



The Brookhill Neighbourhood

SECONDARY PLAN UPDATE

Municipality of Clarington

Planning Rationale Report – Phase 1

June 2019

REVISED September 2019

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INTRODUCTION

1.0 PURPOSE AND DOCUMENT STRUCTURE

1.1 Purpose

The purpose of the Brookhill Secondary Plan Update is to review and update the existing Secondary Plan and Urban Design Guidelines for the Brookhill Neighbourhood to bring the documents into conformity with the Municipality's Official Plan, the Region of Durham Official Plan, and the revised Provincial policy frameworks now in force. This update provides an opportunity to further explore and advance the innovative and forward thinking planning framework applied to the Brookhill Neighbourhood in 2007 for a dynamic mixed use community. The work will address:

- New targets for growth in terms of intensification and the density of development;
- Clarington's Priority Green Development Framework;
- Updating the natural heritage system;
- Updating the engineering elements of the plan;
 - Stormwater drainage
 - Transportation
 - Servicing

This update will establish principles and structure, as well as goals and objectives for development within the Brookhill Neighbourhood, helping guide its future development by enhancing the design of buildings and the public realm, while adhering to new directions regarding sustainable development through the incorporation of sustainable practices and pedestrian connections to green space.

The Secondary Plan Update will address four priorities including sustainability and climate change, urban design, affordable housing, and community engagement. It will include an Environmental Assessment for new major infrastructure, which will be integrated with the planning process.

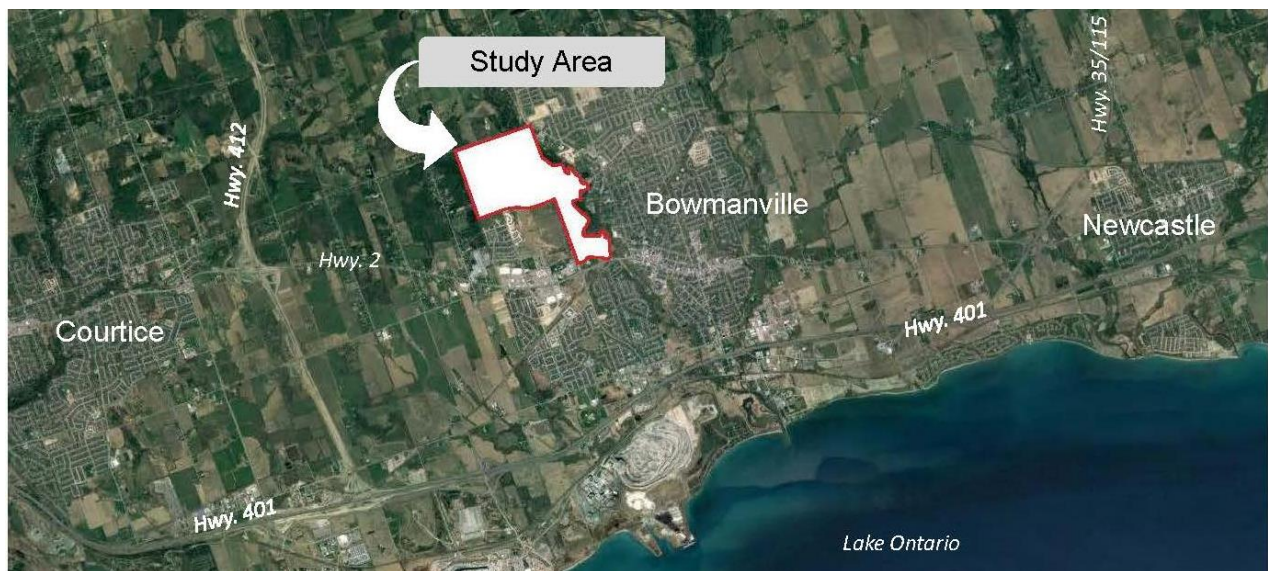
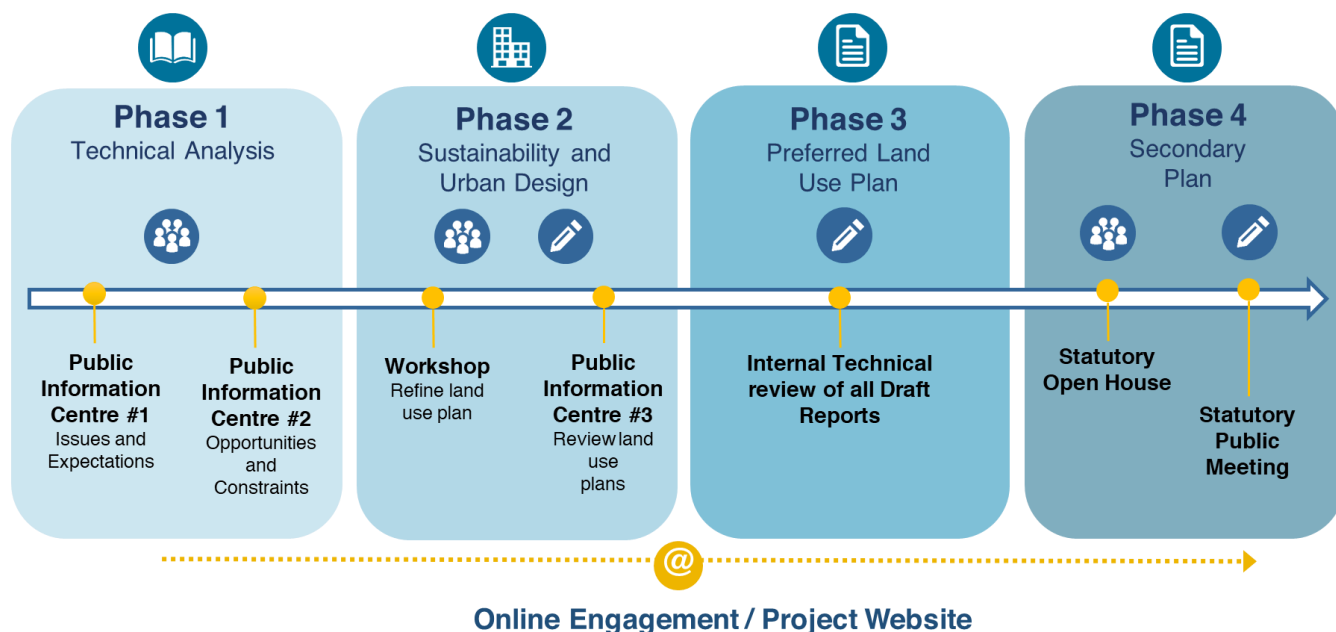


Figure 1: Brookhill Neighbourhood Study Area

New development will be carried out in accordance with the policies of the Clarington Official Plan, the policies of this Secondary Plan Update, and the revised Brookhill Community Demonstration Plan and Urban Design Guidelines resulting from this work.

1.2 Brookhill Secondary Plan Update Process

The Brookhill Secondary Plan Update process consists of four phases, each of which has unique goals, objectives, and deliverables. Public engagement through Public Information Centres and on-going online engagement ensure ample opportunities to receive and integrate feedback on the update. An overview of each phase is provided below.



The Secondary Plan Update is being prepared as an Integrated Approach in accordance with the Planning Act and the requirements of the Municipal Class Environmental Assessment Process (MCEA) under the Environmental Assessment Act. The Integrated Approach recognizes the desirability of integrating and coordinating the planning and approval processes to satisfy the requirements of the Planning Act and Environmental Assessment Act.

Phase 1 – Technical Analysis

During Phase 1, the work program was confirmed and a background review of existing conditions was undertaken to gain an understanding and overview of the Brookhill Secondary Plan Area. Phase 1 involved a comprehensive review of existing documents and available data relevant to articulating and formulating a vision for Brookhill. Past and current plans, policies, studies, and research that pertain to Brookhill were reviewed, analyzed, and synthesized. The objective is to gain an understanding of the planning and regulatory context, the environmental, transportation, servicing context; and the potential of the study area; and how it fits into and is defined by the larger community.

A start-up meeting with the Steering Committee (SC) and staff was held in early November 2018 to introduce the project. Community Engagement was initiated with the first Public Information Centre (PIC #1) on November 26, 2018. The intent of the PIC#1 was to introduce the project, the consulting team, and the study process being undertaken to develop a Secondary Plan for the study area. A second Steering Committee Meeting was held in April 2019 to review the table of contents for the Technical Reports and review work progress, with a third Steering Committee meeting held in June 2019 to review the findings of the technical background work. Phase 1 concluded

with PIC #2 which presented the findings from the technical reports and discussed the issues and opportunities for the study area. The Public Notices were prepared in accordance with MCEA requirements and the MCEA Notice of Commencement was submitted to the York-Durham MECP District office.

Phase 2 – Sustainability and Urban Design

During this phase of the study the findings, strategies, and information gained from the technical studies will provide direction for the refinement of the Brookhill Neighbourhood development plan. A series of concept plans will be prepared in association with stakeholders such as landowners and agencies. The technical studies will be further refined based on the alternative land use plan and development statistics. Public Information Centre #3 (PIC #3) will occur in this phase and will focus on presenting the Alternative Land Use Plans for the Brookhill Neighbourhood. All Public Notices will be prepared in accordance with MCEA requirements.

Phase 3 – Preferred Land Use Plan

Phase 3 will include the development of a Preferred Land Use Plan based on the feedback from the Steering Committee and public on the alternative plans. Technical Reports will be finalized to reflect the Preferred Plan and the Planning Rationale Report updated to incorporate the information from the finalized technical reports. This Phase will also include a first Draft of the Brookhill Secondary Plan and Urban Design Guidelines and supporting Zoning By-law. Meetings will be held with the Steering Committee to discuss the Preferred Plan and draft Secondary Plan and Urban Design Guidelines.

Phase 4 – Secondary Plan

The objective of Phase 4 is to revise the Draft Brookhill Secondary Plan and Zoning By-law based on feedback received from meetings with the municipality and consultant team review and prepare a Circulation Draft. A Statutory Open House will take place providing an opportunity for the public to review and comment on the secondary plan and zoning by-law. A Statutory Public Meeting will be held to present the Final Brookhill Secondary Plan and Zoning By-law to the Planning and Development Committee. Documentation for the Integrated MCEA process will be prepared to meet the Phase 1 and 2 requirements.

1.3 Report Outline

This Planning Rationale Report provides a contextual background on the Brookhill Neighbourhood, provides a policy review of provincial, regional, and municipal planning and policy frameworks applicable to the Brookhill Neighbourhood, articulates the sustainability and urban design approach for the update to the Secondary Plan, identifies key issues and opportunities, and finally summarizes technical studies and reports that will inform the Secondary Plan update.

The Report is divided into the following sections with the key objectives:

PART I – BACKGROUND – Summarizes the process and preparation of the original Secondary Plan for the Brookhill Neighbourhood, including the initial vision and design approach for the area's development. This section will also describe the broader area context, such as surrounding land uses and recent development applications.

PART II - SUSTAINABILITY– This section discusses sustainability and built form, climate change and resilience in response to extreme weather events, and the linking of land use planning and urban design to create liveable communities.

PART III - POLICY REVIEW – Reviews the existing provincial, regional, and municipal policy and planning framework applicable to the Brookhill Neighbourhood, identifying key issues and opportunities for consideration in the preparation of the Secondary Plan update.

PART IV - TECHNICAL STUDIES – Presents the key findings from a number of technical reports that will support and inform the Brookhill Secondary Plan Update.

