultural sensitivity training or who speak a language other than English in order to better facilitate communication with the public.

## Analysis + Monitoring

- g)** Measure and evaluate awareness of open space opportunities and experiences using citizen surveys, online mapping tools and additional methods of engagement.

### 4.4.3 MINIMIZING CONFLICTS

## Management + Operations

- a)** Through field observation and public consultation, identify open spaces where users have conflicting purposes and employ a combination of public education, signage and design interventions to address conflicting uses where present.
- b)** Use signage and public education programs to inform users about personal responsibility, applicable bylaws, and permitted or restricted uses when using open spaces. Wayfinding treatments (e.g. signage or other design techniques) should be employed to communicate the spatial delineation of areas intended for a specific use.
- c)** In multifunctional open spaces, consider developing or converting existing shared/shared-use pathways to separated pathways (e.g. a bi-directional path for cyclists and a separate path for pedestrians) in high usage areas. When this is not possible, signage should be present informing cyclists that they must yield to pedestrians.
- d)** In multifunctional open spaces, reduce conflicts among dogs and other open space users by separating off-leash areas from conflicting uses (e.g. recreational pathways, playgrounds) using fencing and site design, educating dog owners about applicable bylaws and etiquette, and providing adequate amenities (e.g. refuse bags, trash receptacles) to support responsible use.

## Engagement + Partnerships

- e)** Use public engagement and other communication initiatives to educate Edmontonians about the rights of open space users, particularly minority or marginalized persons (e.g. youth, homeless people, ethno-cultural minorities). Ensure that parks employees, bylaw enforcement and the Edmonton Police Service are aware of these rights and empowered to confront harassment.







## 4.5 DISTRIBUTION + SUPPLY

*Ensure an adequate supply, quality, diversity and distribution of open space throughout Edmonton.*



Edmonton has an excellent green network, but some neighbourhoods have a better supply and more diverse opportunities than others. There are many reasons why this might be the case: some neighbourhoods were developed before the City of Edmonton created parkland standards, some neighbourhoods are located near the exceptional open spaces of the River Valley and Ravine System, and some neighbourhoods have a larger or smaller population than others. The task of the Green Network Strategy is to determine where these differences amount to gaps or inequities, and to establish a framework for ensuring that every neighbourhood has an appropriate supply and diversity of open spaces in the future.

Providing ‘enough’ open space incorporates several criteria that acknowledge functionality as a key component of green network value:

- » **Distribution:** The arrangement of open spaces across the landscape
- » **Quality:** The functionality of an open space, considering the condition of its infrastructure/amenities and the value of the functions it provides
- » **Diversity:** The arrangement of different open space types and functions across the landscape.
- » **Supply:** The physical amount of open space

Assigning a single standard to each one is complicated by two factors. First, all four criteria are related, so they must be examined as interdependent factors to

determine the appropriate provision of open space. One open space might be less functional than another, but a diversity of open spaces can result in a high quality, multifunctional neighbourhood network. One neighbourhood might have a lower amount of open space than another, but its open spaces might have better functionality or better access than average.

Second, neighbourhoods of different ages and densities have very different needs and opportunities for future open space development. For example, the downtown core has less open space per capita (and less private open space, e.g. backyards) than developing areas, but opportunities to acquire additional land for typical parkland development are limited. This type of deficit may become even more pronounced as Edmonton grows. However, what some areas lack in supply could be offset by improvements to distribution, quality or diversity and by exploring innovative or flexible open space opportunities.

In order to address this complexity and improve network resiliency, this Strategy emphasizes the value of multifunctional spaces in order to make the most efficient use of limited resources. The Strategy identifies some of the most significant opportunities and deficits in the current green network, but more importantly, it establishes a framework for open space decision making that will remain relevant as Edmonton evolves over time.

### 4.5.1 OPEN SPACE DEVELOPMENT

#### Planning + Design

- a) Consider parkland impact assessments, community needs assessments, land acquisition strategies and development guidelines to plan for open spaces.
- b) Ensure that private open space or private amenity space supplements, but does not replace, public open spaces that are to be provided according to development guidelines and needs assessments.
- c) Ensure that conversions of open space to other land uses are supported by City policy and by a community needs assessment establishing that the open space in question is surplus to community needs. Decisions to convert open space to other land uses should acknowledge the potential long term impacts of permanent open space loss. Community needs assessments supporting the decision to redevelop should incorporate both current and projected future community needs.
- d) Require development proponents to articulate, through sound market and/or consultation research, key demographic characteristics of the population to be served by the development, and use such demographic information to create an appropriate program for the proposed open space.
- e) Ensure that planned amenities are supplied as soon as possible during the parkland development process in order to support community needs as neighbourhood growth proceeds in Developing and Urban Growth Areas. Coordinate City parkland development processes with community parkland improvement and development processes to better support this outcome, in accordance with **Strategic Direction 4.9 Collaborative Planning**.

- f) Consider leveraging neighbourhood revitalization programs to renew open space infrastructure and amenities in mature neighbourhoods.
- g) Ensure that open space (re)development projects consider the potential for archaeological discoveries on site. Collaborate with Indigenous communities, City staff and other relevant authorities to determine appropriate protocols in the case of chance archaeological discoveries.
- h) Improve coordination of planning and investment in the redevelopment of existing open spaces by establishing eligibility and prioritization criteria, and developing a process for determining potential programming options.

#### Analysis + Monitoring

- i) Community needs assessments should identify the unique characteristics of the neighbourhood or community of interest, including populations with alternate needs (e.g. ethno-cultural minorities, differently abled persons, children and seniors, Indigenous communities), and should translate those characteristics to appropriate development and programming outcomes through research and public consultation. Future community needs should be considered through analysis of demographic and behavioural trends.

### 4.5.2 USE OF OPEN SPACES

#### Planning + Design

- a) Provide a multifunctional network of open spaces that responds to the recreational, social and environmental needs of communities through a variety of active and passive experiences. While a diverse range of functions may be supplied across a neighbourhood or community, individual open

spaces should be designed and programmed to supply functions that are compatible with one another.

- b)** Consider the following principles when evaluating the compatibility of uses:
- › **Level of Use:** In activity/amenity nodes active uses can co-locate successfully. Active uses are also appropriate in areas that are perceived as unsafe.
  - › **Level of Nuisance or Impacts:** Uses that generate noise, spillover or other impacts require a buffer from surrounding uses.
  - › **Continuity of Use:** In situations where activity is concentrated in an amenity/activity node, consideration for uses with different activity peaks throughout the day, week or year will contribute to the success of the space.
  - › **Safety of Other Uses:** If the use has the potential to interfere with the safety of neighbouring users then buffers or protective measures need to be implemented, e.g. dog off leash areas and cycling pathways.
  - › **Specificity of the User Group:** To facilitate the comfort of users, most notably children and older adults, consideration of appropriate neighbouring uses is required (e.g. washrooms, transit access).
  - › **Accessibility:** To promote accessibility, co-locating related facilities is important.
  - › **Seasonality:** All spaces should be planned with both summer and winter use in mind.
  - › **Ecological Sensitivity:** To protect important ecosystems and sensitive landforms, neighbouring uses with potential negative impacts should be avoided.
  - › **Historical and Cultural Integrity:** For historic and cultural spaces that are sacred or fragile, special consideration is required for neighbouring uses to ensure that they do not interfere with the integrity or quality of these spaces.

### 4.5.3 IMPROVING SUPPLY + DISTRIBUTION

#### Planning + Design

- a)** Distribute open spaces throughout the city to enable equitable access by residents of every neighbourhood.
- b)** Prioritize underserved and high growth areas for open space acquisition, development and improvement.
- c)** Ensure a balanced and comprehensive distribution of open space experiences and functions across Edmonton.
- d)** Consider innovative and flexible means of supplying open space in redeveloping areas. Examples include:
  - › Brownfield or vacant lot redevelopment
  - › Publicly accessible private spaces
  - › Publicly accessible green roofs
  - › Complete streets
  - › Permanent conversion of streets or alleys
  - › Temporary or seasonal street closures
  - › Parking lot redevelopment
  - › Dry ponds and reservoirs
- e)** Prioritize open space diversification and multifunctionality in areas most susceptible to demographic changes.
- f)** Develop a new City Cemetery Strategy that addresses the appropriate supply, distribution and functionality of cemeteries throughout the city.
- g)** Engage with the Province of Alberta to explore the potential for public access, improved network connectivity and limited open space development within and across the Transportation Utility Corridor.



#### 4.5.4 IMPROVING QUALITY + FUNCTIONALITY

##### Planning + Design

- a) Expand the network of trails and pathways, especially where investment would promote access to the River Valley and Ravine System or connectivity throughout the network, in accordance with **Strategic Direction 4.6 Safe + Inclusive**.
- b) Prioritize neighbourhoods currently underserved by dog off leash areas for acquisition/development of new or expanded parks, and provide dog walking amenities in high demand.
- c) Develop a Public Washrooms Strategy to ensure that public washrooms are appropriately provided and distributed throughout the city.
- d) In addition to washrooms, develop other ancillary amenities (e.g. benches, lighting, water fountains, etc.) to increase user comfort in open spaces, especially for active recreational users, young children, older adults and persons with limited mobility.
- e) Improve access to picnic amenities and flexible seating spaces in underserved locations and locations with high demand.
- f) Consider developing or permitting limited commercial amenities (e.g. food and beverage kiosks, small cafes, equipment outfitters or rental shops, mobile and market vendors) in select parks and open spaces, prioritizing those that support City mandates and open space services, and ensuring that appropriate public engagement and disclosure processes are followed. Barriers to commercial permitting should be identified and resolved where possible.
- g) Optimize usage of the North Saskatchewan River by enhancing opportunities for responsible water based recreation and water access, including access for mobility challenged persons in accordance with **Strategic Direction 4.1 Safe + Inclusive**.
- h) Develop amenities to support fitness and lifelong physical literacy, including outdoor exercise equipment designed for a variety of ages and levels of ability; barrier-free pathway circuits and running tracks; and stairways that can accommodate safe fitness related usage.
- i) Develop amenities to support working and taking lunch breaks in open spaces (e.g. pocket parks, seating, tables, shade structures, Wifi), especially in high employment areas (e.g. Downtown Core, office and industrial areas).
- j) Provide expanded opportunities for nature play, and other unstructured recreation in proximity to nature, for people of all ages without compromising the ecological integrity of environmentally sensitive, significant or natural areas.
- k) Encourage sidewalk patios and street food vendors to promote vibrant streetscapes and park edges, including food trucks, fresh food kiosks and mobile markets.
- l) Relax regulations concerning urban agriculture on residential boulevards to permit community gardening.
- m) Consider fruit bearing trees as a greater proportion of deciduous tree plantings on public lands, and engage with community partners to establish long term maintenance and harvesting agreements.
- n) Incorporate low-maintenance edible berry shrubs, vines and other edible or medicinal plantings in public open spaces throughout the city.
- o) Develop more community gardens in underused City owned open spaces.

