

Region of Peel Settlement Area Boundary Expansion Study

# HEALTH ASSESSMENT

## FINAL REPORT



November 2020

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# 1.0 INTRODUCTION



# 1.0 Introduction

## 1.1 Purpose

This report is one of several technical studies being prepared to support the Region of Peel's Settlement Area Boundary Expansion (SABE) Study. The purpose of the report is to provide input into the selection of a Recommended Settlement Area by providing quantitative and qualitative evaluation from a health perspective.

## 1.2 Boundary Expansion

The Region of Peel is currently undertaking a comprehensive update to its Official Plan ("Peel 2041+"). This update is required to ensure conformity to Provincial policies and plans, including the recently revised Growth Plan for the Greater Golden Horseshoe.

The 2019 Growth Plan requires that the Region of Peel achieve a population of 2.28 million and employment of 1.07 million by 2051.

Current needs assessments by the Region indicate that new urban land will be required to meet the Growth Plan population and employment targets to 2051. Preliminary forecasts assume that the SABE will need to accommodate additional population of 183,000 and additional employment of 67,700 by 2051. The size of the FSA is approximately 8,000 hectares, just under twice the size of the total estimated land need of 4,400 hectares required to accommodate these forecasts.

Under the Growth Plan, a settlement area boundary expansion greater than 40 hectares may only occur through a municipal comprehensive review (MCR).

To identify this expansion area, the Region of Peel is working in partnership with a team of consultants to undertake the Settlement Area Boundary Expansion (SABE) Study and identify new urban lands for development. The SABE Study is being undertaken in four phases, as follows:

- A. Background Report and Identification of Focused Study Areas
- B. Technical Studies on Focused Study Areas
- C. Identification of Recommended Settlement Area
- D. Recommendations and Final Regional Official Plan Amendment (ROPA)

This report forms part of Phase B of the SABE study, and is being undertaken concurrently with a number of other discipline-specific technical studies. These include:

- Transportation Study;
- Public Facilities Study ;
- Cultural Heritage Study;
- Archaeologic Assessment;
- Employment & Commercial Opportunities;
- Agricultural Impact Assessment;
- Climate Change Study;
- Fiscal Impact Study;
- Mineral Aggregate Resource Impact Study;
- Consultation Strategy;
- Water and Wastewater Assessment; and
- Environmental Screening & Scoped Subwatershed Study.

The evaluation component of the Health Assessment will be informed, in part, by the findings of these concurrent technical studies.

In concert with the findings of the other technical studies, the results of the Health Assessment will inform the Recommended Settlement Area as chosen from a larger Focused Study Area (FSA). The FSA is addressed in greater detail in Section 1.4.

Beyond the SABE Study, there are subsequent stages in the planning process where a more detailed and/or comprehensive health assessment may be more

relevant. These assessments may include focused analysis on a concentrated geographic area or specific site (e.g. Secondary Plan, Neighbourhood Study, individual development application). The Health Assessment will also provide policy direction to be included in the Regional Official Plan to guide subsequent planning stages.

### 1.3 Public Health and the Built Environment

The built environment has a significant impact on our physical and mental health and well-being. How our streets, neighbourhoods, towns and cities are designed and built has a great impact on everyday choices for how and where we live, travel, access services, and interact with one another.

A significant body of research underpins the connection between community design and public health outcomes.

The Chief Public Health Officer’s Report on the State of Public Health in Canada 2017 stated that there is ‘tremendous potential’ to helping Canadians live healthier lives in changing the way we design our built environments. Research demonstrates that an unhealthy built environment is likely to cause greater instances of chronic disease, such as diabetes, cancer and cardiovascular disease, unhealthy diets, physical inactivity, exposure to harmful pollutants, housing insecurity, and social isolation<sup>1</sup>.

Research suggests that areas with a mix of uses, good public transit access and well-maintained pedestrian infrastructure result in greater uptake of active transportation<sup>2</sup>, which leads to improved levels of fitness

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1 Tam, T. (2017). The Chief Public Health Officer’s Report on the State of Public Health in Canada 2017: Designing Healthy Living. Public Health Agency of Canada.

2 Handy, S. L., Boarnet, M. G., Ewing, R., Killingsworth, R. E. (2002). How the built environment affects physical activity: views from urban planning.





and lower body weights<sup>3</sup>. When people have better access to sources of healthy food, research shows that they are less likely to be obese and have a reduced risk for early death<sup>4</sup>. Scientific studies have also demonstrated that the location and proximity of green spaces are correlated with levels of physical activity<sup>5</sup>, and may also have positive benefits for improving mental health<sup>6</sup>.

In light of these connections, though this study is being undertaken to support selection of the SABE, public health factors should be considered at every stage of the planning process to maximize opportunities to develop a healthy community.

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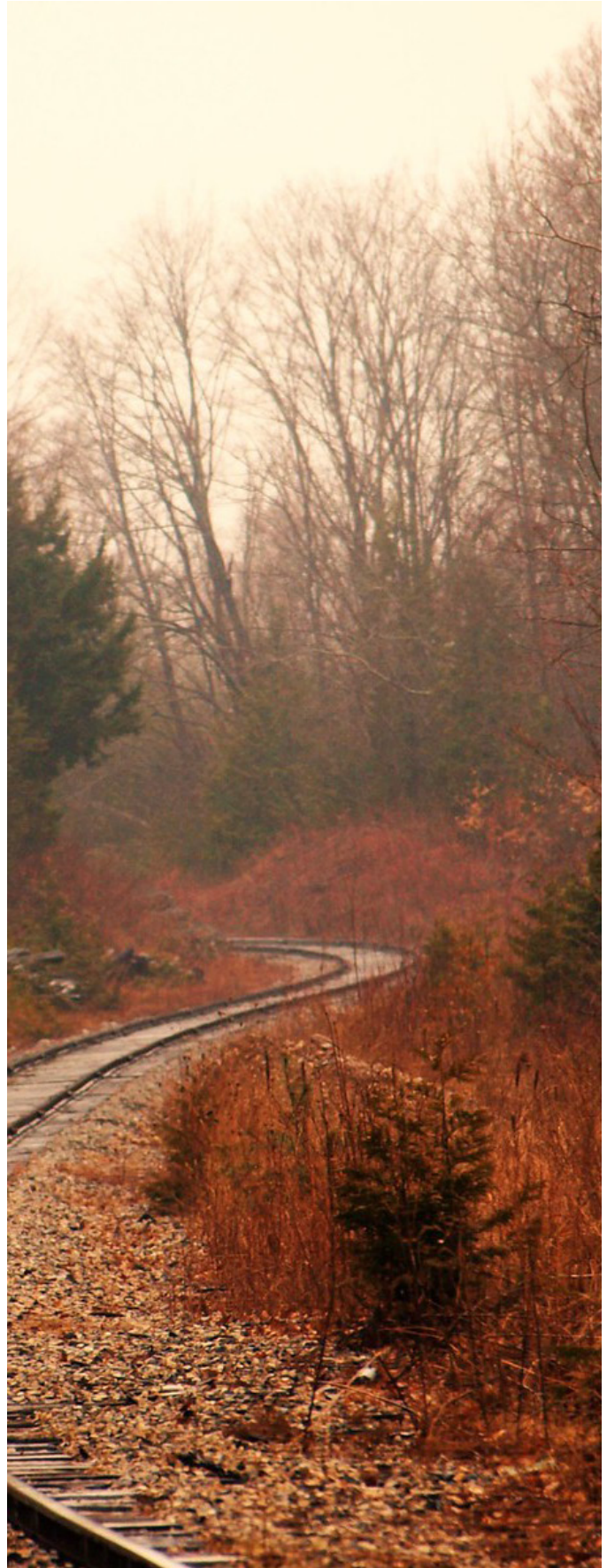
American Journal of Preventive Medicine, 23(2), 64-73.

3 Canadian Institute of Planners. (2012). Healthy Communities Practice Guide.

4 Cobb, L. K., Appel, L. J., Franco, M., Jones-Smith, J. C., Nur, A., Anderson, C. (2015). The relationship of the local food environment with obesity: a systematic review of methods, study quality, and results. *Obesity*, 23(7), 1331-1344.

5 Coombes, E., Jones, A. P., & Hillsdon, M. (2010). The relationship of physical activity and overweight to objectively measured green space accessibility and use. *Social science & medicine*, 70(6), 816-822.

6 Cohen-Cline, H., Turkheimer, E., & Duncan, G. E. (2015). Access to green space, physical activity and mental health: a twin study. *J Epidemiol Community Health*, 69(6), 523-529.



## 1.4 Focused Study Area

The SABE FSA is located in the southern part of Caledon and is shown on the map below (Figure 1). It is a contiguous area which is primarily an extension of the existing Settlement Areas. The FSA is large enough to allow for a number of SABE configurations that would be logical extensions of existing settlement areas.

The FSA lands are largely rural in nature, with much of the lands currently used for agricultural.

Residential communities are located in and around Bolton and Mayfield West, with future settlement to include the newly designated Bolton Residential

Expansion Area. This designation was adopted by Peel Regional Council under Regional Official Plan Amendment (ROPA) 30, but is currently under appeal.

Commercial and industrial centres include Victoria, Sandhill and Tullamore, which provide local employment contained within a range of forms ranging from industrial manufacturing sites to commercial office business parks.

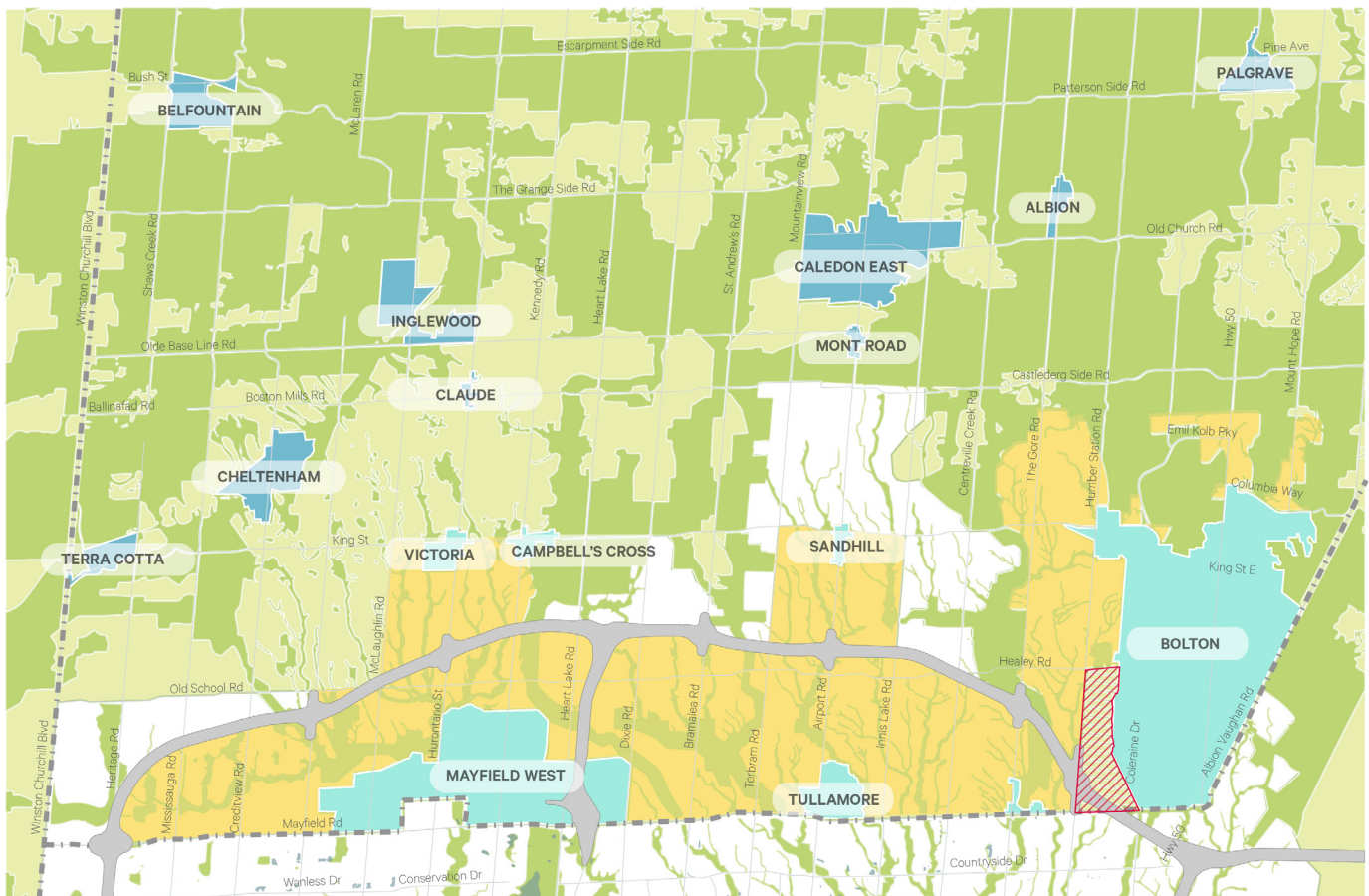










Figure 1 Focused Study Area

### LEGEND

-  Municipal Boundary
-  Focused Study Area
-  Greenbelt Areas
-  GTA West Corridor (Preferred Route)
-  Bolton Residential Expansion Area (ROPA 30 - under appeal)
-  Settlement Areas (outside Greenbelt)
-  Settlement Areas (inside Greenbelt)
-  Natural Environment High Constraint Areas

0 0.5 1 2 km 

# 2.0 BACKGROUND & CONTEXT



## 2.0 Background & Context

### 2.1 Provincial, Regional and Municipal Planning Policy

A hierarchy of provincial, regional and municipal planning policies and regulations guide the achievement of health-promoting built environments. These include the Provincial Policy Statement, the Provincial Growth Plan, Region of Peel Official Plan (including ROPA 27) and various municipal Official Plans. This section provides an overview of these policies and regulations, providing specific references to each parent document.