PART V – PUBLIC INPUT – Provides a summary of the two Public Information Centres (PIC) that occurred during Phase 1 of the Secondary Plan process.

PART VI - ANALYSIS – Opportunities are discussed based on a number of directives set forth through the review of the provincial, regional, and local policy frameworks and priorities. Further opportunities and challenges are identified for each component of the background work and graphically illustrated.

Collectively, this Report explores the existing conditions of the Brookhill Neighbourhood to understand how the area has evolved over the past 12 years, and the ways in which it can continue to develop through a Secondary Plan Update that will innovatively and appropriately implement changes to policy, as well as reflect priorities of the Municipality, including opportunities to implement the Priority Green Initiative.

PART I BACKGROUND

2.0 BACKGROUND

During 2006 to 2007, The Planning Partnership (TPP) led a team of consultants in the preparation of the Brookhill Neighbourhood Demonstration Plan, Secondary Plan, and Urban Design Guidelines. The process and preparation of the Secondary Plan consisted of three phases: Data Collection and New Urbanism Review, Preliminary Design Ideas and Charrette, and Master Plan and Supporting Documents. The focus of the vision and design ideas for the original Secondary Plan was New Urbanism and the promotion of diverse, walkable, compact, vibrant mixed-use communities composed of the same components as conventional development, but assembled in a more integrated fashion, in the form of complete communities. These communities are comprised of neighbourhoods that contain a diverse mix of housing, workplaces, shops, entertainment, schools, parks and civic facilities essential to the daily lives of the residents, all within a 5 minute walking distance of each other.

The current Secondary Plan is based on the following principles of New Urbanism:

- **Focus** – multi-centered, village corridor, neighbourhoods with central focus within a 5 minute walk
- **Connections/Linkages** – connected network of roads, system of trails, linked to existing neighbourhoods
- **Uses** – diversity of housing types and mix of uses to support transit and commercial activity
- **Greenlands** – connected system of parks, natural heritage system, and stormwater ponds
- **Infrastructure** – municipal services provided in a cost effective manner
- **Environmental Sustainability and Energy Conservation** – environmental, energy, and water conservation
- **Design Excellence** – buildings, streetscapes, parks, and infrastructure distinctive and aesthetically pleasing

A charrette process was implemented to develop a preferred plan for the Brookhill Neighbourhood. Three charrettes were held over the course of a week and a half, each focusing on a particular aspect of the process. At each charrette there were sequential working sessions with the Technical Advisory Committee, Developer and Major Landowners, Community Reference Group, and Public. The first charrette was to ensure a common understanding of the existing conditions and the constraints and opportunities of the site. Environmental features, roads, servicing, land use policy and subwatershed were reviewed to provide an understanding of the site. Design Principles were developed from break out groups and discussion about desirable neighbourhood qualities. The second charrette developed three preliminary concepts based on three different approaches to the design of the community. The third charrette developed the preferred plan based on the positive attributes of the three preliminary concepts.

Based on the above principles and the feedback and products from the charrette process, TPP designed Brookhill as a complete community including a diversity of uses and housing types, focusing on high quality transit-supportive design while ensuring the enhancement and protection of the natural environment and encouragement of green technologies and building systems. As part of the implementation strategy, the Secondary Plan outlined detailed policies for land use, urban design, transportation, environmental protection, and municipal services.

The Secondary Plan was approved for:

- 2,800 Residential units: singles, semi's, townhouses, low-rise apartments
- Retail and Service Commercial
- Schools and Places of Worship
- Parks and Open Spaces

Since the approval of the Secondary Plan, residential development of approximately 470 units have been built in the southwest portion of the neighbourhood, north of Brookhill Boulevard and along both sides of Green Road.

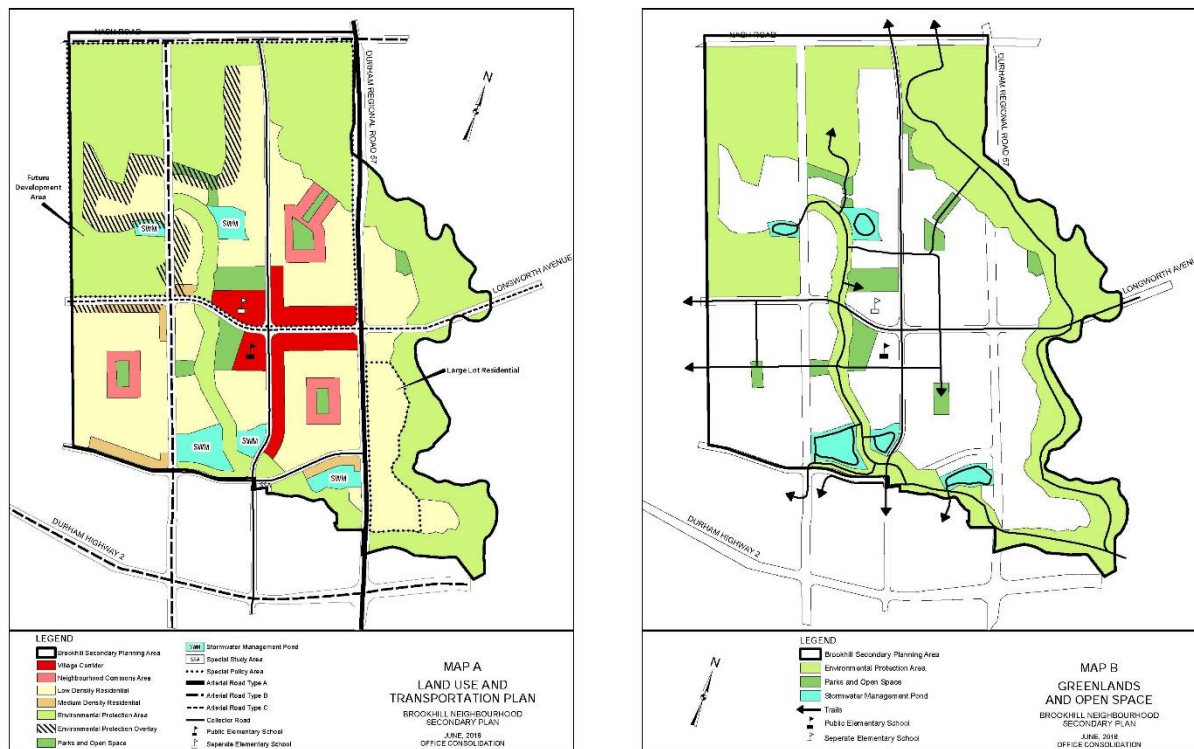


Figure 2: Current Brookhill Neighbourhood Secondary Plan Schedules

3.0 SITE AND SURROUNDING CONTEXT

3.1 The Broader Area Context and Surrounding Land Uses

The Brookhill Neighbourhood occupies a 300 hectare (740 acre) area and is located within the Urban Area of Bowmanville, within the Municipality of Clarington, Durham Region. The neighbourhood is bounded by Nash Road to the north, Bowmanville Creek to the east, Brookhill Boulevard and the Bowmanville West Town Centre to the south, and Boswell Drive to the west, which marks the westerly boundary of the Urban Area. More specifically, the uses surrounding the Brookhill Neighbourhood are as follows:

- **North:** Located north of Nash Road and the Brookhill Neighbourhood are a number of large, single lots, with equestrian facilities and some commercial/light industrial uses. Agricultural lands are also found, in addition to the areas that form part of the Natural Heritage System.
- **East:** Located east of Bowmanville Creek is the Bowmanville Valley Conservation Area, as well as number of residential subdivisions, churches, and schools that form part of the historic community of Bowmanville.
- **South:** South of Brookhill Boulevard is the commercial centre of Bowmanville, with highway commercial uses clustered along Highway 2. Current businesses include Walmart, Canadian Tire, Home Depot, Cineplex Odeon theatre, and a plethora of restaurants and retail. Clarington Central Secondary School and the Garret B Rickard Recreation Centre are also found within this area.

- **West:** Located west of Boswell Drive is the Maple Grove centre, with a range of commercial uses surrounding the Maple Grove and Highway 2 intersection such as Reeker’s Garden Centre, Paul Watson’s Farms and Watson Farm Market, and a day spa. Existing residential uses consisting of single detached homes are also found within this area, as well as the United Church and the Durham Regional Police Service.

Development Plans and Applications

A number of previous and current development plans and applications are found within and around the Brookhill Neighbourhood. These initiatives illustrate how the built form context of the area is evolving in response to the existing Secondary Plan and broader provincial, regional, and municipal policy:

- Brookhill Boulevard Rezoning – Located on the south side of Brookhill Boulevard between Green Road and Boswell Drive, MODO Bowmanville Urban Towns Ltd. (Kaitlin Corp.) revised an application for rezoning and submitted a Draft Plan of Subdivision for a 125 unit residential condo development consisting of back-to-back townhomes, and an 88 unit 6-storey apartment building.

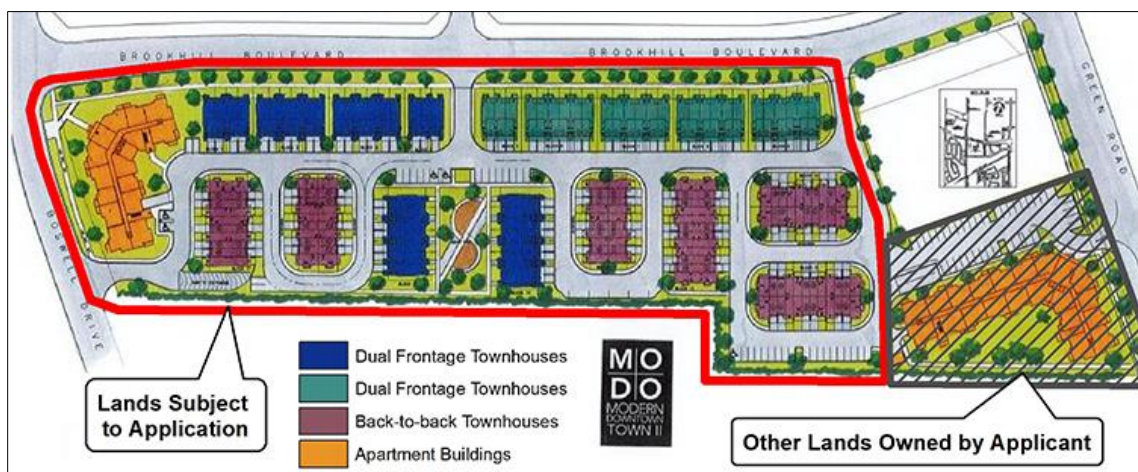


Figure 3: Brookhill Boulevard rezoning

- MODO North Phase 1 – Located east of Green Road, between Prince William Boulevard and Clarington Boulevard (South of Highway 2), the MODO North Phase 1 Site Plan Application has been approved following former draft plan of subdivision and rezoning applications, to permit a total of 76 townhouse condominium units, with an additional 36 units under Phase 2 being reviewed.



Figure 4: MODO North Phase 1

- Bowmanville West Urban Centre Secondary Plan – Located immediately south of the Brookhill Neighbourhood, the Bowmanville West Urban Centre Secondary Plan seeks to transform the 136 hectare area into a vibrant, pedestrian oriented, mixed-use centre and transportation hub that provides a range of housing, parks, and retail options, as well as service and office uses, emphasizing transit oriented development surrounding the future GO Station. A PIC for the Plan was held in June 2018.