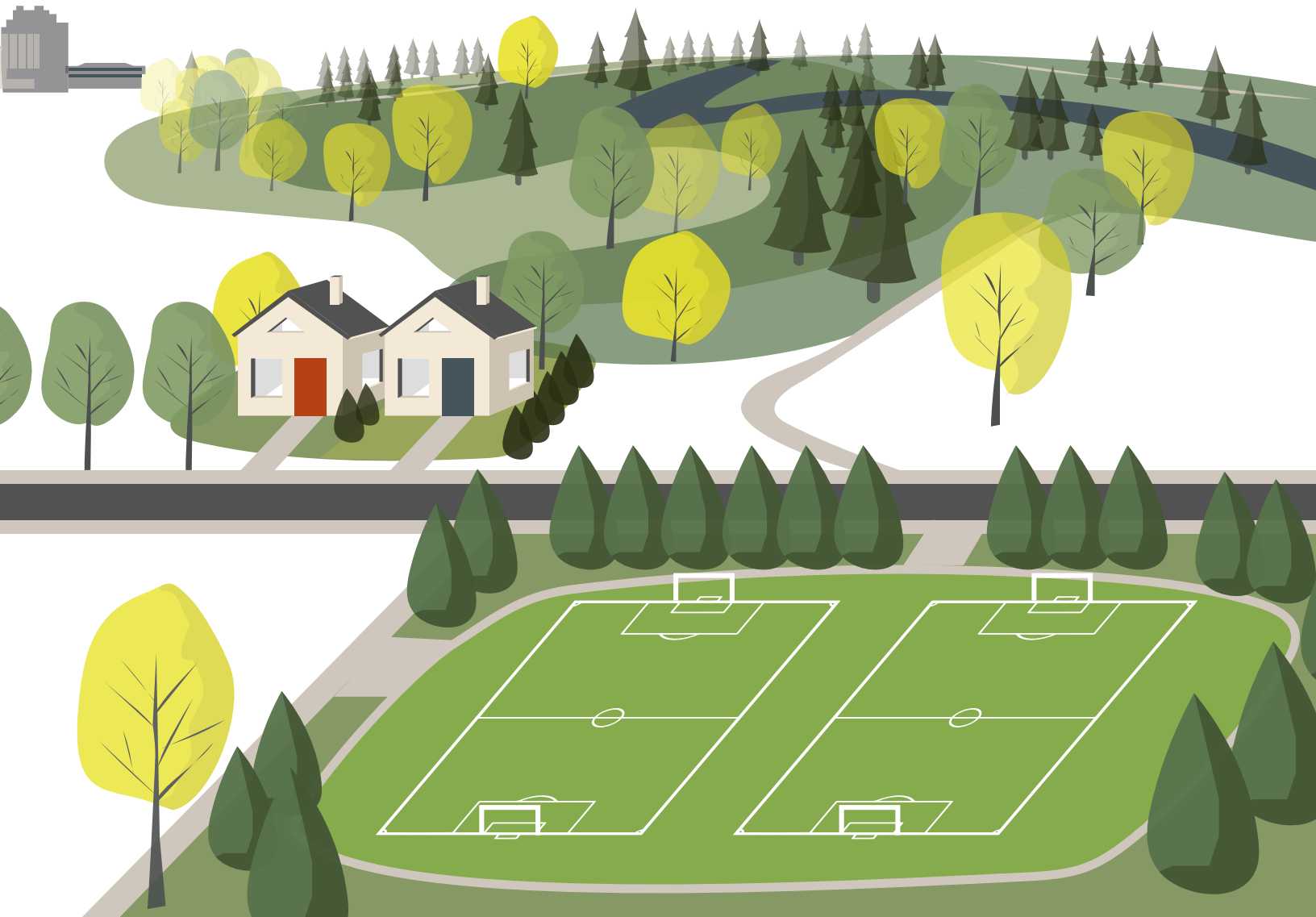
- p)** Consider implementing administrative or regulatory actions to support urban agriculture, e.g. leasing City-owned land for community gardening, inventorying lands that could be used for urban agriculture, creating guidelines to integrate urban agriculture into public spaces, or working with developers to provide infrastructure for urban agriculture.
- q)** Develop amenities or designate existing open spaces to accommodate emerging recreational activities (e.g. wall/ice climbing, disc golf) in collaboration with community stakeholders.
- r)** In collaboration with school boards and community partners, explore means to reduce the amount of open space dedicated to underused sports fields, and increase opportunities for nature play, unstructured recreation or other undersupplied functions, as identified by a community needs assessment.
- s)** Open spaces should provide a balance of amenities and functions to provide a unique, interesting experience to visitors from outside Edmonton, while supporting the daily recreational, ecological and social needs of workers and residents.

## **Management + Operations**

- t)** Extend hours of operation and year round operation of washrooms in locations with high demand.
- u)** Increase investment in maintenance and lifecycle planning of infrastructure and amenities, particularly picnic amenities, sports fields and playgrounds.
- v)** Consider enhanced amenities (design and durable materials), programming and maintenance regimes in open spaces of the Central Core, while recognizing the maintenance implications of higher quality amenities and higher usage sites.

## **Engagement + Partnerships**

- w)** Collaborate with Indigenous communities to advance projects that support and celebrate Indigenous heritage and cultural practices.





## 4.6 PUBLIC ACCESS + CONNECTIVITY

# *Improve open space access for residents and visitors.*



Nearly all Edmontonians have open space within walking distance, but the network could be improved for all modes of transportation in other ways. By better connecting well-used transit and active transportation routes to open spaces, the City could begin to close gaps in access for cyclists and transit users, and support transportation priorities. Improving access in this regard might involve expanding existing routes and pathways, developing new ones, and providing supportive wayfinding infrastructure to effectively direct people from one place to another.

Improving access also requires overcoming barriers that interrupt connectivity of the network. A significant example in Edmonton is the North Saskatchewan River Valley and Ravine System, which enables connectivity through the valley but often interrupts connectivity between the tablelands and the valley, and between the north and south sides of the river. Improving connectivity across the river and its tributaries, and across major transportation corridors like Anthony Henday Drive and the Yellowhead rail corridor, requires creative solutions that involve investments in collaboration, infrastructure, and strategic network planning.

Other barriers are presented at a smaller scale. The personal vehicle remains the mode of choice for most Edmontonians to access open spaces, so site design should incorporate appropriate vehicle oriented amenities (e.g. parking, circulation roads) to enable access. However, many *BREATHE* engagement

participants would consider using or would prefer to use active modes of transportation if the network were sufficiently improved. The most commonly identified barriers include an absence of safe and well connected infrastructure (e.g. bike paths, shared or barrier-free pathways, sidewalks) and the distances required to travel between place of residence and preferred open space destinations.

The latter concern highlights the close relationship between green network access, distribution and connectivity. For example, open spaces that are well distributed throughout a neighbourhood increase the proportion of residents who have access to an open space within walking distance. Similarly, good distribution throughout the city improves access for drivers, cyclists and transit users.

However, access depends not only on the distance between an origin (e.g. place of residence) and a destination (e.g. park), but also on the available routes between the two points. A pedestrian located at the North Saskatchewan River top of bank may be within 400 metres from the river edge, but if stairways or alternative connections are unavailable, access to the river edge becomes compromised. Conversely, enhancing connections among open spaces, city destinations, neighbourhoods and mobility networks effectively expands the green network by increasing the number of open spaces that can be accessed from any given place.

## POLICY ACTIONS

## 4.6.1 TRAILS + PATHWAYS

## Planning + Design

- a) Improve and expand the trail and pathway network to improve pedestrian and cyclist friendly environments within open spaces and promote connectivity citywide. Expand active transportation circuits and loops within open spaces and throughout neighbourhoods.
- b) Require easements for pathways to connect future schools and park sites with the surrounding neighbourhood whenever feasible during the community planning process.
- c) Preferentially develop or retain trails and pathways with natural surfaces (packed dirt or gravel) in areas of significant ecological sensitivity unless paving is required to mitigate issues related to high usage or erosion, or to accommodate a demonstrated demand for barrier-free pathways.
- d) Where feasible, pathways should be developed through open spaces in order to promote immersive user experiences, while balancing the need to preserve the ecological integrity of natural areas.
- e) Ensure that appropriate amenities (e.g. refuse containers, benches, dog litter containers, etc.) are provided alongside well-used trails and pathways.
- f) Construct active transportation bridges to ensure that major/busy road and rail networks do not partition the trail and pathway network.

## Management + Operations

- g) Ensure that the trail and pathway network is maintained in good condition. Establish a strategic, comprehensive approach for addressing existing

erosion issues, and apply best management practices to prevent erosion from occurring on intact trails.

- h) With the exception of dedicated winter active transportation corridors (e.g. cross country skiing or snowshoeing pathways), increase snow clearing and de-icing efforts on paved pathways and active transportation routes. Establish consistent clearing and winter access priorities for shared-use pathways within and among open spaces to promote winter connectivity throughout the city.
- i) Ensure that the trail and pathway network provides opportunities for recreation and active transportation for all users, including people with visual or mobility impairments, in accordance with **Strategic Direction 4.1 Safe + Inclusive.**

## Engagement + Partnerships

- j) Engage with park and open space users to identify potential trail hazards, and continue engagement to inform them about proposed actions and opportunities for public involvement.

## 4.6.2 WAYFINDING

## Management + Operations

- a) Improve public awareness of the location, distribution and opportunities of Edmonton's open spaces by implementing and improving existing City wayfinding initiatives in order to provide a consistent wayfinding and signage system throughout the green network.

## Analysis + Monitoring

- b) Building on existing materials, develop and maintain an accurate, comprehensive online map of Edmonton's green network (including open spaces, major active transportation routes and landmarks,

and trails and pathways) to support access and wayfinding, in accordance with **Strategic Direction 4.4 Education + Awareness**. A print version should be made available at convenient locations throughout the city at no cost to the public.

### 4.6.3 CONNECTION + MOBILITY

#### Planning + Design

- a) Protect and expand an integrated network of open spaces by connecting them through utility or ecological corridors and the pathway network wherever possible. Connectivity of open spaces should be prioritized to the River Valley and Ravine System; among large or significant open spaces; and with existing, planned or potential active transportation systems.
- b) Develop a minimum grid of year-round active transportation routes (pedestrian, cyclist and other) to connect open spaces and other destinations throughout the city. Encourage complete streets that incorporate high quality pedestrian and cyclist infrastructure to promote safety and visual interest along identified active transportation routes, incorporating natural landscaping elements, green infrastructure treatments and/or associated plazas or parkettes.
- c) Integrate land use decisions with transit and integrated mobility decisions when planning or redeveloping open spaces.
- d) Create safe, walkable and barrier-free environments within parks and open spaces, including accessible internal circulation routes and entrance points, to promote active mobility and pedestrian connectivity year-round, in accordance with **Strategic Direction 4.1 Safe + Inclusive**.
- e) Provide bicycle infrastructure within parks and open spaces, including bicycle parking structures, maintenance equipment, and cycling paths.
- f) Provide transit access to open spaces, prioritizing larger, destination and high functioning open spaces or significant open spaces in socially vulnerable neighbourhoods.
- g) Locate and design future open spaces such that access (including emergency, legal and maintenance access), parking, and circulation are appropriate for the intended use and anticipated level of activity.
- h) Provide well integrated transitions among sidewalks, cycling infrastructure, the shared-use pathway network, other pedestrian networks, transit facilities and open spaces (particularly those in the River Valley and Ravine System). Open spaces should be connected to surrounding areas by sidewalks and pathways to increase pedestrian and cyclist mobility and access.
- i) Amenities and activity nodes within open spaces should be accessible by a variety of transportation modes, including personal vehicles, transit and active transportation modes. Parking areas should be located in close proximity to amenities or activity nodes and should be connected via barrier-free pathways. Additional access points may be required to facilitate connection with active transportation networks outside of open spaces.
- j) Avoid developing parking lots in environmentally sensitive areas.
- k) Consider reviewing the Zoning Bylaw with respect to parking requirements for parks and related facilities. Parking requirements should accommodate access for all modes of transportation but should not compromise the primary recreational, social or environmental uses of the site.
- l) In collaboration with school boards and developers, ensure that roadway widths will adequately service open spaces, including sufficient space for school bus transportation needs where applicable, while

