KANATA NORTH ECONOMIC DISTRICT

Urban Design Framework and Guidelines

Stantec

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This document has been prepared by Stantec Urban Places for the City of Ottawa.

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1 INTRODUCTION

Enabling transformation of the Kanata North Economic District (KNED)

The Kanata North Tech Park today is recognized as one of Canada's top business parks, the country's largest innovation cluster, and a global innovation centre. The park numbers among a small group of business parks across North America that has been uniquely successful in attracting significant innovation investment and today houses global-leading innovation companies that have global renown in such technologies as telecommunications, 5G, biotech, engineering, software, cybersecurity, data and cloud services, aerospace, defense, wireless and photonics, life sciences, semiconductors and more noted on the map diagram (Figure 1.1).

However, like world renowned peers—Kendall Square in Cambridge MA, the Research Triangle in North Carolina, the University of Utah Research Park, and Stanford (University) Research Park—the Kanata North Economic District (KNED or "District") must evolve from a well-planned suburban tech park into an urban, mixed-use, walkable innovation district that supports rapid changes in the innovation economy.

Transformational change is not a new challenge for the KNED. Like its peers, it has steadily evolved to adapt to new opportunities and changing circumstances since its founding.

Originally developed as an office and industrial park in a region with a relatively well- educated workforce, by the late 1970s and early 1980s, the KNED and its peers attracted significant investment from rapidly growing technology companies that sought inexpensive sites and opportunities to expand rapidly. By the late 1980s and early 1990s these areas had emerged as "tech parks"—essentially office parks focused on cutting-edge technology.

The war for talent... and growing importance of 'creative collisions'

By the late 1990s and early 2000s the Tech Park and its peers were shifting their focus from "hard" technology—products—to the research and software that developed and operated this technology. With this shift has come the new challenge, of demographic trends across the developed world that have been slowing workforce growth since 2000.

At the same time, the large majority of net new jobs across the developed world requires some higher education and will for the next two decades and beyond. Competition for increasingly scarce educated and creative workforce—termed "talent"—today drives location decisions across the innovation economy. Jobs and investment follow talent, and this talent is heading toward the mixed-use, walkable, and amenity-rich places where they seek to live and work.

Competition for increasingly scarce educated and creative workforce—termed "talent"—today drives location decisions across the innovation economy. Jobs and investment follow talent, and this talent is heading toward the amenity-rich places where they seek to live and work.

Over the past two decades, innovation companies have increasingly pointed to another essential quality that these environments offer. Their amenity supports an interactive sense of community that nourishes "creative collisions"—the unplanned meetings between people who work for different companies that generate the ideas necessary to fuel innovation.

The emergence of innovation ecosystems

By 2010, Kendall Square's globally renowned corporate tenants raised an alarm: the world's most successful life science research cluster was growing increasingly less competitive because it lacked the kind of highly amenitized, interactive character essential to attracting and retaining the talent and promoting creative collisions.

The answer? A plan to intensify and transform Kendall Square into an innovation district that supports a robust innovation ecosystem—a live, work, play, learn environment, based around a diverse mix of uses and lively, walkable public realm concentrated roughly within a five-minute walk. The resulting compact critical mass of people and ideas, brought together by a lively environment that fosters interaction, unlocks the ability of students, researchers, technology experts, marketing leaders, designers, and many others to communicate across disciplines and silos—and for their ideas to cross-fertilize and generate new paradigms.

(Figure 1.1) Jobs and investment flow to places where workers want to live and work and the Kanata North Tech Park is home to over 500 businesses covering an array of specialties.

For the KNED, an innovation ecosystem promotes another goal often voiced by company leaders—to promote the District's ability to function as a "living laboratory" that translates the benefits of its innovation into new technologies.

In 2023, Raleigh NC's 2,800-hectare Research Triangle Park launched a similar initiative to transform a globally significant tech park into an innovation ecosystem. Nor is this trend limited to tech parks with a similar history, others developed by Tier One research universities—for example Stanford and the University of Utah research parks are also pursuing similar initiatives.

Interviews with R&D and HR directors across the KNED indicate their companies share the concerns raised by leading companies at Kendall Square and the Research Triangle Park. The KNED's corporate leaders expressed a repeated commitment to transform the District into a 21st century innovation ecosystem that would maintain and expand the KNED's competitive position as a lead centre of global innovation.

The pandemic's impact

Going a step further, these directors indicate that while their companies anticipated a larger role for remote and hybrid work following the pandemic, this shift does not represent a new development but the acceleration of a long-term trend.

These directors stressed the importance of housing and lively, mixed-use, walkable streets within a short walk of their workplace. In fact, these directors increasingly prefer that employees, who are not in the workplace, live within a five-minute walk of work and of each other. Why? Because as the pandemic progressed, proximity to work correlated more highly with a significantly increased ability to attract and retain top talent, and this same proximity—together with a highly amenitized environment that encourages interaction—in turn promotes more frequent, and productive, creative collisions.

A new tool: The Community Planning Permit (CPP)

The CPP System represents a new option that is enabled by Section 70.2 of the *Planning Act* and *Ontario Regulation 173/16*. The CPP represents a land use planning tool that Ontario municipalities can use when planning for the future of their communities. It is a tool that would be suitable and advantageous to Economic Districts such as the KNED, as noted in the Official Plan which identifies this as the area in which the CPP System will be piloted.

It is a tool that replaces the Zoning By-law, the Site Plan Control By-law and the minor variance approval process under the Committee of Adjustment with one all- inclusive, CPP By-law that is tailored to the specific needs and vision of a particular geographic area. It is a tool that combines three development approval processes by addressing zoning, minor variance and site plan control under one planning permit application. One cohesive process provides a complete picture of a proposed development, rather than looking at only one component at a time. Review of a permit application is based on a CPP by-law that incorporates policies, objectives, land use regulations, as well as urban design guidelines and related development requirements that are created to reflect a local shared vision. Approval timelines are shortened from 90 days to 45 days, with most permits granted through staff delegated authority.

The City is studying the role that the CPP System can play in enhancing the Tech Park's evolution into a 21st century innovation district and enhance its competitive position on the global innovation stage. Under the CPP System, the approval process is shortened in a few meaningful ways which aligns well with the quick innovation business investment decisions that must be made. The City has the power to grant conditional approvals which would indicate what needs to be resolved prior to obtaining the planning permit. This might be beneficial in giving developers quick responses that their project is likely to be approved because it meets the vision for the area, expressed in the Official Plan and CPP By-law but where additional information or work is required before a planning permit will be granted.

The *Planning Act* enables Councils to build a degree of flexibility in to some or all of the rules in the area-specific CPP By-law, which replaces the Committee of Adjustment minor variance approval process required under the traditional planning system.

Companies considering investment in the area, for either expansions to existing buildings or for new developments, want a clear picture of whether and how long it will take to get approvals in place to allow for construction. As decisions on investment are often made by head offices outside of Ottawa, factors such as certainty on

timelines become critical decision points. Allowing for some flexibility, when a proposal meets the shared vision for the CPP area, means that minor matters can be resolved very quickly and give certainty to the companies interested in investing in the area.

Once the CPP by-law is in effect, public meetings are not required typically for development proposals, and planning permit appeal rights are limited to the applicant, precisely because the work is done upfront with local stakeholders who are the experts in the area's history and who participate in visioning workshops. The outcome of these is a shared vision for how the area should evolve. This vision becomes the backdrop to every policy, objective, regulation, guideline, and condition in the area-specific CPP By-law. The local stakeholders, and development community, know the rules and the reason behind each, with the latter understanding that if they veer away from the policies, objectives, rules, and minor variations allowed to these, the likelihood of obtaining approval is vastly diminished. Further, should a developer choose to veer away from the CPP By-law, such applications would likely go to the Ontario Land Tribunal or to Council and formal engagement would be undertaken.

The purpose of these Urban Design Guidelines is to translate the local vision and needs—highlighted by a growing need for regulatory flexibility—into rules and guidelines that will become part of the eventual CPP By-law for the KNED.

(Figure 1.2) The Kanata North Economic District is surrounded by an array of natural amenities, which serve as an inspiration for recommendations in this framework and guidelines.

SYNOPSIS

Urban Design Framework and Guidelines: the one-minute version

Legget Drive will emerge as the Kanata North Economic District's tree lined walkable main street, connecting two compact Activity Centres, focused around lively signature spaces. Together, Legget Drive and these centres will form the walkable core for the KNED.

The Activity Centres will also be connected by transit enabling the KNED community to reach a wide variety of destinations without a car and enable KNED employees, residents, and visitors the ability to park once as they move between multiple destinations throughout the District. This could, in the future, involve innovative models of transit (e.g., on demand, autonomous) where the business case makes sense for the City and OC Transpo.

A network of green streets, pedestrian paths, and bikeways will connect Legget Drive. and the Activity Centres to the larger innovation district, the adjacent communities, and the rich array of natural places that surround the District. The Activity Centres will emerge as lively, highly-amenitized walkable destinations that will thrive as they become 15-minute neighbourhoods centered around a five-minute Legget Drive corridor—serving residents, employees, and visitors.

Introducing high-rise mixed-use, residential development in the Activity Centres will provide housing for employees and others, who will be served by a wide range of uses that satisfy their daily needs and provide leisure, recreational and other community uses that will keep the District alive weeknights and weekends through all four seasons. Guests will be welcomed as the KNED strives to be a good neighbour that enhances quality of life, economic opportunity, as well as providing recreational, arts and leisure benefits to the many communities in Kanata and beyond.

Design guidelines will memorialize agreement between landowners, the surrounding communities, developers, and the City regarding the character and urban form of the emerging public realm of streets, a signature public plaza that celebrates the uniqueness of this global innovation community, a lifestyle street, and other public spaces. The Urban Design Framework and Guidelines will carry two lasting benefits: all buildings and public spaces will contribute to the KNED's collective character and quality, and subsequent project approvals will be less complex because they will be based on a shared vision for transformation of the tech park into a 21st century innovation district.

As it evolves, the KNED will also represent an ever-changing living lab and a lively, mixed-use, community-rich centre for a globally-significant innovation ecosystem. This "community of the future" will attract and retain talent from around the globe—and provide significant long-term economic benefits to Ottawa, the Province of Ontario, and all of Canada. But the KNED's benefits extend beyond dollars.

The ideas and technologies that spring from this innovation ecosystem will provide tangible communication, environmental, social, mobility and similar benefits that enhance lives for Ottawans and people across the globe.

SETTING THE STAGE

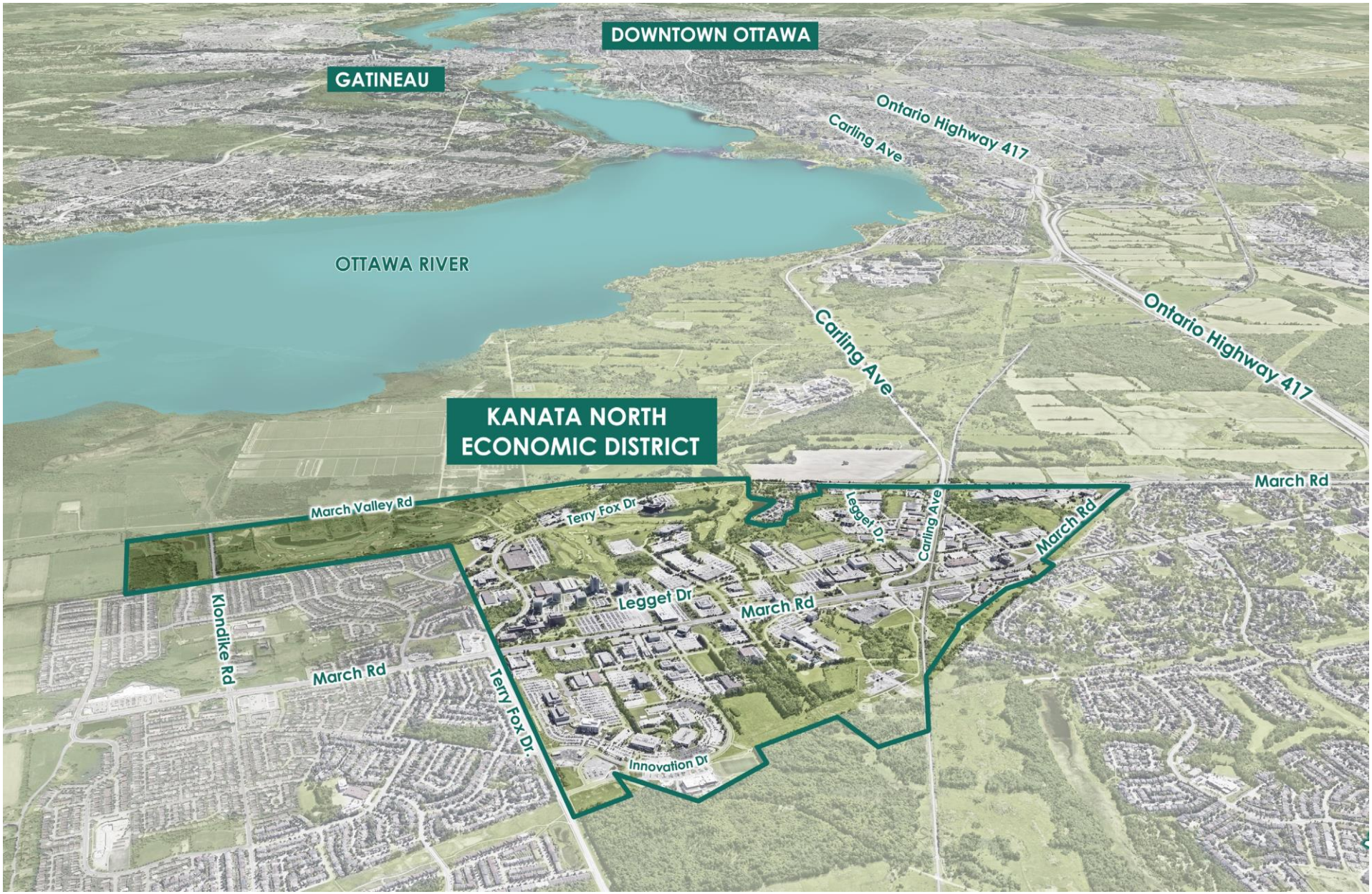
The Kanata North Economic District already represents a globally significant technology innovation cluster and is a major contributor to Ottawa and Canada's respective economies providing ongoing potential for economic growth. However, like leading innovation clusters around the globe, its continued success will depend on two fundamental factors:

- Its enhanced ability to attract and retain knowledge workers, the increasingly scarce skilled and educated talent that constitutes the innovation economy's most essential resource, and
- Its enhanced ability to promote the creative collisions—unplanned meetings between people who work for different companies - that produce the new ideas that fuel innovation.