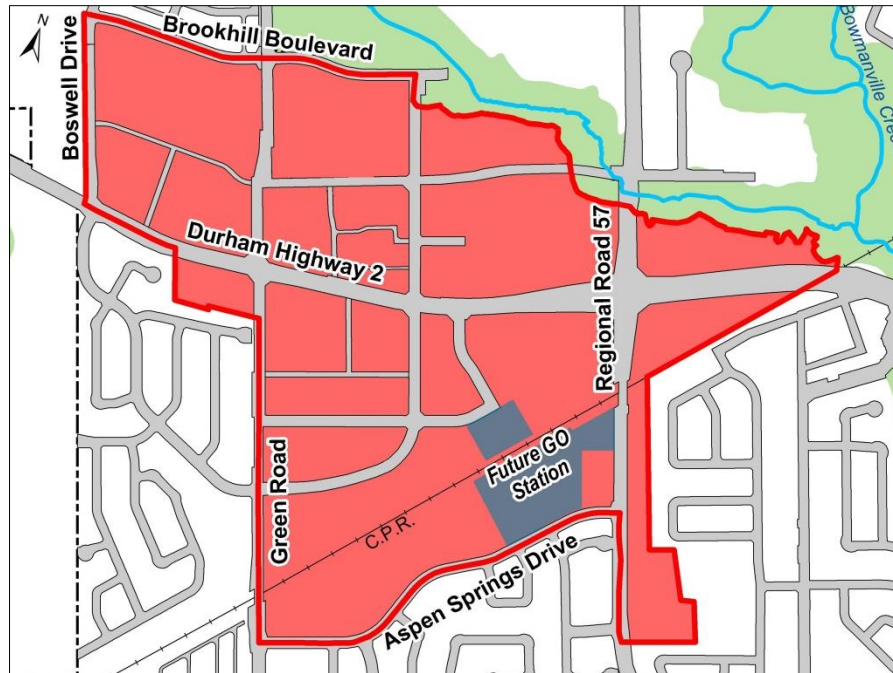


Figure 5: Bowmanville West Urban Centre Secondary Plan

- King Street and Regional Road 57 – Located along King Street at Regional Road 57, a rezoning application was approved in April 2018 to permit a 425 unit apartment building of up to 12 storeys in height on 215, 219, and 223 King Street West, Bowmanville. Access for the site will be provided from a signalized driveway, with services for the site extending under the railway. This servicing will also support future development of residential lands located north of Highway 2 along Regional Road 57. A Site Plan Approval application is being reviewed.



Figure 6: King Street and Regional Road 57

Given its location in the northwest portion of the Bowmanville Urban Area, the Brookhill Neighbourhood is surrounded by a diversity of uses, with an urban centre located immediately to the south and significant residential uses to the east. The range of commercial uses in proximity to the area will both support and be supported by future residents. The location of the future GO transit Station in the proximity to the neighbourhood, and the anticipated increase in service along this line, will further facilitate the growth of Bowmanville, and the Brookhill Neighbourhood. The Brookhill Neighbourhood represents one of the last significant tracts of developable land within the Bowmanville Urban Area. As such, the Secondary Plan Update will ensure that its future build out is appropriate for the local context and will help to create an even more complete community.

3.2 Existing Transportation Network

The existing transportation network is comprised of Bowmanville Avenue, Durham Highway 2, Green Road, Nash Road/Concession Road, Boswell Drive, Stevens Road, Clarington Boulevard, and Brookhill Boulevard, as well as Durham Region Transit and GO Bus routes.

- Bowmanville Avenue is a north-south Type A arterial road under the jurisdiction of the Region with a rural 2 lane cross-section and no pedestrian or cyclist facilities.
- Durham Highway 2 is an east-west Type B arterial road under the jurisdiction of the Region that consists of an urban 4 lane cross-section with sidewalks provided on both sides of the street, east of Boswell Drive.
- Green Road is a north-south Type B arterial road under the jurisdiction of the Municipality with an urban 2 lane cross section and sidewalks on both sides of the street between Durham Highway 2 up to Ross Wright Avenue/Kirkpatrick Court. The east side sidewalk terminates just north of north of Ross Wright Avenue/Kirkpatrick Court. Bicycle lanes are provided on both sides of the street from south of Durham Highway 2 up to Ross Wright Avenue/ Kirkpatrick Court.
- Nash Road / Concession Road 3 is an east-west Type B arterial road, and from east of Green Road to west of Durham Road 57, the roadway is classed as a collector road, all under the jurisdiction of the Municipality. The roadway consists of a 2-lane cross section, no sidewalks provided, but the roadway is signed as a shared bicycle route.
- Boswell Drive is a north-south collector road under the jurisdiction of the Municipality with 2-lane cross section with sidewalks are provided on the east side of the road, north of Durham Highway 2.
- Stevens Road is an east-west collector road under the jurisdiction of the Municipality and consists of a 2 lane urban cross section with sidewalks provided on both sides of the street, but the north side terminates at Clarington Boulevard.
- Clarington Boulevard is a north-south collector under the jurisdiction of the Municipality and is a 5 lane urban cross section, south of Stevens Road and a 2 lane urban cross section, north of Stevens Road, with sidewalks are provided on both sides of the street.
- Brookhill Boulevard is an east-west collector road under the jurisdiction of the Municipality with a 2 lane urban cross section with sidewalks provided on the north side of the street, and a multi-use trail on the south side of Brookhill Boulevard.

- Durham Region Transit (DRT) and GO Transit provide service within the vicinity of the study area. Two DRT routes: Route #501 (South Bowmanville) and Route #506 (Clarington Community Route); and the GO Bus Route #90 (Lakeshore East) that runs along Highway 2.

3.3 Secondary Plan Update - Area Description

The Brookhill Neighbourhood is located north of the Bowmanville West Town Centre, and south of Nash Road. Its easterly boundary is the Bowmanville Creek valley and the historic community of Bowmanville. Its westerly boundary is the limit of the Urban Area for Bowmanville. The area for the Brookhill Neighbourhood is approximately 300 hectares (740 acres). Of that total, one third of the area contains natural features.

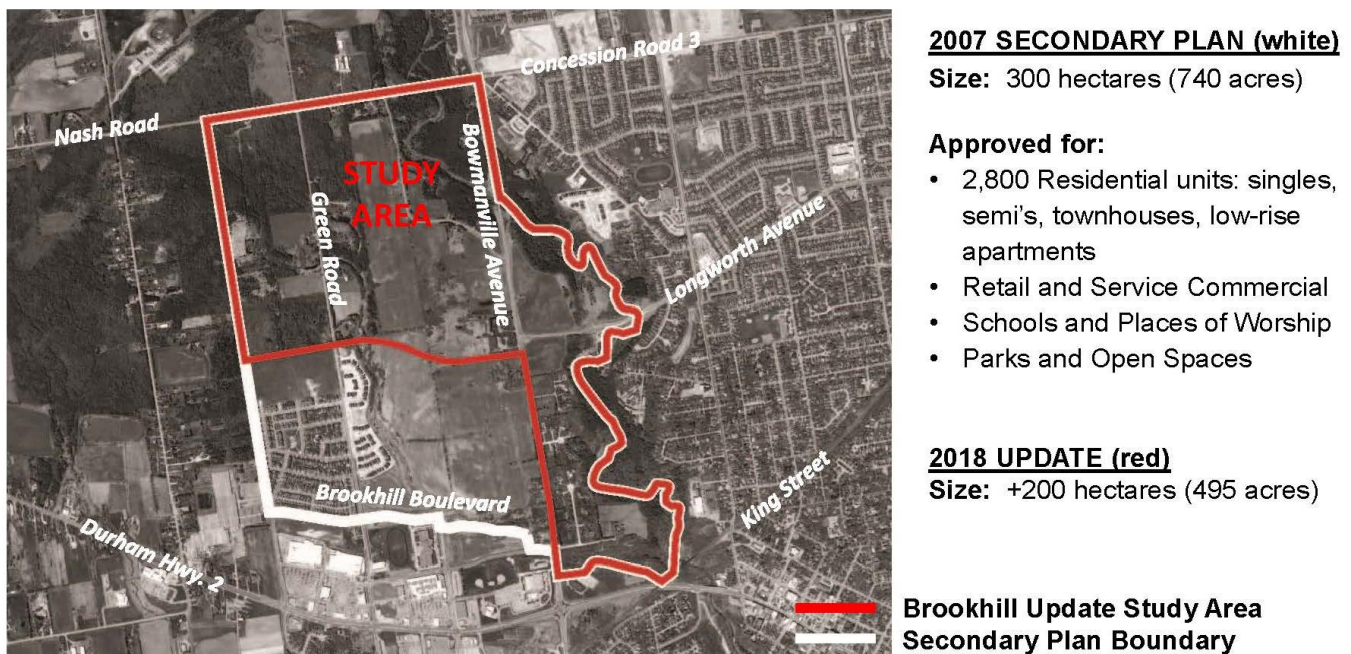


Figure 7: Brookhill Update Study Area

Secondary Plan Update

The area of review for the Secondary Plan Update is comprised of approximately 200 hectares (495 acres) and is bounded by Longworth Avenue to the south, Nash Road to the north, Regional Road 57 and the Bowmanville Creek valley to the east and urban area boundary to the west.

The landscape of the current Brookhill Neighbourhood is dominated by agricultural fields, approximately 470 single-detached, semi-detached and townhouse units, commercial and institutional buildings, and an extensive natural heritage system. In the east portion of the Secondary Plan, east of Bowmanville Avenue, are several existing large lot singles (25-30) along the Bowmanville Creek.

PART II SUSTAINABILITY

4.0 SUSTAINABLE APPROACH

4.1 Sustainability

Sustainability has become an issue of ever increasing importance due to, and not limited to, climate change, rising greenhouse gas emissions, aging population, resource depletion, and increasing public health challenges all related to the way in which we interact with our built and natural environments. The limited supply of land for development within urban boundaries and the current pattern of development in many municipalities is placing a strain on the natural environment and the health of residents. The evidence of the linkage between improvements to both sustainability and public health through meaningful interventions in community design has made significant progress in recent years. The nature and shape of development needs to change to respond to these limits if we are to achieve any meaningful sustainable measures.

Sustainable growth and development are supported throughout Provincial, Regional, and Municipal policies and strategies. Tools and strategies employed by municipalities to enable a more compact and complete form of development must encompass a diversity of conditions and needs. While various planning, urban design, and sustainable policies and principles share a common intent and are applicable in a broad range of conditions, the means through which they are implemented can vary significantly depending upon local contexts. Municipalities are therefore well placed to serve as leaders in ensuring the delivery of meaningful programs to support sustainable growth and development.

Municipalities must support greenhouse gas emission reductions through increasing sustainable measures where what is optional will become mandatory. Creating an understanding that near zero, net zero buildings are a positive but the design of the community around these buildings also needs to meet sustainable objectives.

4.2 Climate Change and Resilience

Climate change is a direct consequence of elevated greenhouse gas (GHG) concentrations in the atmosphere and feedback mechanisms. The largest source of GHGs are emitted from the combustion of fossil fuels to make energy, including heat and electricity. After transportation, manufacturing is responsible for a significant slice of this pie, followed closely by houses, shops, schools, and other private and public buildings.

There is a need for the reduction of greenhouse gas emissions and resilience in community planning, in both urban and rural contexts, as well as an understanding of how resilience can be built into our urban and rural environments to ensure our ability to adapt, as well as establish a focused way of understanding and applying resilience within the practice of urban design and planning.