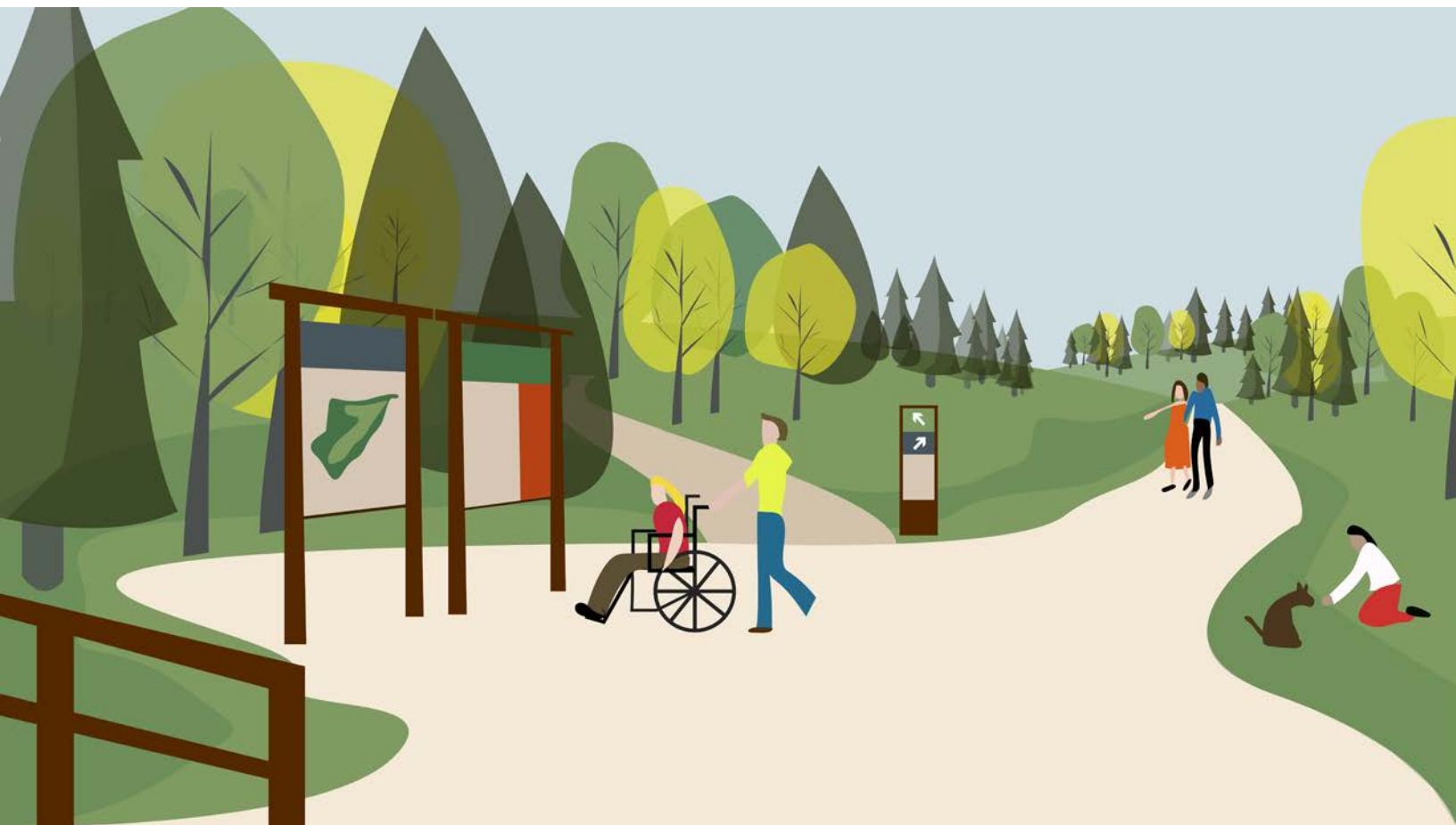


ensuring that street designs prioritize safety for pedestrians and other modes of active transportation.

- o) Consider designating areas as short term parking to encourage parking turn over during peak periods or in highly used open spaces.

### Management + Operations

- m) Encourage the use of adjacent parking lots, including schools and recreation centres, for overflow parking. Public information should be provided for overflow parking areas through wayfinding signage and information on the City's website.
- n) Encourage carpooling, transit and shuttle services to support access to special events and festivals. Improve transit access during large outdoor festivals by terminating routes closer to relevant venues and extending service to align with event hours of operation.



## 4.7 ECOLOGICAL INTEGRITY

*Preserve and enhance the ecological quality and connectivity of the green network.*



Edmontonians are passionate about the value of their environmental resources: nearly everybody who participated in the *BREATHE* engagement process enjoys nature based experiences, and acknowledges the importance of biodiversity and healthy ecosystems. As discussed earlier in the Strategy, the green network provides countless ecological services that benefit humans and ecosystems alike, including food production, water management, climate regulation and risk mitigation. Managing ecological integrity and connectivity in Edmonton is imperative for supporting quality of life and environmental health regionwide, and for supporting Indigenous communities in maintaining their traditional relationship with these lands.

Nevertheless, planning to preserve ecological integrity in the green network requires a balance between human use and conservation. Many stakeholders agree that some additional parkland or amenity development would benefit activity in the River Valley and Ravine System, but already some valuable natural areas have been disturbed by recreational or industrial development, municipal utilities, transportation corridors and erosion. Throughout Edmonton, growing populations place pressure on ecosystem services, and urban development fragments ecological connectivity and causes habitat loss, particularly in developing areas and the tablelands. Additional threats include invasive species, disease and climate change.

The framework of the Green Network Strategy attempts to optimize protection efforts by adopting a network approach to open space planning. Resources for land acquisition are limited, so the City must apply in a strategic manner the various tools at their disposal to preserve ecological integrity. Biodiversity core areas could be conserved through reserve dedications, conservation covenants or purchase. Corridors with high connectivity value could be protected as greenways, acquired through easements or co-located with linear infrastructure (e.g. utilities, pipelines, rail corridors). The urban matrix can be enhanced with engineered green infrastructure and outreach to private residents whose trees and yards provide important ecosystem services.

Preserving ecological integrity involves much more than land conservation. Education is an important component of increasing awareness and action among City personnel, community partners and the general public. Community organizations are particularly essential to stewardship and maintenance activities in Edmonton's natural spaces. A corporate culture of learning can help the City find creative ways to enhance ecological integrity and provide "green experiences" in highly urbanized environments. And an adaptive management approach enables planners and managers to keep abreast of changing conditions in both the natural world (e.g. the effects of climate change) and the planning world (e.g. new regulatory tools for land acquisition).

#### 4.7.1 HABITAT + CONNECTIVITY

##### Planning + Design

- a) Continue to use and implement an ecological network approach to conservation in planning Edmonton's green network.
- b) Maintain and enhance wildlife connectivity by preserving existing areas of natural land cover; minimizing disturbance and removing barriers in the River Valley and Ravine system and other connectivity corridors; and encouraging development on public and private land that maintains the connections between open spaces.
- c) Ensure that the Wildlife Passage Engineering Design Guidelines (WPEDG) are applied to evaluate potential wildlife conflicts and that avoidance or mitigation measures are implemented, including wildlife passage structures.
- d) Develop a strategy to identify and coordinate opportunities for the restoration of the City's ecological network. This work should employ the techniques of sustainable site planning and naturalization as well as restoration work.
- e) Continue to prioritize strategic planning for the North Saskatchewan River Valley and Ravine System that acknowledges its important geological, habitat, structural and functional connectivity. All future plans for the River Valley and Ravine System should include direction for the protection, enhancement, restoration, use and integration among Ecology, Celebration, and Wellness networks, and identify ecological and active transportation connections to the tablelands and citywide green network.
- f) Explore opportunities for daylighting to restore historic hydrological and habitat connections.
- g) Identify opportunities to acquire and enhance urban linear corridors (e.g. utility corridors, road greens, and greenways) to support ecological network connectivity and function, including restoration of habitat for resident and dispersing/transient species.
- h) Establish a net gain policy for natural areas. Gains should be pursued in terms of increased natural area, size of wildlife population, improved connectivity, buffering or function, improved long-term management, and increased area under permanent protection.
- i) Align conservation of regionally important habitats (e.g. cores, corridors) with provincial and national planning frameworks, using watersheds as planning units to facilitate regional collaboration and management of ecological networks at larger scales.
- j) Protect and acquire biodiversity core areas, stepping stones and corridors in the River Valley and Ravine System and in the tablelands to ensure continued functional and structural connectivity on both sides of the North Saskatchewan River. Natural areas should be restored that have high potential to improve ecological network outcomes in terms of habitat or connectivity.
- k) Continue to support the Edmonton and Area Land Trust, and expand and develop other partnerships to acquire natural areas, especially those of large size, high quality or those which could serve as "stepping stones" between existing public lands.
- l) Develop a Hydrological Connections Strategy to sustain and improve the resiliency of the hydrological network (water bodies, wetlands, watercourses, drainage system) in response to climate change.



- m) Develop and implement a variety of methods (e.g. partnerships, educational campaigns, naturalization program, regulations, development guidelines) to achieve at least 20% tree canopy coverage on public and private lands.
- n) Should legal authority be granted under amendments to the *Municipal Government Act* or a City Charter, establish a bylaw for regulating the protection of trees on private property.
- o) Encourage the protection, management, and integration of natural and constructed wetlands into new and existing urban developments.
- s) Increase the proportion of native species within the urban tree canopy, and wherever possible leave standing dead wood in place to increase the amount of habitat provided in natural areas.
- t) Collaborate with community and environmental organizations to strengthen communication about tree pest issues (e.g. Dutch elm disease, invasive native and exotic insect pests) on private and public lands.
- u) Implement an updated naturalization program that incorporates an ecological network based approach to the selection and prioritization of naturalization sites. The program should integrate suitability recommendations from existing research and locally-specific naturalization projects, and should provide a framework for citizen involvement in accordance with **Strategic Direction 4.3 Community Engagement**.

### Management + Operations

- p) Enhance and restore smaller open spaces (e.g. pocket parks, vacant lots, road islands) or green infrastructure (e.g. bioswales) that act as critical habitat or provide connectivity for a specific species or group of species where such spaces are not habitat sinks. Prioritize the protection of isolated natural habitats, especially remnant native habitats, that are acting as critical habitat for sensitive, rare or at-risk species.
- q) In partnership with community and environmental organizations, use a combination of incentives, education and regulation to protect ecological connectivity and habitat quality on private lands. Residents and property owners should be encouraged to incorporate “biodiversity in backyards”. Provide clear guidelines on vegetation and structures that are beneficial for urban wildlife (e.g. birds, bees, butterflies), and discourage or prohibit planting of inappropriate vegetation (e.g. attractants for nuisance wildlife, invasive species).
- r) Protect or restore habitat quality in municipal cemeteries and golf courses acting as critical habitat, and provide incentives for private cemeteries and golf courses to follow municipal recommendations for habitat protection and restoration.
- v) The renaturalization of existing turf should be considered to reduce maintenance and upkeep costs, and provide more opportunities for wildlife movement through native vegetation.
- w) Unless turf is required for the intended use of the open space (such as sports fields or relaxation lawns), native vegetation should be preferentially planted. Landscaping on public lands should use plant stock from local genetic sources wherever possible.

### Engagement + Partnerships

- x) Form cross-jurisdictional partnerships (Capital Region Board, adjacent First Nations, Government of Alberta) to acquire, secure and restore important biodiversity core areas and linkages outside the administrative limits of the City of Edmonton.

- y) Work with the Government of Alberta and other landowners to restore and improve the ecological connectivity and functionality of the Transportation Utility Corridor and other transmission and utility corridors.