The tech park's Economic District designation plays a critical role in strengthening the KNED's globally competitive position by understanding and addressing these factors, hence unlocking the jobs, investment, and innovation that follow. Note that urban design guidelines, a tailored CPP By-law and collaboration, either public-private or between landowners, will result in unlocking diverse real estate and economic development opportunities, improving regional access to support the KNED's growth, and similar initiatives that will be essential to achieving the KNED's full potential. The longer-term planning, demographic and economic development trends described herein are already triggering significant changes, including:

- Transformation of the largely single-use tech park into a mixed-use innovation district has begun with recent developments that will introduce a wide variety of uses, including residential, a lifestyle street, a signature urban plaza, as well as Hub 350, that together with globally renowned innovation companies, create the foundation of an innovation ecosystem.
- The arrival of post-secondary institutions who will not only bring students, interns, and research faculty to the KNED, but also expand opportunities to partner with the KNED's private sector innovation leaders in expanding grant and research opportunities.
- The attraction and expansion of innovation companies searching for places that will support a robust innovation ecosystem.

Future development in the District will help achieve a longstanding goal of the tech park—to grow as a living laboratory—a different type of partnership in which the district's innovation businesses collaborate with each other and the larger community to develop and test technology innovations related to mobility, land use, energy and the environment, and other critical planning matters that can in turn help shape the KNED's future.



(Figure 1.3) Study Area Context

Trends impacting innovation sector

The KNED's critical need to evolve is a direct result of transformative, and accelerating economic, demographic, and mobility technology dynamics that are reshaping the global innovation economy and many aspects of community building. These trends, which began to emerge over the last two decades, will play a determinant role in reshaping the KNED's future for at least the next two decades.

Economy

Canada, along with the entire developed world, is facing at least two decades of growing competition for talent—the educated and creative workers who represent the most important resource for innovation industries and the knowledge economy. Canada has an aging population, with the number of Canadians over the age of 65 increasing by 300% between 1998 and 2048, far faster than any other segment of the population. An aging population translates into slowing workforce growth and today North America's workforce is growing at roughly half the pace it maintained for several decades before 2010. At the same time, the share of net new jobs requiring some higher education has been increasing rapidly and now stands at more than 90%. Surprising to many while innovation and technology constitute the largest share of these jobs, for the first time in North America a majority of manufacturing jobs also require some higher education. The result? The developed world already faces a 10% shortfall in the number of knowledge workers it needs and this shortfall will grow steadily for the foreseeable future.

The knowledge economy, particularly innovation, jobs go where they can attract and retain the necessary talent. These places are decidedly "urban"—not necessarily downtowns or close in-city neighbourhoods—but denser, walkable, mixed-use, amenitized, and community-rich environments that support a diversity of lifestyles.

And while the pandemic has demonstrated both the feasibility and desirability for many to work virtually, this change has, if anything, increased the importance of creating a place in which talent wants to live and work.

The KNED must evolve into a place that helps build connections between companies and employees if it is to avoid losing virtual staff to competitors around the globe. KNED businesses have stressed the critical value of an environment that proactively invites talent to interact with its peers and participate in a multifaceted innovation community— whether they work in an office or at home— increasing the importance of providing housing options within the KNED, preferably within walking distance to peers at work and near gathering places.

KNED is getting noticed by many post-secondary institutions around the region and from other parts of the country, all looking to capitalize on the unique synergies that exist between business and education in the district. Bringing post-secondary institutions to the KNED and creating academic and research facilities, housing, and social places for students will result in many becoming active participants in internships and institutional/corporate partnerships that introduce future talent to the KNED innovation ecosystem.

Demographics

While demographic shifts are clearly contributing to an aging workforce, broader demographic forces are at work dramatically transforming housing demand across North America. Due both to aging, and a growing tendency to delay having children, the housing market over the next two decades will be dominated by singles and couples without children. This dominance of singles and couples will create the most urban housing market in North America's post-World War II history—including an unprecedented opportunity for the KNED to introduce high density residential in mixed-use buildings in the Activity Centres and along March Road that will support the walkable, mixed-use, amenitized, and community-rich environments that also attract and retain talent.

Mobility Technology Innovations

Universal access to automobiles transformed North America in the decades following World War II. The advent of new mobility paradigms—shared, connected, and then automated mobility—over the next two decades will launch a new era of transformation, reinforcing the impacts of economic and demographic change. Places that offer the density of people and destinations to support on-demand, low-cost mobility will have a growing competitive advantage as places to live and work—particularly for younger talent entering their prime working years who have demonstrated a strong preference for environments that are not auto-dependent. The ability to shift from owned to shared mobility will yield a significant financial advantage—in effect, a subsidy for living in denser, mixed-use, walkable—and transit-served—places.

Environment

The accelerating pace of climate change will increase pressures for more sustainable, adaptable and resilient development. Denser, mixed-use and transit-served urban environments support much lower per capita carbon footprints than their suburban counterparts. They also offer far greater opportunities to introduce collective strategies to manage energy use, waste, and similar factors that impact sustainability, climate adaptability and resilience outcomes. To achieve climate adaptation, high-performance sustainable design measures help achieve environmental goals. These practices will showcase the KNED as a living lab. Designing with nature builds resilience. Maintaining the District's mature trees, wetlands and other greenspaces and enhancing connections to these is valuable.

Additional Analysis

Mobility: an automated shuttle

Initial study of the Tech Park's redevelopment strongly suggested the desirability of an automated shuttle, which would require reduced operating costs and therefore more frequent service compared to a system requiring drivers. This shuttle would more than pay for itself by enabling residents, workers, and visitors alike to park once—reducing the need for expensive parking structures. The system was proposed to run adjacent to Legget Drive, with extensions beyond the Legget corridor and Activity Centres as redevelopment in the District expands.

The KNBA sponsored the Kanata North Autonomous Vehicle (AV) Transit Network Feasibility Study (June 2021). The Study confirmed the viability of an automated shuttle and analyzed route options across the KNED. Detailed plans will need to be completed and submitted for the City's consideration.

Note that the Urban Design Framework for the KNED works regardless of whether an AV Shuttle is introduced in the future.

Stakeholder input

Participants throughout the development of the Official Plan KNED designation and these urban design guidelines have emphasized two things: one, the need to have flexibility in developing and redeveloping the lands to be able to respond to advances made in the specific fields of work and remain globally competitive as an innovation district, and two, the need to ensure that the District emerges as a good neighbor that enhances quality of life and economic opportunity—as well as bringing additional benefits—to nearby communities.

Planning Background

Creating the New Official Plan KNED Designation

The City and the Kanata North Business Association (KNBA) collaborated to prepare a background document and concept plan (2021) as part of the creation of the area's new Official Plan (OP) designation as an Economic District. These were used to inform property owners, developers, the surrounding community, colleges and universities, and other key stakeholders of the opportunities and challenges inherent in the KNED's evolution, as it preserves and enhances its position as a leading global centre for innovation. The initiative focused on four key topics:

- Urban design and place making to support greater talent attraction and retention and create a 21st century innovation ecosystem
- Activity Centres to concentrate early investment to support the transition from a traditional tech park to a cutting-edge innovation ecosystem, where housing, retail, arts, culture, and a broad mix of additional uses join and support innovation.
- A new connective network of streets, pedestrian paths and bikeways, as well as public spaces.
- The potential to introduce an automated shuttle and other innovations that build on the KNED's strengths and culture.

Planning was undertaken with the shared understanding that the tech park is a globally significant technology innovation cluster and a major contributor to Ottawa and Canada's respective economies.

With roughly 540 companies and 33,000 employees as of 2023—the latter being an increase of almost 20% since 2020, KNED is thriving today and has sustained growth since its inception. However, in order to maintain its competitiveness in a global economy, a number of planning-related

challenges require solutions that will improve connectivity, provide opportunity for mixed-use development, and enhance urban design, all of which will contribute to the quality of life for those who live, work, play and learn in KNED and beyond.

Urban Design Guidelines for High Rise Buildings

Urban Design Guidelines for High Rise Buildings, which are similar in letter and spirit to the City's Urban Design Guidelines for Transit-Oriented Development, provide very useful background. The KNED Urban Design Framework and Guidelines draws guidance from the High-Rise Building Guidelines based on the anticipated context in the District. All three documents share a fundamental commitment to creating a lively, mixed- use, walkable environment that focuses on supporting a people-centric public realm.

Official Plan

The City of Ottawa's new Official Plan (OP) was approved in late 2022. Section 6 of the OP provides significant direction to transition the KNED from its traditional suburban form to that of an urban mixed-use, walkable District to boost its ability to compete for talent.

The intent of the OP designation as an Economic District is to ensure that the area is able to continue as a major economic generator over the next 25 years. Both the District and the March Road Mainstreet Corridor are designated as Tier 3 Design Priority Areas, meaning that infrastructure projects have a higher priority to be undertaken in this Economic District than in

To promote growth and heighten KNED's competitive position for talent, jobs and investment, the Official Plan establishes the following goals and objectives:

- Transform over time from a car-oriented business park to an urban mixed-use innovation district with a broad range of uses focused around sustainable modes of transportation. Where public transit and active transportation become attractive choices, such will reduce the need for a car for access and circulation. Interim solutions to enable parking while replacing large surface parking lots will be considered until such time as future BRT stations are built.
- Focus the highest densities and the greatest mix of uses in the two emerging Activity Centres located generally within 600 metres of the planned Transitway stations located at Terry Fox Drive and Station Road, in order to create a critical mass to support mixed uses.
- Recognize the importance of both March Road and Legget Drive as major connectors, each with their role to play in mobility and in distinct character.
- Permit a wide range of uses within the District. These include employment, residential, commercial and institutional land uses, while maintaining the principal purpose of the District as a centre for global innovation in knowledge-based industries.
- Explore opportunities through development review to create a finer grid block pattern and increase intersection density.

In addition, the OP states that the Transportation Master Plan will make recommendations to:

- Increase reliable, sustainable transportation options such as transit, cycling and pedestrian connections with the evolving development. This includes a review of the timing of implementation of the March Road Transitway as part of the future transit network;
- Coordinate the integration of the future Terry Fox and Station Road bus rapid transit (BRT) stations with the Activity Centres; and
- Create better connections between rapid transit and the rest of the District, which could include Transit Priority Corridors or other possible solutions.

The goal of encouraging this complete community is to invite residents of all income levels, to have places to live, work, play and learn and to access daily needs without a car.

March Road and Legget Drive are important streets that define the character of the District. Development will occur primarily through infill, particularly of surface parking lots. Existing surface parking lots should be phased out over time as development occurs. Where small surface parking lots are necessary, particularly for accessibility purposes, these should not be located between the right of way and the main entrance of the building. For buildings on corner sites, the OP states that surface parking lots shall not be located within the exterior side yard.

Outside of the Activity Centres, land uses should be primarily employment-related such as offices and research and development facilities that support the KNED's innovation mission.

PROCESS, VISION, AND GOALS

Process

The City of Ottawa convened a representative Working Group that included neighbourhood leaders, property owners, developers, the KNBA, and others with a stake in the KNED's future, to review previous planning and bring their own perspectives toward shaping the KNED's future. Using the Official Plan KNED policies, as well as the City of Ottawa Urban Design Guidelines for Tall Buildings and for Transit-Oriented Development, a series of visioning workshops was undertaken.

The process provided valuable perspectives to ensure that the KNED will emerge as a neighbour that enhances quality of life, economic opportunity, and maintains the high environmental quality of Kanata North as the area evolves, incorporating more sustainable built form in the process.

Workshops

Workshops focused on key attributes that would inform the framework and guidelines, including Activity Centres and corridors, public realm, natural areas and recreation, mobility, and built form.

(Figure 1.4, previous page) The Kanata North Economic District will provide an inclusive public realm with a range of open spaces, from contemplative parklets to active plazas. The public realm will be supported by high-rise mixed-use buildings in the Activity Centres, providing the critical mass of employees, residents, and visitors to enliven the District throughout the day and in all seasons.

Below are sentiments gathered at each workshop.

Activity Centres and Corridors

- KNED is a place that connects people through nature.
- Walkability and mobility are key.
- The vision for KNED should be about "community".
- Desire for a flexible CPP process.
- KNED is the heart of Kanata North.

Public Realm

- The reconstruction of March Road as redevelopment progresses and the future Station - March and Terry Fox - March BRT Stations are developed will be a disruption.
- Architecture and public realm should work together to encourage movement.
- Spaces where people can gather freely are important.
- The roles assigned to March Road and Legget Drive are right.
- The public realm should allow access to and through natural amenities.
- The extension of Solandt Road should be considered.

Natural Areas and Recreation

- There should be no flexibility on green elements for future development applications. However, creativity should be allowed to meet the standards.
- Publicly accessible open space on private land will require a willing partner. A growing population will increase demand on the network.
- Allow for equitable access to the open space network and look for additional connections to trails and other amenities.
- Mixed feedback on the types of places to create—playfields/courts, "people" places, sports dome. In all cases, the 4 seasons should be considered.
- Stewardship of natural areas will take a coordinated partnership with public, private and community groups.

(Figure 1.5) The Mural boards used for Working Group discussions provide a snapshot of the discussion amongst the group.

Mobility and Connectivity

- People are avoiding cycling through the KNED due to the unsafe nature of March Road. Consider a dedicated AV shuttle to support the multimodal transportation system.
- In addition to serving as a main street, Legget Drive should be a green street.
- The provision of parking structures should be focused closer to March Road to maintain a more pedestrian-friendly feel within the District and the Activity Centres.
- Over time, parking structures will free up surface lots for development. Eventually, there will be less demand for parking.
- Consider parking needs of existing businesses during redevelopment. Consider shared parking.
- Key destinations should be connected to the District by multiple modes of travel.
- Micromobility (e.g., scooters) is an affordable and accessible alternative for transportation and is popular with students.

Built Form

- Building architecture can draw from nearby nature while incorporating new materials and forms that represent innovation.
- Land uses should attract people to live in the KNED, including goods and services that satisfy daily needs.
- Indoor winter uses should be considered (e.g., indoor park, climbing wall, etc.).
- Ground floor standards will need to be flexible to allow for a range of uses that support active public realm while responding to retail market trends.
- Landmark buildings (those with distinctive architecture and/or height) should be located at the centre of the Activity Centres.
- Design guidelines should not discourage development proposals.
- Can public uses be enclosed in a private building (i.e., garden, observation deck) as a community benefit?
- Can there be incentives for a Landmark building?