Becoming resilient to changing weather patterns and extreme weather events requires a multi-faceted approach that addresses integrated stormwater management, green infrastructure, energy supply and distribution, and precautionary land use planning. A well-rounded approach also incorporates climate change mitigation strategies that are focused on reducing greenhouse gas emissions by promoting multi-modal transportation systems, and a supportive, mixed use and compact urban structure. Energy efficiency measures can also be promoted through design guidelines, and strategies for water and wastewater servicing, waste management, and energy supply and

distribution. In an emerging new greenfield community such as Brookhill, opportunities for climate change mitigation lie in providing alternatives to care dependence such as locating density to support transit routes, designing for active transportation routes, designing pedestrian supportive streetscapes, and supporting heat island reduction through tree planting.

4.3 Urban Design

Land use planning and urban design need to be fundamentally linked in order to guide and create liveable and sustainable communities. Land use plans and policies must not only guide land use distribution but also recognize and guide the creation of walkable and attractive streetscapes, mixed use centres, and neighbourhoods.

While the Secondary Plan establishes:

- an appropriate mix of land uses;
- the height and density of buildings;
- the road network, trails, and transit routes;
- the parkland system; and,
- protection for the natural heritage system,

Urban Design provides the overall framework and guidance on the arrangement, relationship, and articulation of these systems/elements based upon achieving an overarching Vision.

PART III POLICY REVIEW

5.0 POLICY REVIEW

The Brookhill Secondary Plan Update is an opportunity to review and establish a forward-thinking policy framework for a dynamic mixed-use community that will complement, enhance, and promote the Bowmanville Settlement Area as a key area within the Municipality of Clarington. The Secondary Plan Update will provide a revised land use planning framework for the on-going and future development of the Brookhill Neighbourhood, establishing detailed local development policies to guide growth in the defined community area. The Secondary Plan Update will establish the appropriate mix of land uses; the height and density of development; the road network, trails and transit routes; the parkland system; and policies for the protection of the natural heritage system.

The Municipality of Clarington’s Priority Green Initiative was introduced in 2013 by Council in response to growth pressures and related development anticipated over the next 20 years. An analysis of Provincial, regional, and local planning and policy frameworks, as well as additional studies, were key drivers in the development of the Priority Green Initiative that seeks to further integrate sustainability into the residential land development process by developing *“a new standard for residential development that prioritizes sustainability, promotes innovation, and continues to improve the community’s quality of life”*.

The Municipality of Clarington has committed to a sustainable future for its communities, as set forth in both the Official Plan and the Priority Green Development Framework. These documents are used by the Municipality to guide the development of vibrant and complete communities. Under the Clarington Green Development Framework and Implementation Plan (2015) Secondary Plans are a key tool through which to implement the evaluation criteria for new communities. The Priority Green Development Framework organizes the criteria around 4 broad themes of **Built Environment, Mobility, Natural Environment and Open Space**, and **Infrastructure and Buildings**.

These four themes of the Priority Green Development Framework are the core elements of a sustainable community and are utilized as the organizing elements for the policy review component of this Report. A comprehensive review of provincial, regional, and municipal policies and reports was undertaken for the Brookhill Secondary Plan study and a number of key issues and opportunities have been identified.

BUILT ENVIRONMENT

- #1 Growth Management
- #2 Housing
- #3 Urban Design
- #4 Healthy Communities
- #5 Economic Development

MOBILITY

- #6 Roads, Transit & Active Transportation

NATURAL ENVIRONMENT AND OPEN SPACE

- #7 Natural Heritage System
- #8 Cultural Heritage
- #9 Parks & Community Facilities

INFRASTRUCTURE AND BUILDINGS

- #10 Servicing & Low Impact Development
- #11 Climate Change & Resiliency

5.1 Built Environment

Issue and Opportunity #1: Growth Management

How can the municipality best accommodate growth within the study area in a fiscally and environmentally sustainable manner?

The Brookhill Secondary Plan Area is identified as an “Living Areas” under the Urban System and “Major Open Space Area” under the Greenlands System in the Regional Official Plan and as both “Urban Residential” and “Environmental Protection Area” under the Municipality of Clarington Official Plan. The Region of Durham Official Plan indicates that the Municipality of Clarington is to accommodate 140,340 people and provide 35,400 jobs by 2031. However, these population and employment forecasts are based on the 2006 Growth Plan for the Greater Golden Horseshoe, which was significantly amended in 2017, and most recently in A Place to Grow, 2019 (Growth Plan).

Considering the increased focus on growth within the Municipality, there is an opportunity to explore a variety of residential density options to utilize land more efficiently and reduce the cost of municipal services. New greenfield development should be well connected, provide a range of housing options, and include densities which create compact, efficient, and liveable communities. These principles will also play an important role in making efficient and cost-effective infrastructure investments and in laying the groundwork for the success of future transit service.

Policy Framework Changes

The Province released A Place to Grow: Growth Plan for the Greater Golden Horseshoe on May 2, 2019, effective May 16, 2019. A Place to Grow, 2019, includes a number of policy changes that will affect the Brookhill Secondary Plan Update. Significant changes between the 2006 and 2017 versions of the Growth Plan included increasing the intensification target from 40% to 60%, increasing the greenfield density target from 50 people and jobs/hectare to 80 people and jobs/hectare, and introducing the 2041 growth forecasts for population and employment. However, A Place to Grow has reversed the increase in greenfield development targets, returning this goal to 50 persons and jobs per hectare. In addition, the Region is currently undertaking a Municipal Comprehensive Review, entitled “Envision Durham” to ensure its policies conform to these changes.

A Place to Grow: Growth Plan for the Greater Golden Horseshoe 2019

– Intensification and Density Targets – Durham Specific

Gradient Intensification Targets: Previous targets of 60 per cent of all residential development have been reallocated as follows:

- 50 percent for the Cities of Barrie, Brantford, Guelph, Orillia and Peterborough, and the Regions of Halton, Durham and Niagara;

Gradient Greenfield Area Density Targets: Previous targets of 80 residents and jobs per hectare reduced to:

- 50 residents and jobs per hectare for the Cities of Barrie, Brantford, Guelph, Orillia and Peterborough and the Regions of Durham, Halton and Niagara; and,

– Major Transit Station Areas

Radius and Delineation: Expands radius of MTSA from 500 metres to existing/planned stations/stops to a range of 500 to 800 metres. Allows municipalities to delineate and plan MTSAs in advance of an MCR, provided that a detailed implementation framework is brought into effect in accordance with Section 16 (15) of the *Planning Act*.

Request for Lower Density: Minister may approve the use of lower density targets, where a municipality demonstrates that the target cannot be achieved.

– **Settlement Area Boundary Adjustments and Expansions**

Adjustments: Settlement Area Boundaries may be adjusted by municipalities without an MCR when:

- There would be no net increase in the land within the settlement area;
- The adjustment would supply the ability to meet intensification and density targets;
- The normally applicable requirements for settlement area expansion found in policy 2.2.8.3 are met;
- The land is not within a Rural Settlement, or in the Greenbelt; and,
- The land is serviced and there is sufficient allocation.

Expansions: Settlement Area boundaries may be expanded without an MCR when:

- The lands will meet resident and job density targets, or employment area density targets;
- The normally applicable requirements for a settlement area expansion in policy 2.2.8.3 are met;
- The land is not a rural settlement, or in the Greenbelt;
- The land is serviced and there is sufficient allocation;
- The land, and accompanying growth will be accounted for in the next MCR; and,
- The land to be expanded is no greater than 40 ha.

Employment Land changes have also been proposed but the Brookhill Neighbourhood does not include any designated employment land and these changes have not been considered.

Bill 108 – More Homes, More Choice Act, 2019

Bill 108 received Royal Assent on June 6, 2019 and amends 13 different statutes that impact municipalities and the land use planning process. A few the legislation changes include:

- Changes to the *Planning Act*, *Local Planning Appeal Tribunal Act*, *Ontario Heritage Act*, the *Development Charges Act*, and the *Education Act*.
- Proposed legislative changes to increase the supply of housing and provide more affordable housing options by, among other things, changing how funds are collected from developers and eliminating the basis for appeal and the two stage LPAT hearing process implemented under Bill 139.
- Bill 108 proposes to repeal many of the amendments introduced through Bill 139 (the *Building Better Communities and Conserving Watersheds Act*, 2017) in 2017. Bill 139 renamed and reconstituted the Ontario Municipal Board as the Local Planning Appeal Tribunal (the “LPAT”), and made significant changes to the Planning Act and land use planning approval process. Bill 108 retains the LPAT name, but proposes to repeal the “two-stage” appeal process, returning to a single hearing.
- Community Benefits Charge: Soft services (recreation, library, housing) would be removed from the Development Charges Act and considered as part of a new Community Benefits Charge. Proposes to replace the Section 37 density bonusing provisions with a new community benefits charge. Where a municipality has passed a community benefits charge by-law, the community benefits charge may replace the parkland dedication provisions in some cases.
- **Section 37 - Height and Density Bonusing**, is replaced with a new Section 37 that introduces a **Community Benefits Charge System** which will allow municipalities to charge for community benefits (excluding those included under the amended Development Charges Act), based on the value of land the day before building

permit, subject to a percentage cap, and which can also include in-kind contributions. Prior to passing a Community Benefits Charge By-law, the municipality must carry out a Community Benefit Strategy.

- **Section 42 - Parkland Dedication.** The intention is that parkland acquisition land and/or cash-in-lieu funds would no longer be eligible under Section 42, but are **to be captured within the new Section 37 Community Benefits Charge System**. The changes to the Planning Act:
 - Upon proclamation of Bill 108 - Remove the ability for municipalities to charge developments alternative rates for parkland dedication (1 hectare/300 units for land and 1 hectare/500 units for payment-in-lieu). The maximum parkland dedication charges will be the standard maximum rates of 5% of the land area for residential development and 2% of the land area for commercial, industrial and institutional development; and,
 - Ensure that the ability of municipalities to implement a Parkland Dedication By-law that is directly tied to a municipality's decision whether or not to enact a Community Benefits By-law.

Provincial Policies

Provincial Policy Statement (2014): Section 1.1.1 (Managing and Directing Land Use to Achieve Efficient and Resilient Development and Land Use Patterns), Section 1.1.3 (Settlement Areas)

- The Provincial Policy Statement (PPS) under Section 1.1.1 requires municipalities to plan for efficient and resilient development and land use patterns.
- Under the PPS, settlement areas shall be the focus of growth and development, occurring as:
 - Intensification and redevelopment within previously developed areas; and,
 - New development in designated growth areas, which have not yet been fully developed.
- The PPS requires planning authorities to:
 - Identify targets for intensification and redevelopment; and,
 - Ensure the orderly progression of development within designated growth areas.

A Place to Grow (2019): Section 2.1 (Policies for Where and How to Grow); Section 2.2 (Delineated Built-Up Areas); Section 2.2.7 (Designated Greenfield Areas); Schedule 3 (Distribution of Population and Employment for the Greater Golden Horseshoe to 2041)

- A Place to Grow (Growth Plan) requires that by the time of the next municipal comprehensive review is approved and in effect, and for each year thereafter, a minimum of 50% of all residential development occurring annually within the Region of Durham will be within the delineated built-up area.
- The Growth Plan requires that the minimum density target applicable to the designated greenfield area of each upper-tier municipality is 50 residents and jobs per hectare. This density target is to be measured over the entire designated greenfield area of each upper tier municipality, but excluding natural heritage features and areas and natural heritage systems, provided development is not permitted in these areas, as well as rights of ways for electricity lines, energy transmission pipelines, freeways, railways, employment areas, and cemeteries.