#### 2.1.1 Provincial Policy Statement (2014)

The 2014 Provincial Policy Statement (PPS) includes directives to support active and healthy communities through planning of the built and natural environment. It requires land use to be managed to accommodate the full range of current and future needs, while achieving efficient development patterns and avoiding sensitive areas and resources which may pose a risk to public health and safety.

The PPS supports healthy communities through planning public streets, spaces and facilities to facilitate active transportation and community connectivity (1.5.1.a). A full-range and equitable distribution of built and natural facilities, parklands, public spaces, open space areas and trails and linkages (1.5.1.b) is required to ensure access to recreation and promote an active lifestyle. The PPS requires the promotion of appropriate development standards which facilitate intensification, redevelopment and compact built form, while avoiding or mitigating risks to public health and safety (1.1.3.4).

The Province of Ontario recently released an updated PPS (2020). The new PPS retains strong policy directives supporting appropriate development and land use patterns facilitating healthy, liveable,

active and resilient communities. It also introduces strengthened language around the protection of public health and safety in regards to planning for infrastructure and public service facilities (1.6.4), sewage and water services (1.6.6), and natural hazards (3.0). It will come into effect on May 1, 2020 and all decisions affecting planning matters after that date will be required to be consistent with the new PPS.

#### 2.1.2 A Place to Grow: Growth Plan for the Greater Golden Horseshoe (2019)

The Growth Plan for the Greater Golden Horseshoe (“the Growth Plan”) provides a framework for implementing the Province of Ontario’s vision for building stronger, prosperous communities by managing growth within the Greater Golden Horseshoe to the year 2051. The Growth Plan’s guiding principles include the achievement of complete communities that are designed to support healthy and active living and to meet people’s daily needs throughout the lifecycle.

The policies of the Growth Plan support an improved overall quality of life, including improved human health for people of all ages, abilities and incomes (2.2.1.4.b). Complete communities will achieve expanded access to active transportation, public service facilities, open spaces, parkland and recreational facilities, and local and healthy food options (2.2.1.4.d). It directs municipalities towards the achievement of compact built forms, transit-supportive densities and walkable street configurations which promote active travel modes and optimizes existing infrastructure systems.

#### 2.1.3 Region of Peel Official Plan (2018)

The Region of Peel Official Plan provides high-level policy guiding physical, environmental, economic and social planning across the Region, including its approach to development and growth management. The Official Plan contains specific direction on creating

built environments which support healthy communities, with a focus on increased rates of uptake for active transportation. This is supported by a number of policies in the Regional Official Plan (ROP), including Section 5.9.5 The Inter and Intra-Regional Transit Network and 5.9.10 Active Transportation.

The ROP states that healthy communities are impacted by six interconnected elements of the built environment. These are:

- Density;
- Service Proximity;
- Land Use Mix;
- Street Connectivity;
- Streetscape Characteristics; and
- Efficient Parking.

The ROP includes references to the Region's Healthy Development Framework, with policies directing area municipalities to integrate the framework into relevant policies, plans, standards and design guidelines (7.4.2.4), and to incorporate required health assessments into the application process for planning and development proposals (7.4.2.5). The Healthy Development Framework is an overall suite of health assessment tools which includes the Healthy Development Assessment Guidelines (see Section 3.6) and several local context-specific assessment tools, and was approved by the Region as part of Regional Official Plan Amendment (ROPA) 27. This Amendment is described in further detail in the following section.

#### **2.1.4 Regional Official Plan Amendment 27 (2017)**

On February 23, 2017, Regional Council adopted Regional Official Plan Amendment (ROPA) 27. ROPA 27 originated from the Peel 2041+ Regional Official Plan Review (Peel 2041+). The Amendment includes policies related to health and the built environment and age-friendly planning, which are two of the ten focus areas of Peel 2041+. It increases and strengthens the application of health-based principles into the land-use planning process across the Region of Peel.

ROPA 27 introduces policies that:

- Require Regional and municipal planners to be consistent and integrate the Healthy Development Framework (HDF) evidence-based elements and standards into relevant planning policies, standards, and design guidelines.
- Require new development applicants to complete a health assessment as part of the development application process to ensure that health impacts are considered and prioritized in new development
- Require that the results of health assessments be reported to local councils to support the decision-making process.
- Require health assessments for new Regionally or municipally owned and operated public facility project applications.
- Support partnerships with the area municipalities to assess the community health and wellbeing of developed areas to inform development, policies, strategies and/or studies, that will ensure communities are age-friendly, walkable, provide access to transit services where such services exist or are planned, and contain a mix of housing options.
- Require monitoring processes from the Region and area municipalities to ensure the application of the *Healthy Development Framework* and relevant health assessments to determine its effectiveness in contributing to healthy communities

#### **2.1.5 Municipal Official Plans**

The Region of Peel consists of the municipalities of Brampton, Caledon and Mississauga; each municipal Official Plan includes language that supports the application of health-based goals and objectives to support complete communities in planning processes. The relevant policy references are identified in the table on the next page.

Document	Policy Reference	Policy Text
Town of Caledon Official Plan (2018 consolidation)	Objective 4.1.8.2.1	To plan Caledon as a complete community that is well-designed, offers transportation choices, accommodates people at all stages of life and has an appropriate mix of housing, a good range of jobs and easy access to retail and services to meet daily needs.
	Objective 4.1.8.2.2	To protect and promote human health through community planning and design.
	Policy 4.1.8.3.2	Caledon will participate jointly with the Region of Peel and area municipalities in the preparation of an assessment tool for evaluating the public health impacts of development proposals.
	Policy 4.1.8.3.3	Caledon will work jointly with the Region of Peel and area municipalities to raise awareness of public health issues related to planning.
City of Brampton Official Plan (2015 consolidation)	Objective 3.1	Develop healthy, sustainable complete communities that are compact, transit-oriented and pedestrian-friendly with a mix of uses and a variety of housing choices, employment, and supporting services and facilities.
	Policy 4.11.4.7	When utilizing the implementation tools stated in Section 4.11.4.3, all development and redevelopment will be subject to the consideration of the following elements:  xiv) Public Health: How the design and use of the physical development positively contribute to human health
City of Mississauga Official Plan (2019 consolidation)	Policy 7.1.2	The creation of complete communities and the implications for public health will be considered by Mississauga when making planning decisions.
	Policy 7.1.3	In order to create a complete community and develop a built environment supportive of public health, the City will: <ul style="list-style-type: none"> <li>a. encourage compact, mixed use development that reduces travel needs by integrating residential, commercial, employment, community, and recreational land uses;</li> <li>b. design streets that facilitate alternative modes of transportation such as public transit, cycling, and walking;</li> <li>c. encourage environments that foster incidental and recreational activity; and</li> <li>d. encourage land use planning practices conducive to good public health.</li> </ul>
	Policy 7.1.4	Mississauga will raise awareness of the link between the built environment and public health
	Policy 19.3.7	To provide consistent, efficient, and predictable application of environmental planning principles, all applications will have regard for: m. public health

**Table 1** Health-Related Policy Objectives within Municipal Official Plan Documents

## 2.2 Health-Specific Guidelines, Policies and Programs

Provincial and regional authorities in the Province of Ontario and Region of Peel have undertaken significant work addressing the topic of healthy built environments; the outputs have included provincial standards, regional discussion papers, and development guidelines, among others. The Province and Region have a strong mandate and priority to build and sustain complete communities which support the health and well-being of residents across all stages of the lifecycle. The key priorities identified through this work were used to inform the evaluation framework and principles presented in Section 3.

### 2.2.1 Ontario Public Health Standards (2017)

The Ontario Public Health Standards are established by the Minister of Health and Long-Term Care for the provision of mandatory health programs and services, pursuant to Section 7 of the Health Protection and Promotion Act. The Standards identify requirements for public health programs and services to be delivered by Ontario's 35 boards of health, and are also accompanied by a set of Protocols and Guidelines that provide further direction for implementation. Most recently updated in 2017, the revised Standards came into effect in 2018.

Of relevance is the Healthy Environments Standard, which aims "to reduce exposure to health hazards and promote the development of healthy built and natural environments that support health and mitigate existing and emerging risks, including the impacts of a changing climate". Requirements include:

- Engagement by boards of health in community and multi-sectoral collaboration with municipal and other relevant partners to promote healthy built and natural environments.
- Participation by boards of health in local processes for developing, updating or reviewing municipal bylaws and standards as authorized by

municipalities under the Ontario Municipal Act to support changes which are intended to improve health outcomes and address the impacts of the social determinants of health.

- Collaboration between boards of health shall and municipalities under the Ontario Planning Act to address local impacts of climate change and reduce exposure to environmental health hazards in the community. Collaboration activities may include reviewing and providing comments to local planning authorities on regional and local official plans, including consideration of land use compatibility, every five years as part of the local planning cycle.

### 2.2.2 Ontario Public Health Association Built Environment Work Group

Inclusive of representatives from 16 Local Public Health Units across Ontario, the BEWG is a group of public health professionals working in the nexus between health and the built form. The Working Group seeks to influence provincial policy and contribute to provincial initiatives that will support public health efforts at a local level to improve the built environment. These initiatives cover topics including: healthy community design and land use planning, affordable housing within walkable communities, climate change, green space, active transportation and transit, and pedestrian, cyclist and motorist safety.

Some of the BEWG's recent initiatives include:

- Launching and offering a Public Health and Planning 101 online course
- Acting as advisory members for Public Health Ontario's Locally Driven Collaborative Projects (LDCP) project on healthy community design
- Submitted written comments and/or attended stakeholder consultation sessions for Provincial Bill 66 (2019), Amendment 1 for the Growth Plan for the Greater Golden Horseshoe, and Provincial Policy Statement Review



- Collaborated with the Ontario Healthy Communities Coalition on a webinar on built environment indicators
- Created series of infographic and report resources addressing public health and transportation, including the Public Health and Environmental Assessments Infographic, Transportation and Health White Paper, and Survey Report: Public Health’s Engagement in Environmental Assessments

### 2.2.3 Improving Health By Design in the Greater Toronto-Hamilton Area: A Report of Medical Officers of Health in the GTHA (2014)

The 2014 report by the Medical Officers of Health in the GTA discusses one of the priority issues related to the link between health and the built environment—transportation. The document describes itself as a ‘call to action’ in order to ‘achieve a shift in how we plan communities and the movement of people to increase walking, cycling and the use of public transit’.

Beginning with an analysis on human and economic cost of inactivity, the report identifies that 184 premature deaths and 1000 cases of diabetes could be prevented annually through increases in public transit use and active transportation through a more walkable and transit-supportive built form. GTA’s current low-density, car-dependent neighbourhoods negatively affects a range of public health outcomes, and the report argues that community design elements, such as density, service proximity, can have a big impact on changing these outcomes.

To address these challenges, the report highlights three key opportunities key to implementing a health-based rationale to community design. These include: funding The Big Move, strengthening political policies to support greater active transportation and public transit use, and normalizing planning for active transportation and public transit use.

### 2.2.4 Peel Public Health 2020–2029 Strategic Priorities for the Future

The Peel Public Health 2020-2029 Strategic Priorities are five key priorities informing planning for public health programs and services in the Region of Peel over a ten-year horizon. The document was the result of a comprehensive process carried out between 2018 and 2019, which included review of organizational mandates and key professional practice documents, consideration of new population health data, and consultation with community partners, residents and staff.

The five strategic priorities were identified as:

1. Practicing Effective Public Health
2. Enabling Active Living and Healthy Eating
3. Promoting Mental Wellbeing
4. Reducing Health-Related Impacts of Climate Change
5. Advancing Health Equity

Under the priority of Active Living and Healthy Eating, the report notes that Peel Region is still predominantly automobile-oriented. Despite efforts to support healthy land use decision-making and to build complete communities for chronic disease prevention, the majority of Peel’s residents (81%) commute to work in a car.

A number of short- and long-term public health interventions to achieve healthier lifestyles are identified, and include:

- Determining data gaps and complete relevant community mapping (e.g. assessing neighbourhood walkability and food environments);
- Working with partners to further promote land use and transportation policies that support active living;
- Ensuring that key settings promote active living and healthy eating, while advancing health equity; and

- Supporting community partners to improve the health impact of relevant municipal and institutional policies (e.g. land use, transportation, child care).

### **2.2.5 Region of Peel Official Plan Review Discussion Paper - Health and the Built Environment (2013)**

This discussion paper, prepared as part of the Peel 2041+ Official Plan Review by Peel Public Health, addresses the Region’s work in public policy to create or enhance the built environment to support health. It summarizes the actions taken by the Region to date, analyzes potential opportunities for and barriers to action, and makes recommendations for amendments to strengthen the Regional Official Plan to support healthy communities. Considering the “magnitude and pervasiveness of the challenge”, Peel Public Health’s assessment deemed that “current approaches are inadequate to achieve sufficient change in development form to significantly impact the health of the public”.

The analysis identifies the need to better integrate physical activity into residents everyday lives to shift transportation modes towards active transportation and public transit.

The report proposes amendments to the Regional Official Plan to:

- Incorporate the evaluation of built environment characteristics supporting health into the development approval process and the planning, policy, infrastructure provision and civic development activities of the Region and area municipalities
- Enable the requirement of health background studies from applicants as part of the development approval process
- Provide consistency on the use of health background studies in the development approval process by indicating: o under what circumstances a health background study is required and at what

stage in the development approval process; and on what a health background study is to include.