#### 4.7.2 LAND MANAGEMENT + MONITORING

##### Planning + Design

- a) Implement an ecological network approach to retain and restore a system of natural and semi-natural elements during the land use planning process. Identify the natural systems in a developing or redeveloping area to define a proposed open space network in advance of plan development, and work with development proponents, school boards, the Province and community stakeholders through the planning process to protect and strategically align open spaces, as feasible.
- b) Require development proponents to provide sufficient information about the natural systems, ecological integrity and function of their lands to allow for informed decision making during the development planning process.
- c) Use Conservation Reserve dedications to protect environmentally significant areas and significant natural areas within the tablelands and the River Valley and Ravine System (where Environmental Reserve criteria do not apply).
- d) Use Environmental Reserve dedications to protect shoreline and riparian areas, as well as hazardous or erosional areas, below the Urban Development Line, and assess whether an additional buffer from urban development is required in new developments.
- e) Adopt Dark Sky policies around natural areas to minimize light impacts upon nocturnal behaviours.

##### Management + Operations

- f) Ensure that open spaces citywide are comprehensively managed using a multifunctional and integrated network approach, including activities related to restoration, weed control, maintenance, risk mitigation, etc.
- g) Employ adaptive management techniques to incorporate into management decisions any changes in the ecological integrity and relative importance of cores, corridors and the matrix associated with climate change, urban development or restoration.
- h) Improve air and water quality in open spaces by preventing contamination and implementing the air quality monitoring and management policies in the *Way We Grow* and the *Way We Green*.
- i) Evaluate areas where dog walking is not appropriate due to environmental impacts (e.g. erosion, water contamination, damage to sensitive vegetation) and conflict with wildlife populations. Establish access regulations for ecologically sensitive or natural areas, and implement signage/communication campaigns to inform dog owners about appropriate locations for dog walking, managing waste, and appropriate behaviour during wildlife encounters.
- j) Balance the needs of users with the protection of the natural environment by creating enforceable compatibility guidelines for events in public open spaces. Require that applications for permits to book open spaces adhere to permitted event types (e.g. guided nature walk, citizen science programs) in environmentally sensitive, significant and natural areas, and revoke the permit without compensation in the event of a breach of any laws, bylaws or conditions described in the Community Event Contract.

- k)** Restrict and manage user impacts on environmentally sensitive and natural areas in public open spaces, including penalties for inappropriate usage, pollution, and damage to ecosystems.
- l)** Establish a carbon neutral policy for City operations and facilities (including partner facilities) on public open space.
- m)** Ensure that recycling options are available in all new and replacement trash receptacles in public open spaces, and that disposal procedures are well communicated among the public and City maintenance personnel.
- n)** Expand recycling and compost education programs into open spaces throughout Edmonton.
- o)** Use City planting beds, community gardens and planters as demonstration opportunities for urban composting, naturalization and edible landscaping wherever possible, along with appropriate educational signage and programs.
- r)** Ensure that the best quality information about the ecological integrity and function of open space is made available to decision makers, land managers and the general public. Management recommendations should be based on current, accurate information through research and review of up-to-date literature on the population dynamics, migration routing, and habitat preferences of local wildlife and plant communities.
- s)** Identify expected range or distribution shifts for native species, invasive species and diseases in the greater Edmonton region due to changing habitat suitability associated with climate change (e.g. temperature, moisture, vegetation types). In collaboration with the scientific community, monitor, identify and anticipate management challenges related to these changes.
- t)** Continually update and maintain the City's ecological assets data, and integrate data into local and regional network planning initiatives as part of an adaptive management approach to support monitoring and evaluation of the green network. Use ecological assets data to assess green infrastructure capacities and to identify future infrastructure needs that will help maximize City return on its investment in green infrastructure.

### **Engagement + Partnerships**

- p)** Collaborate with Indigenous communities in environmental stewardship to identify and protect plant and animal species significant for traditional and cultural uses, and address Treaty rights to harvest in areas where such species are identified as significant.

### **Analysis + Monitoring**

- q)** Monitor wildlife use and movement through open spaces, including approaches such as wildlife tracking, motion-sensor camera arrays, and incidental observation records. These data will inform open space management to help minimize barriers and reduce negative human-wildlife interactions.

## **4.7.3 GREEN INFRASTRUCTURE**

### **Planning + Design**

- a)** Using an urban watershed planning approach, align open space (re)development with the City's water quality strategy to integrate green infrastructure and stormwater management planning to mimic hydrological systems. The proposed systems would retain, filter and evaporate stormwater close to its source, helping to manage urban runoff quality and quantity.
- b)** Align the City's wetland conservation, restoration, protection and management policies and strategies with those of the Alberta Wetland Policy.



- c) Avoid or mitigate wetland impacts in accordance with the Alberta Wetland Policy and ensure that wetland replacement activities are carried out within City boundaries.
- d) Ensure that constructed or replacement wetlands are well integrated into the ecological network.
- e) Develop Low Impact Development standards for open spaces that adhere to and strengthen existing Low Impact Development design guidelines.
- f) Incorporate gardens, green roofs and living walls into civic and public buildings throughout Edmonton to improve wellbeing, air quality and temperature regulation.
- g) Ensure an integrated approach is taken to streetscape design and development. This approach should incorporate and value ecological function and services such as stormwater management, biodiversity and habitat connectivity.
- j) Support the City's water quality and flood mitigation initiatives by increasing the permeability and retention capacity of the urban landscape through public and private green infrastructure initiatives citywide (e.g. permeable pavement, dry ponds, bioswales, rain gardens, green roofs), particularly in communities services by a combined sewer system or at high risk of flooding.
- k) Develop a green infrastructure grant system for community groups and organizations to fund projects that restore or improve habitat quality and connectivity in key locations.

### Analysis + Monitoring

- l) Consider the lifecycle requirements of green infrastructure from both planning and operational perspectives, in accordance with **Strategic Direction 4.10 Sustainable Funding**.
- m) Monitor the contribution of green infrastructure to ecological services and benefits such as biodiversity, energy and potable water savings, air quality, water quality and climate regulation.
- n) Support research and development of provincial guidelines for stormwater harvesting and reuse, particularly research into appropriate end uses for harvested waters.

### Management + Operations

- h) Encourage and provide incentives for green infrastructure initiatives to manage stormwater, improve air quality, support biodiversity and mitigate urban heat island effects.
- i) Based on an approved risk management framework, harvest stormwater and reuse it to water open spaces such as sports fields and gardens to reduce operational costs, mitigate the effects of drought, reduce potable water use, and improve the condition of open spaces. The feasibility of stormwater harvesting should be examined as open spaces are (re)developed, or a stormwater harvesting feasibility study may be conducted to determine suitable sites citywide. A monitoring system should be established to mitigate potential contamination and measure improvements to water quality and quantity.

## 4.8 ADAPTIVE MANAGEMENT + FLEXIBLE SPACES

*Adaptively manage changing trends in growth, demographics and preferences.*



Edmonton's population is growing and changing (doubling to nearly 2 million people), and with that growth come changes to the structure of the city itself. Not only do more people increase pressure on the existing spaces and amenities of the green network, but changing trends and demographics result in different open space needs. An increasing proportion of older adults might require more social open space opportunities while acknowledging persistent active lifestyles. Declining participation in organized sports and increased interest in individualized or alternative wellness activities might change the proportion of open space we dedicate to different amenities. Climate change might increase stress on local plants and animals, or might shift their habitat ranges into or out of Edmonton.

These factors and many more are considered by the City and its partners when planning the green network. This Strategy evaluated information ranging from provincial legislation to Edmonton's current land use and demographic profile, and establishes policies based on best available knowledge. However, what these examples have in common is that they are changing: the Municipal Government Act is undergoing amendments and implementation, new communities are being continually approved and constructed, and Edmonton evolves every day as its population grows, ages and moves.

Clearly, the City cannot create a new Green Network Strategy every year to account for changing conditions. Instead, an adaptive management approach allows open space planners and managers to anticipate and respond to challenges in a productive, structured manner. Adaptive management is a cycle of monitoring, evaluation and adjustment to improve decision making in conditions of uncertainty. The process emphasizes continuous learning as a means to keep abreast of changes and correct outdated understanding.

In the context of the green network, an adaptive management approach involves research, monitoring and reporting, collaborative knowledge building, and managing open spaces with an understanding of changing conditions. Part of that understanding includes acknowledgment that sometimes we are unable to predict changes, so designing and operating open spaces to be flexible and multifunctional can reduce the amount of resources expended on projects that may become outdated, and improve resiliency of the entire green network over time.

## 4.8.1 MANAGEMENT APPROACH

### Planning + Design

- a) Update the *Green Network Strategy* at regular intervals, with a comprehensive review and report to Council to incorporate interim management adjustments and respond to emerging trends and needs. Both the interim report and the Strategy update should include a current inventory of open spaces and should address potential issues of surplus or deficit.

### Management + Operations

- b) Train City employees to understand, value and apply principles of sustainability, adaptability and resilience. Communicate among City branches and sections to reinforce understanding of ecological concepts and functions as applied to Edmonton's natural systems.
- c) Promote a corporate culture of continuous learning so that City personnel responsible for open space planning are better able to remain aware of changing trends and best practices, including improvements in acquisition, funding and management processes. The City should develop an Open Space Research and Development Plan to establish priorities and coordinate actions on topics requiring further research.
- d) Encourage innovation and experimentation in open space planning, management and design, including the application of novel technologies and concepts.

### Analysis + Monitoring

- e) Measure selected indicators to provide a complete and meaningful understanding about the condition of the green network. Indicators of demographic or spatial change should be used to establish thresholds that trigger (re)evaluation of open space

planning or management. Indicators of open space and system performance should be used to measure progress toward targets and enable evaluation of outcomes.

- f) Using monitoring and measurement of indicators, report annually on the condition of the green network and progress toward the targets and actions identified in the Implementation Plan. The Report should be circulated to Administration and approved by Council prior to each business planning cycle, and the results communicated to internal and external stakeholders and the public at large.
- g) Engage City staff responsible for open space operations to explore how best to incorporate monitoring, data collection and reporting programs into work plans.
- h) Establish internal procedures, supported by policy or regulation where appropriate, to ensure that planning or management adjustments arising from monitoring and reporting activities are communicated and implemented.
- i) Increase capacity for data collection and information management to enable timely, accurate and organized monitoring of open space usage patterns and trends over time.
- j) Enhance the reporting standards for open space bookings, permitting and usage to accurately measure the usage patterns of parks and user groups.
- k) Ensure that open space decision making is based on best and most current available information, and that procedures are in place to identify, communicate and respond to critical information deficiencies.



## Engagement + Partnerships

- l)** Collaborate with local Indigenous communities to gather and preserve traditional ecological knowledge (TEK) about open spaces, and explore ways to incorporate TEK into open space management and decision making in culturally and historically significant areas (e.g. the North Saskatchewan River Valley), as such decisions intersect with Indigenous rights and interests.
- m)** Collaborate with community partners, stakeholders and other jurisdictions to promote continuous issue identification, share in data generation and collection, incorporate local and traditional knowledge, build capacity to address changing conditions, and explore proactive means of response.

### 4.8.2 ADAPTABLE SPACES

#### Planning + Design

- a)** Design open spaces and their adjacent public realm to be flexible and adaptable wherever possible.
- b)** Encourage site design that anticipates future changes to physical assets or use, such as installing subsurface infrastructure within a sports field that can accommodate more intensive sports or event uses with minimal upgrades.