- An alternative target may be requested by upper-tier municipalities where it is demonstrated that the target cannot be achieved and if the alternative target will support the diversification of housing choices and the development of a more compact built form in designated greenfield areas, in an appropriate manner.
- Schedule 3 of the Growth Plan illustrates that by 2041, the Region of Durham is forecasted to accommodate a population of 1,190,000 residents and 430,000 jobs.

Regional Policies

Region of Durham Strategic Plan 2015-2019 (A New Strategic Plan for Durham Region: 2015-2019): Section C (Healthy Communities and Sustainable Environments); Section D (Organizational Health & Service Excellence)

- The 2015-2019 Durham Region Strategic Plan establishes the long-term vision for communities in Durham Region, and critically, the Region's role in achieving that vision, which includes protection of agricultural land and key environmental features, promotion of smart growth, and enabling communities to become even more walkable and livable.
- Under Section C, the Region will work more closely with local municipalities and other partners to manage growth through effective, progressive and integrated long-term planning. As indicated in Section D, by 2019 Durham Region will continue to be financially healthy and well managed, providing exceptional Regional service to address the needs of its growing community.

Region of Durham Official Plan (2017): Section 1.1 (Basis); Section 1.2 (Goals); Section 7 (Regional Structure). Section 8 (Urban System); Sub-Section 8A (Centres, Corridors, and Waterfront Places); Section 7.3 (Urban Area); Sub-Section 8B (Living Areas); Section 4 (Housing)

- The Regional OP is intended to manage and facilitate orderly growth, providing population and employment projections consistent with the former 2006 Growth Plan, which anticipated a 2031 regional population of 960,000 people and a total of 350,000 jobs. Of these projections, the Municipality of Clarington was to accommodate 140,340 people and provide 35,400 jobs by 2031, pursuant to Section 7.3.
- The Region of Durham initiated "Envision Durham", a Municipal Comprehensive Review of the Durham Regional Official Plan to develop a planning vision to 2041 to ensure consistency with the revised 2017 Growth Plan projections, as well as other relevant changes including increasing the intensification target from 40% to 60%, increasing the greenfield density target from 50 person + jobs/hectare to 80 persons + jobs/hectare, and introducing new growth forecasts for population and employment to 2041. Due to recent changes to the Growth Plan resulting from Amendment #1, such as reversing the increase in greenfield development targets, and returning to the goal to 50 persons and jobs per hectare, it is likely the MCR will incorporate the recent changes.
- The Region of Durham is to maintain the ability to accommodate region-wide residential growth in Urban Areas for a minimum of 10 years through intensification, redevelopment, and if necessary, on lands available for residential development, as well as maintain a 3-year supply of residential units.
- On Schedule A – Map A5 – Regional Structure of the Regional OP, the Brookhill Neighbourhood is located within the "Urban Area", more specifically within the "Living Areas" Designation and the "Major Open Space Areas" Designation. A "Regional Centre" is located immediately south. Brookhill is primarily located outside of the built-up area, with the majority of the area being considered as Greenfield areas.

- Urban Areas are to achieve a number of growth management objectives on a Region-wide basis including, accommodating a minimum 40% of all annual residential development through intensification within built up areas by 2015 and each following year, and developing greenfield areas with an overall gross density of 50 residents and jobs combined per hectare. Means to increase density of new residential development to reduce municipal servicing costs are to be investigated.
- Urban Areas should be planned and developed over time with regard for adaptability, sustainable development, harmony with nature, and diversity and integration of structures and functions. They are to be based on a compact and transit-supportive urban form, intensification, a mix of uses, particularly in Centres and Corridors, intensification, good urban design principles, pedestrian and cyclist linkages, and a grid system for transit and road patterns, as well as a Greenlands System that complements and enhances the Urban System. Urban Areas are to be developed on the basis of full municipal services unless otherwise specified.
- The Region can consider amendments to area municipal official plans to designate a supply of land for development up to the timeframe indicated in the Regional OP, provided that the amendment includes a phasing strategy for an urban area through secondary plans in greenfield areas.
- Development of greenfield Living Areas greater than approx. 20 hectares are only to proceed through virtue of an approved Secondary Plan. If development of greenfield Living Areas are less than 20 hectares, development may proceed in absence of a secondary plan, provided the area municipality is satisfied and identified matters have been addressed.
- When preparing a secondary plan, consideration should be given to the implementation of a watershed plan for areas designated for development after June 3rd 2009, where appropriate, as well as sequential and orderly development, the extent of servicing and servicing impacts for the area, relationships to Major Open Spaces and development studies, transportation needs for all modes, identifying potential land use conflicts and means to alleviate any conflicts, and providing a range and mix of housing, including affordable housing.
- Secondary plan areas are to be substantially developed to their planned capacity (i.e. generally 75% of the residential land area which is available for development) prior to the approval of development in adjacent secondary plan areas that are prepared in accordance with Policy 7.3.14. In the event that an area municipality initiates a review and update of an approved secondary plan, a key component shall be the consideration of the growth management objectives of this Plan.
- Area municipal intensification strategies are to be based on the Regional OP's growth management objectives, appropriate intensification locations throughout the built-up area, as well as provision of diverse land use mix, that support vibrant neighbourhoods and supply a broad range of housing, including affordable housing. Despite the intensification objectives herein, new or intensified development shall only be permitted in accordance with approved Floodplain Special Policy Area provisions in an area municipal official plan.
- The preparation of a secondary plan shall include the considerations under Policy 7.3.14 to ensure sequential and orderly development, that the servicing of the area is on full municipal water and sanitary sewerage systems and whether they are within the financial capability of the area municipality, transportation for all modes, provision of a range of housing, and a diverse mix of land uses, amongst others.
- Area municipal official plans are to include phasing policies that consider Policy 7.3.15 and in consultation with the Region. They are to establish set out short-term implementation strategies to provide for adequate land, infrastructure and public facilities over a minimum of 5 years, which encourage maximum utilization of existing

infrastructure and *development* and *redevelopment* opportunities, prior to permitting *development* in *greenfield* areas of the municipality.

- Sub-Section 8B of the Regional OP indicates that Living Areas should accommodate the widest possible variety of housing types, sizes, and tenure to provide living accommodations that address various socio-economic factors. Living Areas should be developed with compact built forms through higher density development and consider support and access for public transit, but be predominantly used for housing purposes, with limited office and retail in appropriate locations.

Municipal Policies

Municipality of Clarington Official Plan (2018): Section 1.2 (Purpose); Section 4 (Managing Our Growth); Section 4.4 (Built Up Areas); Section 4.5 (Greenfield Areas); Section 4.6 (Secondary Plans)

- The purpose of the OP is to guide and manage development in the Municipality of Clarington to the year 2031. In so doing, it will foster economic, environmental, physical, cultural, and social well-being of residents, guide future physical development, assist in resolution of land use conflicts, and provide a framework for identifying and evaluating land use opportunities, among other goals.
- The OP adheres to “Smart Growth” Principles, which recognize the importance of sustainable development and healthy communities through the land development process.
- Map A3 – Bowmanville Urban Area of the OP designates the Brookhill Secondary Plan Area under “Urban Residential” and “Environmental Protection Area”
- Map B – Urban Structure – Clarington Urban Areas of the OP designates the majority of the Brookhill Secondary Plan Area as “Greenfield”, with some of the area being within the “Built Up Area”. Bowmanville Avenue (Regional Road 57) is identified as a “Local Corridor”, which is a Priority Intensification Corridor.
- The Subject Lands are identified primarily as a Greenfield Area, within the Urban Boundary but outside of the Built Boundary. Under Section 4.5.1, Greenfield Areas are to achieve a density of 50 residents and jobs combined per gross hectare.
- Within the Built-up Area, a target of at least 32% of all new residential units will be achieved up to the year 2021, and at least 40% thereafter. The minimum residential intensification target for Bowmanville between 2015-2021 is 1,030 new units, and 3,120 units between 2022-2031, for a total of 4,150 new units.
- Development within the Built-Up Areas and the Priority Intensification Areas is to be encouraged through ensuring adequate services, including transit, to support development, strategic public realm investments, such as active transportation, providing financial incentives and preparing CIPs, as well as phasing development and prioritizing capital projects within Built-Up Areas.
- Section 4.6 notes that Secondary Plans will be prepared to provide for a detailed planning framework and will implement the growth management objectives and policies of the OP, the Regional Official Plan, and the Provincial Growth Plan.
- Under Section 4.6.6 Secondary Plans will include phasing policies that address sequential phasing of development; efficient use and extension of all infrastructure and services; optimizing the use of existing

infrastructure and services; attainment of Greenfield density targets; and minimizing the financial implications for municipal services.

- Under Section 4.6.7 the Official Plan states that new “*secondary plan areas will be planned to address the criteria for Secondary Plans established through Clarington’s Green Development Program, and are encouraged to plan for more resilient infrastructure and to move towards net zero communities by incorporating techniques to reduce greenhouse gas emissions.*”

Municipality of Clarington Zoning By-law 84-63 – (Consolidated 2015)

- The Municipality is in the process of preparing a new comprehensive zoning by-law for the Municipality of Clarington. A Zoning By-law for the Study Area will be developed based on the Preferred Plan and its land uses, unit types, and neighbourhood commercial uses in accordance with Section 10.5.3 of the Official Plan
- The current zones that apply to the Brookhill Study Area under the Municipality of Clarington Zoning By-law 84-63 Schedule 3 (Bowmanville), dated 2016 include: Agricultural (A), Residential (R), and Environmental Protection (EP).

Issue and Opportunity #2: Housing

How can the Municipality best provide a wide range of housing choices to accommodate population and employment growth and meet the needs of a diverse range of household needs?

Ensuring the availability of a full range of housing options is critical in meeting the needs of current and future residents of all incomes, ages, lifestyles, and abilities. Providing for a sufficient supply of affordable housing is an important goal that is recognized by the Municipality, with 30% of all new housing to be affordable. This percentage is above the Regional Official Plan requirement of 25% of new development.

With the introduction of new housing development and intensified housing forms, it will also be increasingly important to support measures that will ensure new development builds on and supports the existing community character, provides public benefits, and contributes to a higher quality public realm for all.

The Region will be releasing a Housing Discussion Paper in the Fall of 2019 as part of the Envision Durham process. The paper will be reviewed in Phase 2 of this project and incorporated into the development of the Secondary Plan.

Definition:

Affordable Housing, as defined by the Municipality of Clarington OP, means in the case of ownership housing, the least expensive of:

1. “*Housing for which the purchase prices result in annual accommodation costs which do not exceed 30 percent of gross annual household income for low to moderate income households*”; or,
2. “*Housing for which the purchase price is at least 10 percent below the average purchase price of a resale unit in the regional market area*”.