- Encourage the use of the principles established in the HDI (December 2009), HBS Framework (May 27, 2011) and Healthy Development Index Refinement Study (October 12, 2011) in guiding region- and area municipality-led planning initiatives, as well as civic development and infrastructure projects
- Ensure that the ROP as a whole supports the standards established in the terms of reference for health background studies
- Ensure that the official plans of area municipalities support the standards established in the terms of reference for health background studies

The report also acknowledges a number of challenges to implementation, including establishing a consistent, clear and useable terms of reference, accommodating for the additional resource requirements on staff and developers, ensuring proper training of staff, and aligning Regional and municipal policies and priorities.

### **2.2.6 Region of Peel Healthy Development Assessment**

The Healthy Development Assessment (HDA) is a tool developed by Peel Region to assist stakeholders in creating healthy and supportive built environments. The HDA measures the health-promoting potential of a planning or development proposal by producing a score to communicate the achievement of design standards that are conducive to a healthy environment.

The six core elements of the HDA are:

1. Density
2. Service Proximity
3. Land Use Mix
4. Street Connectivity
5. Streetscape Characteristics
6. Efficient Parking

For each of these core themes, the Assessment details their impact on health and contains a list of detailed standards to which applicants must demonstrate their achievement. The standards include both quantitative and qualitative requirements. Additionally, the Assessment tool contains two sets of standards, which apply to small-scale (i.e. site plans, Official Plan Amendments, Zoning By-law Amendments, smaller subdivision plans) and large-scale developments (i.e. Secondary Plans, block plans, subdivision plans).

All planning applications must submit a scorecard demonstrating their achievement of these standards. The scoring determines the proposal's health-promoting potential on a tiered scoring system of gold, silver, bronze and pass. The HDA is an informative component of a comprehensive application evaluation process, but is not applied in isolation as a means for approving or rejecting development proposals.

## 2.3 Best Practices and Precedent Reports

Beyond the existing policy and regulatory framework, a number of precedent documents were reviewed to identify relevant best practices for health assessments and key directives informing the relationship between healthy populations and planning for the built environment. The key indicators and themes identified were used to inform the evaluation framework and principles presented in Section 3.

### 2.3.1 Community Well-being: A Framework for the Design Professions (2018)

This report presents the findings of a collaborative project between the Conference Board of Canada and consulting firm DIALOG to develop a framework for defining and evaluating the built environment's contributions to community wellbeing. Designed with environmental design professionals in mind, the report highlights how design features contribute to community wellbeing at the interior/exterior, building/

site and neighbourhood/region scale. It also includes examples which inform a positive business case for designing for wellbeing.

The report identifies community wellbeing as:

*"[T]he combination of social, economic, environmental, cultural, and political conditions identified by individuals and their communities as essential for them to flourish and fulfill their potential."*

The Framework presents these five domains as essential to wellbeing, with indicators to define each domain (18) and respective metrics used to assess each indicator (48). Of relevance to this exercise are the indicators at the neighbourhood/regional level, which are summarized on the next page.

### 2.3.2 Healthy Communities Practice Guide (2012)

The Canadian Institute of Planners (CIP) Healthy Communities Practice Guide is a resource developed by the membership body of Canada's planning professionals to help planners understand 'why' and 'how' to effectively plan for healthy communities.

The Guide contains a framework expressing the underlying principles of healthy communities and methods for new and existing planning tools to implement healthy community initiatives at various scales.

The framework identifies four opportunities for strategic collaboration where planning can implement strategies for healthy communities, and the tools which are available for each.

The document also recognizes that though land use planning has enormous impacts on human health, social planning is key to a holistic understanding of well-being. Social development, mental health and spiritual wellbeing are critical determinants of health by allowing communities to build social capital and nurture a sense of belonging and personal meaning.

Well-being Domain	Indicators
Social	<ul style="list-style-type: none"> <li>• Are all people able to live, work, and play in the neighbourhood, 24/7, safely?</li> <li>• Do people have access to the services and amenities that support living/working in the neighbourhood: healthy food, active lifestyles, open space, recreation, health services, schooling, places of social gathering, shelter, means of transport?</li> <li>• Are people in the community, especially the vulnerable, able to enjoy welcoming spaces of social gathering at the “heart” of the community?</li> </ul>
Environmental	<ul style="list-style-type: none"> <li>• Does the neighbourhood invest in the quality and beauty of the public realm?</li> <li>• Does the neighbourhood function contribute positively to the reduction of GHGs and to the functioning of all natural and environmental systems?</li> <li>• Does the neighbourhood encourage people to lead active lifestyles and to undertake daily travel by walking, cycling, and transit?</li> <li>• Is the neighbourhood resilient able to adapt to significant changes in their modes of sustenance, social support systems, and daily routines?</li> </ul>
Economic	<ul style="list-style-type: none"> <li>• Does the neighbourhood offer people economically accessible opportunities to satisfy everyday life needs?</li> <li>• Can people realize the activities of everyday life within walking distance? Is walking and cycling prioritized in the neighbourhood?</li> <li>• Does the development/design of the neighbourhood account for ongoing maintenance and operation and for the economic burden to society and the environment?</li> <li>• Does the neighbourhood foster opportunities for local employment and for the development of a knowledge economy?</li> </ul>
Cultural	<ul style="list-style-type: none"> <li>• Does the neighbourhood offer a variety of locations for the enjoyment of cultural programming, art, and heritage?</li> <li>• Do people, regardless of background or abilities, share a sense of collective ownership and stewardship for the neighbourhood?</li> <li>• Does the neighbourhood offer opportunities for people to play, relax, exercise, and engage creatively?</li> <li>• Does the neighbourhood offer opportunities for people of all ages to learn and develop?</li> </ul>
Political	<ul style="list-style-type: none"> <li>• Do parts/aspects/operations of the neighbourhood incite a positive sense of collective ownership?</li> <li>• Are clear engagement expectations established with different stakeholder groups?</li> <li>• Is a diversity of professional disciplines, stakeholders, and constituents meaningfully engaged from early in the process?</li> </ul>

**Table 2** Summary of Community Well-being: A Framework for the Design Professions

### 2.3.3 Healthy Rural Communities Toolkit: A Guide for Rural Municipalities (2015)

The Healthy Rural Communities Toolkit provides planning and development strategies that can help rural communities create a healthier community and population. The Toolkit was a Locally Driven Collaborative Projects (LDCP) initiative funded by Public Health Ontario. The report recognizes that rural communities face unique challenges to the achievement of healthy communities. Rural communities are characterized by low population densities, expansive geographic landscapes, dispersed low-density populations, and a heavy reliance on automobiles; all of these are counter-intuitive to the concept of complete communities. The Toolkit defines and articulates the relationship between rural planning, determinants of health, and community economic development.

13 action areas influencing health in rural municipalities were identified. The Toolkit outlines the importance and/or impact of each action area as related to health, as well as recommendations for rural municipalities. These are briefly summarized in Table 4 on the next page.

### 2.3.4 Planning By Design: A Healthy Communities Handbook (2009)

The Planning By Design handbook was produced through a collaboration between the Ministry of Municipal Affairs and Housing and the Ontario Professional Planners Institute (OPPI). The report shares ideas on how places can be planned and designed more sustainably for healthy, active living.

The handbook details the link between the built environment and people’s physical and psychological health, and identifies a series of land use components that guide human activity, influences health and mental well-being and encourages social interaction and inclusion. These ‘Sustainability Features’ are key elements and indicators used by planning jurisdictions to assess built environments of different scales. The table below summarizes these features and is taken from Chapter 2 of the document.

In addition, the Handbook includes a municipal checklist to assess current conditions and identify actionable priorities, describes Planning Act tools to achieve health-related goals, and presents 21 case studies showcasing innovative community health planning.

Opportunity	Tools
Creating Visions, Setting Goals, Making Plans	<ul style="list-style-type: none"> <li>• Community Plans</li> <li>• Active Transportation Plans</li> <li>• Parks, Open Space and Natural Area Plans</li> <li>• Food Systems Plans</li> <li>• Engagement</li> </ul>
Development Controls	<ul style="list-style-type: none"> <li>• Zoning Regulations</li> <li>• Parking Requirements</li> <li>• Street Standards</li> </ul>
Site Design and Development	<ul style="list-style-type: none"> <li>• Development Patterns</li> <li>• Buildings</li> </ul>
Capital Spending and Public Facility Siting	

**Table 3** Summary of Healthy Communities Practice Guide

Action	Importance	Recommendations
Community Design and Land Use Planning	Managing and directing land use to create as good places to live, work, learn and play in close proximity to one another	Include policies related to healthy communities within Official Plan policies and develop appropriate community design guidelines
Active Transportation	Providing opportunities for physical activity, as well as co-benefits related to tourism, economic development, social equity and environmental sustainability	Ensure active transportation plans at the lower-tier municipal level, which considers broad county- and region-wide initiatives and connections
Community Engagement and Capacity Building	Leveraging existing resources to increase capacity, expertise and knowledge to create community health policies and programs that are inclusive and holistic	Use creative ways to engage the public, involve non-traditional stakeholders and leverage public and private partnerships
Water Quality	Providing the basis for healthy and diverse ecosystems and communities	Work with conservation authorities to ensure a proper source water protection plan, with a focus on watersheds/sub-watersheds
Air Quality	Ensuring good air quality and minimizing air pollution levels for all residents	Develop policies that encourage the reduction of air pollution through changes in the built environment
Tourism	Improving the quality of life and well-being of residents and visitors through enhanced use of a community's natural assets, character and cultural attributes.	Develop a tourism strategy to further community economic development.
Planning for Special Age Groups	Providing for the needs of aging populations, including access to transportation	Ensure planning initiatives take into account accessibility, service, recreation and transportation requirements of special-age populations
Agriculture	Encouraging and protecting sources of fresh food, the natural environment and key employment opportunities	Protect agricultural land and encourage stewardship and healthy environmental practices
Cultural Strategies and Revitalization	Supporting a strong social fabric contributing to community health and well-being	Promote heritage protection and arts & culture initiatives as a way to support local economic development in rural downtowns
Access to Local Food	Reducing food insecurity and improving human health through providing local sources of fresh, affordable and culturally appropriate food	Encourage/facilitate local food consumption and production; enacting policies and by-laws to protect community-supported agriculture, community gardens and land for food growing and production
Nature	Ensuring the prolonged existence of natural heritage and resources, providing everyday opportunities for people to connect with nature	Acknowledge, use and manage natural heritage resources for their important environmental, economic and social benefits to the rural community
Safe and Affordable Housing	Fulfilling the basic human need to shelter by ensuring that people have decent places to live, which contributes to both physical and mental well-being	Provide modest forms of housing in rural contexts through conversion, retrofit and intensification mechanisms; refer to housing studies
Climate Change	Planning for, managing and mitigating unpredictable impacts to rural economies, the built environment and the natural environment	Develop and implement climate, sustainability and energy plans, and initiatives related to greenhouse gas emissions reduction, sustainable neighbourhood plans and brownfield remediation and redevelopment

**Table 4** Summary of Healthy Rural Communities Toolkit

### 2.3.5 Healthy Built Environment (HBE) Linkages Toolkit (2018)

The Healthy Built Environment (HBE) Linkages Toolkit is produced by the Population & Public Health team at the BC Centre for Disease Control (BCCDC), under the leadership of the BC Healthy Built Environment Alliance (HBEA) Steering Committee. The toolkit is intended to support the inclusion of health considerations within community planning and design and was informed by a body of research evidence which describes how the built environment can influence population health.

The Toolkit presents a five-pronged framework for a Healthy Built Environment, each supported by a fact sheet and diagrammatic summary outlining correlations found in research and evidence reviews between planning principles and population health outcomes.