Findings

The Working Group's many comments, additional perspectives, and specific suggestions has enabled the City and consultant team to develop an Urban Design Framework that provides the essential organizational, land use, and planning direction for transforming the KNED from a suburban tech park into a lively, urban innovation district that fully supports a vital innovation ecosystem.

Mission

To support the KNED's continued growth and capacity for global competitiveness by creating an urban design framework that unlocks the KNED's potential to evolve from a car-oriented business park into a globally-significant, state-of-the-art District that supports the innovation ecosystem.

What distinguishes this District from the office park of today? Development of two compact Activity Centres that support the critical mass and density of live, work, play, learn, and innovate activities, all in close proximity, that represent the core building blocks of flourishing innovation ecosystems.

The KNED's Activity Centres and corridors will be linked by cutting-edge mobility as well as a rich public realm system and network of lively walkable streets and public spaces. As an Economic District, the KNED will benefit from some regulatory flexibility that enables the District to adapt to rapidly changing technologies and business models. In contrast to the tech park, the KNED will encourage a broader range of uses, including high-density housing, retail, food, arts, culture, microbreweries and similar uses that bring streets to life and promote community. It will also allow for a greater range of densities that take advantage of proximity to transit and supports enhanced community life vitality.

Vision

To plan, design, and program the Kanata North Economic District around an "inclusive" public realm that proactively invites the full spectrum of the KNED community to meet, interact, and share a sense of community.

This goal is both civic and pragmatic. Places with the compact form, density of people, destinations, and mix of uses that unlock these qualities in turn attract and retain the talent and promote the unplanned, spontaneous "creative collisions" that represent the essential building blocks of a robust innovation ecosystem.

Goals

The Working Group advanced the goals that emerged from the conceptual planning process in 2021 and the creation of the specific KNED Official Plan policies. These overarching goals serve as the basis for these guidelines and future development:

GOAL 1: DEVELOP MIXED-USES

Transition from a primarily employment-use office park into a lively, mixed-use urban district that actively invites people with a diverse mix of lifestyles to live, work, play, learn and innovate without depending on a car for access and circulation.

The KNED Official Plan policies allow for two mixed-use Activity Centres located generally within 600 m of the planned transitway stations at Terry Fox Drive and Station Road with sufficient density to support lively streets and daily activities. These centres represent the heart of the District's innovation economy and culture. Mixed-use development, but at a smaller scale, will emerge along Legget Drive and March Road outside of the Activity Centres.

Core Strategies

Activity Centres

Compact mixed-use Activity Centres that are the heart of the District's economy and culture. The centres unlock the District's ability to emerge as a globally significant live, work, play, learn, innovate environment.

Corridors

March Road and Legget Drive will serve as the primary corridors, allowing for multi-modal access routes that link the Activity Centres while providing additional access to amenities throughout the District and beyond.

Two Activity Centres have been identified with one on both sides of March Road at Terry Fox Drive and one by an emerging cluster of retail and entertainment activities close to Legget Drive and Hub350.

Legget Drive is the principal walking street.

March Road acts as the grand entrance and gateway to this vibrant innovation district.

GOAL 2: INCREASE CONNECTIONS

Mobility. Shift from auto-dependence to a model that provides a range of mobility options, providing convenient access to all points within the District as well as to other regional destinations that represent core components of the innovation economy. Mobility options may include enhanced bus service, planned Bus Rapid Transit service on March Road, expansion of active transportation (i.e., bikes, e-scooters), and on-demand shared mobility that connects the District. Where possible, include pedestrian connections that enhance accessibility.

Public Realm. Create a lively public realm that connects people and celebrates the District's community and green natural setting. Emphasize public spaces—from the Signature Public Plaza and lifestyle street to parks and welcoming streets that introduce a rich array of cafés, music, arts, and similar activities that encourage people to interact.

Core Strategies

A Grid

The District will be characterized by a grid of streets and pedestrian ways that provide the framework for a robust public realm with pedestrian pathways and trails that connect to businesses, residences, and amenities.

District Connections

Multi-modal connections within the District will provide a series of options for residents, visitors, and workers to access neighborhood amenities, work, and residences.

Parking

The integration of existing and future structured parking will enhance the ability to connect to the District, with a goal to create a park-once environment. Mixed-use buildings and open spaces that support innovation are anticipated to develop in place of existing surface parking lots—which are anticipated to redevelop as new commercial, mixed-use, and office buildings.

Regional Connections

Connections to the broader region will be facilitated by connections to the LRT system and to future Bus Rapid Transit stops. Possible automated shuttles could be developed to move people to and into the District.

GOAL 3: BECOME ADAPTABLE

Be guided by a planning and regulatory framework that provides some flexibility to support the District's capacity to adapt to rapidly changing technology and market conditions and to promote emerging technology and innovation.

Creating a critical mass of mixed-use development within a short walk or 600 m with walkable streets and lively public spaces will promote the creative collisions—unplanned, informal conversations that spark new ideas—that represent an essential ingredient in building a successful innovation ecosystem that can readily adapt to emerging research and trends.

Core Strategies

Innovation

The Official Plan policies represent a first step, followed by specialized design review, concept plans, any future transportation or open space studies, an area parks plan, cost sharing agreements, and the community planning permit system.

Land Use

The Community Planning Permit (CPP) By-Law will reflect the need for this area to be flexible in land use permissions and be consistent with Official Plan objectives for the District.

Nurture

Ensure that startups and new ideas are nurtured—and can find the spaces they need at rents they can afford—amid an innovation economy increasingly dominated by larger, globally significant companies.

Living Lab

The Living Lab concept for the District will allow users to implement pilot projects in real time to test innovative and collaborative processes integrated with research.

GOAL 4: BECOME AN INCLUSIVE CULTURE OF INNOVATION

Create public spaces that promote interaction, a "District Hall" that serves as a central gathering place and focus for interaction and additional "community places" that nurture and celebrate the District's unique, evolving, and inclusive culture of innovation.

Note: Tools for promoting an inclusive culture of innovation include:

- Introducing extensive interactive public art to celebrate innovation, promote interaction, and tell the stories of the District's cutting-edge innovation.
- Promoting "third places"—cafés, breweries, outdoor dining during warmer weather and "winter-city" venues that promote places to pause, with informal interaction, creative collisions and community—as integral elements of private development facing the public realm.
- Programming and special events that celebrate the KNED will draw the community together, introduce people and ideas, and promote relationship building.

Core Strategies

Public Realm

Plan, design, and program a public realm that proactively invites the full spectrum of the community to meet, interact, and share a sense of community.

District Halls

Provide one or more "District Halls" (potentially privately developed and operated) as central places to conduct activities that are critical to promoting a robust innovation culture.

Housing

Provide high-density housing options in Activity Centres and along March Road, to attract a diverse community to live, work, play, learn, and innovate.

Public Spaces

Provide for a range of parks and other public spaces, in addition to the urban plazas, lifestyle street, and private spaces, to accommodate the needs of employees and new residents.

GOAL 5: PROMOTE SUSTAINABILITY

KNED should be a laboratory and World leader for environmental responsibility. Adopt and maintain state-of-the-art sustainability practices that express the District's spirit of innovation and preserve and expand access, where possible, to the District's defining natural features such as Watts Creek, Shirleys Bay, Kizell Drain, Trillium Woods, and the nearby South March Highlands and the Greenbelt. Preserve mature trees where possible.

Core Strategies

Access

Celebrate and enhance accessibility to natural elements including Trillium Woods, Monk Environmental Park, and Shirley's Brook. Provide pedestrian and bicyclists pathways and interpretive elements to increase access and education surrounding these amenities.

Green Spaces

Provide view corridors to Kanata North's natural features and The Marshes golf course.

Tree Canopy

Increase the Tech Park's tree canopy--with a particular focus on ensuring shade along walkable streets and in new public spaces.

Pedestrian and Bicycle Network

Preserve and enhance pedestrian and bicycle pathways to and through open space.

Manage Growth

Moving forward, it will be important that the District is well managed to maintain programming and activities that unlock its full potential as a robust innovation ecosystem and where talent is drawn to the KNED for both work and play. An organization, such as KNBA, could serve as a place-based management organization that would facilitate such activities.

During the concept planning phase for the KNED in 2020, it was projected that the demand to live, work, play, and learn in the District would accelerate over the next 25 years. The pace and extent of this growth will be shaped by multiple factors, including the ability of various modes of transportation to provide access to and through the District and the development capacity allowed by height and massing.

In all, the following sections provide the basis for the public realm and buildings that will emerge in the District. The Framework Section that follows lays out the natural systems, future mobility network, and the character areas that will guide future growth—building on the stakeholder input and the goals that have emerged throughout the process.

2

URBAN DESIGN FRAMEWORK

Defining Desired Outcomes but Preserving Flexibility

Over the next 25 years the District should evolve from a single-use "tech park" into a true live, work, play, learn innovation ecosystem anchored by two lively Activity Centres—each representing a compact critical mass of people, housing, and jobs to remain globally competitive in attracting businesses and workers. The Urban Design Framework and Guidelines are intended to set the built form and site design parameters for the gradual evolution of the District that will happen over time.

Combined with the KNED policies of the Official Plan, the framework and guidelines are complementary and provide a clear picture of desirable elements in future planning applications. This framework sets expectations and areas where there may be flexibility. The guidelines are written to serve either traditional zoning and site plan approvals or a new CPP process.

The Urban Design Framework and Guidelines apply core design principles and best practices from comparable technology parks in transition around North America. They embed principles informed by local property owners and stakeholders, with an emphasis on having a verdant landscaped community with more local streets, and with active and passive outdoor communal leisure and recreation spaces, and with creative buildings that can adapt easily to the needs of users as those needs change over time.

Organizing Elements and Intent

The Guidelines are intended to achieve three concurrent organizing ideas as the area evolves:

- The KNED embraces the natural systems that are part of the inherent character of Kanata North. This is very much part of its identity, and it is highly valued by workers, residents, and visitors to the District.
- The future of the KNED involves efforts in placemaking which will be crucial to attracting employers and employees. Placemaking will involve creating Activity Centres with a transit-served core, and a high-quality public realm.
- Sustainability, adaptability and resiliency are key elements in the transformation of the KNED. Building with energy conservation, environmental stewardship, and decarbonization are key features of future development. Since the District is a major global hub of technology, the newest ideas can be tested in the living laboratory that is the KNED.

Successful transformation over time will result in a mixed-use district with sufficient density to support lively streets and Activity Centres. The Activity Centres represent the heart of the District's innovation economy and culture. The initial focus of development in the KNED should be in these areas, where greater density and height will speed the process of accommodating the critical mass of housing and commercial development that will bring the District to life (Figure 2.3).

Development of the urban design framework provides the basis of the public realm network in the District, which will fuse two approaches: one, active places characterized by cafés, arts and live music, and similar places that draw people together and promote interaction; and two, green places that celebrate Kanata's natural setting in which people can experience nature directly.

(Figure 2.1) The Marshes Golf Club serves as both a recreational and environmental asset in the District, providing an open space amenity for residents, workers, and visitors.

(Figure 2.2) The public realm network will include opportunities for active or passive activities.

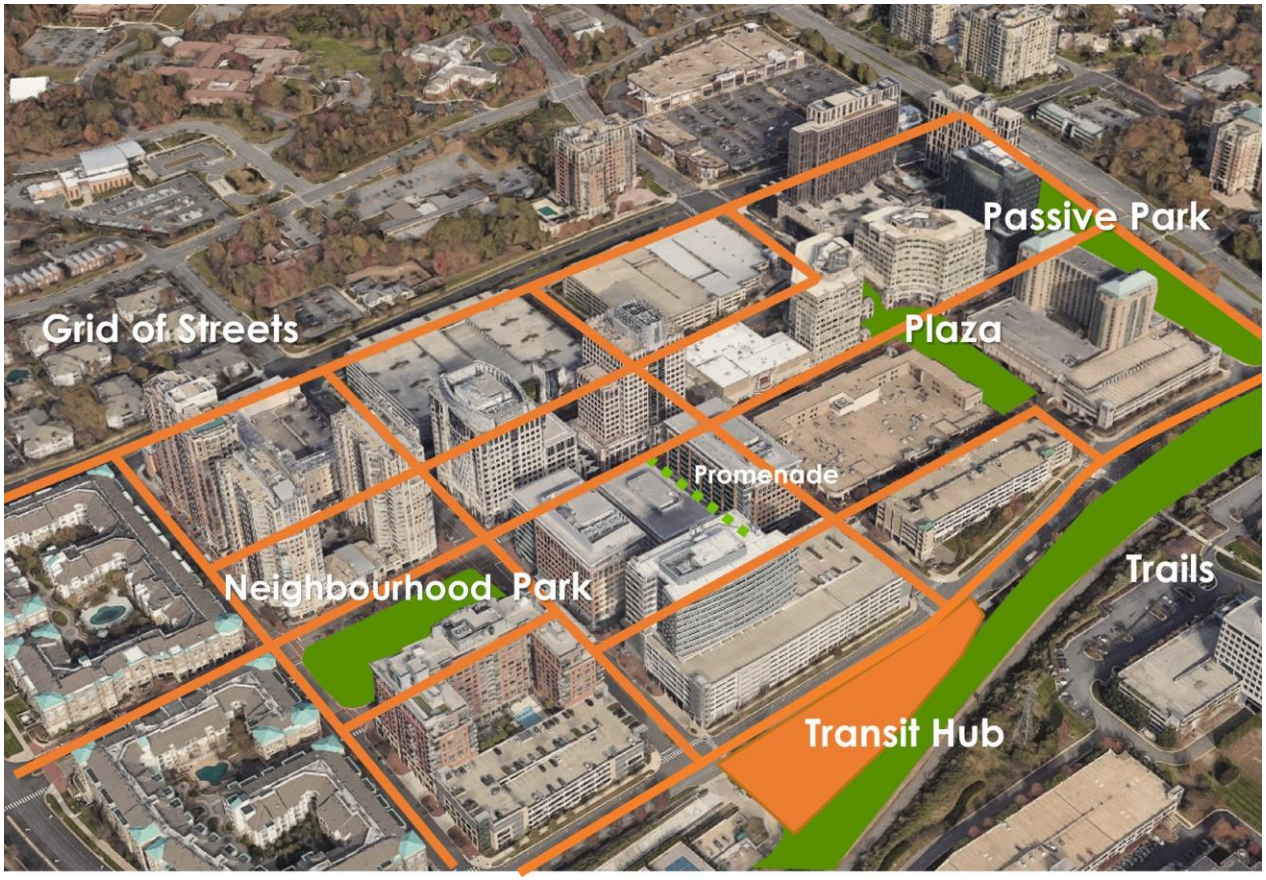
(Figure 2.3) The Urban Design Framework provides the basis for the public realm, buildings, and open spaces that will enliven the District.