In the case of rental housing, affordable housing means the least expensive of:

1. “*A unit for which the rent does not exceed 30 percent of gross annual household income for low- and moderate-income households, or,*
2. *A unit for which rent is at or below the average market rent of a unit in the regional market area.*”

Provincial Policies

Provincial Policy Statement (2014): Section 1.1 (Managing and Directing Land Use to Achieve Efficient and Resilient Development and Land Use Patterns); Section 1.4 (Housing)

- The PPS states that healthy, liveable, and safe communities are sustained by accommodating an appropriate range and mix of residential options, including second units, affordable housing and housing for older persons (1.1.1).
- The PPS calls on municipalities to provide an appropriate range and mix of housing types and densities to meet projected requirements of current and future residents of the regional market area. To do so, planning authorities are required to:
 - Maintain at all times the ability to accommodate residential growth for a minimum of 10 years through residential intensification and redevelopment and, if necessary, lands which are designated and available for residential development;
 - Maintain at all times land with servicing capacity to support at least a three-year supply of residential units available through lands suitably zoned to facilitate residential intensification and redevelopment, and land in draft approved and registered plans;
 - Establish minimum affordable housing targets;
 - Permit and facilitate the development of special needs housing;
 - Permit second units;
 - Direct new housing to locations served by existing or planned infrastructure and public service facilities;
 - Promote residential densities that use land, resources, infrastructure and public service facilities efficiently, and support the use of active transportation and transit in areas where it exists or is to be developed; and,
 - Establish development standards for *residential intensification, redevelopment and new residential* that minimize the cost of housing, facilitate compact form, and maintain public health and safety (Sections 1.4.1 & 1.4.3).

A Place to Grow (2019): Section 1.2.1 (Guiding Principles); Section 2.2.1 (Managing Growth); 2.2.6 (Housing)

- A guiding principle of the Growth Plan is to “*support a range and mix of housing options, including second units and affordable housing, to serve all sizes, incomes, and ages of households*”.
- Section 2.2.1 of the Growth Plan states that to achieve complete communities, a diverse range and mix of housing options should be provided to accommodate people at all stages of life, as well as the needs of all household sizes and incomes.
- The Growth Plan requires municipalities to develop a housing strategy to meet the intensification/density targets with a diverse range of housing options and affordable housing. The strategy should:
 - Identify a range of mechanisms such as land use planning;

- Be complementary to current housing and homeless plans;
- Be implementable through official plan policies/designations and zoning by-laws;
- Support the achievement of complete communities;
- Support multi-unit residential developments; and,
- Require the Municipality to maintain appropriate servicing capacity to support at least a three-year supply of residential units (Section 2.2.6)

Regional Policies

Region of Durham Official Plan (2017): Section 4 (Housing);

- Section 4, Policy 4.1.1 of the Durham Region OP sets forth the housing goal “*To provide a wide diversity of a residential dwellings by type, size and tenure in Urban Areas to satisfy the social and economic needs of present and future residents of the Region*”.
- Section 4 further states it is the policy of the Region to:
 - Direct Municipal official plans to provide policies to enable a variety of housing by type, size and tenure;
 - Direct Regional Council to require at least 25% of all new residential units be affordable to low- and moderate-income households;
 - Promote programs for provision of assisted housing for families, seniors and special needs groups;
 - Undertake a comprehensive study, in consultation with area municipalities and the Province that examines methods of achieving higher residential densities in Urban Areas, including development and performance standards, and intensification opportunities, which will form the basis for more detailed policies to be incorporated into the Plan by amendment;
 - Maintain the ability to accommodate residential growth in Urban Areas Region-wide, for a minimum of 10 years through intensification, redevelopment and if necessary, on lands designated and available for residential development; and,
 - Maintain a 3-year supply of residential units available through intensification and redevelopment and land in draft approved and registered plans of subdivision/condominium.
- Section 4.3.2 states that Regional Council shall support opportunities to increase the supply of housing in Urban Areas through intensification, taking into account the adequacy of municipal services and the physical potential of the housing stock.
- Housing intensification generally includes but is not limited to the conversion of single detached dwellings, as well as industrial and commercial buildings, into multiple residential dwelling units. The creation of new residential units on vacant or underdeveloped lands through infilling in Urban Areas, and, the creation of residential units above commercial uses is also examples of housing intensification, with preference being given to development located adjacent to arterial roads and/or in close proximity to transit routes.
- Section 4.3.7 notes that Regional Council is to monitor the housing market, including the range of housing types produced on new residential lands, housing prices by housing type, progress in meeting housing targets, and the adequacy of land supply.

- Section 4.3.8 states that Councils of the area municipalities are encouraged to identify local needs and to adopt appropriate housing policies.
- Section 4.3.9 directs area municipal official plans to implement policies and implementation procedures to meet objectives of PPS and Regional OP with respect to housing types, density, intensification and affordability; and maximum unit sizes.

Municipal Policies

Municipality of Clarington Official Plan (2017): Section 6 (Encouraging Housing Diversity); Section 9.4 (Neighbourhood Planning Areas); Appendix B

- The Study Area is within the urban boundary and designated as “Urban Residential” and “Environmental Protection Area” in the OP as identified on Map A3 Land Use.
- It is an objective of the Municipality to encourage a minimum of 30% of all new housing to be affordable in Urban Areas.
- Section 6.1.1 of the OP reflects the Regional goal of encouraging “a broad range of housing types, tenure, and cost within Settlement Areas to meet the evolving housing needs for people of all ages, abilities and income groups.”
- Section 6.2 sets forth objectives to maintain an adequate supply of land for housing purposes; encourage a minimum of 30% of all new housing to be affordable in Urban Areas; promote high quality affordable housing through the maintenance, improvement, and adaptation of existing housing; and create complete communities that will meet the daily housing needs of residents.
- The Municipality supports the integration of assisted housing and special needs housing into residential areas. Section 6.3.10 notes that special needs housing may include assisted housing, long term care facilities, retirement homes, and seniors housing, among others, with permissions for medical facilities in conjunction with a long-term care facility.
- The estimated unit targets for the Brookhill Neighbourhood are set forth in the Official Plan under Appendix B – Unit Targets by Neighbourhood with a total residential unit target of 2,144 (mix of low, medium, and high).

Appendix B – Unit Targets by Neighbourhoods

Estimated Unit Targets for Neighbourhoods by Urban Area

BOWMANVILLE	Low	Medium	High	Total
Brookhill	1,401	645	98	2,144

Issue and Opportunity #3: Urban Design

The development of a built environment that is well designed, compact, and supports residents' needs for daily living should include a high quality public realm that is reinforced by urban design standards that create attractive and vibrant places.

The intent of this review is to provide an overview of the opportunities for structuring the built environment to support a high quality community. Key considerations for good community design are based on a community structure that supports walkability and the quality of the public realm and its overall connectivity, which includes street connectivity, streetscaping, parks and open spaces, and trails, and building orientation.

Provincial Policies

Provincial Policy Statement (2014): Part V, Section 1.1 (Managing and Directing Land Use to Achieve Efficient and Resilient Development and Land Use Patterns); Section 1.5 (Public Spaces, Recreation, Parks, Trails and Open Space)

- The PPS promotes “Building Strong Healthy Communities”, but does not provide specific guidance on community design. Guidance related to efficient land use patterns, as well as providing a mix of densities and land uses in Settlement Areas does, however, support the achievement of compact and walkable communities (Section 1.1.1, 1.1.3.2).
- In addition, Section 1.1.3.4 states that “*Appropriate development standards should be promoted which facilitate intensification, redevelopment and compact form, while avoiding or mitigating risks to public health and safety*”.
- The PPS advises that healthy and active communities should be promoted by planning public spaces, streets and recreational settings to be accessible, equitably distributed, foster social interaction, and promote travel by active transportation (1.51).
- In the context of new Provincial Accessibility for Ontarians with Disabilities (AODA) legislation and an aging population, accessible/universal design also needs to be considered.

A Place to Grow (2019): Section 2.2.1 (Managing Growth); and Section 5.2.5 (Targets).

- The Growth Plan is based on the need to develop complete communities that are healthy, safe, and balanced.
- Under Section 2.2.1 Managing Growth, the Growth Plan states that the achievement of complete communities will be supported by:
 - having a diverse mix of land uses, access to services and public facilities;
 - including a diverse range and mix of housing options to support people at all stages of life;
 - expanding access to a range of mobility and active transportation options, and publicly accessible open spaces, parks, and trails; and,
 - ensuring high quality public realm through site design and urban design standards.
- Further under Section 5.2.5 Targets, the Growth Plan directs municipalities to develop and implement urban design and site design policies to support the development of a high quality public realm and compact built form.

Regional Policies

Region of Durham Official Plan (2017): Section 2 (Environment); Section 7 (Regional Structure); Section 8 (Urban System).

- Section 2.3.5 states that Regional Council is to enhance the visual amenities of the urban environment and encourage area municipalities to enact by-laws that establish environment, aesthetic, and urban design controls on signs and outdoor lighting.
- Section 7.3.14 (l) states that it is the Region’s goal to direct municipalities to provide secondary plans that include “*the provision of a diverse and compatible mix of land uses, to support vibrant neighbourhoods, providing high quality public open spaces with site design and urban design standards that create attractive and vibrant places, support transit, walking and cycling and achieve an appropriate transition to adjacent areas*”.
- Councils of area municipalities are to implement the intent of the Regional OP by including policies and designations to implement the intent of the Regional OP, including implementing a variety of uses, intensification, urban design guidelines and solutions, and policies that enable transit-supportive development forms and patterns, pursuant to Section 8.2.1.
- Section 8A.1.2 states that Centres are to be developed in accordance with the above principles as well as urban design that favours pedestrian traffic and public transit with direct street pedestrian access to buildings, provision of potential transit, and parking areas sited at the rear or within buildings, wherever possible, among other considerations.
- Section 8B.2.3 states that development within Living Areas should achieve a compact urban form, as well as:
 - Good urban design principles that implement noise attenuation measures and orient and design buildings to maximize exposure to sunlight;
 - Convenient pedestrian access to public transit, schools and parks;
 - A grid pattern of roads; and,
 - A distribution of parks, trails, pathways and educational facilities”

Municipal Policies

Municipality of Clarington Official Plan (2018): Section 5.4 (Built Form)

- Section 5.4.2 outlines the design requirements for new development and emerging new neighbourhoods to create a neighbourhood identity with an appropriate built form that complies with architectural design controls, provides for a variety of housing types and land uses, considers noise impacts and noise mitigation measures, achieve sustainable buildings and streetscapes, and that the neighbourhood is accessible and walkable, prioritizing pedestrians over vehicles.
- As noted under Issue and Opportunity #2 Housing of this report, multi-unit residential is proposed for the Secondary Plan Area. Section 9.4.5 of the OP sets forth site development criteria for this residential use. The criteria includes ensuring the site is suitable to accommodate the density and built form, that it is compatible with adjacent uses, impact of traffic is minimized, vehicular access is provided to a public street, adjacent residential unit types shall not replicate the same built form, townhouses on blocks shall not exceed 50 units and apartment blocks shall not exceed 2 buildings, street townhouses will not exceed 6 attached units, and in

a mid-rise and high-rise development a phasing plan is required for amenity areas and shared pedestrian and vehicle access.

Issue and Opportunity #4: Healthy Communities

A successful community consciously seeks to improve the health of its citizens by putting public health high on the social and political agenda.

Physical, social, and mental well-being are the necessary components of public health. To ensure that these components are achieved, the built environment should create opportunities that encourage residents to be physically active and socially engaged through its design.