The framework includes the following five core features, each with related planning principles:

Sustainability Characteristics	Description
Density	number of people, services or jobs per unit area (e.g., hectare, acre, square kilometer)
Mix of Uses	combinations of compatible/synergistic land uses that may include commercial, residential (including live-work), institutional, cultural, retail, recreational, public and natural spaces or industrial within a geographic area or across several geographic areas
Mobility Options	quality of walking, cycling and public transit, including convenience, safety and comfort; sidewalk presence and condition; street design for safety and barrier-free travel; attractive, useful and well-situated street furniture, street lighting, ROW, building setbacks and orientation to facilitate function and accessibility for pedestrians
Connectivity	degree to which roads, pedestrian walkways, trails and cycling paths are connected so that moving from point A to point B is relatively easy (i.e., directness of travel and availability of mobility choices); proximity to well-serviced public transit (i.e., frequency and reliability of service); degree to which natural heritage/hydrological systems are connected to where people live; block length (e.g., shorter blocks in a street grid system result in more intersections and better connectivity); degree to which natural/wilderness areas remain intact
Concentrated Uses	degree of concentration of businesses, residential, institutional and other activities in main areas (e.g., core areas, downtowns, main streets, business improvement areas, transportation nodes and corridors and employment areas)
Street Design and Management	scale and design of sidewalks and roads and how they are managed for various uses (e.g., narrower streets, traffic signaling and calming designs that regulate speed and volume); street networks that support and balance a variety of transport modes (e.g., public transit, walking, cycling and motorized vehicles); street-specific bicycle-friendly design; street lights that reduce night-time glare, uplight and light trespass (i.e., reduce night-light pollution in rural and urban areas)
Building Design	scale and design of buildings in relation to street, neighbourhood or community character, barrier-free access, energy and water efficiency, setbacks, solar orientation, adaptability for future reuse and ability to accommodate all stages of life, and durability of building materials
Green Infrastructure	Infrastructure that improves energy efficiency, supply of renewable energy, promotes groundwater recharge, reduces storm water run-off, mitigates heat island effect, drought, heavy precipitation and high wind conditions and supports green spaces, biodiversity and wildlife habitat (e.g., district energy and geothermal systems, recycling depots, street trees and vegetation, permeable surfacing, rain absorbent landscaping and harvesting systems, wetlands and marshes, green/ cool roofs, agricultural lands, urban gardens/farming, water and energy-efficient buildings and structures and non-fragmented natural/wilderness areas)

**Table 5** Summary of Planning By Design: A Healthy Communities Handbook

Core Feature	Planning Principles
Neighbourhood Design	<ol style="list-style-type: none"> <li>1. Create complete neighbourhoods through mixed land use</li> <li>2. Build compact neighbourhoods through efficient planning</li> <li>3. Enhance connectivity with efficient and safe networks</li> <li>4. Prioritize new developments within or beside existing communities</li> </ol>
Transportation Networks	<ol style="list-style-type: none"> <li>1. Use street designs which prioritize active transportation</li> <li>2. Make active transportation networks safe and accessible for all ages and abilities</li> <li>3. Design connected routes for active transportation and support multiple modalities</li> <li>4. Consider the aesthetics of road, rail and waterway networks</li> </ol>
Natural Environments	<ol style="list-style-type: none"> <li>1. Preserve and connect environmentally sensitive areas</li> <li>2. Maximize opportunities for everyone to access natural environments</li> <li>3. Reduce urban air pollution by expanding natural elements across the landscape</li> <li>4. Mitigate urban heat islands by expanding natural elements across the landscape</li> </ol>
Food Systems	<ol style="list-style-type: none"> <li>1. Increase equitable access to and affordability of healthy food options</li> <li>2. Protect agricultural land and increase the capacity of local food systems</li> <li>3. Support community-based food programs</li> </ol>
Housing	<ol style="list-style-type: none"> <li>1. Prioritize affordable housing options through diverse housing forms and tenure types</li> <li>2. Ensure adequate housing quality for everyone</li> <li>3. Provide specialized housing options to support the needs of marginalized populations</li> <li>4. Site and zone housing developments to minimize exposure to environmental hazards</li> </ol>

**Table 6** Summary of Healthy Built Environment Linkages Toolkit



# 3.0

# HEALTH ASSESSMENT PRINCIPLES & METHODOLOGY



# 3.0 Health Assessment Principles & Methodology

## 3.1 Overview

The Health Assessment Principles will help identify a recommended expansion area through quantitative and qualitative evaluation. The findings of the evaluation will be factored in, alongside the findings of all other parallel technical studies, to determine the final recommended Settlement Area Boundary Expansion.

The Health Assessment principles are broken down into a set of seven key themes (see Section 3.2), which were informed by the review of relevant policy documents, studies, guidelines and precedent reports identified in Section 2. Each of the key themes is analyzed with consideration of both quantitative and qualitative principles. The Focused Study Area (FSA) is assessed against each of these principles to determine which locations are most suitable for healthy community development. These areas were then identified and mapped using Geographical Information System (GIS) tools.

It is important to note that the principles for the Health Assessment examines health-promoting influences at a high level and conceptual stage of the planning process. The scale of the analysis is completed at a larger regional level rather than a smaller municipal-level or fine-grain site-specific level, and this is reflected in the scoping of the principles. The FSA is entirely made up of undeveloped greenfield land. For this reason, health potential is based primarily on proximity to the existing built up areas, surrounding context, and opportunity for future development.

## 3.2 Key Themes

The key themes for the Health Assessment are based on the Core Elements identified in the Region of Peel *Healthy Development Assessment*. These include:

- Density
- Land Use
- Service Proximity
- Mobility and Connectivity



**Figure 2** Healthy City Principles

In addition, the Health Assessment adopts three additional themes, informed by the provincial and regional planning policy framework and findings of the precedent reports on healthy built environments. These are:

- Contiguous Expansion
- Natural Environments & Sustainability
- Food Systems

The following is a summary of the themes and how each informs the assessment of the settlement area expansion boundary:



### DENSITY

Density refers to the number of people, services and/or jobs per unit area. A greater degree of concentration of people, services and/or jobs means an increased number of users and destinations within a close proximity, which creates greater accessibility to a variety of services, increases opportunities for walking and cycling, allows more efficient use of public infrastructure and creates more opportunities for social gathering.



### LAND USE

Land use refers to the regulation and location of uses in different areas of the city, which may include residential, commercial, employment, industrial, institutional and/or community functions. Mixed-use areas refer to places where more than one type of land use exists and may be integrated with one another. A compatible land use pattern is necessary to buffer sensitive uses from those generating adverse negative impacts, such as excessive noise, odor, pollutants, and other nuisances and hazards.



### SERVICE PROXIMITY

Service proximity refers to the distance between where people live and where they can access services and facilities including schools, libraries, community centres, child care centres, parks and community-based retail

uses, among others. Greater service proximity allows people to perform activities to meet their daily needs easily and efficiently.



### MOBILITY AND CONNECTIVITY

Mobility and connectivity refer to the ease and directness of travel, with an emphasis on options for walking, cycling and public transit. A mobile and connected transportation network allows for users to choose from a range of transportation options and reach their destinations quickly and efficiently, while improving health outcomes through greater physical activity and less air pollution.



### CONTIGUOUS EXPANSION

Contiguous expansion refers to natural and logical extensions and additions to existing settlement areas. Contiguous expansion supports the creation of an orderly and compact built form, reducing the presence of discontinuous settlement “patches” away from the urbanized edge and avoiding “leapfrog” development. This allows for existing services and municipal infrastructure to be optimized and/or extended to support new development.



### NATURAL ENVIRONMENTS & SUSTAINABILITY

Natural environments and sustainability refer to the protection and preservation of environmentally sensitive areas, including significant natural heritage systems and key hydrologic areas. These systems and their ecosystem functions should be sensitively considered and protected. Other sustainability considerations include air and water quality, energy systems and climate change resiliency.



### FOOD SYSTEMS

Food systems refers to the processes through which we grow, transport, consume and interact with the agriculture food network. A strong local food network increases accessibility to nutritious, fresh and healthy food options while improving local food security.



**Figure 3** Healthy City Demonstration Concept

Concept demonstrating how communities throughout Peel Region can incorporate the seven themes associated with making a healthy city.

### 3.3 Methodology

The analysis involves a process of assessment with consideration of both quantitative and qualitative elements to identify principle-achieving areas across the FSA.

For each of the seven key themes identified in section 3.2, analysis was undertaken to identify areas within the FSA which are well-suited for healthy community development, as determined by quantitative and qualitative principles. Quantitative principles are typically framed as series of measurable conditions,

generally in relation to the occurrence of, or proximity to, some desired health promoting factor (i.e. 800m proximity to a community service facility). For many quantitative principles, proximity is measured as the area within a 800m radius of a destination and/or feature. This metric is commonly recognized as a best practice in land use and transportation planning (including Metrolinx’s Mobility Hub Studies), representing an approximation of the area which can be reached within a 10-minute walk.

Qualitative considerations were also included as part of the analysis, although these were more subjective.

These supplemented the quantitative evaluation through consideration of contextual factors, such as an area's surrounding and planned future context, strategic priorities, objectives and on-going projects within the municipality and Region, and general planning principles relating to healthy and complete communities.

Using Geographic Information Systems (GIS) software, spatial analysis was used to identify principle-achieving areas under each theme. The results are presented in Sections 4.1 to 4.7.

Following the identification of principle-achieving areas for each theme, these areas were then comprehensively overlaid to identify locations of overlap. From this comprehensive overlay, for which equal weight was assigned to principle-achieving areas from each theme, the analysis was able to identify which areas met the greatest number of principles. The results are presented in Section 4.8.

These highest-achieving areas are deemed as most suitable for healthy community development and appropriate for consideration within the Potential SABE Area. In determining the lands recommended for consideration for the Potential SABE Area, the study also considered the minimum land requirement of 4,300 hectares, as identified in the study's Phase A Report. The results are included as part of the final Recommendations in Section 5.

# 4.0 EVALUATION RESULTS



## 4.1 Density

For Density, the analysis identified locations in close proximity to existing high-density areas. These areas are well-suited for future development as they represent a natural expansion of existing high-density areas, where a compact built form with a greater concentration of residences and employment opportunities could be supported.

Figure 4 identifies areas within an 800m radius (10-minute walk) of Small Geographic Units (SGUs) with a density level equal to or greater to 25 people and jobs per hectare. 25 people and jobs per hectare was selected as a density baseline which has been used in comparable small- and medium-sized municipalities outside of the Greater Golden Horseshoe in planning for new greenfield communities. This does not imply that 25 p+j/ha is or should be the ultimate target density for new greenfield development, but rather this benchmark helps to identify existing built up areas, including urban and suburban settlements, which contain a minimum level of density, infrastructure, services and amenities required to support mixed-use intensification, and a transition toward compact and complete communities. These areas are likely to be able to support the development of a desirable range of both residential and employment densities and capable of easily integrating into other more built up areas.

From a health standpoint, future development would be appropriate in these Principle Achieving Areas as

compact, higher-density neighbourhoods that are more likely to contain and/or support walkable, mixed-use environments. These neighbourhoods are conducive to increased rates of walking, cycling and other forms of active transportation, as residents are more likely to be able to reach their desired destinations by foot or by bike. Helping to facilitate greater levels of physical activity and generally more active lifestyles, denser neighbourhoods are healthier neighbourhoods.

Due to its adjacency to the Focused Study Area, the analysis takes into account existing residential and employment densities in the City of Brampton. A significant portion of the lands along Brampton's northern edge are Designated Greenfield Areas with residential land uses. However, at present most of the lands along the municipal boundary are low-density areas which fall below 25 people and jobs per hectare.

The analysis does not take into account planned density targets for areas approved for future development. There are minimum densities for areas in approved Secondary Plans, including Mayfield West Phase 2 Stage 1 and Bolton Residential Expansion Area (ROPA 30 - under appeal), both planned for approximately 69 people and jobs per hectare.

As illustrated in Figure 4, the Principle Achieving Areas identified under Density include lands north of Mayfield West and south of Old School Road, around Tullamore north of Mayfield Road, and north of residential areas in Bolton.

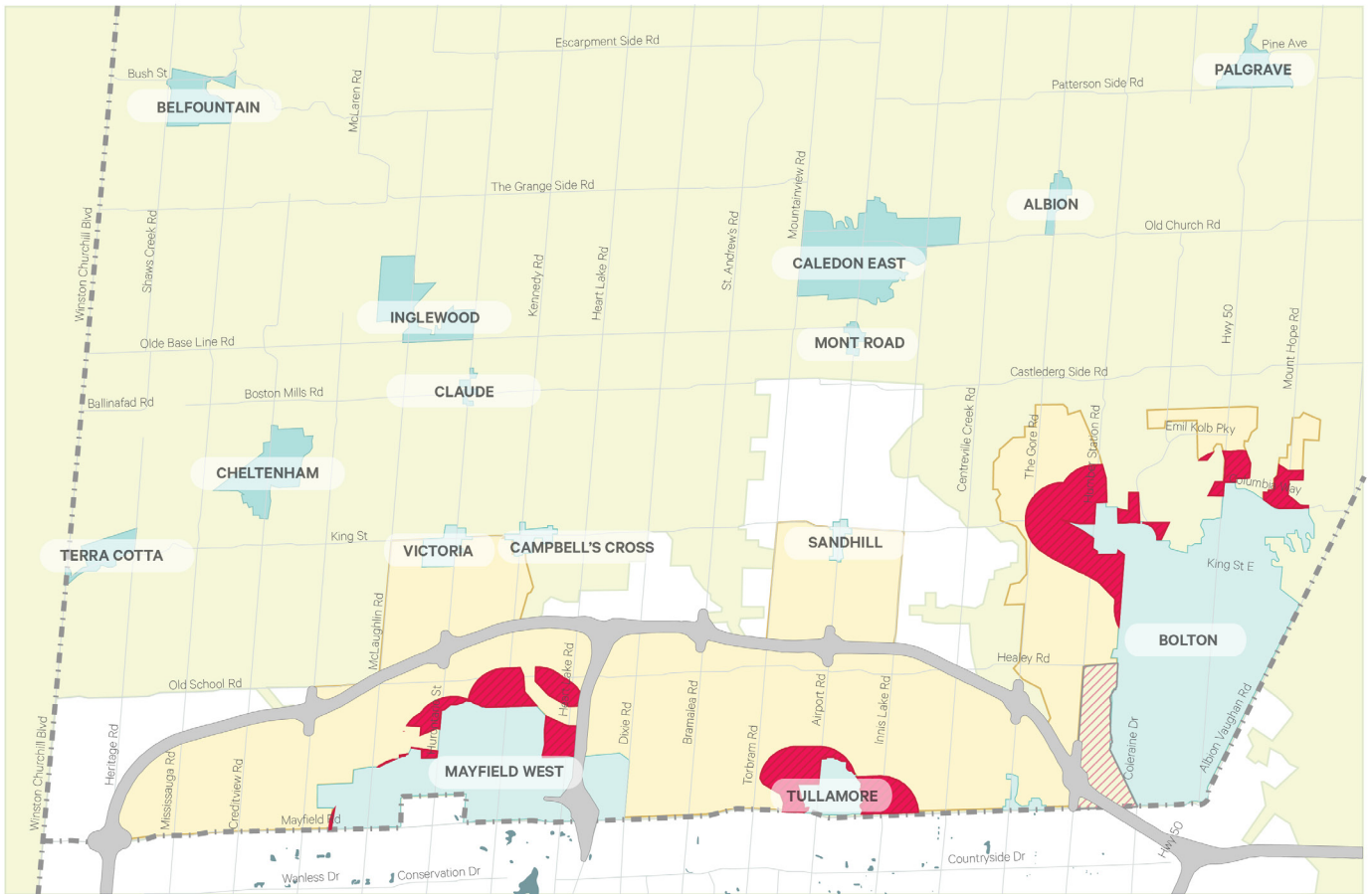


Example of mid-rise residential development



Example of low-rise mixed-use development





**Figure 4** Density



Map illustrating areas within an 800m radius (10-minute walk) of SGUs with a density level equal to or greater than 25 people and jobs per hectare.