The public realm network for the KNED will be built upon a series of frameworks that establish the "basic building blocks" for the District and allow for future growth and development (Figure 2.4).

The existing open space framework illustrates the natural lands in and around the District that contribute to and will link to future development through the future mobility system (Figure 2.5). The mobility framework establishes the modes of transportation and includes streets, sidewalks and trails, and BRT stops (Figure 2.6). The framework also specifies the primary streets in the District based on their character and function. Legget Drive will serve as the principal walkable "local main street" for the KNED's denser, mixed-use, core, while March Road will serve as the "front door" and primary transit corridor for the District. Local streets should be green and pedestrian friendly.

A lifestyle street is specified as part of future development at the intersection of March Road and Terry Fox Drive. The street will provide a unique public amenity space and mobility connection for the northern Activity Centre identified in the Character District map (Figure 2.7). Additionally, a finer street grid will develop as projects are advanced, that will create shorter blocks and provide greater connections between sites.

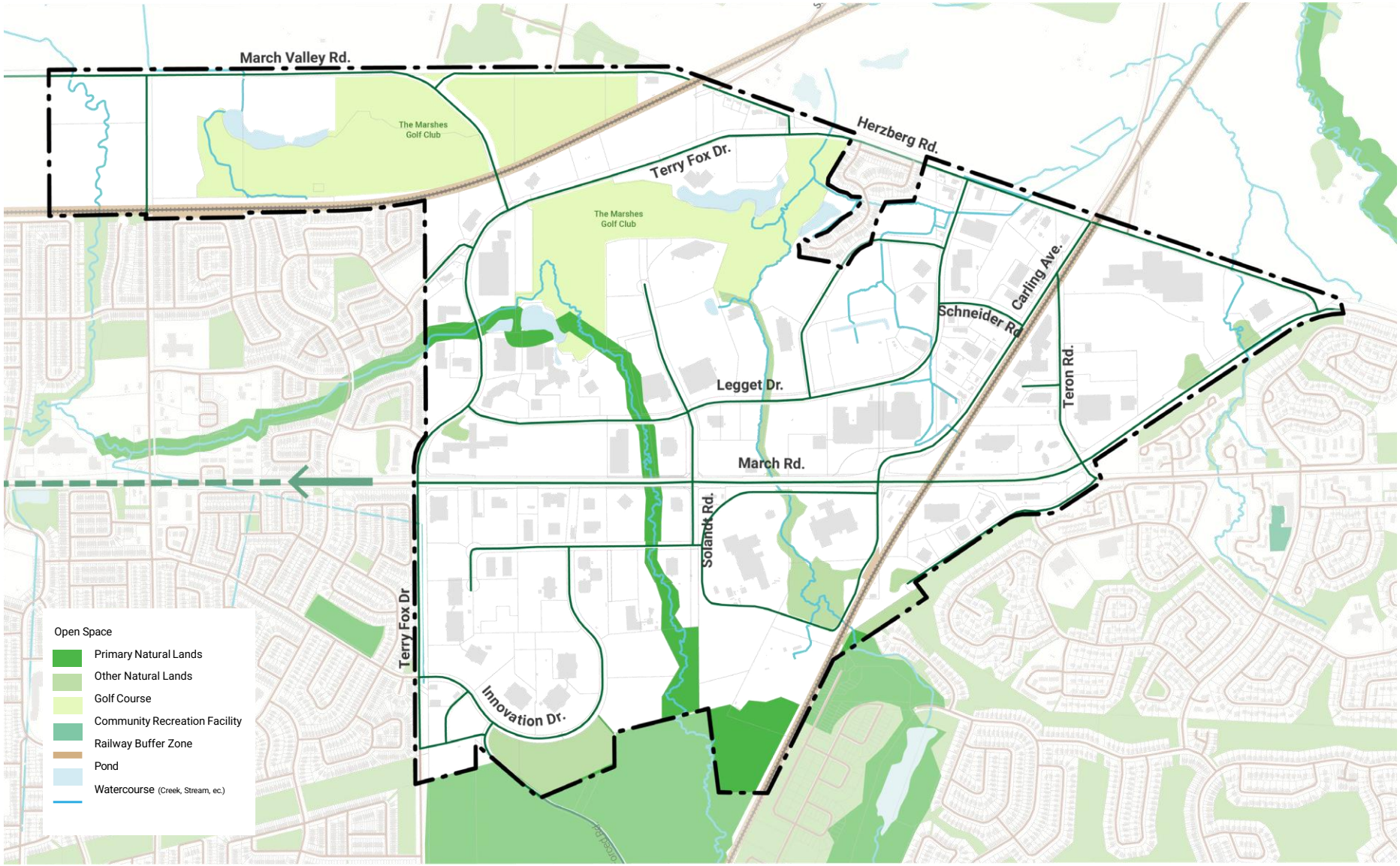
The Character District Framework map categorizes the District into three character areas, all of which provide specific guidance for buildings and site design in Sections 3 and 4. The classifications within the map were driven by the existing conditions analysis, community engagement, and existing guidance specified in the City's policy and regulatory documents.



(Figure 2.4) This is an example of a public realm network that is comprised of mobility and open space frameworks and demonstrates how various elements are intertwined to create a unified public realm. Guidelines in Section 4 – Public Realm and Connectivity Guidelines specify several elements that are vital for activating the public realm and creating a vibrant, mixed-use District.

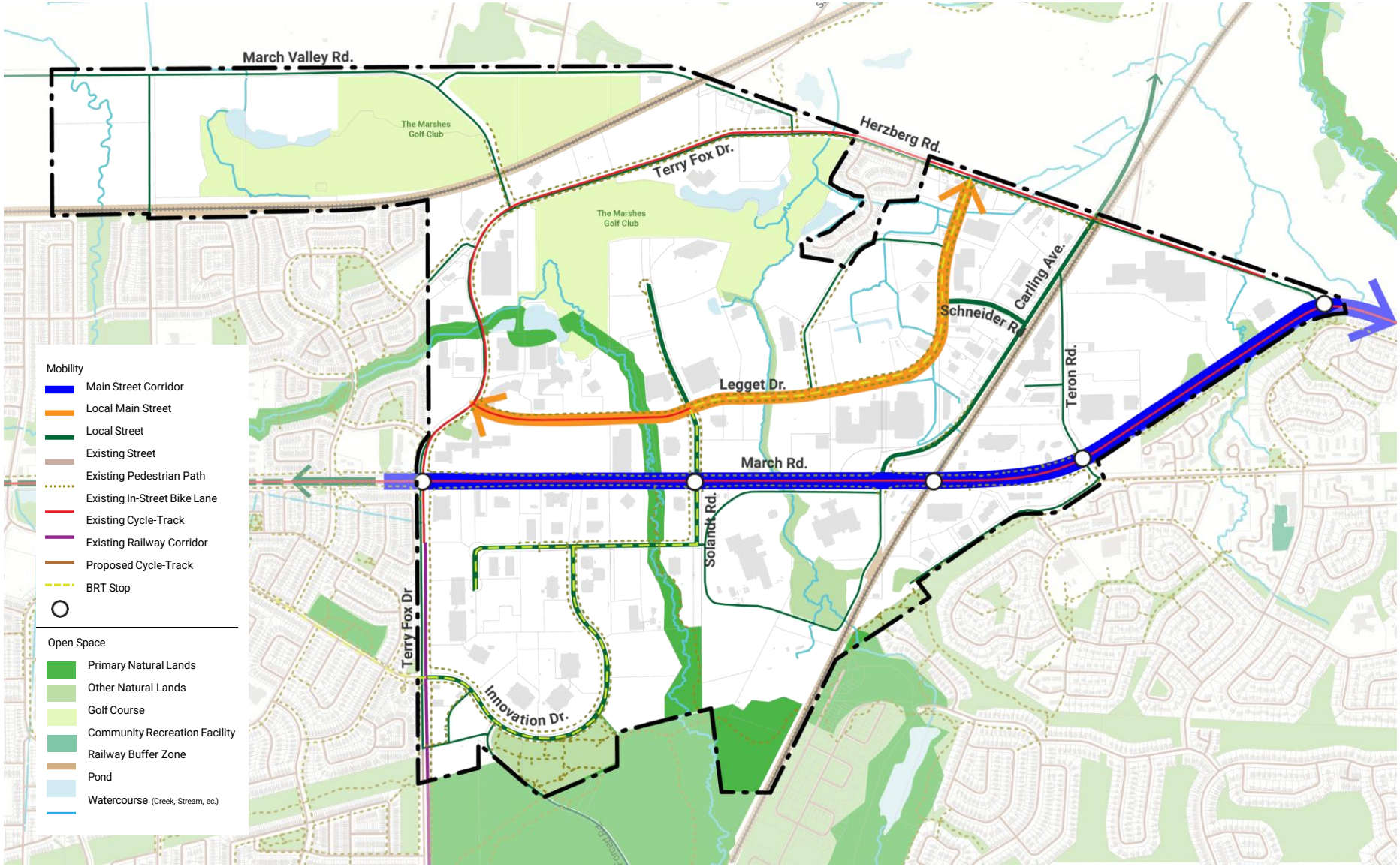
The framework elements that follow provide the fundamental organizing principles for the future development of the District upon which the public realm network will be built. Development of a distinctive public realm—including streets and sidewalks, trails, and open spaces (including privately owned public space or POPS) and unifying landmark features—will contribute to the character of the District and the development of an innovation ecosystem that is lively and inviting.

Open Space Framework



(Figure 2.5) The open space network illustrates all of the natural and man-made environmental amenities. The future open space network and public realm for the District should build off of the existing natural environment.

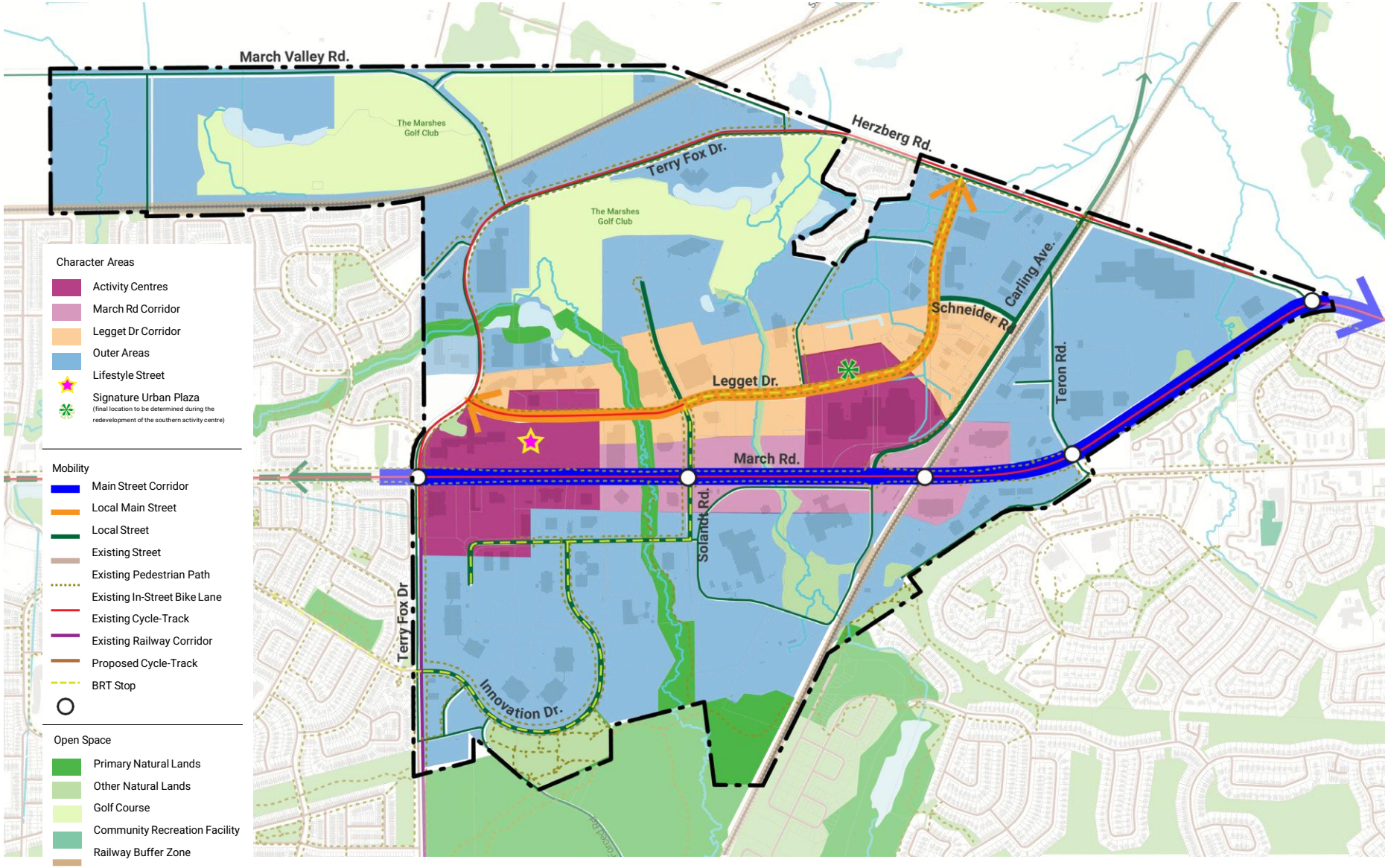
Mobility Framework



(Figure 2.6) The mobility framework illustrates the streets, trails, future transit, bicycle, and pedestrian pathways. In conjunction with the open space network, the mobility network allows for additional connections internal and external to the District.

*Despite formal classifications in the Transportation Master Plan, the street types specified in the Mobility Framework are based on character and function from an urban design perspective.

Character District Framework



(Figure 2.7) The character district framework provides geographic guidance for future development in relation to land use, building form and height, site design, and more.