#### Management + Operations

- c)** Ensure that athletic fields accommodate multiple sports at different times of day or year.
- d)** Explore the potential to use streets, parking lots, alleys or other underused spaces as permanent, temporary, interim and/or pilot public open spaces in accordance with **Strategic Direction 4.5**

#### Distribution + Supply.

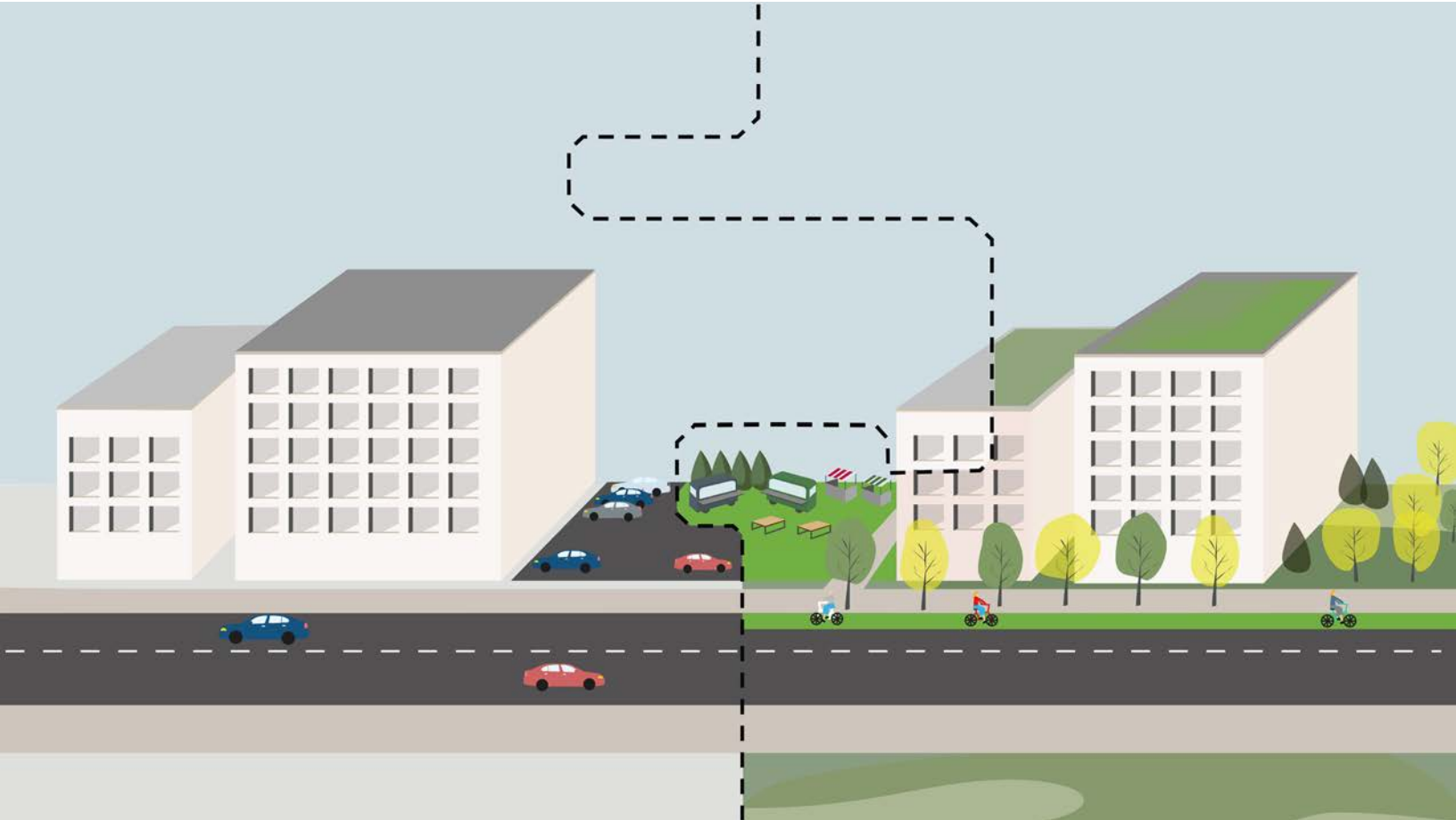
- e)** Animate open spaces with diverse activities, events and uses as an alternative to investment in fixed (immovable) assets with low adaptability over time. Criteria or guidelines should be developed to determine which open spaces or situations are appropriate for reduced capital expenditures in exchange for increased program/animation expenditures, and the appropriate balance between the two approaches.
- f)** Use movable furniture and games to animate civic spaces, including movable seating, tables, and giant chess/checker games.

#### Engagement + Partnerships

- g)** Partner with organizations or businesses (e.g. Edmonton Public Library) to create rentable activity kits to enable citizens to activate local open spaces on a flexible basis. Activity kits could include picnic kits, busking kits, sports kits, play kits, etc.

#### Analysis + Monitoring

- h)** Develop and maintain an inventory of City-owned and private assets that could be converted to open spaces, on a temporary or permanent basis, in response to population growth, including leased parking lots, vacant lots, brownfields, public rights-of-way (ROWs), and utility ROWs.



## 4.9 COLLABORATIVE PLANNING

*Improve collaborative open space planning among City stakeholders, community partners and other jurisdictions.*



The plans, projects and operations that guide life in Edmonton are often undertaken by many different City units, community and government partners, and individuals. The same holds true for the green network: developers provide land for open spaces in new communities, the City programs and maintains open spaces, school boards coordinate community use of school facilities and sports fields, and citizens help fund and construct amenities. The green network also benefits from collaboration with adjacent municipalities through the Capital Region Board and the River Valley Alliance, and with provincial and federal governments, to coordinate land use planning and environmental preservation, and to maintain an open dialogue about legislation and other changes that impact our mutual jurisdictions.

Communication among such diverse agents is important to keep projects aligned with the priorities of the Green Network Strategy, and to enable partners and citizens to carry out their own open space planning and operating responsibilities. For instance, open space functionality could be improved and the use of municipal resources optimized by enhancing partnership among City branches responsible for parks acquisition, development, programming, operation and animation. Interdepartmental dialogue could expose opportunities for multifunctional open spaces that accommodate stormwater management or transit uses in concert with recreational, social or ecological ones.

Review of land development applications by open space planners and planners of adjacent neighbourhoods could help coordinate connectivity of the green network at the transition between old and new neighbourhoods, and identify impacts on the green network citywide.

An important part of collaborative planning is creating the mechanisms and tools to support collaboration. The way communication is delivered through information management systems and reservation processes, for example, can strongly influence the efficiency of the partners involved. Edmonton entrusts its communities with significant independence to develop their own parkland, but the City must ensure that the development process is workable and effective. Likewise, participation and partnership with citizens, Indigenous communities and other organizations could be strengthened through strategic dedication to outreach, education, funding and administrative support for initiatives ranging from environmental stewardship to field maintenance.



### 4.9.1 CITY PROCESSES

#### Planning + Design

- a) City branches and sections should work together to provide multifunctional open spaces in concert with transportation, drainage, neighbourhood renewal, and other infrastructure projects.

#### Management + Operations

- b) Continually improve the site booking and permitting process to facilitate access to community gathering opportunities (e.g. park and picnic site bookings, event bookings, etc.) including such considerations as procedural complexity, communication options and cost. This process should involve consultation with community groups and partner organizations to identify priority service improvements, and a review of best practices in information management and communication.
- c) Review community-driven park improvement and development programs to identify means of streamlining the application and development process; enhancing assistance to help communities navigate the process, including planning support and outreach to diverse participants; and increasing the flexibility of project timelines and documentation.
- d) Identify and resolve communication and data gaps among City branches and sections responsible for open space planning, acquisitions and development, operations, programming/animation and funding. Communication should occur on a strategic, continuous and collaborative basis, and should encompass a variety of opportunities and media.

- e) Coordinate City parkland development processes with community-driven improvement and development programs to generate resource efficiencies and ensure that parkland amenities are available to developing communities as soon as possible.

### 4.9.2 PLAN ALIGNMENT

#### Planning + Design

- a) Through implementation of *BREATHE*, pursue opportunities to direct, support and align with other City strategies, plans, projects and initiatives, and maintain alignment through any revisions to this Strategy and subsidiary plans recommended by this Strategy.
- b) Pursue opportunities to amend statutory area, neighbourhood and redevelopment plans that do not conform with this Strategy.
- c) Coordinate plan and green network alignment, and address potential conflicts resulting from overlapping networks of transportation, drainage, land use, etc. Departments should identify areas where their proposed plans overlap with the plans of other departments from both geographic and jurisdictional perspectives, and should work collaboratively to balance diverse corporate priorities and determine how best to accommodate interaction among different uses in open spaces, including:
  - › **Conflict:** In some cases the uses will conflict (e.g. a swimming beach and stormwater outfall) and a decision-making process establishes which one should take priority in any given location.
  - › **Accommodation:** Sometimes conflict among different uses can be avoided or mitigated by supplying means of separating them as much as possible (e.g. building a wildlife passage where a transportation route crosses an ecological corridor).

- › **Compatibility:** Often uses can be combined to enhance the multifunctionality of an open space (e.g. a Light Rail Transit corridor and adjacent active transportation greenway).

- d)** Ensure that development proponents demonstrate how their project adheres to this Strategy and related City policies and procedures which promote an integrated network approach to land use planning. Develop and impose penalties on development proponents who fail to implement elements of their projects which were promised to support the green network, e.g. developing open spaces or amenities, locating or orienting land uses in accordance with an Ecological Network Report.
- e)** Develop master plans or management plans for any metropolitan or district parks that currently do not have one or where existing plans have become outdated.

### 4.9.3 REGIONAL COLLABORATION

#### Planning + Design

- a)** Ensure that open space acquisition and development supports the recommendations of the Edmonton Metropolitan Region Growth Plan for population growth, intensification and complete communities.

#### Engagement + Partnerships

- b)** Foster and support consultative, contributory, operational and collaborative partnerships with federal and provincial agencies and with other municipalities through the Capital Region Board regarding open space development and ongoing operations. Engage with adjacent municipalities, Indigenous communities and/or Alberta Environment and Parks to coordinate planning, development and operations of open spaces located near their shared jurisdictional boundaries.

- c)** Collaborate with the River Valley Alliance, Capital Region Board, senior levels of government and Indigenous communities to support the regional connection, expansion, protection and responsible development of the River Valley and Ravine system.

### 4.9.4 PARTNERSHIPS

#### Planning + Design

- a)** Provide sufficient funding, planning, design, management and programming support for community-driven park improvement and (re) development projects.

Evaluate the level of municipal contribution to community projects using the following criteria:

- › Community open space needs as determined through community needs assessment
- › Community ability to finance the project
- › Equity in open space financing and distribution
- › Synergy with other City programs and priorities

- b)** Work with school boards, community leagues and other community service providers to acquire, develop and operate open spaces in conjunction with recreation and community facilities.
- c)** Develop a Community Facility Requirements Strategy to better coordinate the open space needs of community organizations and service providers (e.g. community leagues, sports organizations, Indigenous or cultural groups) across the city. The Strategy should incorporate and update information and management approaches from existing facilities plans and policies.

#### Management + Operations

- d)** Work with community partners, where appropriate, to share in open space maintenance and stewardship, e.g. field or trail grooming, beautification initiatives, natural area monitoring, maintenance agreements.