**LEGEND**

- Criteria Achieving Areas
  - Municipal Boundary
  - Focused Study Area
  - Greenbelt Areas
  - GTA West Corridor (Preferred Route)
- Bolton Residential Expansion Area (ROPA 30 - under appeal)
  - Settlement Areas (outside Greenbelt)
  - Settlement Areas (inside Greenbelt)



## 4.2 Contiguous Expansion

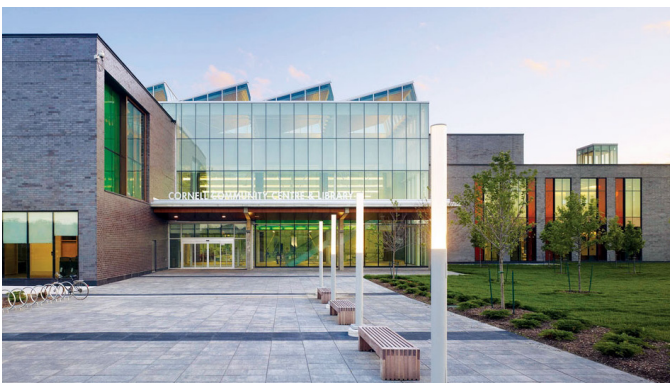
For Contiguous Expansion, the analysis identified locations which are logical extensions of existing and planned built-up areas, that can leverage and build upon existing infrastructure and services for future development. Contiguous expansion allows for natural extensions of existing streets, trails, transit lines, municipal servicing systems that will be able to connect existing settlement areas with future development areas.

Figure 5 identifies areas within an 800m radius (10-minute walk) of existing Settlement Areas and adopted and/or proposed Future Residential Expansion Areas. These expansion areas include the Bolton Residential Expansion Area (ROPA 30 - under appeal) and Mayfield West Phase 2 Stage 2 (ROPA 34 - proposed).

A contiguous expansion of the existing settlement area ensures that a tight development pattern is established, avoiding sprawl and pockets of isolated development. These detached pockets of development would be overwhelmingly reliant on automobile travel in order to connect residents to existing services and amenities.

The lack of nearby destinations and subsequent dependence on vehicular modes of transportation would result in sedentary, inactive and unhealthy lifestyles. Conversely, contiguous expansion of existing settlement areas is more likely to result in complete communities and a compact built form, supporting healthy community development through a greater number of existing and/or planned connections.

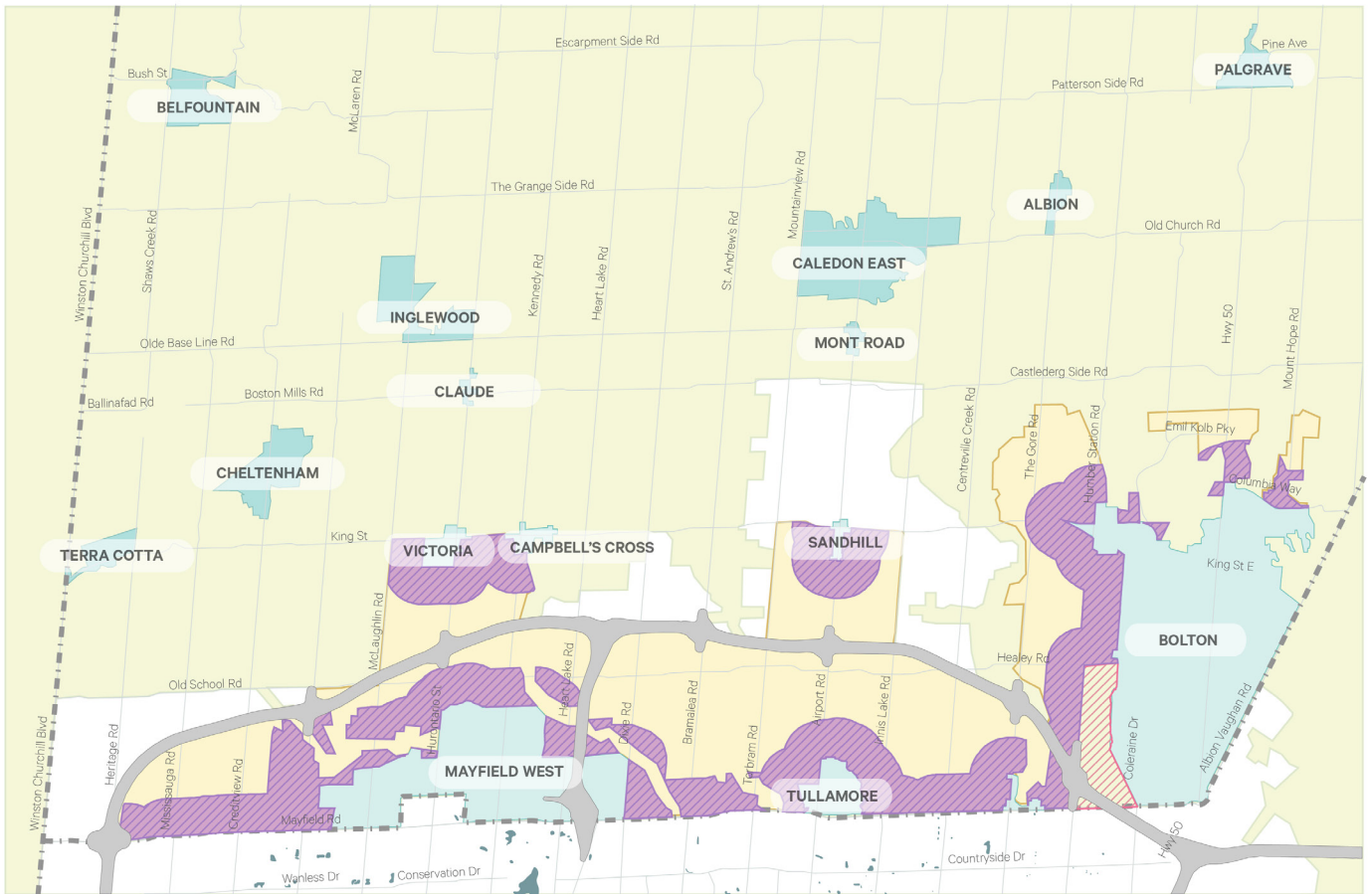
As illustrated in Figure 5, the Principle Achieving Areas identified under Contiguous Expansion includes lands around existing settlement areas. This includes the lands north along Mayfield Road, to the west of Bolton, and to the south of Victoria, Sandhill and Campbell's Cross.



Example of recent development resulting from the phased contiguous expansion of the Cornell Community in Markham, ON.



Example of suitable locations for contiguous expansion.







**Figure 5** Contiguous Expansion



Map illustrating areas within an 800m radius (10-minute walk) of existing Settlement Areas and adopted and/or proposed Future Residential Expansion Areas.

**LEGEND**

-  Criteria Achieving Areas
-  Municipal Boundary
-  Focused Study Area
-  Greenbelt Areas
-  GTA West Corridor (Preferred Route)
-  Bolton Residential Expansion Area (ROPA 30 - under appeal)
-  Settlement Areas (outside Greenbelt)
-  Settlement Areas (inside Greenbelt)



### 4.3 Service Proximity

For Service Proximity, the analysis identified locations offering convenient access to local services and amenities which can be reached on foot or by bike. Future development in these areas would permit a greater number of residents to make use of existing services and facilities, as well as help support the uptake of active transportation modes, contributing to greater health-promoting outcomes.

Figure 6 identifies areas within an 800m radius (10-minute walk) of existing public facilities and services including schools, libraries, community centres, child care centres, parks and neighbourhood retail establishments. These facilities and services are key to shaping quality of life for residents of all ages and contributes to the social, economic and cultural development of neighbourhoods.

Neighbourhood retail establishments include shops which provide everyday essentials, including: doctors offices, dentists, walk-in medical clinics, vet clinics/

animal hospitals, pharmacies, banks, convenience stores, dry cleaners, post offices, consignment/thrift stores, and discount retailers.

This analysis is focused on proximity, and does not take into account the capacity of existing facilities. It also does not consider the diversity in the type of community services and facilities provided, nor facilities which may be planned but not yet constructed. This is addressed in the Community Services & Facilities Study, a separate technical study, and results will be considered comprehensively as part of the determination of Potential SABE Areas.

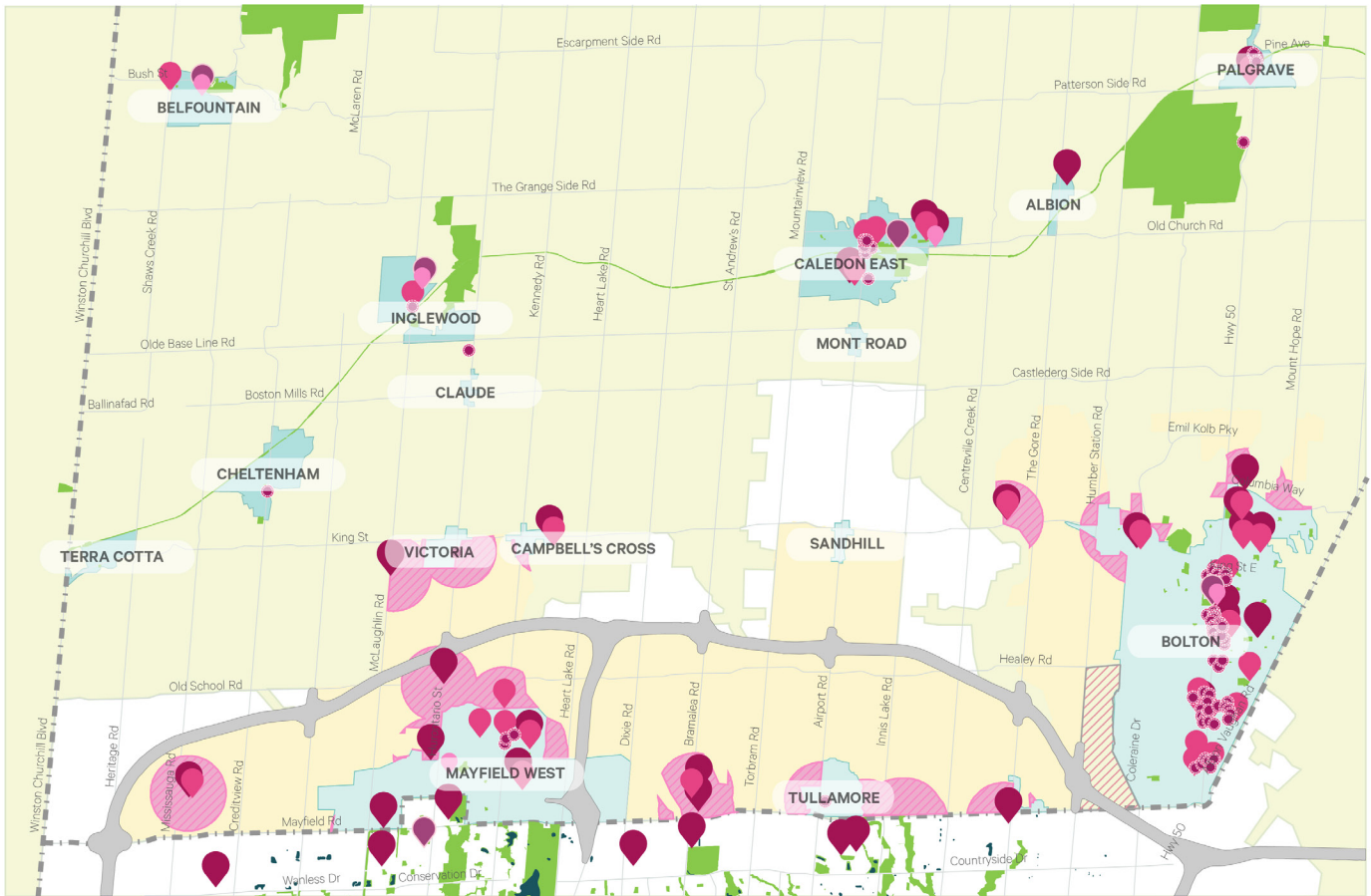
As illustrated in Figure 6, the Principle Achieving Areas identified under Service Proximity include lands north of Mayfield West, north of Bolton, around Victoria and Tullamore, and around the intersection of Mayfield Rd and Bramalea Rd. Services are most densely clustered within Mayfield West and Bolton.



Example of a local park, providing for a range of active and passive recreational uses.



Example of a local community and recreation centre, providing for a range of important facilities, programs and services.



**Figure 6** Service Proximity



Map illustrating areas within an 800m radius (10-minute walk) of existing public facilities and services including schools, libraries, community centres, child care centres, parks and neighbourhood retail establishments.