Activity Centre

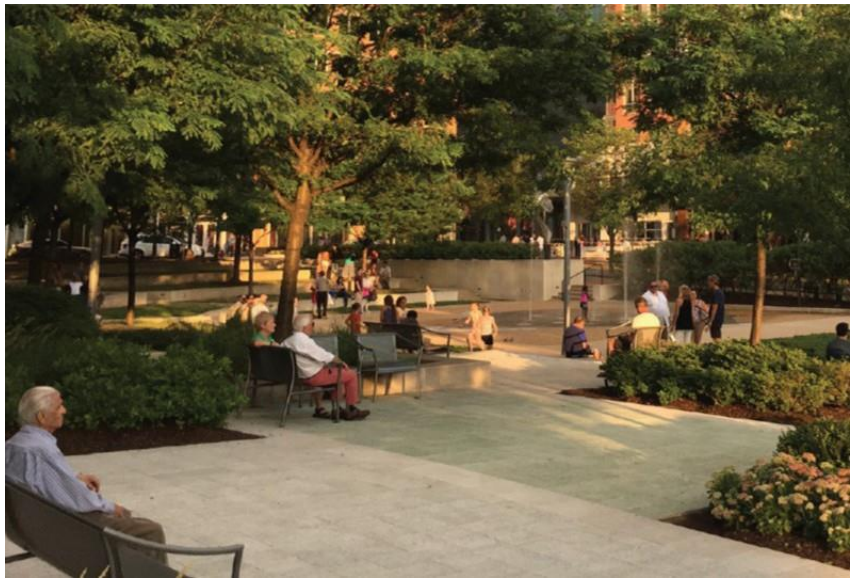
Activity Centres represent areas of the highest density in the District and are mixed use neighborhoods that will become the heart of the Innovation District's economy and culture. Two centres are identified between March Road and Legget Drive.

Corridor

Development in the corridors, outside of the Activity Centres, will consist mostly of employment uses. The March Road Mainstreet Corridor will serve as the grand entrance and gateway into the District and will also allow high-density mixed-use buildings. Legget Drive will serve as the District's "walkable street" with lower heights.

Outer Area

Outer areas are represented by those areas in the District that are not in an Activity Centre or Corridor designation. They are characterized by low- to medium-density uses that support the District's overall goals, such as flex and maker spaces, small businesses or startups, and other commercial and retail opportunities.



(Figure 2.8) The Goals for the District capture the sentiment that future mixed-use development should promote sustainability, both in the landscape and buildings, increase connectivity, and be adaptable to changing technology. The Activity Centres and public realm network will embody these qualities while promoting inclusivity and community.

3 BUILDING FORM GUIDELINES

1. Land Use

1.1 Activity Centres: Mixed-use, residential, employment, commercial, leisure, entertainment, and institutional uses and outdoor and indoor community amenity areas. Residential uses of three to four storeys are not permitted as standalone buildings, but may be permitted provided they are located at the base of, and are designed and physically connected to, a mid- or high-rise building.

1.2 Corridors: Land uses should generally be focused on employment uses such as office and research facilities, as well as post-secondary institutions. Mixed-use high-rise buildings will be permitted along the March Road Corridor outside of the Activity Centres.

1.3 Outer Areas: For areas outside of Activity Centres and corridors, land uses should generally be focused on employment uses, with light industrial uses, such as research support facilities, allowed.

1.4 Residential uses are prohibited within the first storey of buildings that abut lifestyle streets and signature urban plazas. However, entrances to residential units located above the first storey will be permitted provided these do not overwhelm the continuous commercial building wall along the street.

1.5 New non-transit supportive, auto-oriented land uses (i.e., auto parts, repair/service stations, car wash, drive-through facilities) shall not be allowed. Storefront car rental businesses, where cars are stored off-site and outside of the KNED, will be considered.

2. Siting, continuity, separation

2.1 Place the base of buildings so as to form a continuous building edge along streets and public spaces or Privately Owned Public Space (POPS). In the absence of an existing context of buildings developed at the street edge, new buildings should be sited at the back of the sidewalk.

2.2 Additional setbacks beyond the land use development standards and existing prevalent patterns may be necessary and appropriate at transit stops, building entrances for urban pocket parks and in tree preservation areas to accommodate heavy pedestrian traffic and public and private amenities.

2.3 Sufficient setbacks and step backs should be provided to avoid a street canyon effect and minimize microclimate impacts on the public realm and private amenity areas.

(Figure 3.1) These images convey character of the pedestrian realm along Legget Drive.

(Figure 3.2) An example of buildings forming a continuous building edge along a public street.

3. Building Height

3.1 Activity Centres: The minimum height is 4 storeys, and the maximum height is 40 storeys.

3.1.a Residential uses that are designed and built as part of the base of a high-rise building may be permitted with a minimum height of 3 storeys.

3.2 Corridors outside of the Activity Centres:

3.2.a March Road: the minimum height is 4 storeys, and the maximum height is 40 storeys.

3.2.b Legget Drive: the minimum height is 2 storeys, and the maximum height is 9 storeys.

3.3 Outer Areas: Minimum generally 2 storeys, Maximum 9 storeys for areas outside of Activity Centres and corridors.

3.4 When abutting a development area outside of the KNED, a 45-degree angular plane shall be applied to determine the heights of building planes on sites adjacent (Figure 3.3).

4. Parking

4.1 Development shall not require minimum parking, though it may be allowed as an interim measure as the area awaits the future development of the BRT system.

4.2 Locate parking underground or in above ground parking structures that are lined with active land uses to camouflage the parking use.

4.3. Limited surface parking spaces may be considered for emergency services access, as well as for the accommodation of people with disabilities, but these should be located interior to a site near building side or rear entries.

5. Massing for Low-rise Building

5.1 Building articulation should be used to create interest in the building and enhance the pedestrian experience. Blank walls of more than 8 m in length should be avoided.

5.2 Create a variety of horizontal and vertical planes through a variation of building materials or color to break up the mass of buildings and to create visual interest along the façade.

5.3 The design of corner buildings should incorporate building form variations that highlight the building's prominent and visible location, such as additional building height relative to surrounding buildings, distinctive rooftop and façade elements, and shifts in building geometry.

6. Massing for Mid-rise Buildings

6.1 Mid-rise buildings, including corner buildings, should include three distinctive and integrated parts—the base, middle, and top. These guidelines provide guidance for buildings based on these three component parts.

6.2 Implement height transitions to ensure compatibility with low-rise buildings by using stepbacks or other building form techniques.

6.3 Consider the incorporation of additional stepbacks at upper levels to reduce the perceived mass of the building, allowing more light to reach the street and creating terraces for outdoor use.

6.4 Design rooftops to include amenities such as terraces, gardens, or recreational areas for building occupants, enhancing the usability of the building.

6.5 Building articulation should be used to create interest in the building and enhance the pedestrian experience. Blank walls of more than 8 m in length should be avoided.

6.6 Promote architectural diversity while respecting the local context.

6.7 The design of corner buildings should incorporate building form variations that highlight the building's prominent and visible location, such as additional building height relative to surrounding buildings, distinctive rooftop and façade elements, and shifts in building geometry.

7. Massing for High-rise Buildings

7.1 High-rise buildings should include three distinctive and integrated parts—the base, middle, and top. These guidelines provide guidance for buildings based on these three component parts.

7.2 Innovative point tower building forms are encouraged over bar buildings, which are typically wider and shorter than point towers.

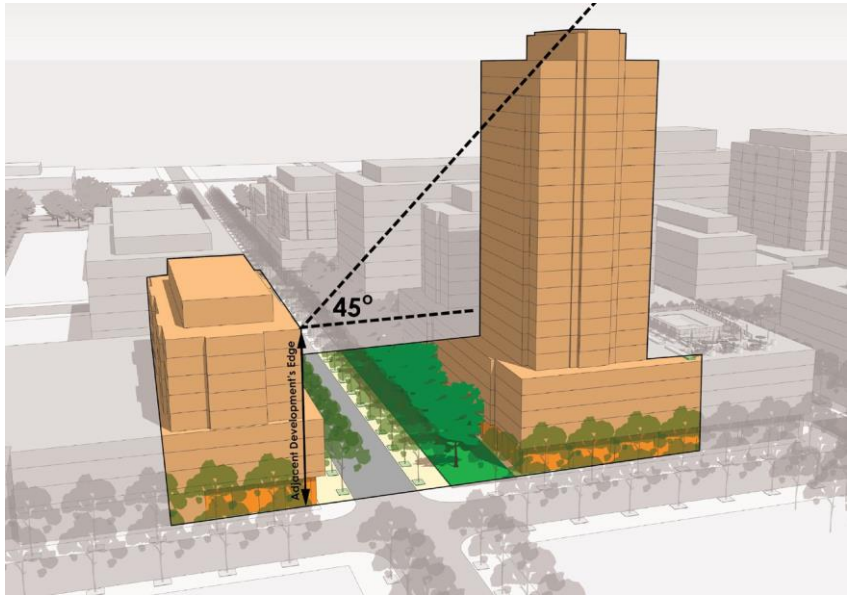
7.3 The development of landmark buildings is encouraged in the Activity Centres to create unique focal points for the KNED.

7.4 Generally, tower floor plates (or tower circumference) should be minimized, lessen shadow and wind impacts, loss of skyviews, and allow for the passage of natural light into interior spaces:

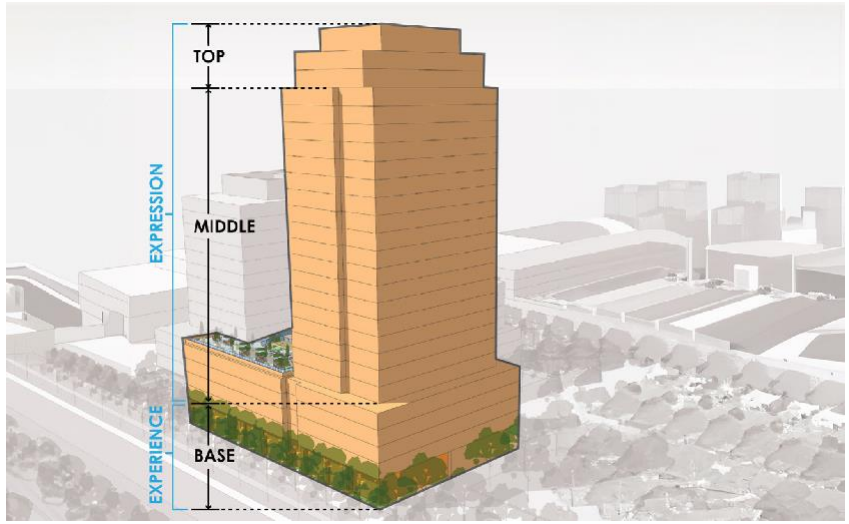
7.4.a the maximum tower floor plate for a high-rise mixed-use or residential building should be 750 m² (Figure 3.5);

7.4.b the maximum tower floor plate for a standalone high-rise office building should be 2,000 m².

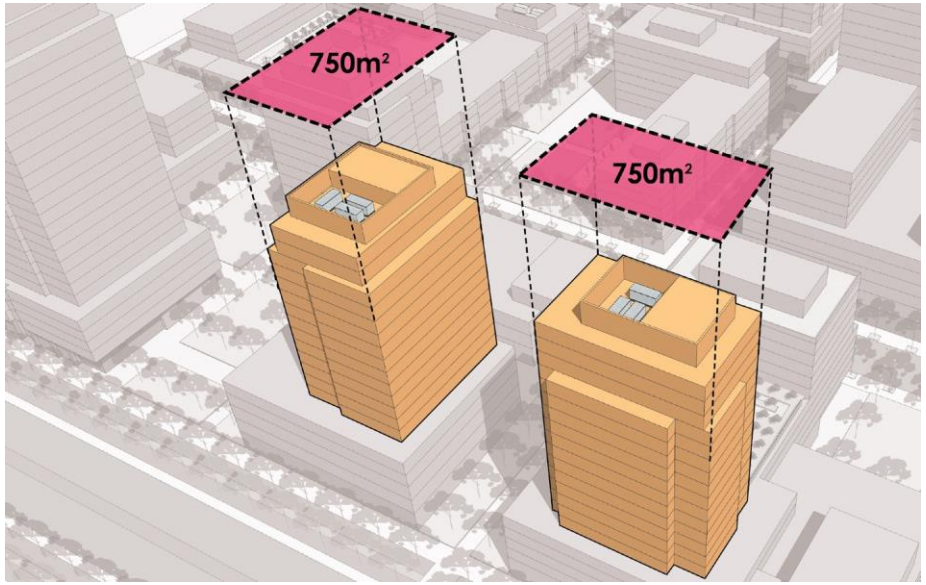
7.4.c where one or more high-rise buildings is proposed with floorplates larger than the maximums noted in 7.4.a and



(Figure 3.3) A conceptual illustration showing a transition from an Activity Centre to an adjacent development outside of the KNED.



(Figure 3.4) A conceptual illustration of the three component parts of buildings.



(Figure 3.5) A conceptual illustration showing the maximum floor plate of 750m² that includes all built areas.

7.4.b, a demonstration plan with supporting studies will be required for the entire property for which a development application has been submitted, illustrating that there are no undue adverse impacts of a large tower floorplate on the public realm, to the satisfaction of the General Manager of the Planning, Real Estate, and Economic Development Department.