Definition:

Healthy and Complete, Sustainable Communities means communities where:

- a) *People's needs for daily living are met without compromising the ability of future generations to meet their needs by providing convenient access to an appropriate mix of jobs, local services, a full range of housing (including affordable housing), schools, recreation, open space, and community infrastructure and alternative transportation options through transit-supportive development;*
- b) *There is an appropriate ratio of population to jobs;*
- c) *Decisions are based on integrating social, economic and environmental considerations; and,*
- d) *People can live, work and play in a safe, vibrant, healthy and prosperous environment.*

(Region of Durham Official Plan)

Provincial Policies

Provincial Policy Statement (2014): Section 1.0 (Building Strong Healthy Communities); Section 1.6 (Infrastructure and Public Service Facilities); Section 1.8 (Energy Conservation, Air Quality and Climate Change)

- The PPS provides a substantial policy framework aimed at building strong and healthy communities. Section 1.1.1 of the PPS states:
"1.1.1 Healthy, liveable and safe communities are sustained by:
 - a) *Promoting efficient development and land use patterns which sustain the financial well-being of the Province and municipalities over the long term*
 - b) *Accommodating an appropriate range and mix of residential (including second units, affordable housing and housing for older persons), employment (including industrial and commercial), institutional (including places of worship, cemeteries and long-term care homes), recreation, park and open space, and other uses to meet long-term needs*
 - c) *avoiding development and land use patterns which may cause environmental or public health and safety concerns;*
 - d) *Avoiding development and land use patterns that would prevent the efficient expansion of settlement areas in those areas which are adjacent or close to settlement areas*
 - e) *Promoting cost-effective development patterns and standards to minimize land consumption and servicing costs*
 - f) *improving accessibility for persons with disabilities and older persons by identifying, preventing and removing land use barriers which restrict their full participation in society;*

- g) *ensuring that necessary infrastructure, electricity generation facilities and transmission and distribution systems, and public service facilities are or will be available to meet current and projected needs; and*
 - h) *Promoting development and land use patterns that conserve biodiversity and consider the impacts of a changing climate”*
- Further, the PPS states *“healthy, active communities should be promoted by planning public streets, spaces and facilities to be safe, meet the needs of pedestrians, foster social interaction and facilitate active transportation and community connectivity”* (Section 1.5.1 a).
 - In the context of new Provincial Accessibility for Ontarians with Disabilities (AODA) legislation and an aging population, accessible/universal design also needs to be considered.

A Place to Grow (2019): Section 1.2.1 (Guiding Principles); Section 2.2.1 (Managing Growth)

- A guiding principle of the Growth Plan is to achieve complete communities that are designed to support healthy and active living and meet people’s needs for daily living throughout an entire lifetime.
- To support the achievement of complete communities that are healthier, safer, and more equitable, the Growth Plan directs growth to establish healthy and balanced communities that will maintain and improve the quality of life for residents.
- Section 2.2.1 (4) further supports the achievement of complete communities through encouraging a diverse mix of land uses, access to services, range and mix of housing options, access to transportation options and use of active transportation, a vibrant public realm, integration of green infrastructure, and climate change mitigation.

Regional Policies

Region of Durham Strategic Plan: Section B (Population Health and Quality of Life)

- The Strategic Plan states that by 2019, Durham Region will support a healthier regional population and a better quality of life for residents, which is more affordable, livable, inclusive, and safe. This is to be achieved by:
 - Supporting and encouraging active living and healthy lifestyles to enhance the connectivity between our communities;
 - Taking a leadership role to provide accessible and responsive paramedic and public health services;
 - Cultivating strong, safe and secure communities and healthy workplaces;
 - Enhancing our inclusive and welcoming communities to meet the evolving needs of youth, seniors and newcomers;
 - Increasing the range of innovative and attainable housing options to reduce homelessness and support housing for all ages, stages and incomes;
 - Boosting our efforts to reduce health inequities by addressing the social determinants of health, including poverty; and,
 - Celebrating cultural diversity, heritage, the arts and our unique histories to strengthen local neighbourhoods and community cohesion.

Region of Durham Official Plan (2017): Section 1 (Basis, Goals and Directions); Section 5 (Cultural, Health & Community Facilities, and Infrastructure); Section 7 (Regional Structure); Section 8 (Urban System)

- The Region of Durham OP defines Healthy and Complete, Sustainable Communities as those which meet people's daily needs without compromising the ability of future generations to meet their own needs.
- This is to be achieved through provided convenient access to a mix of jobs, services, housing, recreation, open space, community infrastructure, and alternative transit modes, among others; ensuring an appropriate ratio of population to jobs; integrating social, economic and environmental considerations in decision making, and providing a place where people can live, work, and play in a safe, vibrant, healthy and prosperous environment.
- A goal of the Regional Official Plan, under Section 1.2.1 is to “*create healthy and complete, sustainable communities within liveable urban environments for the enjoyment of present and future residents;*”
- A direction of the Regional Official Plan, under Section 1.3.1 is to “*increase employment opportunities to create healthy and complete sustainable communities that balance growth in population with growth in employment.*”
- Section 5.3.1 states that Regional Council will continue to promote the establishment of health care facilities offering specialized services, in addition to the establishment of new or expanded health care facilities across the Region to meet the needs of existing and future residents.
- Under Section 7.1.6, it is the goal of the Regional Official Plan to “*promote distinct, compact Urban Areas which support the development of healthy and complete, sustainable communities*”.
- Under Section 8.1.1, it is the goal of the Regional Official Plan to “*establish an Urban System of distinct Urban Areas that are adaptable and able to evolve into healthy and complete sustainable communities that balance growth in population, with growth in employment*”.

Municipal Policies

Municipality of Clarington Official Plan (2018): Section 2.2.2 (Healthy Communities); Section 5 (Creating Vibrant and Sustainable Urban Places)

- The Clarington Official Plan recognizes three key principles which provide direction for the policies in the Plan; sustainable development, healthy communities, and the management of growth.
- Under Section 2.2.2 Healthy Communities, the OP seeks to implement the following directions to support a healthy community:
 - Personal Well-being
 - Urban Design Excellence
 - Economic Vitality
 - Community Identity
 - Public Involvement
 - Arts, Culture and Heritage
 - Housing Diversity

- The objectives under Section 5.2 are a reflection of the goal of the Municipality to create a built environment that supports the well-being of residents both in the present and in the future. Community and environmental health objectives include:
 - Compact and connected communities that support an efficient use of land;
 - High quality public realm;
 - Priority to walkability and the facilitation of active transportation systems;
 - Safe communities; and,
 - Accessibility.

Issue and Opportunity #5: Economic Development

Attracting commercial and residential development is necessary to support economic development, a diversified tax base, and complete communities where residents have access to jobs, goods, and services.

The ability of the Municipality and the landowners to attract new investment in the Brookhill Neighbourhood will be influenced by the changing nature of retail and affordability of housing. Providing for a variety of housing types and tenure, as well as services for existing and future residents is important to supporting the viability of not only the new phase of development but the existing community as well. Commercial development is to be supported to promote the needs of residents.

Provincial Policies

Provincial Policy Statement (2014): Section 1.3 (Employment); Section 1.7 Long-Term Economic Development)

- Under the PPS, the province requires planning authorities to promote economic development and competitiveness by:
 - *“Providing an appropriate mix and range of employment and institutional uses to meet long-term needs;*
 - *Maintaining a range and choice of suitable sites for employment uses and take into account the needs of existing and future businesses;*
 - *Encouraging compact, mixed use development that incorporates compatible employment uses to support liveable and resilient communities; and,*
 - *Ensuring the necessary infrastructure is provided to support current and projected needs (Section 1.3.1).”*
- The PPS states that long-term economic prosperity should be supported by:
 - *“Promoting opportunities for economic development and community investment-readiness;*
 - *Maintaining and, where possible, enhancing the vitality and viability of downtowns and main streets; and,*
 - *Promoting the redevelopment of brownfield sites. (Policy 1.7.1 a), c) and e)).”*
- Economic prosperity should be supported by encouraging a sense of place, by promoting well-designed built form and conserving features that help define character.

A Place to Grow (2019): Section 2.2.5 (Employment); Section 2.2.6 (Housing)

- Under Section 2.2.5 Employment, the Growth Plan directs retail and office uses to locations supported by active transportation and transit, that the retail sector be supported by compact built form and intensification of retail and service uses, and the integration of these uses to further achieve complete communities (Section 2.2.5, 3, 15).
- Providing housing options and densities includes the identification of a diverse range and mix of housing types, second units, and affordable housing to meet the needs of current and future residents (Section 2.2.6, 1a)).

- To further support the achievement of complete communities, municipalities should consider available tools to require that multi-use residential developments incorporate a mix of unit sizes (Section 2.2.6, 3).

Regional Policies

Region of Durham Strategic Plan (2015-2019): Section A (Economic Growth, Diversification & Local Employment)

- Section A of the Strategic Plan includes directions to strengthen the economy and promote more local employment, including:
 - Propelling the business and investment climate forward to enable more local employment;
 - Diligently attracting, retaining and mentoring the next generation of employees to build a skilled, engaged and diverse workforce;
 - Promoting and actively capitalizing on opportunities to make the Region a premier destination that attracts and retains entrepreneurs, innovators, visitors and residents;
 - Renewing commitment to enhance the economic viability of the Region's agricultural sector to advance sustainable and innovative agriculture production practices and promote food system security; and,
 - Finding new ways to work with partners to revitalize and grow the Region's position as a renowned centre of technological excellence.

Region of Durham Official Plan (2017): Section 1 (Basis, Goals, and Directions); Section 3 (Economic Development); Subsection 8A (Centre, Corridors, and Waterfront Places)

- Section 1 of the OP outlines the basis of the plan and the population and employment forecasts for the Region to 2031. Employment opportunities are essential to meeting the forecasts and supporting growth.
- Section 3 of the Regional OP directly relates to economic development, promoting development of a healthy and sustainable community with a balance of jobs and population, and a diversified Regional employment base.
- Section 3.3.1 states that it is the Region's policy to establish a target of 1 job for every 2 persons (target ratio 50% jobs to population)
- Section 3.3.8 states that it is the Region's policy to ensure the provision of a range of housing types and tenure to support a diversified labour force.
- Section 8B.2.1 states that Living Areas should incorporate "*limited office development and limited retailing of goods and services, in appropriate locations*".
- A goal for the Regional OP is to develop the Region to its economic potential, increasing job opportunities for its residents.
- Section 3.2.1 directs Regional Council to foster a favourable climate for economic development of the Region, promoting the Region as a prime location for new business development.
- Section 3.2.3 states that Regional Council will facilitate the expansion and diversification of the economic base of the Region to create a balance between the various employment opportunities generated from Employment Areas, major office development, and other sources of employment serving the Regional population.

- More specifically, the Regional Council, in consultation with local municipalities, will attempt to improve the Region's economic potential by:
 - Preparing and adopting an Economic Development Strategy to be reviewed and updated at least every five years, and a marketing plan to be reviewed and updated annually;
 - Establishing key sector development advisory group with diverse government representatives to assist with implementation of the Economic Development Plan and provide liaising between the Region, businesses, financial and educational institutions; the enhance the image and profile of the Region; and,
 - Investigating and establishing the means to achieve a ratio of jobs to population of 50% jobs to population.
- Section 3.3.2 states that Regional Council is to ensure a 5-year supply of serviced lands in Regional and Local Centres be maintained at all times to meet market needs and anticipate demand. Regional Councils are also to undertake regular surveys and forecasts to monitor Region's progress in achieving employment targets and to identify changing needs and global trends, pursuant to Section 3.3.4.
- Section 3.3.8 directs that to achieve greater diversification in the Region's economic base, the Regional Council in cooperation with are municipal councils will, among other strategies, ensure provision of a broad range of housing types, sizes, and tenures in Urban Areas to meet the needs of a diversified labour force.
- Section 3.3.10 states that to diversify the Region's economic base, Regional Council may consider the acquisition, development, servicing, and marketing of lands, and participate in joint ventures, as market conditions warrant, in accordance with the intent of this Plan and the Municipal Act.
- Section 8A.1 states that Centres shall be developed as the main concentration of commercial, residential, cultural and government that functions in a well-designed and intensive land use form, within Urban Areas and should be developed to balance of employment and residential growth.