**LEGEND**

-  Criteria Achieving Areas
-  Municipal Boundary
-  Focused Study Area
-  Greenbelt Areas
-  GTA West Corridor (Preferred Route)
-  Bolton Residential Expansion Area (ROPA 30 - under appeal)
-  Settlement Areas (outside Greenbelt)
-  Settlement Areas (inside Greenbelt)
-  Parks
-  Community Centres
-  Libraries
-  Childcare Centres
-  Schools
-  Neighbourhood Retail



## 4.4 Land Use

For Land Use, the analysis considers the exclusion of land uses which may be incompatible with residential development, including industrial and airport uses. Principle Achieving Areas are determined to be those areas where development of sensitive land uses (i.e. residential) is appropriate.

All areas within 300m of lands currently occupied by industrial uses, or planned and/or designated for industrial uses through Secondary Plan-level land use plans, are excluded. The 300m buffer is a conservative estimate informed by provincial Ministry of the Environment standards, which require a 300m recommended minimum in which incompatible development should typically not take place for Class III Industrial Uses.

Additionally, lands within a 300m radius of High Potential Mineral Aggregate Resource Areas have been excluded on the basis of potential for future extraction pits. Furthermore, the area around Brampton Caledon

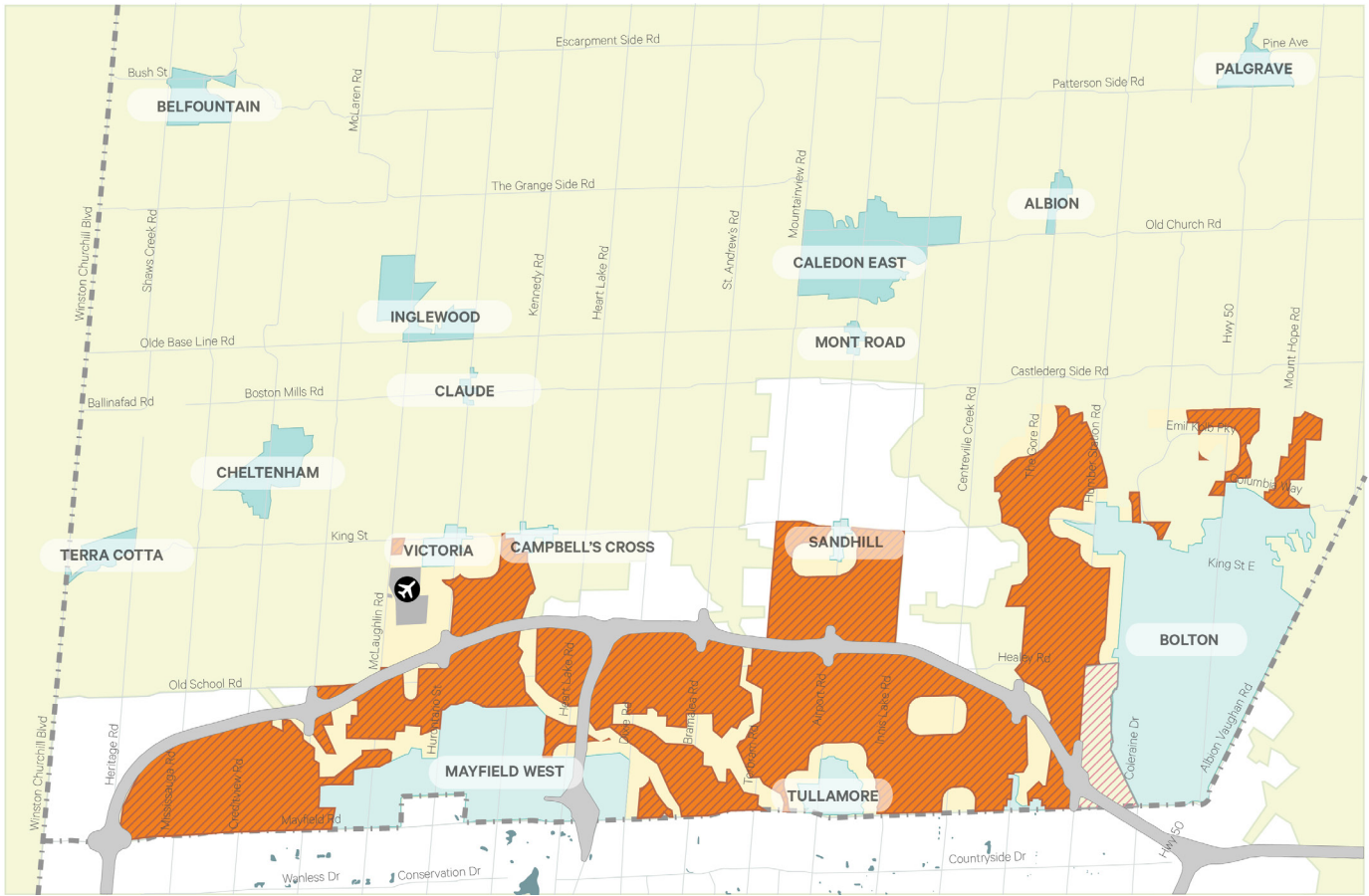
International Airport, located southwest of Victoria within the Focused Study Area, is excluded to ensure that sensitive land uses are not located in proximity to airport operations. The area of exclusion is informed by noise contour data corresponding to airplane flight paths.

The immediate area around these uses may be subject to negative externalities such as excessive noise and vibration, noxious fumes, unpleasant odors, or increased pollution associated with industrial or airport operations. The assessment identifies where future sensitive land uses, such as residential homes, should be avoided near existing and/or designated industrial uses in order to minimize potential resultant health impacts.

As illustrated in Figure 7, the Principle Achieving Areas identified under Land Use include lands generally excluding pockets of land near Victoria and Brampton Caledon Airport, Sandhill and Tullamore.



Example illustrating the use of open space and landscaping as a buffer between industrial and sensitive uses.



**Figure 7** Land Use



Map illustrating areas located outside of a 300m radius of lands occupied by existing, planned and/or designated industrial uses.

**LEGEND**

- Criteria Achieving Areas
  - Municipal Boundary
  - Focused Study Area
  - Greenbelt Areas
  - GTA West Corridor (Preferred Route)
  - Bolton Residential Expansion Area (ROPA 30 - under appeal)
- Settlement Areas (outside Greenbelt)
  - Settlement Areas (inside Greenbelt)
  - Airport



## 4.5 Mobility & Connectivity

For Mobility and Connectivity, the analysis identifies areas which support travel using active modes such as walking, cycling and public transit.

Figure 8 identifies areas within an 800m radius (10-minute walk) of transit and active transportation networks, including bus stops, bus routes, hiking trails, multi-use paths, signed bicycle routes and separated bicycle lanes, potential Major Transit Station Areas, and major points of entry.

Major points of entry refer to locations where collector roads and trails intersect with the Focused Study Area. Existing collector roads and trails are likely to be extended with future development, and these extensions will serve as locations where higher density forms of development are concentrated, along with future active transportation infrastructure. Collector roads are given priority over other road classes, such as local roads or arterial roads, as they are most likely to facilitate pedestrian, cyclist and eventual public transit connections.

Identifying areas around bus stops, hiking trails, multi-use paths, signed bicycle routes and separated bicycle lanes helps factor in areas which have good access

to existing transit and active transportation options. Potential Major Transit Station Areas and major points of entry help account for locations where facilities are planned, expected and/or potentially viable; though they may not currently be developed as such, these locations are likely to become better connected as Peel Region undergoes further growth.

Greater levels of mobility and connectivity help facilitate greater levels of fitness and health. Pedestrians and cyclists benefit from increased levels of physical exercise, contributing to lower levels of obesity, cardiovascular disease, diabetes, and other chronic illnesses. People using public transit walk more in order to get to and from the public transit network, and to transfer between routes, contributing to active mobility. Increased uptake of walking, cycling and transit use also reduce the number of cars on the road, contributing to a decrease in vehicle emissions leading to air pollution and a range of adverse health outcomes.

As illustrated in Figure 8, the Principle Achieving Areas are identified as lands to the north along Mayfield Road, north of Bolton, east-west along Old School Road near Mayfield West, and north-west from Mayfield West to Campbell's Cross along Kennedy Road.

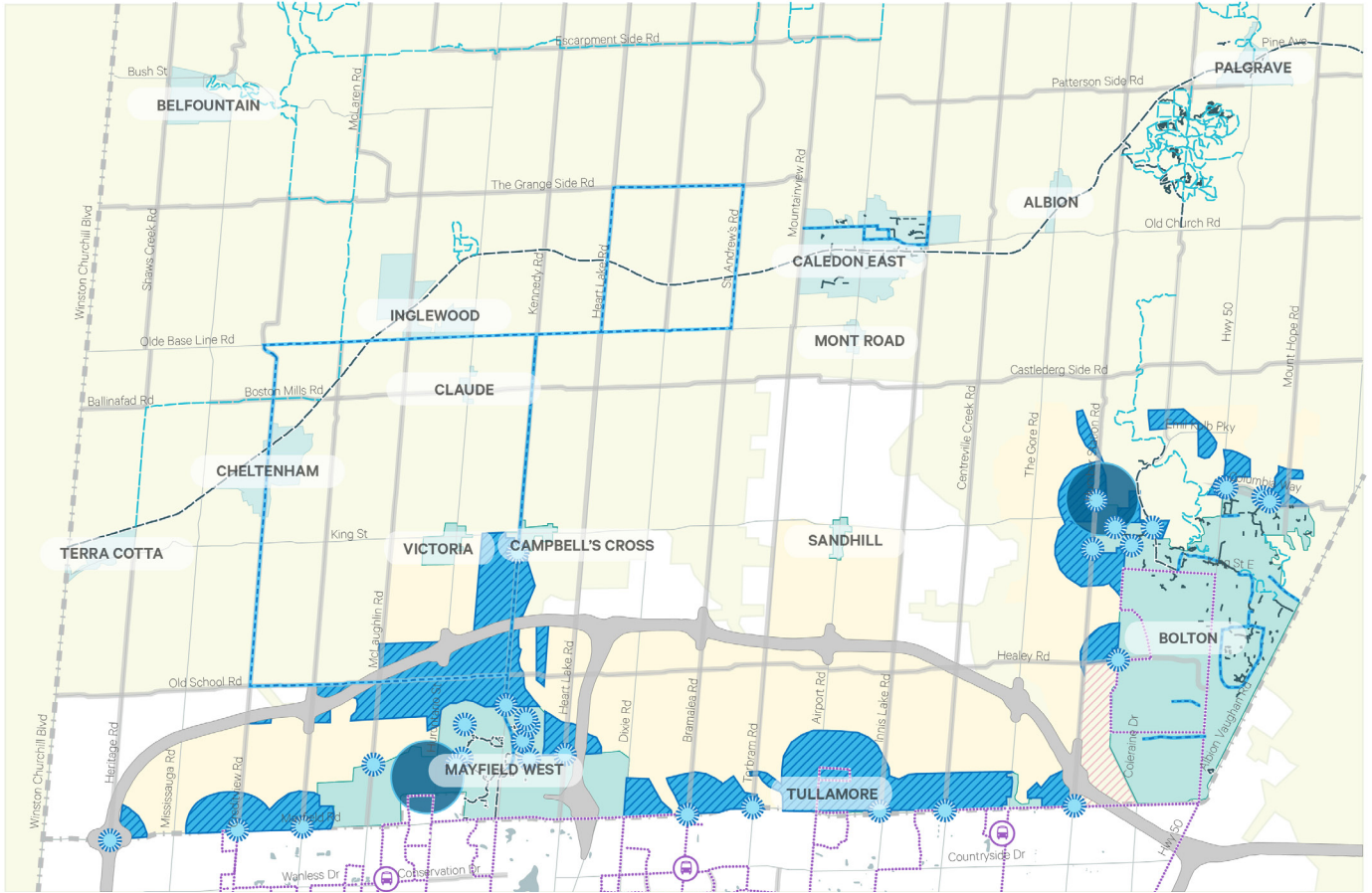


Example of a collector road, which serves a diversity of transportation modes.



Example of an off-street public transit terminal.




















**Figure 8** Mobility and Connectivity



Map illustrating areas within an 800m radius (10-minute walk) of transit and active transportation networks, including bus stops, bus routes, hiking trails, multi-use paths, signed bicycle routes and separated bicycle lanes, potential Major Transit Station Areas, and major points of entry.

**LEGEND**

-  Criteria Achieving Areas
-  Municipal Boundary
-  Focused Study Area
-  Greenbelt Areas
-  GTA West Corridor (Preferred Route)
-  Bolton Residential Expansion Area (ROPA 30 - under appeal)
-  Settlement Areas (outside Greenbelt)
-  Settlement Areas (inside Greenbelt)
-  Potential MTSA
-  Multi-use Paths
-  Separated or Signed Bike Routes
-  Bus Routes
-  Hiking Trails
-  Collector Roads
-  Major Points of Entry - Collector



## 4.6 Food Systems

For Food Systems, the analysis identifies areas with access to fresh, healthy and nutritious food. Residents living in close proximity to these locations are more likely to have healthy, well-balanced diets which provides the nutrients, vitamins and minerals needed to grow and develop, fight infections, and reduce risks of some chronic diseases.

Figure 9 identifies areas within an 800m radius (10-minute walk) of existing grocery stores, farmer's markets, local food shops (i.e. butchers and bakers), community gardens, and community food services/ programs. This reflects a range of locations where residents can obtain fresh food, as well as programs through which more vulnerable populations will be able to secure access to food.