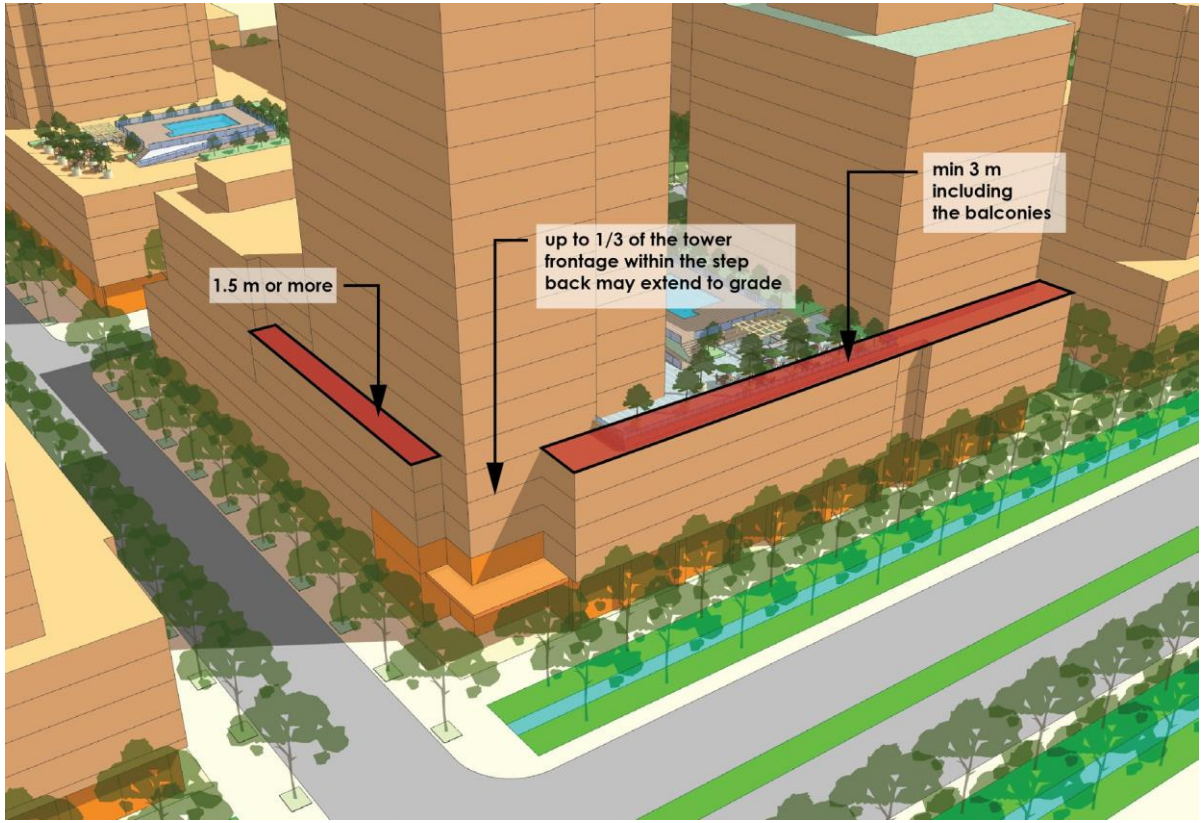
7.4.d floorplates that exceed the maximum recommended floorplate and tower separation dimensions shall provide a demonstration plan that validates that the tower configuration will lead to improved sunlight access on major public spaces.

7.5 Tower separation distances should allow for the proper spacing of towers to minimize environmental impacts and to allow for natural light into interior spaces, as well as into public space at the ground level:

7.5.a the minimum separation between towers should be 23 m;

7.5.b towers should be setback a minimum of 11.5 m from side and/or rear property lines when abutting another high-rise building.

7.5.c Separation between towers will be 23 m or 25 m depending on tower height, as specified in Section 2.25 of the City of Ottawa Urban Design Guidelines for High-rise Buildings. However, due to the unique goals and special nature of the KNED, flexibility will be provided so that a reduced separation may be considered on a site-by-site basis where it can be demonstrated that the placement of buildings will not create wind or shadow impacts on major public spaces on the site, pursuant to the City Terms of Reference for wind / shadow studies.



(Figure 3.6) A conceptual illustration of the required building step backs.

(Figure 3.7) The area on the top a building step back provides the opportunity for a range of outdoor amenities that can connect building activities to the public realm.

8. Building Base

8.1 Base height: High- and Mid-rise buildings facing the signature public plaza, Legget Drive, and March Road shall have a consistent base height set at 25 m that lines or faces the sidewalk and street edge.

8.1.a all other buildings, including building frontages along lifestyle streets, shall have a minimum base height of 2 storeys and a maximum base height of 3 storeys.

8.2 Base setback: Mixed-use buildings, and where permitted, residential buildings facing secondary streets can be set back with small garden areas but should be lined with residential front doors facing the street (together with a lobby entrance).

8.3 Step back above base: A step back of 5 m or greater shall be included on a building that faces the signature public plaza, lifestyle streets, and Legget Drive.

8.3.a in all other areas, a minimum step back, including any balconies, should be 3 m.

8.4 Up to one third of mid-rise and tower frontages in the activity centres, on the March Road Corridor or abutting public spaces may extend to the ground to allow for creative entrances and architectural approaches (Figure 3.6).

8.5 For lots where a step back is difficult to achieve, alternative design techniques to further delineate the tower from the base may be considered.

8.6 Where possible, workspaces, hotels, other non-residential uses, as well as mixed-use residential buildings should line the sidewalk edge with active uses.

8.7 Buildings should respect the character and vertical rhythm of the adjacent properties and create a comfortable pedestrian scale by:

8.7.a breaking up a long façade vertically through massing and architectural articulation;

8.7.b determining appropriateness of larger-scale façades in certain areas, such as along March Road; and

8.7.c introducing multiple entrances, one approximately every 10 m to allow for increased access into and out of buildings

8.8 Use high-quality, durable, and environmentally sustainable materials, an appropriate variety in texture, and carefully crafted details to achieve visual interest and longevity for the façade and that are unique and interesting to the eye, to reflect the innovation that is at the centre of the KNED economy.

8.9 Use bird-friendly best management practices in accordance with the City's guidelines. In particular, apply visual markers or use low reflectance materials on all exterior glazing within the first 20 m of the building above grade.

8.10 The ground floor of the base should be highly transparent to contribute to the vibrant public realm and pedestrian-friendly nature of the Activity Centres.

8.10.a Frontages along the lifestyle street, Legget Drive, public spaces, and local streets within the Activity Centres, should maintain a transparency of 60-80% along the public-facing building façade.

8.10.b All other frontages that line public roads and other rights-of-way should maintain a minimum transparency of 50% on public facing ground floor façades.

(Figure 3.8) The tops of buildings should make an overall contribution to the skyline of the KNED.

(Figure 3.9) The District should include a range of buildings from distinctive to background. Innovative, green building forms should reflect the image of the KNED while providing flexibility to create a unique built environment.

9. Building Middle (Tower)

9.1 Orientation and shape of a tower will be determined through fulfillment of the City Terms of Reference for wind / shadow studies.

9.2 Articulate the tower with high-quality, sustainable materials and finishes to promote design excellence, innovation, and building longevity, including:

9.2.a orienting and shaping the tower to improve building energy performance, natural ventilation, and daylighting;

9.2.b articulating the façades to respond to changes in solar orientation, wind effects, and context; and

9.2.c where possible, include operable windows to provide natural ventilation and help reduce mechanical heating and cooling requirements.

10. Building Top

10.1 The top should be integral to the overall architecture of a high-rise building, either as a distinct or lighter feature of the building or a termination of the continuous middle portion of the tower (Figure 3.8).

10.2 Integrate roof-top mechanical or telecommunications equipment, signage, and amenity spaces into the design and massing of the upper floors.

10.3 The top should make an appropriate contribution to the character of the KNED skyline:

10.3.a for a background building, the top should fit into the overall character of the skyline and have the ability to support outdoor resident amenities and/ or green roofs; and

10.3.b for a landmark building, the top should enrich the KNED skyline by creating a new focal point (Figure 3.9).

11. Architectural Materials and Details

11.1 Building Materials: Primary building materials should be high-quality and durable, including brick, granite, stone, metal, and glass. Flexibility should be provided for the specification of materials outside of these materials to allow for creativity and expression for the innovation ecosystem in the KNED.

11.2 Façade Projections: Main entrances should have canopies that project at least 2 m to provide weather protection for passersby. At entrances and along building façades, canopy projections with details such as metal hangers or support brackets, free-standing signage, and decorative light fixtures are encouraged.

11.3 Windows: When feasible, buildings should provide openings and windows that overlook public streets and open spaces to establish a human connection.

11.3.a Views into commercial spaces should not be obscured by signage or partitions.

11.4 Lighting: Building lighting should encourage pedestrian activity and safety at all hours while respecting residential uses.

11.4.a Entryways and areas of high activity should be appropriately illuminated while minimizing potential light glare, spill, and light pollution.

11.4.b Outdoor building sconces are required to add interest to building façades and additional light on the street. This is required for all commercial, office, mixed-use and residential development.

4 PUBLIC REALM & CONNECTIVITY GUIDELINES

1. Signature Urban Plaza and Lifestyle Street

1.1 The northern Activity Centre, at March Road and Terry Fox Drive will have a signature lifestyle street, while the southern Activity Centre, at Legget Drive, with have a signature urban plaza, each of which will offer central gathering spaces that may be privately-owned. The plaza and lifestyle streets shall be framed by buildings that include active ground level activity.

1.2 In the case of the signature urban plaza, a community building or 'District Hall' should be included that is a focal point adjacent to the plaza.

1.3 Each signature urban plaza and lifestyle streets shall be planned, designed, and programmed through the development application process.

1.4 The signature urban plaza and lifestyle street should be located as close as possible to the highest density development in each Activity Centre.

1.5 If a signature urban plaza and lifestyle street space is privately owned, it should be designed in a manner that the space is perceived as a public space, including appropriate wayfinding signage.

1.6 When a privately owned public space is intended to serve as a signature public space in the Activity Centres, the City may recognize the intent of the space to serve as a public amenity in exchange for additional height and/or density bonus. In addition, the ability to include streets that may be closed to vehicular traffic and function as a public gathering space are encouraged.

(Figure 4.1) The Signature Urban Plaza and Lifestyle Streets provide a key opportunity to introduce a central gathering place that will become the heart of the southern Activity Centre.

1.7 Place the base of buildings to form a continuous building edge to frame a signature urban plaza and lifestyle streets, and public spaces, including Privately Owned Public Space (POPS). In the absence of an existing context of buildings developed at the street edge, new buildings shall be sited at the back edge of the sidewalk.

2. Block Standards

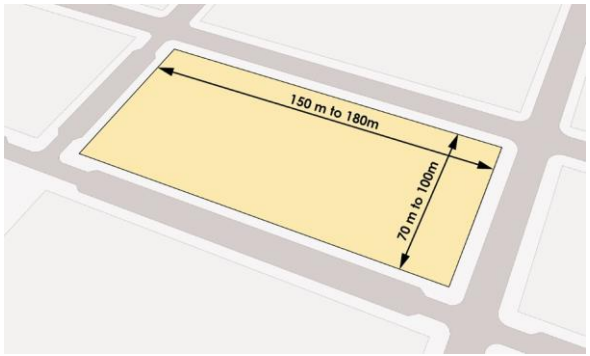
2.1 As development occurs in the Activity Centres and along corridors, new streets may be required to accommodate development. The average block size, regardless of ownership, should be maintained at approximately 1ha or 150-180 m lengthwise and 70-100 m widthwise (Figure 4.2).

2.2. Additional curb cuts and new streets should be carefully studied and coordinated with future District-wide transportation improvements.

2.3 Where appropriate, break up larger street blocks or larger development parcels by introducing mid-block pedestrian or multi-use connections, public or private, outdoor or indoor to increase and enhance the overall pedestrian accessibility and walkability of the area (Figure 4.3).

2.4 When a mid-block connection is on private lands, it should be properly signed and designed to welcome pedestrians and may be integrated into the lobby or atrium of a high-rise building (Figure 4.4).

2.5 Any private roadways built within the block structure should maintain sidewalk and street tree standards equivalent to the standards for public streets.



(Figure 4.2) A conceptual illustration conveying the recommended block size and street pattern for the KNED as redevelopment occurs.

2.6 Any through-lots within the District that abut both Legget Drive and March Road shall adhere to the street frontage standards for each respective street. Additionally, any corner through lots that front Legget Drive, March Road, and Solandt Road shall adhere to the street frontage standards for each respective street.

3. Building and site access

3.1 Implement the City's Accessibility Design Standards.

3.2 Locate the main pedestrian entrance at the street with a seamless connection to the sidewalk.

3.3 Where the main pedestrian entrance is located away from the sidewalk provide a direct, clearly defined pedestrian connection such as a walkway or a pedestrian plaza, between the main pedestrian entrance and the sidewalk.

3.4 Pedestrian entrances should be located at the edge of the sidewalk or along open space for buildings located in Activity Centres.

(Figure 4.3) Development on a typical block in the Activity Centres will include high-rise buildings that line active sidewalks with retail, restaurants, or other commercial activity at grade, with other uses located above. Building heights will step down as they transition to lower intensity character areas.

(Figure 4.4) Examples of mid-block crossings with active uses at the ground level.

4. Loading, servicing, and utilities

4.1 Entrances and access for servicing and utilities should be located on private internal drives where feasible (Figure 4.5).

4.1.a Private access located on Legget Drive or Solandt Road east of March Road is discouraged.

4.2 Access for servicing and utilities in the District shall be provided from the rear of buildings, a public lane, or a shared driveway to minimize the visual impacts and interference with the pedestrian realm (Figure 4.6).

4.3 Internalize and integrate servicing and other required utilities into the design of the base of the building.

4.4 When they are not internalized, screen servicing, loading, and required utilities from public view and ensure they are acoustically dampened.

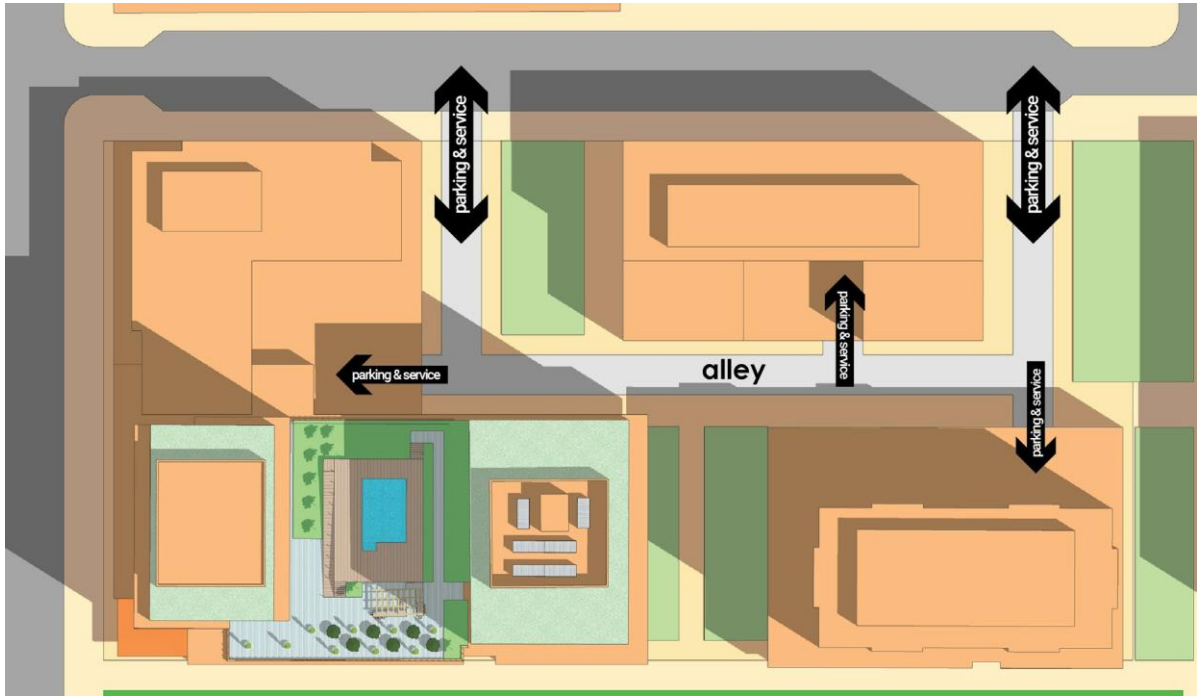
4.5 Recess, screen, and minimize the size of garage doors and service openings visible from streets and other public spaces.