- e) Review agreements with community partners to better coordinate the programming and use of shared open spaces by interested stakeholders (e.g. community leagues, non profit organizations, heritage and cultural groups, sports and recreational groups, other levels of government, school boards, for profit service providers, general public). Investigate any other regulations and processes that may impede access to shared open spaces for stakeholders.
- f) Sites where community facilities are planned but not yet developed may be maintained and operated by the City as public open space on an interim basis, and may be developed with limited improvements like non-irrigated sports fields. Should community partners identify such lands as surplus (oversupply) to their facility needs, engage in a community needs assessment to determine whether the lands should be formally designated and developed as public open space or released for other land uses, in accordance with **Strategic Direction 4.5 Distribution + Supply**.
- i) Actively advance reconciliation with Indigenous communities by providing open spaces that respect traditional values, provide spaces for traditional uses and culturally appropriate activities and observances, protect sacred sites and burial grounds, and respond to the needs of present and future Indigenous communities.
- j) Explore opportunities for public-private partnerships to deliver large scale, complex open space projects where appropriate. Potential opportunities include financing and construction of major open space or partner facilities, or maintenance and operation of open spaces by non profit organizations or conservancies.
- k) Actively pursue opportunities to establish or reinforce formal partnerships (e.g. private landowners, conservation organizations, land trusts, environmental non profit organizations, planning and advisory bodies, other jurisdictions) for watershed planning, stewardship and conservation.

### Engagement +Partnerships

- g) Collaborate with communities, stakeholders, the development industry, interest groups and the general public as key partners in open space planning and management.
- h) Wherever possible, communicate opportunities for individuals and community groups to advance their open space (re)development and programming goals through alternative sources of funding and/or program support.
- l) Collaborate with other governmental agencies, institutions and private landowners to coordinate planning and improve public access to non-municipal open spaces, including publicly owned lands (e.g. provincial lands), quasi-public spaces (e.g. university lands) and private amenity spaces, where feasible and public access is not limited.

## 4.10 SUSTAINABLE FUNDING

*Develop a sustainable funding model that responds to operational requirements, community capacity and local needs.*



*BREATHE* recommends a series of actions that can address deficits in the green network, and improve open spaces to an ideal standard. However, many of those actions come with a price tag. Municipal governments nationwide are challenged to budget for competing civic priorities using a limited range of revenue tools. In Edmonton, most open space is acquired using land dedications obtained through the subdivision process, in accordance with the provisions of the *Municipal Government Act*, and funded on an ongoing basis through property taxes or funds in lieu of land dedication. But whenever the economy downturns, then unemployment increases, real estate development slows, and municipal revenues decline.

When the demand for green network improvements exceeds the availability of funding, then goals related to the supply, maintenance or programming of open spaces may be compromised. Edmonton is particularly challenged by a rapidly growing population that is locating in both developing and mature areas of the city. In new communities, the lands provided by developers through the subdivision process are required for many different uses: schools, community buildings, fire stations and other civic purposes, in addition to parkland. When open spaces are developed prior to the community's completion (i.e. full build-out), the City may be required to undertake substantial costs before it can reap the revenues of new property taxes.

In mature and established communities, by contrast, different issues prevail. Where population growth is anticipated, like Downtown or around transit nodes, there are few opportunities to acquire suitable lands for new open space development. Where populations are stagnant or declining, community partners may lose the support they need to operate facilities like schools or skating rinks, and the open space asset may be released for another, more efficient use. Older open spaces throughout the city require ever increasing expenditures on maintenance, redesign or replacement.

Given these realities, the City must allocate resources to the green network in a strategic fashion that takes advantage of efficiency, diversity and innovation. For example, investments in open spaces can yield 'more bang for the buck' when they provide multiple benefits (e.g. stormwater management and recreation). Investments can be further optimized when the planning process considers the long term impacts of both operating and capital costs. Creative solutions to acquisition, development and maintenance problems can leverage tools ranging from new land dedication regulations to community funding or stewardship. The Strategy and accompanying Implementation Plan identify funding considerations for the green network, and establish methods for ensuring a funding balance that remains sustainable into the future.



### 4.10.1 CAPITAL PLANNING

#### Planning + Design

- a) Leverage funding for open space acquisition and upgrades through coordination with complementary projects across the City of Edmonton, including transportation, drainage and neighbourhood renewal, among others.
- b) Identify future capital and maintenance upgrades early in the open space development process and establish an ongoing fund to pay for upgrades and renovations. A portion of taxes and development fees could be used for this fund.
- c) Establish decision-making criteria and processes anchored in *BREATHE* for the following scenarios:
  - › **Add:** Acquisition of open spaces or the development of new amenities, infrastructure or facilities
  - › **Replace:** Replace aging open space amenities or infrastructure
  - › **Redesign:** Improve the service capacity of existing open space or facilities
  - › **Repurpose:** Change the existing use of open spaces or facilities
  - › **Dispose:** Sale of surplus open spaces or removal of facilities
- d) Revisit the current acquisition, maintenance and operations funding mechanisms and processes to look for opportunities for efficiencies:
  - › **Reallocate:** Look for possible service delivery and budget efficiencies to find areas where budgets could be reallocated to under-served areas
  - › **Redistribute:** Look across departments for opportunities to redistribute open space services to other areas

- › **Repurpose:** Consider repurposing underutilized or redundant open spaces or facilities to higher priority uses or uses with fewer service delivery requirements
- › **Shift:** Consider shifting resources from a lower priority area to a higher priority area
- › **Budget Increases:** Explore the impacts of modest capital or operating budget increases
- › **Economies of Scale:** Review opportunities for pooling resources and modest fee/charge increases

#### Analysis + Monitoring

- e) Implement community needs assessments and a comprehensive monitoring and reporting program to proactively identify potential capital requirements, in accordance with **Strategic Direction 4.8 Adaptive Management + Flexible Spaces**.

### 4.10.2 ACQUISITIONS

#### Planning + Design

- a) Establish a land acquisition fund tied to population, such as a specific dollar amount per resident, to ensure open space provision grows with city growth.
- b) Based on the direction provided in *BREATHE* and other municipal policies, develop a Green Network Implementation Financial and Reserve Strategy. The Strategy should address how reserve dedications (as land or cash in lieu) can best be leveraged for park acquisition and development, and the financial implications of various reserve management and parks funding scenarios.
- c) In recognition that open space is a scarce asset and that conversion to other land uses is effectively irreversible, pursue options to maintain the existing green network intact whenever possible. Ensure

that community needs assessments are current in mature and established neighbourhoods, and exercise right of first refusal on school sites declared surplus wherever supported by such needs assessment and the provision guidelines established in this Strategy.

- d) Ensure that conversions of open space (including undeveloped school sites being used as temporary public open space) to other land uses are supported by City policy and by a community needs assessment establishing that the open space in question is surplus to community needs, in accordance with **Strategic Direction 4.5 Distribution + Supply**. Where the open space is surplus to the needs of the community, release such land for other City uses or sale. Proceeds from the sale of surplus lands must be used for open space or amenity (e.g. trails, pathways) acquisitions.
- e) In accordance with the provisions of the *Municipal Government Act*, Section 671, money collected in lieu of parkland must be paid into a reserve account and can only be used for land acquisition (for parks and other public recreation uses) or the development of parks and recreation facilities.
- f) In accordance with the provisions of the *Municipal Government Act*, collect Municipal Reserve dedications in the amount of 10% of gross developable land area or cash in lieu at the time of subdivision. Developments with densities exceeding 30 dwelling units per gross developable acre will require dedication of 15% of land or cash in lieu. The relative amounts of land and cash in lieu collected in association with any given development, and the acceptable size and distribution of open spaces, will be determined in accordance with the development guidelines of this Strategy and planned future Procedures and Standards.

- g) Investigate the feasibility of collecting land acquisition funds from density bonusing, community revitalization levies or redevelopment levies for use within the same community or towards a community investment fund. This fund could be used for either land acquisitions or for park and recreation capital improvements in the vicinity of the development site.

### 4.10.3 OPERATIONS + MAINTENANCE

#### Management + Operations

- a) Highlight operations, maintenance and administration efficiencies and cost savings as a key consideration in the design process. City Operations staff should be involved in the planning, design and (re)development of open spaces from the beginning of a project through completion.
- b) Establish a maintenance classification system and categorize parks based on that system:
  - › **Natural Spaces:** Restore or preserve the open space in its natural state
  - › **Nature Focus:** Maintain trails and trail heads but restore or preserve other areas in their natural state
  - › **High:** Special, high-visibility areas like metropolitan parks and special purpose facilities
  - › **Average:** Average standard of maintenance acceptable for community and district parks
  - › **Low:** Reduced frequency of maintenance, which is primarily safety focused, for low priority areas
- c) Identify the maintenance responsibility for all existing and planned open spaces and facilities.
- d) Coordinate with other City branches and sections to share the maintenance burden where possible and practical.

- e) Investigate the feasibility and impacts of requiring a 20 year maintenance and capital reserve fund for new open spaces in Developing or Urban Growth Areas.
- f) In accordance with the policies of **Strategic Direction 4.7 Ecological Integrity**, the City should consider expanding the naturalization program to reduce maintenance costs.

#### 4.10.4 GRANTS + COMMUNITY INITIATIVES

##### Management + Operations

- a) Further invest in community grants to support community programs, festivals, public art and other community building activities.

##### Engagement + Partnerships

- b) Take advantage of provincial or federal infrastructure funding programs to renew parks, open spaces and the facilities within them.
- c) Explore opportunities to expand private philanthropy, partnerships and sponsorships to supplement traditional sources of funding.
- d) Build capacity and develop partnerships with Indigenous communities, community groups and other organizations to program open spaces, co-manage or steward open spaces, and assist with maintenance through volunteerism or funding support.











5

From Policy  
to Action

## 5.1 Challenges and Opportunities

*BREATHE* establishes strategic directions for the green network — priorities based on a holistic network approach, concerns and aspirations, evidence and research. The *Green Network Strategy* presents policy actions that are intended to bridge the divide between vision and action, and address the key challenges and opportunities identified during the project development process.

- » Edmontonians are proud of their city's extensive green network that provides diverse opportunities for supporting environmental health, community celebration and personal wellness. That passion presents an opportunity to leverage people and communities to support the green network through funding, engagement and stewardship.
- » Respecting the special relationship of Indigenous peoples with their traditional lands, and implementing the recommendations of the Truth and Reconciliation Commission present an ongoing challenge for the City, Indigenous communities and all Edmontonians. However, reconciliation also promises opportunities for learning, community building and a more inclusive green network for everyone.
- » Best practices and innovation present opportunities to improve the green network from good to great. This *Green Network Strategy* is intended not only to address concerns that may be compromising the green network, but also to push the boundaries of open space planning and move Edmonton forward on issues related to inclusive spaces, high-quality design and contemporary management techniques, among others.
- » Edmonton has a functioning ecological network that relies on a system of cores, corridors and the urban matrix to sustain environmental health and biodiversity. However, the integrity of this network is threatened by urban development, climate change and other forces, both natural and human-made. Many opportunities are available to protect ecological integrity, such as protecting core areas of habitat and connectivity corridors, and enhancing habitat potential in the streets and backyards of the city.







- » Many stakeholders and Edmontonians agree that open space planning should be more aware of the balance between quantity (supply) and quality (function). Some neighbourhoods are planned for population growth but already have a lower than average amount of open space. Other neighbourhoods have a significant amount of open space, but those spaces are challenged by a lack of functionality or poor maintenance. Resolving these challenges requires a suite of improvements, suggested in this Strategy and the *BREATHE* Implementation Plan, such as amending development guidelines to better balance quantity with quality, ensuring adequate operating budgets and exploring creative means for land acquisition in dense areas. This approach will help produce a better understanding of appropriate provision levels of open space throughout the city.
- » The green network also supports opportunities for wellness and celebration; however, these opportunities are unevenly distributed across the landscape, and oftentimes are concentrated in the parks of the River Valley and Ravine system. This disparity could be corrected by providing residents with better access to existing opportunities, programming and activating open spaces to include wellness or celebration opportunities, and promoting multifunctional open spaces as development proceeds citywide.

- » Open space planners and operators are challenged by rapidly developing new communities, a growing inner city, aging infrastructure and evolving demand for amenities. As a result, capital and operating budgets struggle to meet the standards placed on existing open spaces, let alone proposals for new amenities or higher-quality spaces. Solutions should involve not only ‘finding more money’ through expanded revenue and land acquisition tools, but also revisiting how we plan open spaces to make more efficient use of existing resources.