Currently, there are limited fresh food sources in Caledon or within the Focused Study Area. The Region of Peel has a high ratio of outlets primarily offering highly processed, calorie-dense and nutrient-poor foods, such as fast food outlets and convenience

stores, as opposed to outlets offering whole or minimally-processed foods, such as grocery stores, fruit and vegetable markets, butcher shops and fishmongers. While most residents do have healthy food access (beyond the 800m radius), these areas also have excessive access to unhealthy food outlets. One reason for the large geographic spread of fresh food/grocery stores across Caledon is due to restrictive covenants put in place to restrict competition between stores.

However, as growth occurs throughout Caledon, it is expected that more healthy food options will be proposed and developed. Alternative sources and formats, such as community gardens and mobile farmer's markets, are a possibility to supplement formalized stores.

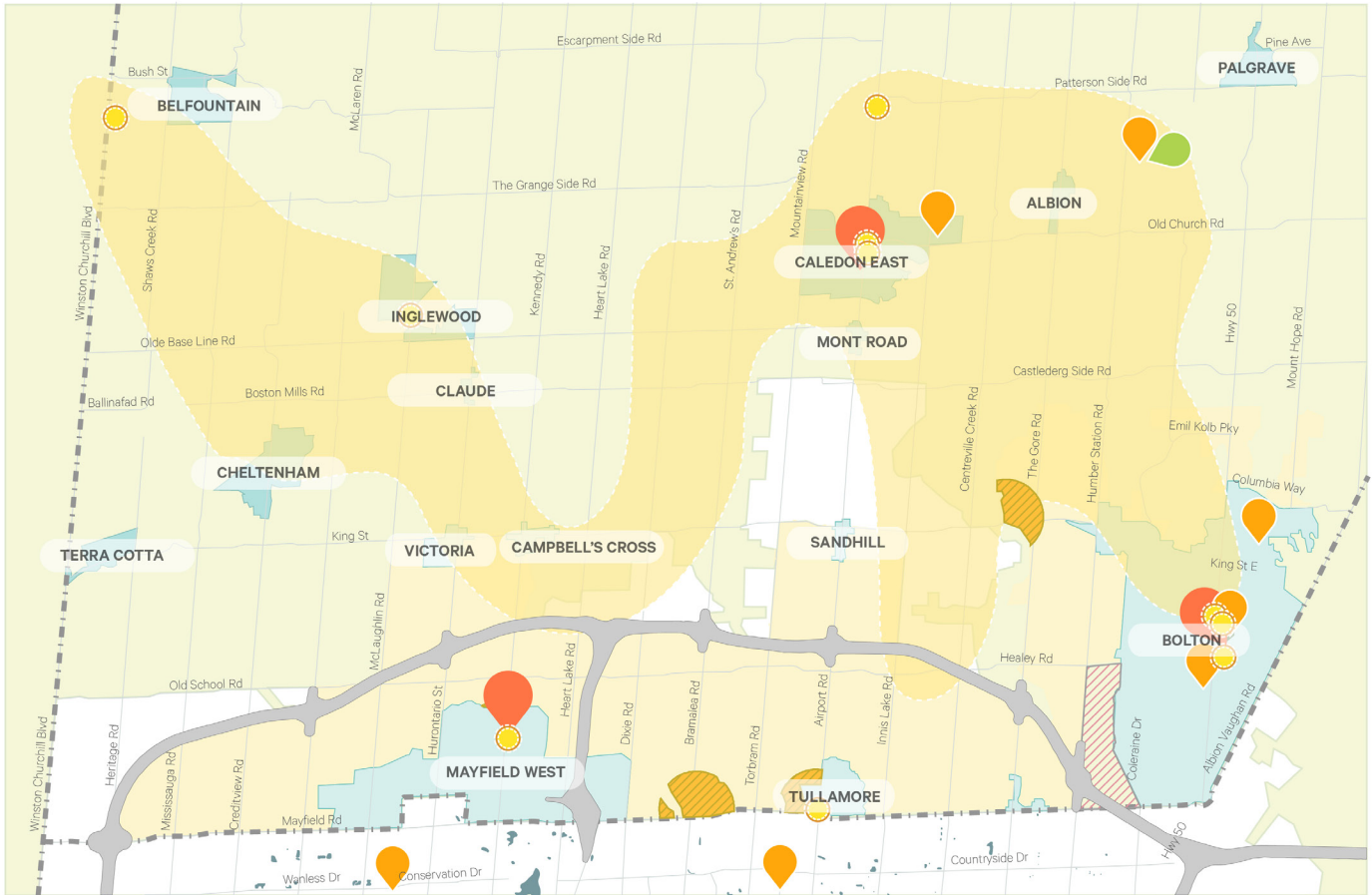
As illustrated in Figure 9, the identified Principle Achieving Areas are very limited. These include small areas near the intersections of Mayfield Road and Bramalea Road, Mayfield Road and Airport Road, and King Street and The Gore Road.



Example of a local farmer's market.



Example of a community-based garden and food co-op.



**Figure 9** Food Systems



Map illustrating areas within an 800m radius (10-minute walk) of existing grocery stores, farmer's markets, local food shops, community gardens, and community food services / programs.

**LEGEND**

-  Criteria Achieving Areas
-  Municipal Boundary
-  Focused Study Area
-  Greenbelt Areas
-  GTA West Corridor (Preferred Route)
-  Bolton Residential Expansion Area (ROPA 30 - under appeal)
-  Settlement Areas (outside Greenbelt)
-  Settlement Areas (inside Greenbelt)
-  Farmers Market Areas
-  Grocery Stores
-  Local Fresh Food Shops
-  Community Services/ Programs
-  Community Gardens



## 4.7 Natural Environments & Sustainability

For Natural Environments and Sustainability, the analysis considers the exclusion of sensitive natural areas and habitats which should not be developed, and recognizes potential impacts on both ecological health and human health.

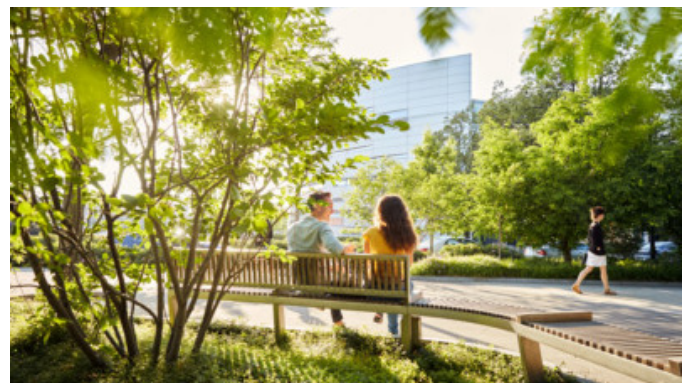
Figure 10 identifies areas outside of the Environmental High Constraints Area, as identified by the Wood Team through the parallel Environmental Screening and Scoped Watershed Study. This includes analysis of local ecology and natural heritage, fisheries and aquatic habitat, and ground water, hydrogeology and streamwater morphology.

These Environmental High Constraint Areas are not recommended for development as they contain and buffer highly sensitive features in the natural environment, and should be preserved in order to support Region-wide ecological health and environmental sustainability.

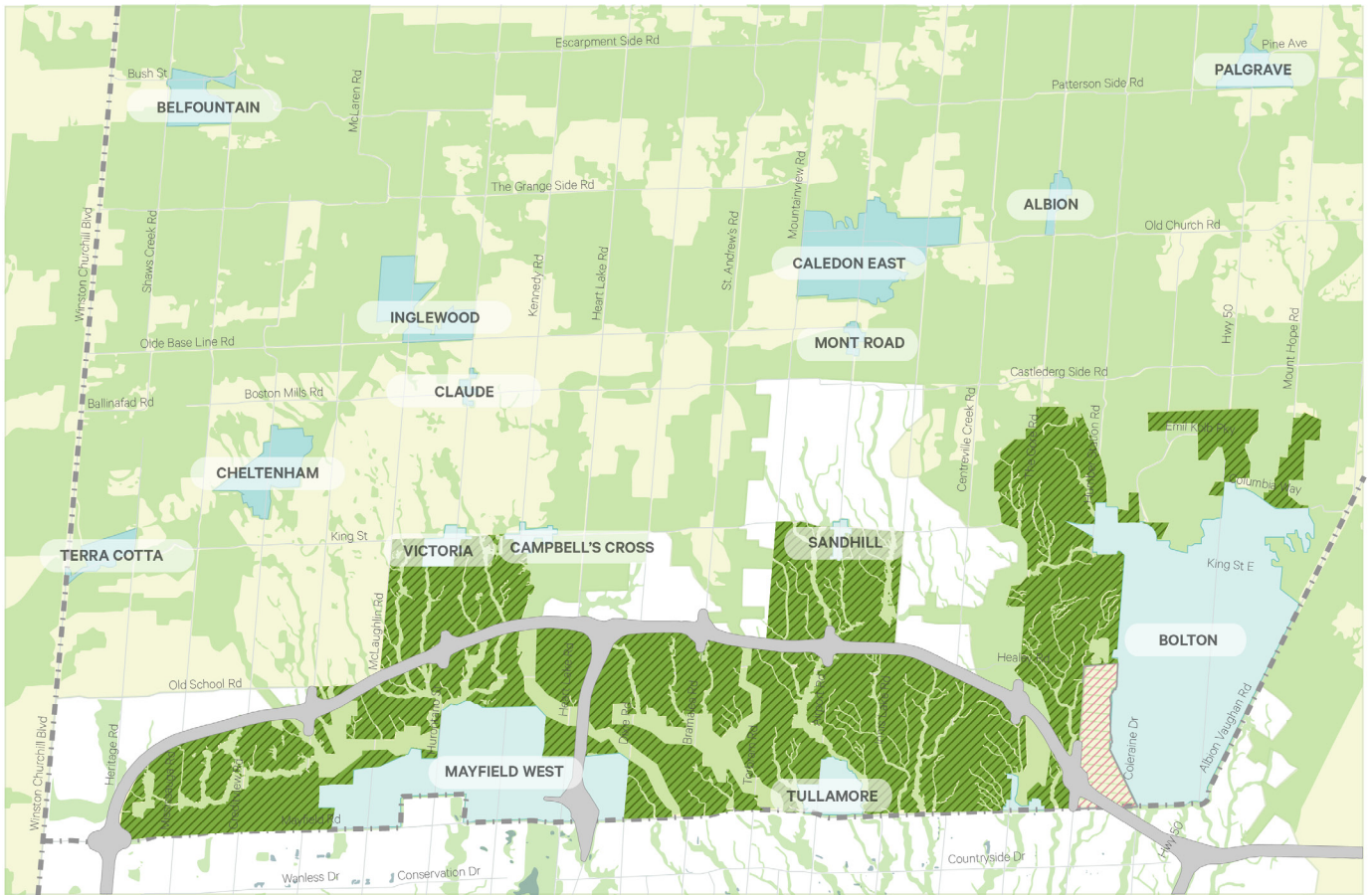
The Principle Achieving Areas are located in relatively close proximity to the natural environment, which brings certain community health benefits. These include views and access to naturalized features, such as ravine systems and woodlots; improved outdoor recreation and respite opportunities to promote both physical and mental health; enhanced air quality through proximity to pollutant filtering vegetation; improved pedestrian comfort and micro-climatic conditions through proximity to vegetation buffers and water systems; and optimized noise attenuation through proximity to vegetation buffers, water systems and animal habitat - all of which promote social and environmental resiliency. On the other hand, they avoid highly sensitive areas that may result in negative impacts (i.e. erosion, flooding) which may harm both the area's ecological health and human health and well-being (i.e. property damage due to these impacts).



Example of a natural heritage system, complete with a network of pedestrian and multi-use trails.



Example of a naturalized open space, providing opportunities for recreation and respite.












**Figure 10** Natural Environments and Sustainability



Map illustrating areas outside of the Environmental High Constraints Area.