4.6 Service and garage openings should be screened or designed as integral parts of the building and high quality finishings should be used.

4.7 Ventilation shaft, grates, and other above-grade site servicing equipment must be oriented away from public sidewalks and communal spaces and must be integrated into the building and landscape design.

4.8 Coordinate, and where possible integrate, public transit stop elements such as benches and shelters within the site and building design.

(Figure 4.5) This service entrance is off a private drive, integrates with the building style, and is adequately screened.



(Figure 4.6) A conceptual illustration showing a block and alley configuration with private drive or lane access to servicing and parking.

5. Streetscape and Landscaping

5.1 Street Trees

5.1.a A mix of native species is recommended to encourage biodiversity. Street trees should maintain like varieties on the same block.

5.1.b The street-tree pattern should be spaced consistently at an approximate distance not to exceed 8 m. A closer spacing distance of 6 m should be considered for Legget Drive and other highly-trafficked pedestrian areas including the lifestyle street.

5.1.c The District includes a number mature tree stands, both in natural settings as well as adjacent to buildings and streets. The preservation of mature trees is desired, and should be addressed during the review process and integrated into future development.

Buildings adjacent to March Road and Legget Drive may be setback to preserve mature stands of trees provided those that are preserved are used as the basis for an urban pocket park or other public realm amenity, with street furniture, wayfinding signs and similar that will work seamlessly with the urban fabric necessary to transform the park from a suburban to urban environment.

5.1.d Plant trees in permeable surfaces with approximately 10 m^2 of soil area per tree to allow for successful growth over time.

5.1.e Street trees along the lifestyle streets should be planted in a manner that provides enhanced landscaping and tree canopy for pedestrians. A double row of trees should be considered on both sides of lifestyle streets to create a park-like setting.

5.2 Lighting

5.2.a Street lights should be located at the outer edge of all sidewalks, should be 4-5 m tall, and should be spaced regularly at least every 15 m.

5.2.b Lighting should be compatible with, and not conflict with the tree canopy, should be aimed away from the windows of residential uses and should be Dark Skies compliant.

5.2.c Outdoor sconce lighting is required on all new buildings for interest, safety, and illumination.

5.2.d The lifestyle street should be illuminated with pedestrian oriented lighting that animates the street and provides visual interest throughout the year.

5.3 Street Furniture

5.3.a Benches and raised planters that include integrated seating should be provided along retail frontages at a minimum of two per block face.

5.3.b Benches should be placed near the curb and beside a planted tree in the direction that provides the greatest opportunity for shade. On Legget Drive and adjacent to the signature public plaza and lifestyle street, two benches should be placed perpendicular to the street and facing each other in between tree planting areas.

5.4 Special Landmark Features

5.4.a Special landmark features should be included and repeated along Legget Drive and along the lifestyle street that are unique to the KNED and act as identifiers of the distinct nature of the District's innovation businesses. Special landmark features could include distinct light stands and sconces, unique street furniture, unique signage or hard landscaped features such as stone posts, repeating banners, public art, as well as interactive placards that present interesting facts about the District or area within the District.

5.4.b Special features unique to March Road that reflect its role as the 'main gateway' to the District should also be considered.

5.4.c Gateway sites into the KNED should have distinctive landmark features and should have buildings oriented outward that identify entrance to, and welcome people to, the District.

5.5 Special Conditions

5.5.a Legget Drive:

Provide consistent curbside landscaping that complements street tree plantings without interfering with on-street parking access and street furniture. Outdoor planters at various levels should be used to augment landscape treatments.

(Figure 4.7) Unique and inviting street-level activities that engage workers, residents, and visitors throughout the year, particularly during wintertime, will ensure that the District maintains a vibrant and welcoming environment.

5.5.b March Road:

Landscaping along March Road should be indicative of the surrounding context and include a mix of street trees and clusters of natural plantings that reflect the nature surrounding the District. Wider building setbacks from March Road will allow for the planting of a double row of street trees and unique public art displays that convey the spirit of the District's innovation culture.

5.5.c When included as part of a development application, public amenities such as plazas and green spaces should primarily be provided at the ground plane to allow wider public accessibility.

6. Public Realm Activation

6.1 The Kanata North Economic District is set within a unique natural environment. The District's public realm should be equally unique and support formal and informal programming during all four seasons to provide an active and lively setting.

6.2 Provide ground-level activities within buildings that enhance the public realm and serve as a public amenity throughout the year. Examples include a public indoor garden, museum, library, or other passive or active recreational amenity that serves to enrich the cultural and/or ecological experience of employees, residents, students and visitors (Figure 4.7).

6.3 Consider a wide range of recreational activities geared towards students and young professionals including mini skate parks, rollerblade tracks, rock climbing walls, indoor space for ping pong, billiards or cards, board game and trivia nights in addition to other amenities for all ages and genders.

6.4 Introduce outdoor elements into the open space and public realm network that provide an engaging environment throughout all four seasons. Examples include the ability to support an ice-skating rink in the signature urban plaza (that doubles as a splash pad or outdoor performance venue in warmer months), park areas set aside for ice sculptures or winter play, a structure or natural ice-skating ribbon, a cross-country ski trail, or other outdoor amenities that provide year-round interest.

6.5 In addition to the following guidelines, a broader winter city design approach should be developed and used as a guide for the buildout of the public realm network.

6.5.a Plan for smaller distributed snow storage areas with solar access to melt snow more quickly. Storage area placement should consider site drainage and be located to not create a waterflow issue on impervious surfaces. Snow storage shall not interfere with walkability and access.

6.5.b Consider solar access in the placement of buildings and outdoor spaces. The mass of buildings should maximize shade in the summer and sunlight in the winter onto open spaces.

6.5.c Ensure that there are areas for respite from the sun in summer months located in the signature urban plaza, along the lifestyle street and corridors, and along local streets and paths.

6.5.d Roofs of buildings and awnings should be designed to prevent falling snow and ice.

6.5.e Provide building entries along external spaces, such as parks and plazas to shield entryways from cold and wind.

6.5.f Use colorful awnings, canopies, and streetscape treatments to provide visual interest throughout the year.

6.5.g Incorporate covered passsageways and overhangs on key pedestrian streets to enhance pedestrian comfort.

7. Active Street Frontages

7.1 Active street frontages play an important role in animating the District's public realm and ensuring a variety of activities and levels of pedestrian interest. While these guidelines pertain primarily to mixed-use buildings within the Activity Centres, should any multi-family residential buildings within the District be permitted, these should strive to provide an active and engaging street front that will complement the area's evolving mixed-use and pedestrian-friendly development pattern.

The location of recommended Active Street Frontages illustrated in Figure 4.9 provides the general location for the application of the following guidelines. In addition to these locations, any lifestyle streets, public or private, should be lined with active frontages as specified in these guidelines.

7.2 Ensure that ground-floor uses are active and pedestrian-oriented within Active Street Frontage areas. Uses that have low propensity for walk-in traffic should be discouraged from locating in these locations.

7.3 Ensure that primary building entrances are clearly visible and intuitively accessible from the street. For all buildings facing streets and green or open space, a primary access point on the public space should be provided.

7.4 Create a focal point for corner buildings through building articulation or by locating the entry near the corner.

7.5 Provide frequent entries, transparency, and operable walls where possible to encourage visual and physical connections between the ground floor and the public sidewalk.

7.6 Avoid blank walls greater than 4 m in length. If unavoidable, they should be landscaped or decorated in a manner that makes them visually interesting.

7.7 Orient private balconies and terraces toward the street to encourage an interface between the private and public realms and to create eyes on the street.

7.8 Include elements such as textured materials, awnings, plantings, signage and seating to create a visually engaging and inviting building edge to frame the sidewalk and create stopping points to relax, gather, and socialize.

7.9 Standalone Residential Buildings: Mid- and High-rise residential buildings should include active uses at the ground level for those façades that front public streets and public open spaces. Methods for activating these frontages may include:

7.9.a Providing transparent windows along street frontages and incorporate active resident uses such as resident workspaces, workout facilities, or community room.

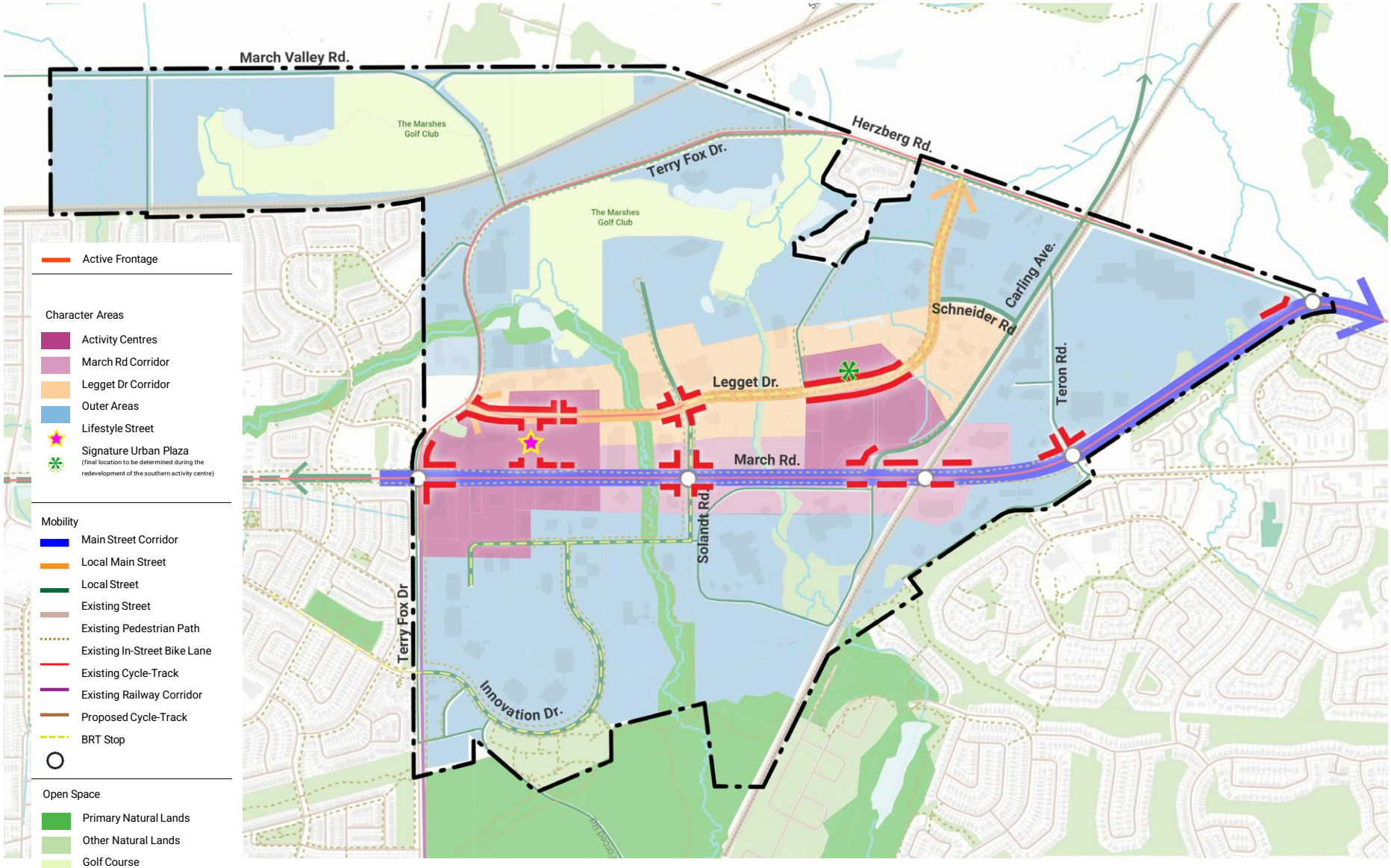
(Figure 4.8) Active street frontages provide engaging pedestrian spaces and create a connection between the public realm and adjacent buildings.

7.9.b Incorporating residential units along frontages and include individual unit entryways.

7.9.c Providing enhanced landscaping (i.e. closer street tree spacing, planting beds, additional plants and shrubs) and sidewalk amenities (i.e. seating and other street furniture, public art).

7.9.d Incorporating pedestrian-scale lighting and wayfinding signage.

Active Street Frontage

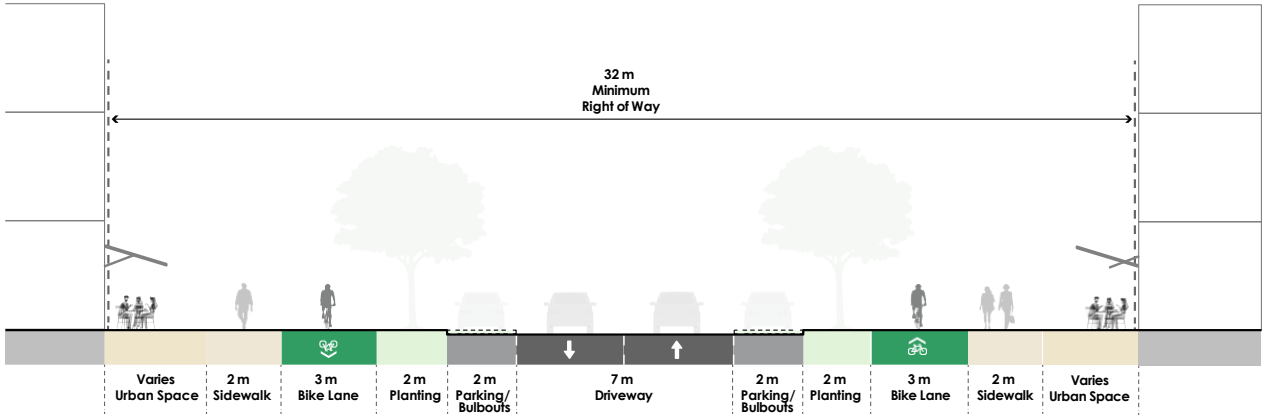


(Figure 4.9): The Active Street Frontage map provides the recommended locations for active building frontages, including restaurants with outdoor seating, active retailers, and other active and engaging ground floor uses.