The *Green Network Strategy* provides policy guidance on how to address these challenges and opportunities. More specific actions related to recommended projects, development processes and funding are included in the Implementation Plan.





## 5.2 Next Steps

*BREATHE* is a tool that will be implemented to guide and inform all future decision making surrounding Edmonton's open spaces. It will do so by providing an understanding of open space priorities, processes and requirements to decision makers — such as land use planners, developers, private landowners, community partners and citizens.

### IMPLEMENTING BREATHE

*BREATHE* will become effective following approval and adoption by Council. A variety of other processes serve to implement *BREATHE*:

- » **Guiding strategic open space decisions:** This includes detailed planning and design, open space acquisitions and programming, and any necessary amendments to existing bylaws and regulations.
- » **Facilitating private sector investment in open spaces:** *BREATHE* will help private developers understand open space priorities, processes and requirements.
- » **Supporting community-based open space initiatives:** Communities can use *BREATHE* to inform local initiatives and partnerships with the City.
- » **Informing local area plans:** This involves guiding open space content and processes when undergoing comprehensive planning exercises in new and existing communities.

To provide further detail about actions and processes required to achieve implementation, including specific projects, targets and timelines, *BREATHE* includes an accompanying Implementation Plan and Procedures and Standards guide.

### MONITORING AND REVISION

As part of an adaptive management approach (see **Strategic Direction 4.8 Adaptive Management and Flexible Spaces**), the green network must be continually monitored to enable planners, managers and operators to evaluate what is working well and what needs improvement, and to adjust their activities accordingly. The *BREATHE* Implementation Plan will establish quantifiable indicators, targets and timelines to measure the performance of the green network over time. Monitoring the green network not only allows the City to track and respond to change, but also to measure progress toward the goals of this Strategy.

An adaptive approach to green network planning and management enables decision makers to adjust their activities on an ongoing basis, but the gradual accumulation of changing conditions and management activities eventually results in processes that are misaligned with the goals and policy actions of this Strategy. For this reason, *BREATHE* will be amended on a continuing cycle to evolve with the growth of the City and its changing environment. Opportunities for public and stakeholder engagement may be identified depending on the size and scope of the amendment; City Administration will assess and develop appropriate engagement processes for each future *BREATHE* amendment as needed.

# Appendix A

## GLOSSARY OF TERMS

**access**

The ability of a person to reach or enter an open space. The degree of access depends on the distance to a place, the infrastructure to support access (e.g. sidewalks, fences) and characteristics of the person attempting access (e.g. mobility challenges, mode of transportation). Note that an open space that can be accessed from a given location or using a particular mode of transportation is called “accessible”, but should not be confused with an open space that is barrier-free.

**accessibility**

The degree to which an open space can be accessed. Although closely related to the definition of **access**, accessibility often relates more specifically to the ability of persons with cognitive or physical disabilities to access or use an open space or its amenities.

**active transportation**

Travel by means of non-motorised locomotion, e.g. walking, cycling, roller blading, cross country skiing.

**adaptive management**

Adaptive management is a cycle of monitoring, evaluation and adjustment used to improve decision making in conditions of uncertainty. The process emphasizes continuous learning as a means to keep abreast of changes and correct outdated understanding.

**barrier-free**

Absent of obstacles, allowing persons with physical, cognitive or sensory impairments safer or easier access to pathways, open spaces, amenities, facilities, services or activities.

**biodiversity**

The variety and variability of species within an ecosystem.

**biodiversity core area**

A habitat area capable of supporting entire populations of plants, animals and associated ecological processes.

**bioswale**

Gently sloped, vegetated channel engineered primarily for stormwater retention and filtration. Bioswales are commonly associated with Low Impact Development, and sometimes complete streets.

**buffer**

Low-impact land uses surrounding core biodiversity areas, providing a separation between more intensive human uses.

**community partners**

Non-municipal agents or organizations with whom the City collaborates to provide open spaces and related services. In Edmonton, important community partners include community leagues, school boards and other community interest groups.

**complete streets**

Streets that are designed to integrate all road users safely, including pedestrians, cyclists, motorists, commercial (truck) drivers and public transportation users of all ages and abilities.

**connectivity**

The degree to which a landscape facilitates or impedes movement among habitat and natural areas. Connectivity may be provided through corridors, stepping stones or compatible adjacent land uses.

**core**

A component of the green network that serves a critical role for a specific function or species, such as a centrally located community park (providing an important activity hub for the neighbourhood) or large natural area (providing key breeding habitat for birds and amphibians).

**corridor**

A linear connection that facilitates through-movement across the landscape, such as greenways, utility corridors and the River Valley and Ravine system. Some corridors are contiguous (i.e. physically connected) while others are a linear series of spaces (stepping stones).

**demand**

Community needs with respect to open space resources. Demand may be expressed as participation/visitation rates or usage habits (e.g. method of access, preferred amenities) among existing users of open spaces, but may also include latent demand that has been suppressed by an undersupply of appropriate spaces or amenities, or potential demand residing in people not currently maximizing their use of open spaces.

**density**

The number of dwellings or population per unit area. Low density development typically means a residential pattern featuring single family dwellings, while a high density development features town homes, apartment buildings or high rise condominiums.

**distribution**

The spatial arrangement of open spaces across the landscape, or the share of open spaces available to different groups or neighbourhoods.

**diversity**

A range of difference among various elements of a group. In the context of demographics, a diverse population contains many different ages, ethnicities, incomes or abilities. In the context of open space planning, a diverse green network contains many different types of parks and open spaces, or a wide range of uses and functions.

**ecological barriers**

Elements that inhibit or prevent the movement of wildlife through the landscape, such as roads, fences or heavily used areas. Barriers in the landscape reduce connectivity.

**ecologically sensitive area**

Area of land or water that is particularly sensitive or vulnerable to ecological disturbance, such as fragile grassland habitats or riparian areas prone to erosion.

**environmentally significant area**

Area of land or water that is important for the long term maintenance of biodiversity, landscape features and other natural processes, either locally or within a larger spatial context.

**flexible open space**

Open space whose size or programming can adapt to changing needs, including seasonal parkettes, solar-ready fixtures, movable furniture, pop-up events and performances, etc.

**functional connectivity**

The realized connectivity of a specific landscape from the perspective of a particular individual. This is affected by both the structural connectivity of the landscape itself, and the unique movement and behavioural characteristics of the organism in question.

**geospatial**

Data or technology with a specific geographic or locational component. Geospatial technology can include GIS (geographic information systems), GPS (Global Positioning System) or remote sensing.

**GIS (geographic information system)**

A computer-based system for recording, storing and displaying data related to geographic locations on the Earth's surface. GIS software enables the user to visualize multiple types of data about a place, and to manipulate that information to understand patterns and relationships.

**greenfield development**

Land development of agricultural or natural areas that have not previously been developed, typically at the urban fringe.

**green infrastructure**

A living system of green spaces and technologies that provide society with the basic services (provisioning, regulating, supporting, cultural) for sustaining life.

**green network**

An integrated system of public open spaces, connections and functions that provide value to humans and the environment. The green network includes all the outdoor land and water that is publicly owned or publicly accessible, such as parks, plazas, main streets, natural areas, greenways and green infrastructure.



**green roof**

The roof or top of a structure (e.g. office building, parking garage) that has been covered with living vegetation. Plantings on a green roof may vary from ground covering forbs to gardens or trees. Typically the green roof comprises a layer of vegetation planted within a growing medium (soil or other material) that rests upon a synthetic, waterproof membrane designed to protect the building from leaks and roots.

**hazard**

Condition or situation that could cause harm to people, property or the environment. Common hazards include erosion, flooding or faulty equipment.

**infill**

Development or redevelopment of urban areas that are already considered developed, such as mature or established neighbourhoods. Infill development includes both the “filling in” of neighbourhoods parcel by parcel (e.g. constructing laneway homes, replacing single family dwellings with multiple family dwellings) and transformational projects such as Transit Oriented Development or area redevelopment.

**intensification**

Creating or promoting greater urban density.

**landscape permeability**

The degree to which the landscape encourages or impedes the movement of wildlife, as a factor of both the structural connectivity of the landscape, the activities taking place and the biological characteristics of the wildlife.

**matrix**

Areas of a landscape that are not core areas, stepping stones or corridors. In an urban environment like Edmonton, the matrix generally comprises developed areas.

**mobility**

The ability to move from place to place.

**multifunctional**

Able to accommodate multiple services or uses (functions) simultaneously.

**natural area**

Area of land or water that is dominated by native vegetation in naturally occurring patterns, including wetlands, grasslands, woods or riparian areas.

**network approach**

A method of analyzing and understanding the world based on network theory, which recognizes the interactions and structural relationships among the diverse components of a complex system.

**open space**

An area of outdoor land or water that is publicly owned or publicly accessible, including municipal parks, civic spaces, provincial or federal parkland, institutional campuses, and other public spaces.

**provision**

How much open space is provided to Edmonton residents and visitors. Open space provision encompasses four interrelated measures: distribution, quality (i.e. functionality and condition), diversity and supply (i.e. quantity or amount).

**reconciliation**

According to the Final Report of the Truth and Reconciliation Commission of Canada (2015), reconciliation is about establishing and maintaining a mutually respectful relationship between Aboriginal and non-Aboriginal peoples in Canada. Reconciliation requires awareness of the past, acknowledgment of the harm that has been inflicted, atonement for the causes and action to change behaviour.

**resilient**

Able to withstand, recover and persist in the face of a shock or stress upon the system, such as climate change, disease or flooding. Resilience may involve adaptation over time to create a system that better withstands future stresses or shocks.

**right-of-way**

A piece of land subject to a legal right to passage (easement) for the general public or some other specified party. Streets are municipal rights-of-way that allow public access, while rail or utility rights-of-way may reserve access exclusively for the corporation whose infrastructure is located there.

**smart growth**

Development patterns that attempt to minimize urban sprawl in favour of more dense and compact urban environments. Such patterns are characterized as “smarter” than the conventional alternative because they are theorized to reduce per capita municipal infrastructure expenditures, preserve agricultural or natural landscapes at the urban fringe, improve public health outcomes, and reduce the socio-economic and environmental impacts of automobile-oriented transportation modes, among other benefits.

**stakeholders**

Parties or agents who hold an interest in a process or decision. Stakeholders in Edmonton include community leagues, non profit organizations, special interest groups, other levels of government, school boards, for profit service providers, the development industry and the general public. Note that because they hold Constitutionally protected rights and interests, Indigenous communities are not considered “stakeholders” for the purposes of engagement.

**stepping stone**

A component of the green network that serves a non-critical habitat role for a specific function or species. Stepping stones may provide valuable resources, but may have insufficient size or quality to support essential habitat requirements or functions. Multiple stepping stones arranged in a linear fashion may be used as corridors between more important core areas, providing connectivity and areas of refuge critical for the integrity of the overall ecological network.

**structural connectivity**

The physical connectiveness of the landscape, based on the distribution of disturbances and land cover types.

**supply**

The stock of available open spaces or amenities. While supply is often synonymous with amount or quantity, the *Green Network Strategy* also acknowledges that the meaning can encompass other aspects of community need or demand (e.g. access, function) as well.

**sustainable**

Able to persist over time. Sustainability generally involves a balance of values (like social equity, environmental integrity and economic viability) in order to accommodate present needs without compromising the ability of future generations to meet their needs. In the context of municipal finance, sustainability means balancing revenues and expenditures to avoid excessive deficits.