**LEGEND**

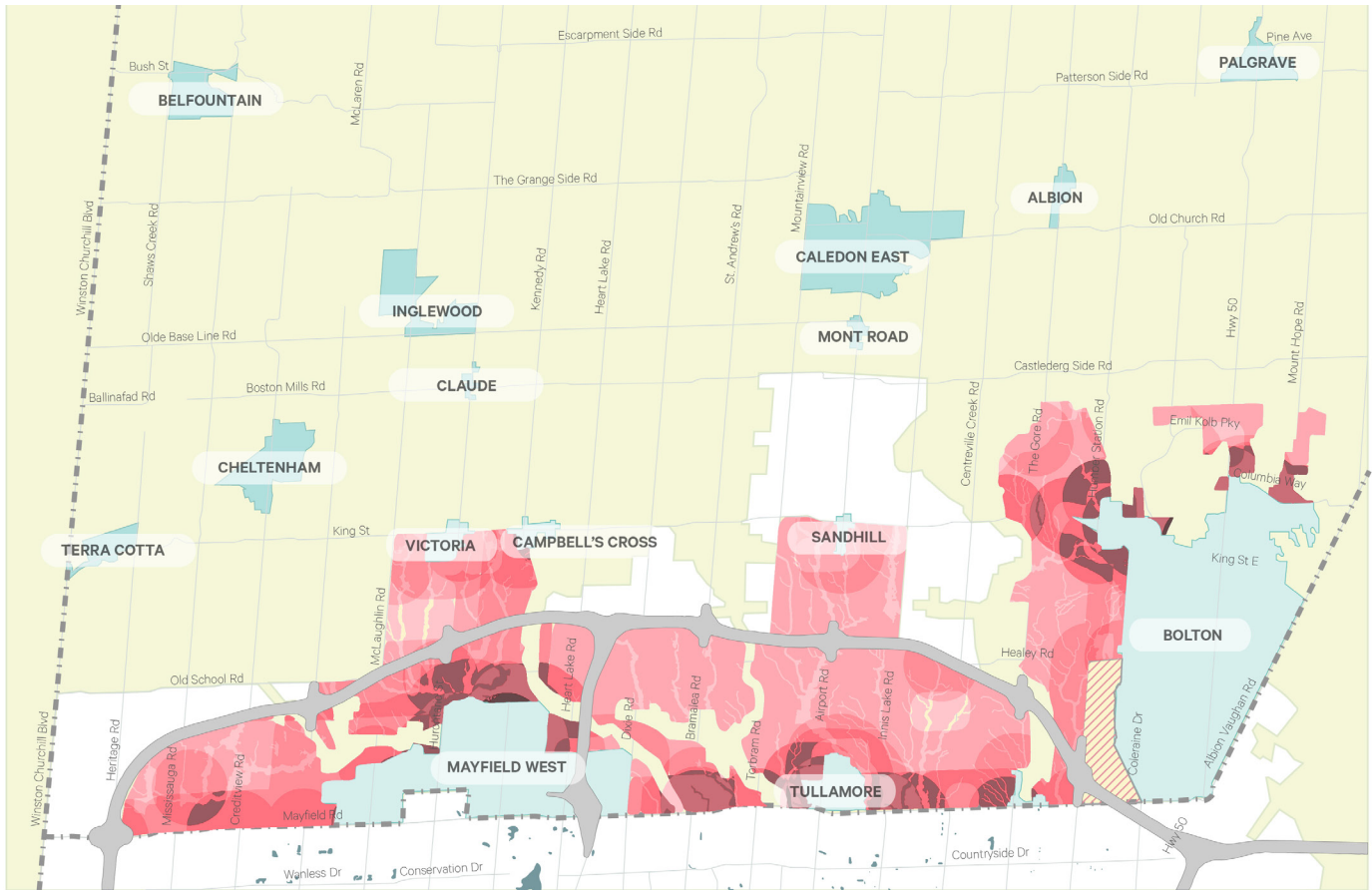
-  Criteria Achieving Areas
  -  Municipal Boundary
  -  Focused Study Area
  -  Greenbelt Areas
  -  GTA West Corridor (Preferred Route)
  -  Bolton Residential Expansion Area (ROPA 30 - under appeal)
-  Settlement Areas (outside Greenbelt)
  -  Settlement Areas (inside Greenbelt)
  -  Natural Environment High Constraint Areas

## 4.8 Comprehensive Overlay

The identified Principle Achieving Areas for each theme are overlaid in the map below (Figure 12).

The areas with the darkest shade meet the highest number of principles, while the areas with the lightest shade meet the least number of principles. This colour gradient helps establish a tiered breakdown of which Potential SABE Areas within the FSA are most appropriate and/or supportive of a healthy built environment.

As illustrated in Figure 11, the areas which meet the highest number of principles include those areas along Mayfield Road close to the Brampton-Caledon municipal border, north of Bolton near King Street, north of Mayfield West near Old School Road, and within close proximity of lands south of Victoria and Campbell's Cross.



**Figure 11** Comprehensive Chloropleth

0 0.5 1 2 km

### LEGEND

- Municipal Boundary
- Focused Study Area
- Greenbelt Areas
- GTA West Corridor (Preferred Route)

- Bolton Residential Expansion Area (ROPA 30 - under appeal)
- Settlement Areas (outside Greenbelt)
- Settlement Areas (inside Greenbelt)

- | Number of Criteria Met |   |
|------------------------|---|
|                        | 0 |
|                        | 1 |
|                        | 2 |
|                        | 3 |
|                        | 4 |
|                        | 5 |
|                        | 6 |
|                        | 7 |

# 5.0 RECOMMENDATIONS

# 5.0 Recommendations

## 5.1 Decision-Making Factors

The following is a list of questions that should be considered by the Region when selecting the ultimate Settlement Area Boundary Expansion (SABE).

1. Is the site adjacent/in proximity to existing higher-density areas, where it can take advantage of existing clusters of residential and/or commercial development?
2. Is the site adjacent/in proximity to existing Settlement Areas, in order to provide a logical and contiguous expansion of the built-up area?
3. Is there good access to local community services and amenities, such as schools, schools, libraries, community centres, child care centres, parks and neighbourhood retail establishments?
4. Is there sufficient separation from areas which may be incompatible with sensitive residential and/or community uses, such as industrial or airport uses?
5. Is the surrounding area supportive of efficient mobility and connectivity, particularly active modes such as walking, cycling and public transit? Is there good access to fresh, local and nutritious food through outlets such as farmer's markets, community gardens, local fresh food shops, and community food programs?
6. Is the site located away from sensitive natural areas, in consideration of Region-wide ecological health and environmental sustainability?

## 5.2 Recommendations for Potential SABE

As informed by the preceding analysis, this report recommends the lands identified in Figure 12 to be considered in determining the potential SABE.

From a community health perspective, these are the areas that best achieve the intent of the decision-making factors listed in Section 5.1. Additionally, the identified lands encompass an area approximately 4,300 hectares in size, which fulfills the SABE land requirement.

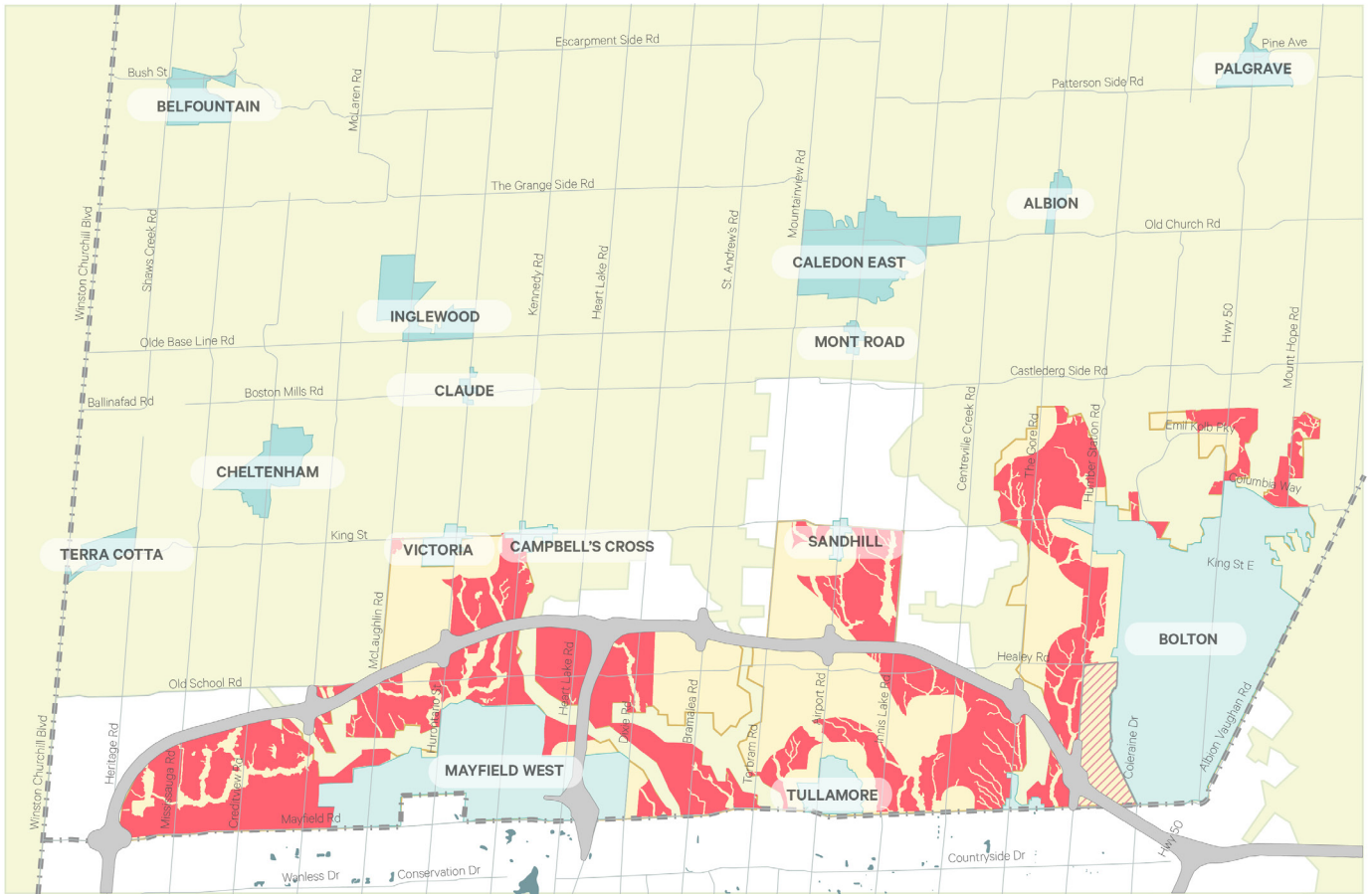
All identified lands in Figure 12 meet a minimum of two principles as shown in the comprehensive overlay map in Figure 12 of Section 4.8. The methodology for identifying the recommended lands preferred criteria other than "Natural Environments and Sustainability": more than 4/5 of the identified lands meet two or more of the remaining criteria.

Within the delineation, areas which are more preferable for development include lands along Mayfield Road from Mississauga Road to Chinguacousy Road and from Dixie Road to Humber Station Road, areas north of Mayfield West along Old School Road between McLaughlin and Dixie Road, and areas northwest of Bolton in proximity to King Street around The Gore Road and Humber Station Road. These areas are generally close to existing residential communities, offer good access to local amenities and contain present and/or potential mobility connections.

Areas which are less preferable for development include lands south of Victoria and along Old School Road between Dixie and Innis Lake Road.

This recommendation, in conjunction with input from other parallel technical studies and additional stakeholder consultation, will be used to inform the final Recommended SABE to support planned growth in the Region to 2051.





**Figure 12** Lands Recommended for Consideration in Potential SABE



Map illustrating areas to be considered in determining the potential SABE, based on the findings of the Health Assessment.

**LEGEND**

- Lands Recommended for Consideration in Potential SABE
  - Municipal Boundary
  - Focused Study Area
  - Greenbelt Areas
- GTA West Corridor (Preferred Route)
  - Bolton Residential Expansion Area (ROPA 30 - under appeal)
  - Settlement Areas (outside Greenbelt)
  - Settlement Areas (inside Greenbelt)

## 5.3 Other Recommendations and Considerations

Beyond the Recommended Potential SABE, this report recommends a number of other measures that may be considered at various levels within the planning framework, such as:

### Introduce and Strengthen References to Healthy Communities at the Official Plan and Secondary Plan Level

Within the Region of Peel, healthy built environments are primarily addressed through ROPA 27 policy at the Regional level, and implemented through the *Healthy Development Assessment* at the development application level. Policy directions within the Caledon Official Plan and Secondary Plans could be increased and strengthened to explicitly clarify the links between land use planning, transportation planning, community facilities planning, and natural heritage planning to community health outcomes, and to require the achievement of health outcomes through subdivision-scale and neighbourhood-scale planning.

### Incorporate Requirements for Pedestrian-Friendly Urban Design

Due to its focus at the Regional level, this Health Assessment does not address or evaluate urban design or its impact on health-promoting behaviours. Streetscape design, public space design, and parking requirements should be addressed at subsequent levels. Secondary Plan-level or municipal-level strategies could include Urban Design Guidelines or Complete Streets Guidelines to encourage the adoption of more mixed-use, compact and pedestrian-friendly environments. Other exercises include Walkability Audits to assess street and intersection walkability, or School Travel Plans to evaluate and improve accessibility of community facilities from residential neighbourhoods.

### Introduce Requirements for Healthy Food Systems and Natural Environments within the *Healthy Development Assessment* tool

Food Systems and Natural Environments are currently not focus areas identified in the *Healthy Development Assessment* and should be included to reflect a more comprehensive and holistic understanding of health. Considerations could include requiring development



Example of pedestrian-friendly streetscape and public realm design.



Example of community garden included as part of a larger residential development.

applications to demonstrate their proximity to fresh food options (i.e. grocery stores, fruit and veg markets, local butcher shops, farmers markets, etc.), increased access to naturalized environments, or inclusion of community gardens, urban agriculture projects and green roof systems, as well as naturalized and/or landscaped elements through site design.

### Promote Local Food Production, Distribution, Sale and Consumption

Through the introduction of new policies and programs, opportunities exist for the Region of Peel and Town of Caledon to promote the production, distribution, sale and consumption of local food. This can be achieved through the creation of neighbourhood-based food co-operatives, and incentive programs aimed to enhancing the commercial viability of small and independent food-based commercial enterprises.

### Consider the Health-Related Impacts of Housing

Due to its forward-looking focus, this Health Assessment does not specifically address or evaluate housing or its impact on health. However, housing characteristics (including stability, safety, tenure,

suitability and affordability) have been proven to be one of the largest social determinants of health. Future considerations could include introducing more of a public health-lens to housing reports and needs assessments, including the Regional Housing Strategy and Regional Annual Housing System Report.

### Incorporate an Emphasis on Health Equity Across Planning Policy Documents

Planning policy at various levels, from the Regional level to municipal level to the Secondary-Plan level, should incorporate a greater emphasis on health equity in the effort to build healthy built environments. This includes explicit focus on fairness and social justice, creating equal health access opportunities for all and reducing health disparities for vulnerable and disadvantaged populations.



Example of mobile farmer's market, promoting local food production, distribution, sale and consumption.



Example of a complete community, promoting the characteristics of stability, safety, tenure, suitability and affordability.