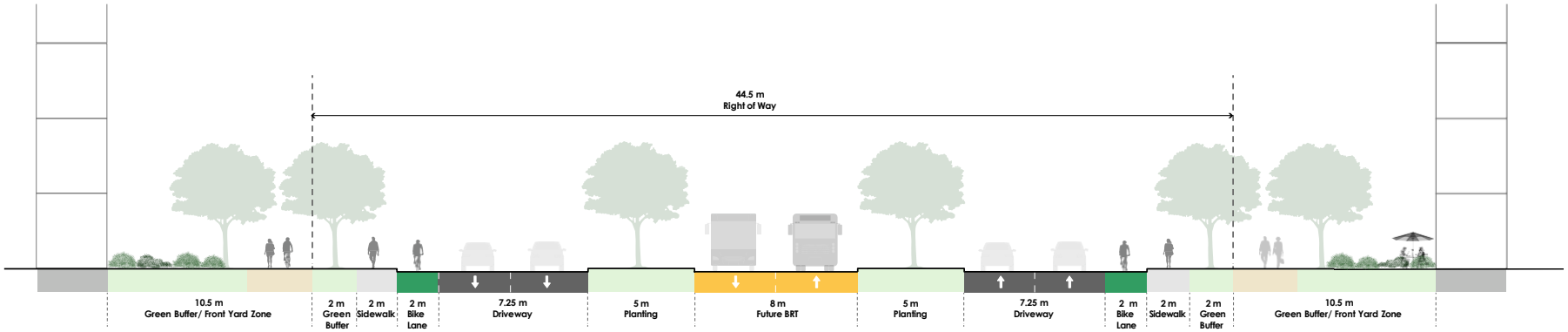
8. Street Sections

8.1 As the KNED builds out over time, streets will need to evolve to accommodate the public realm and built environment envisioned in these guidelines.

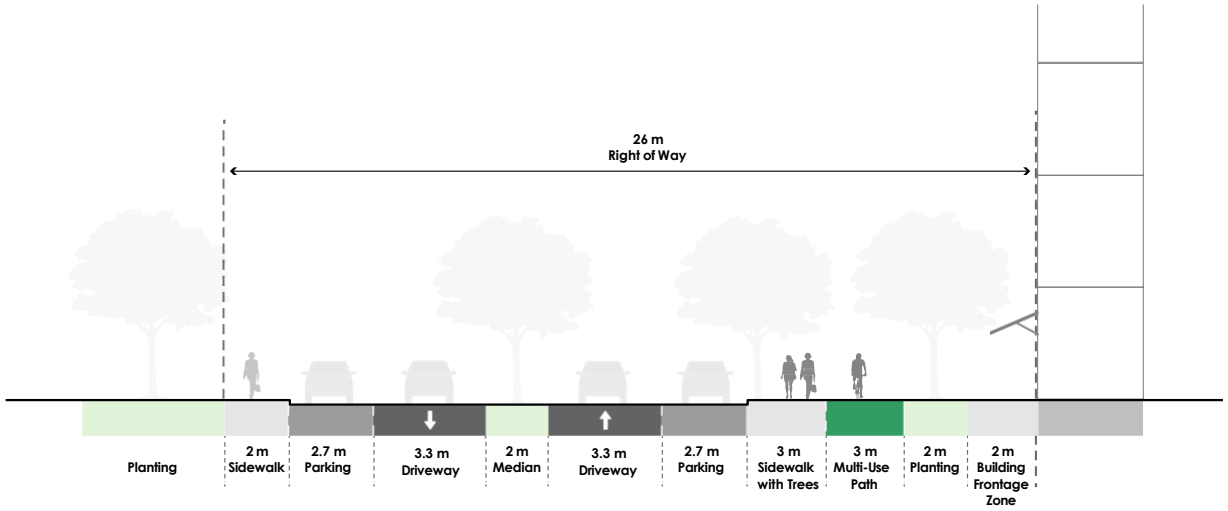
The following street sections provide recommended guidance for the key streets in the District. They address the elements of the public realm that will create a more pedestrian-friendly environment while accommodating all modes of transportation. While this guidance serves as the basis for the design of streets and the public realm, further design guidance, including the development of specific dimensional standards and the interface between the public realm and private property, should be informed by further study and analysis of the overall mobility network. Refer to Figure 4.10 for map of recommended street typologies.



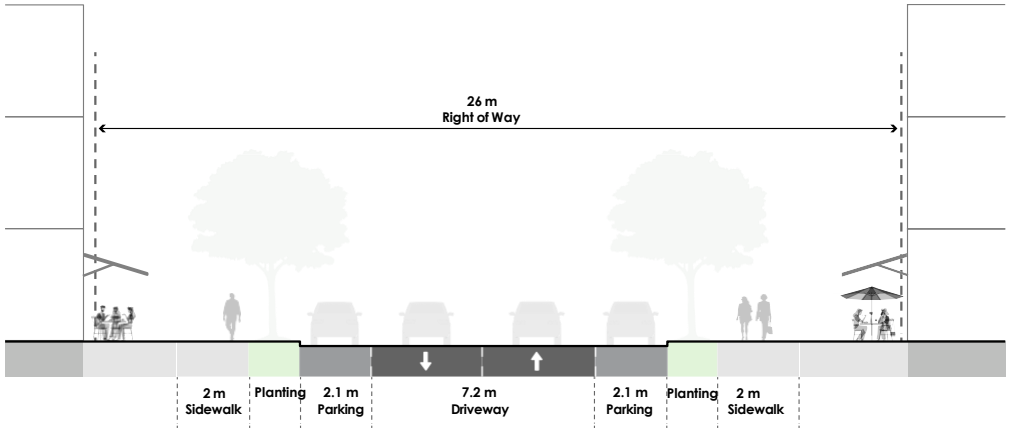
Legget Drive



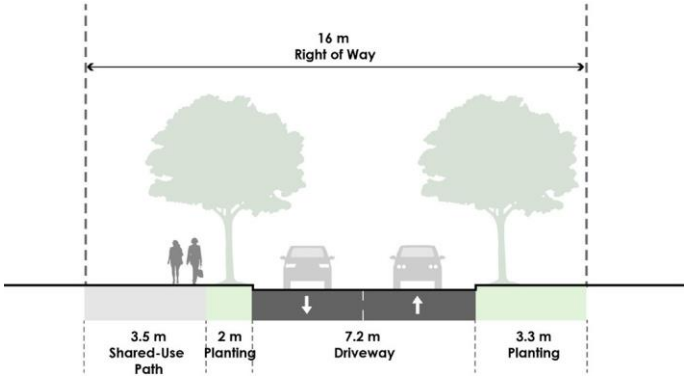
March Road



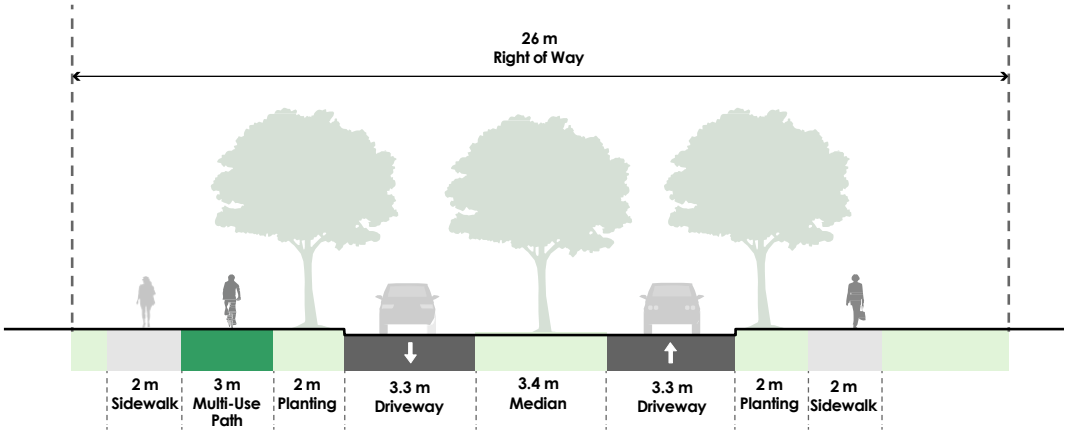
Terry Fox Drive east of March Road



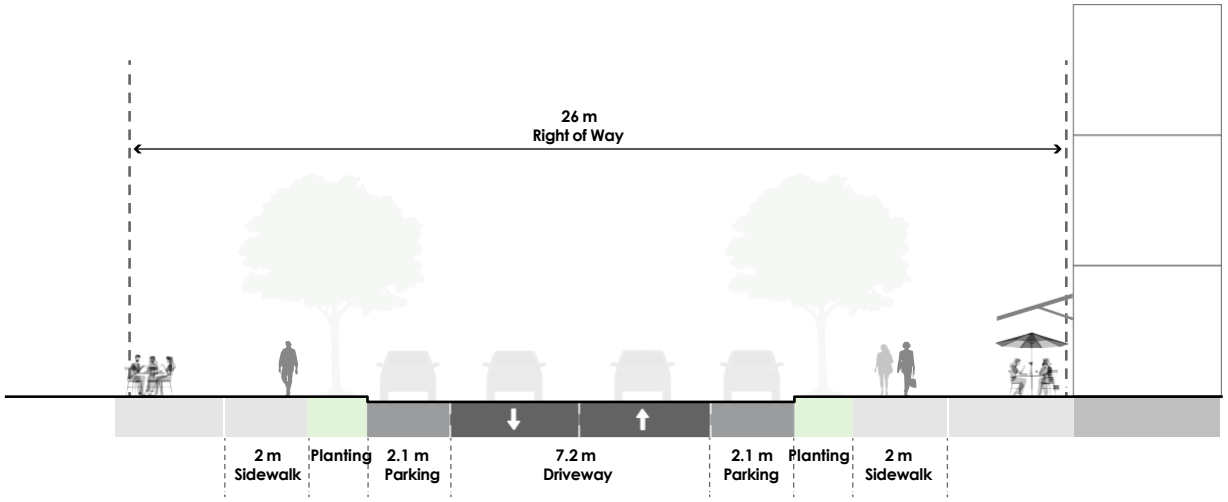
Local Street (in Activity Centres and Corridors)



Local Street (outside of Activity Centres and Corridors)

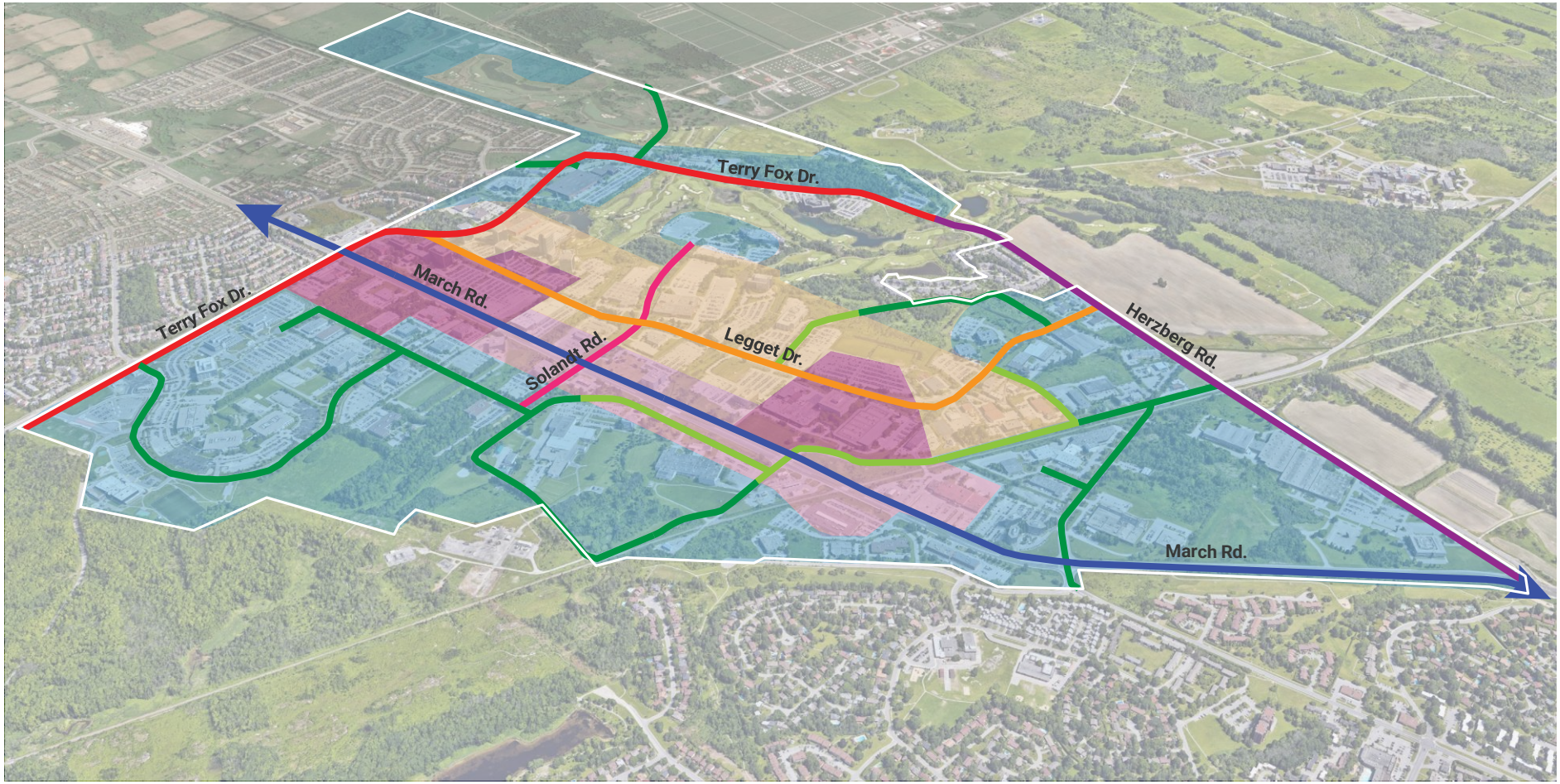


Herzberg Road



Solandt Road

Street Typology Map



(Figure 4.10): The Street Typology map provides locations of the recommended streetscape typologies as outlined in the previous sections, including specific streets and area locations of local streets within or outside of Activity Centres and Corridors.