**traditional ecological knowledge (TEK)**

A cumulative body of knowledge, know-how, practices and representations maintained and developed by Indigenous peoples over a long period of time. TEK includes spiritual relationships, historical and present relationships with the natural environment, and the use of natural resources. TEK is generally expressed in oral form, and passed on from generation to generation through story telling and practical teaching.

**traditional uses**

In this document, traditional uses mean land uses, activities and cultural modifications that Indigenous peoples historically practiced and continue to practice in relation to their natural environment. Traditional uses include (but are not limited to) sacred and ceremonial sites, historic trails and other storied places, burial grounds, culturally modified landscapes or features (e.g. rocks, trees), and harvesting activities such as hunting and trapping, fishing and gathering.

**wayfinding**

Signage, cartographic materials and design techniques that provide information about location, orientation and surroundings in order to support navigation around the city.



# Appendix B

**OPEN SPACE CLASSIFICATION SYSTEM**



OPEN SPACE CLASS	DESCRIPTION	EXAMPLE
METROPOLITAN PARK	Metropolitan parks are large, feature parks intended to provide value to residents and visitors throughout Edmonton and the greater Metro region. Metropolitan Parks may have a variety of functions and uses, but usually contain features and amenities that are not available elsewhere in the City.	Terwillegar Park Rundle Park William Hawrelak Park Borden Park
DISTRICT PARK	District parks are designed to meet the needs of multiple communities, such as a City quadrant or collection of neighbourhoods under an Area Structure Plan. They may be more specialized than community parks, but also may provide multifunctional amenities. Some district parks contain unique attractions (e.g. Argyll Park Velodrome, Muttart Conservatory). The size and programming depends on the community where they are located, and the provision of amenities in the larger community.	Jackie Parker Recreational Area Castle Downs Park The Meadows District Park Argyll Park
COMMUNITY PARK	Community parks are the basic units of the green network. They are intended to be frequent in the landscape, and flexible enough in programming to meet the social and recreational needs of most people in their catchment area. Some community parks are co-located with Community Leagues or schools (usually elementary schools) and may be managed under a Joint Use Agreement or Occupancy License.	Ermineskin Park Laurier Heights Park Kitchener Park Cumberland Park
POCKET PARK	Pocket parks are small open spaces meant to serve the nearby neighbourhood and may contain only one amenity or serve one of the functions of open space (e.g. a playground, adult fitness, or seating area).	Otto Leslie Park Peace Garden Park Kainai Park John G Niddrie Park
GREENWAY	Greenways are linear, publicly accessible open spaces that are large enough to operate as parkland, providing opportunities for active transportation, recreation or social encounters in addition to their role as connectors.	Edmonton Grads Park Ribbon of Steel Park Hazeldean Greenway
ECOLOGICAL PARK	Ecological Parks are public open spaces specifically intended to protect an area of land or water (or both) that is dominated by native vegetation in naturally occurring patterns. Ecological parks are managed for the primary purpose of preserving natural processes, species and habitat elements. Human activities are primarily passive (e.g. nature interpretation, nature appreciation, etc.) with the exception of trails for walking, bicycling and jogging where those uses do not compromise the primary purpose of protection.	Woodbend Ravine Woodlot Clover Bar Natural Area Poplar Lake

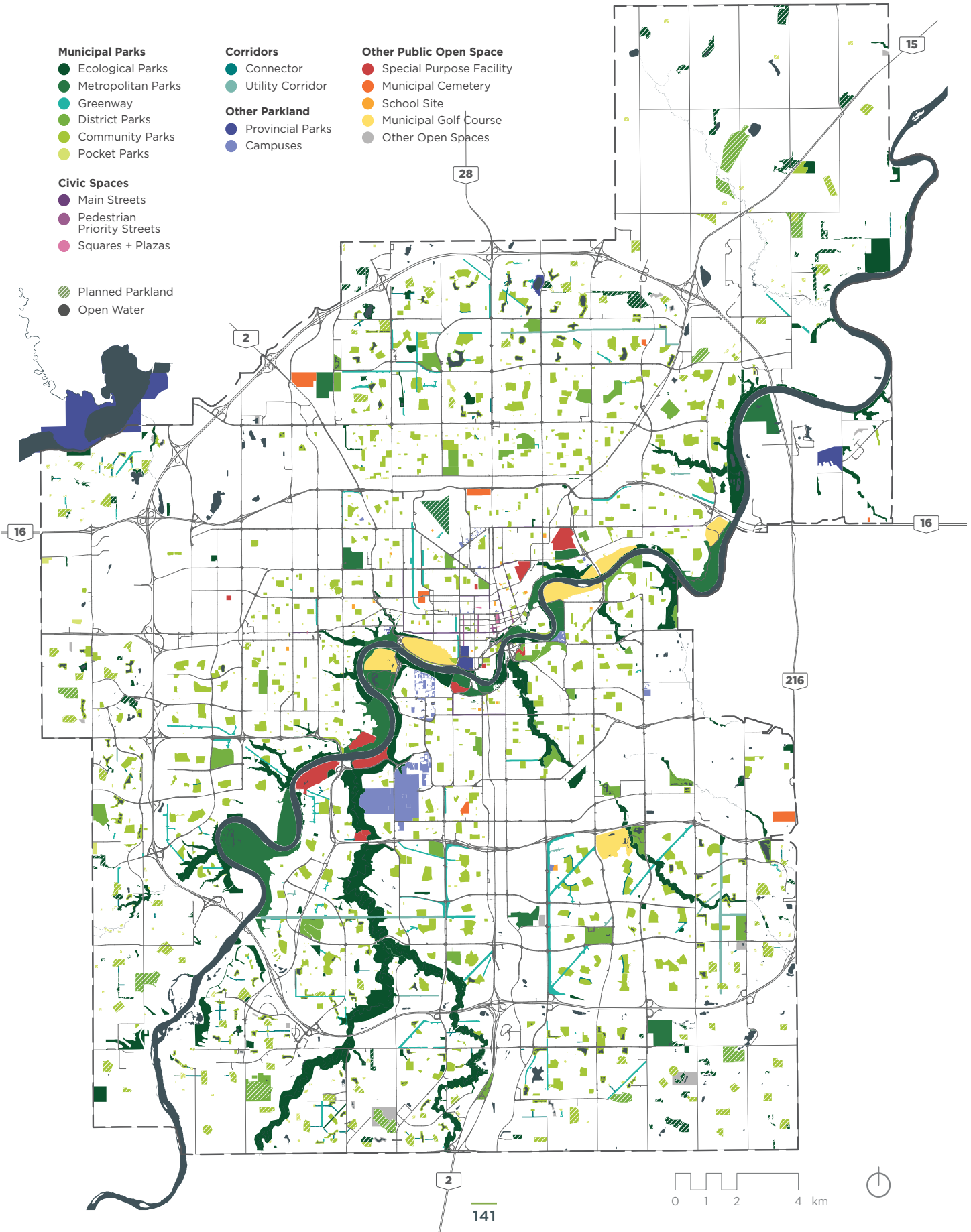
Municipal Parks

	OPEN SPACE CLASS	DESCRIPTION	EXAMPLE
Civic Spaces	SQUARES, PLAZAS, AND PROMENADES	Squares, plazas and promenades are primarily hardscaped areas developed as gathering spaces for people. Some may contain markets, event venues, or small shops and food vendors. Most include seating areas. Most promenades, and some squares and plazas, may be linear or part of a streetscape.	Sir Winston Churchill Square Centennial Plaza Victoria Promenade
	MAIN STREETS	Main streets are ‘enhanced’ streets intended to act as important social places or grand boulevards. They are pedestrian-friendly streets that also serve as major transportation links with a mix of active street-oriented land uses. They often include seating areas, street trees, vegetated traffic buffers, and room for street vendors and parklets.	Jasper Avenue Whyte Avenue 124 Street
	PEDESTRIAN-PRIORITY STREETS	Pedestrian-priority streets are road rights-of-way designed to prioritize pedestrian mobility over other modes of travel, in order to improve the pedestrian experience. Permanent pedestrian-priority streets may or may not also allow vehicular traffic, and may perform important social or ceremonial functions. Temporary pedestrian-priority streets are roadways that prohibit or limit vehicle traffic for a limited duration of time to accommodate pedestrian traffic for a ceremony, event or festival (e.g. Fringe Festival, parade, marathon, etc.).	104th Street NW The Armature 83 Avenue NW
Corridors	CONNECTORS	Connectors are primarily pathways with some associated green space, usually connecting two or more open spaces together, or two parts of a neighbourhood. The primary purpose of connectors is to provide access to and between neighborhoods, roads or open spaces, although they may also occasionally include park amenities such as small seating areas or landscaping.	
	ROADWAY GREENS	Roadway greens are green spaces on public property within right-of-ways: along roads or major walkways, or within roadways as traffic islands, medians or boulevards. Typically they are turf/grass, planted with shrubs, or naturalized with native vegetation.	
	UTILITY CORRIDORS	Utility corridors currently provide some of the functions of open space by acting as green landcover, open space connections or other uses. These corridors may have a public access agreement in place, and may be maintained by the City.	Hodgson Altalink Corridor
Other Jurisdictional Parkland	PROVINCIAL PARKLAND	Provincial parks provide valuable regional and community open space services. Although these spaces are managed and operated by the provincial government, they are often integrated into the City’s open space network through trails and pathways, and provide value to residents. In addition, the Legislature Grounds surrounding the provincial legislature buildings in Edmonton are publicly accessible, carefully managed open spaces that attract both tourists and residents.	Alberta Legislature Grounds Government House Grounds Big Island Natural Area
	FEDERAL PARKLAND	Federally owned or managed parks. Edmonton currently does not have any federal parkland within City limits.	
	CAMPUS	Publicly accessible provincial, college and university campuses, or teaching hospitals.	University of Alberta grounds

OPEN SPACE CLASS	DESCRIPTION	EXAMPLE
SPECIAL PURPOSE FACILITY	Major cultural, recreational or sporting venues that provide a unique leisure, memorial or entertainment value that draws users from across Edmonton and the greater metropolitan region. They typically involve more intensive investment in facilities and associated services. Often they require a fee or membership for entrance, or restrict the hours or activities that are permitted. Some are located within larger parks.	Edmonton Valley Zoo Fort Edmonton Park Commonwealth Stadium
SCHOOL SITES	Lands set aside for schools and owned, managed, or maintained by the City of Edmonton or by an Edmonton school board (e.g. Public, Catholic, or Francophone School Board). These sites include the building envelope and other school facilities such as parking lots and drop off areas. Some of these sites are adjacent to larger parks, and most are managed through the Joint-Use Agreement which allow for public access. Some school sites have not yet been developed, while others have been identified as being surplus (i.e. a school is not required).	
MUNICIPAL CEMETERY	Municipally-owned cemeteries provide important cultural services, and may also provide some of the same uses as municipal parks, such as passive recreation.	Northern Lights South Haven
MUNICIPAL GOLF COURSE	Municipally-owned golf courses often have restricted access (restricted to club members or require a fee for access) but the City retains ownership, allowing for other potential open space uses such as picnic areas or winter skiing opportunities.	Victoria Golf Course Rundle Golf Course
SELECT VACANT CITY HOLDINGS	Select vacant City holdings include vacant lots and other City-owned spaces that have not yet been developed into other land uses or sold. They are spaces identified by the City as currently providing some open space services such as green space, and represent an opportunity for future open space developments such as civic spaces, greenways and parks.	
UTILITY LOTS	Utility lots currently provide some of the functions of open space by acting as green landcover, stormwater management facilities or other uses. These lots may have a public access agreement in place, and may be maintained by the City.	

Other Public Open Spaces

# Open Space Classification







# Appendix C

**11x17 MAP PACKAGE**



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EDMONTON'S GREEN NETWORK STRATEGY