Region of Durham Community Energy Plan (2019)

- The Durham Community Energy Plan is an economic development strategy as there are *"opportunities for new and existing businesses in the fields of heat pumps, building retrofits, renewable energy, district energy, energy storage and others yet to be determined"*.
- The Plan identifies a goal for local job creation, stating: *"Local employment is created from the energy-related investments in Durham. Over the period, this amounts to 210,000 person years of employment or about 7,000 new jobs per year on average. These new jobs are widely distributed in the construction, energy and manufacturing industries and in professions such as engineering and management"*.

Municipal Policies

Municipality of Clarington Official Plan (2018): Section 10 (Commercial and Mixed-Use Development); Section 10.6 (Corridors);

- Bowmanville Avenue (Regional Road 57) intersects the Brookhill Study Area and is identified as a Local Corridor on Map B of the Municipality of Clarington Official Plan.

- Pursuant to Section 10.6 of the OP, non-residential uses are only permitted within mixed use buildings along Local Corridors, with the total amount of non-residential space not exceeding 1,500 square metres per site, and individual non-residential units not exceeding 300 square metres. However, where a Secondary Plan is in place, the more detailed policies of the Secondary Plan take precedence.

5.1.1 Built Environment – Summary Conclusions

- The goal of the PPS and the Growth Plan is to manage growth across the province and GGH region by allocating and distributing growth, guaranteeing sufficient land and servicing is available to accommodate this growth, and ensuring the creation of complete, healthy, sustainable, and vibrant communities as development occurs.
- The Province provides legislation and regulations for upper-tier municipalities, such as the Regional Municipality of Durham, to include in their respective official plans. This legislation and policy are then distilled in lower-tier municipalities' official plans, such as the Municipality of Clarington OP to implement provincial policy on a municipal level that responds to local contexts and additional Regional direction.
- An overarching theme of the PPS is the promotion of sustainable, complete communities and the careful coordination and management of land uses to accommodate appropriate development to meet the full range of current and future needs, while achieving effective development patterns.
- Growth through intensification, redevelopment, draft plans of subdivision, and designated lands, is primarily to occur in Urban Areas within firmly defined boundaries, and is directed to the built-up area. Bowmanville, wherein the Brookhill Neighbourhood, is one of the Municipality of Clarington's Urban Areas. Any development occurring outside of the built-up area, but within the Urban Area, is considered as greenfield development.
- The Region has instructed the Municipality to require that Greenfield Areas achieve a minimum overall density of 50 residents and jobs combined. The Clarington Official Plan and Priority Green have established a minimum density of 50 residents and jobs combined which is now in line with the 2019 Growth Plan which has established a reduced minimum density of 50 residents and jobs combined, as opposed to the 2017 Growth Plan that set a density target of 80 residents and jobs.
- As indicated in the Growth Plan, Durham Region is required to accommodate 1.2 million people and over 430,000 jobs by 2041. The Regional OP distributes a large portion of this growth forecast to the Municipality of Clarington, which is to accommodate 140,300 residents and 38,400 jobs by the year 2031. Within the Municipality, the Brookhill Neighbourhood is expected to provide 2,144 new units to support achieving the broader residential intensification targets for the Municipality.
- The PPS, Growth Plan, Regional OP, and the Municipal OP, direct for a full range of housing types and tenures to be provided to meet the housing needs of all current and future residents throughout their lives, irrespective of income, ability, or lifestyle. This includes affordable housing options, as well as housing specifically designed for seniors close to neighbourhood centre locations, and universally accessible housing. This mix and diversity of housing makes it possible for households to move within one community as housing needs and lifestyle preferences change. The Municipality of Clarington OP directs for 30% of all new housing to be affordable and assisted housing.
- A high quality, well-designed built environment is valued within the Municipality. To support this environment, the Secondary Plan Update and policy documents must respond to the existing conditions while providing a

built environment that creates opportunities for daily physical activity, addresses an ageing population, and supports the needs of residents of all ages and abilities.

- Key considerations for good urban design include community structure, street connectivity, streetscaping, building placement orientation and articulation, provision of parking, provision of public space, land use mix, variety of parks, and access to services and amenities. Other considerations should include sustainable design (e.g. passive solar orientation, Low Impact Development), active transportation, and Crime Prevention Through Environmental Design (CPTED). A clear policy framework should be established for design related to compatible development to existing neighbourhoods.
- The Secondary Plan should include policies that support the Official Plan’s urban design principles, as well as the Priority Green Framework, to strengthen the requirements for high quality private and public realms and active transportation facilities; to establish built forms that achieve density targets without resulting in negative impact on surrounding neighbourhoods and adjacent properties; and, to create a connected network of streets and open spaces to promote and support walkability that are safe, accessible, and pedestrian-friendly.
- Provincial, Regional, and Municipal planning frameworks provide direction for healthy communities. However, it is not one single action or policy topic that will define or lead to the achievement of a healthy community, but rather an approach to implementation that considers all of the policy sections of the Secondary Plan comprehensively.
- Based on the above policy direction, development within the Brookhill Secondary Plan Area will accomplish several goals, including:
 - Accommodating residential growth without needing to expand the settlement areas;
 - Ensuring that new development does not negatively impact the character and appearance of existing stable residential communities;
 - Providing for a mix of residential dwelling types, tenure, and affordability to meet projected needs of current and future residents;
 - Achieving mixed-use development where residents are closer to commercial areas and are more able to use alternative modes of transportation;
 - Promoting efficient development and land use patterns which sustain the financial well-being of the Province and municipalities over the long term;
 - Accommodating an appropriate range and mix of residential, employment, institutional, recreation, park and open space, and other uses to meet long-term needs;
 - Promoting development and land use patterns that conserve biodiversity and consider the impacts of a changing climate;
 - Planning public streets, spaces and facilities to be safe, meet pedestrian needs, foster social interaction and facilitate active transportation and community connectivity;
 - Integrating arts, cultural, and recreational facilities with local business, health and social services, schools, parks, and civic buildings;
 - Promoting the accessibility of services, culture, and recreation facilities by walking, cycling, or transit;
 - Providing a full range and equitable distribution of publicly accessible built and natural settings for recreation facilities;
 - Facilitating accessibility for persons with disabilities and older persons; and

- Promoting conservation in energy, water and wastewater management.

Key strategies for facilitating growth through the Secondary Plan Update process include:

- **Supporting the environment for change:** The Official Plan policies provide the foundation for establishing the right environment for change by developing a strong vision and supportive policies which prioritize and support residential projects. By furthering these objectives in the Secondary Plan, this will announce the Municipality's position and interest in realizing denser, but appropriate, forms of development, as well as providing a guiding framework for how development can fit in the Study Area.
- **Promoting a Compact Form:** The Secondary Plan should plan for new greenfield development which is well connected, provides a range of housing options, and includes densities which create compact, efficient, and livable communities.
- **Develop as a mixed-use area:** In support of the Residential and Environmental Protection designations, and a Local Corridor, the Brookhill Secondary Plan Area should support a broad range of housing types, including affordable and seniors housing, and a mix of uses, particularly concentrated along Bowmanville Avenue, while balancing and protecting the natural heritage system. This creates more opportunities for residents to live within or near the neighbourhood centre services creating stronger support for local businesses, shared investment in the public realm, and contributes to the creation of a more dynamic neighbourhood.
- To comply with Priority Green Framework, greenfield areas shall achieve a density of 50 residents and jobs; strategically locate higher density along Regional and Local Corridors; provide a diversity of housing types to accommodate a range of tenure and affordability; ensure residential area are within 800 metres of amenities; and emphasize walkability through an interconnected grid design of streets and blocks.

5.2 Mobility

Issue and Opportunity #6: Roads, Transit & Active Transportation

How can the Secondary Plan Update support “complete streets”, an integrated trail/cycling network, and built form throughout the Secondary Plan that provides the opportunity for residents of all ages and abilities to travel safely and conveniently by active modes of transportation – including walking and cycling.

- A variety of transportation options should be available to residents, with the built environment designed to encourage physical activity, facilitate active transportation and support public transit in place of motor vehicles and driving. The accommodation of various travel choices ensures the economic, social, and environmental sustainability of transportation systems.
- Designing a safe, convenient, and accessible environment for walking and cycling encourages these alternative modes of transportation.
- Supported by the Municipality's *Clarington Transportation Master Plan* (CTMP), dated Dec. 2016, that provides a coordinated and integrated implementation strategy for the transportation system to guide decision-making over the next 20 years.

- Access to transit improves mobility options for people who cannot or choose not to drive, such as youth, seniors, and people without access to a private vehicle. It can also be part of a community’s strategy for reducing greenhouse gas emissions from the transportation sector.

Definition:

Complete Streets: means the roadways and *adjacent* public areas that are designed to accommodate users of all ages and abilities, including pedestrians, cyclists, transit users, and motorists.
(Municipality of Clarington OP)

Provincial Policies

Provincial Policy Statement (2014): Section 1.5 (Public Spaces, Recreation, Parks, Trails and Open Space); Section 1.6.7 (Transportation Systems); Section 1.6.8 (Transportation and Infrastructure Corridors); 1.8 (Energy Conservation, Air Quality and Climate Change)

- The PPS states that “healthy, active communities should be promoted by planning public streets, spaces and facilities to be safe, meet the needs of pedestrians, foster social interaction and facilitate active transportation and community connectivity” (Section 1.5.1 a).
- The PPS calls for the provision of safe, efficient, interconnected, and multi-modal transportation systems that meet projected needs. Efficient use shall be made of existing and planned infrastructure, such as through the use of transportation demand management.
- The PPS recognizes the connection between land use patterns and transportation choices, and calls for integrated planning that minimizes the length and number of vehicle trips, and supports transit and active transportation (Section 1.6.7.4).
- The PPS also requires planning authorities to plan for and protect corridors and rights-of-way for infrastructure, including transportation and transit (1.6.8.1).
- Major goods movement facilities and corridors, in particular, are required to be protected for the long term (Section 1.6.8.2).
- To reduce greenhouse gas emissions from transportation, the PPS calls on planning authorities to:
 - Promote the use of active transportation and transit in and between residential, employment (including commercial and industrial) and institutional uses and other areas; and,
 - Focus major employment, commercial and other travel-intensive land uses on sites which are well served by transit where this exists or is to be developed, or designing these to facilitate the establishment of transit in the future
 - Improve the mix of employment and housing uses to shorten commute journeys and decrease transportation congestion (Section 1.8 b, c & e).

A Place to Grow (2019): Section 3.2.2 (Transportation); Section 3.2.3 (Moving People)

- The Growth Plan requires municipalities to plan for transportation systems and offer a *“balance of transportation choices that reduces reliance upon the automobile and promotes transit”* and multimodal access to a range of destinations (Section 3.2.2.2 b). Municipalities should also develop and implement transportation demand management policies so that, amongst other things, modal share of alternatives to the automobile is increased, active transportation is prioritized, and infrastructure to support active transportation is expanded.
- The Growth Plan requires municipalities to improve connectivity among transportation modes. In addition, *“in the design, refurbishment, or reconstruction of the existing and planned street network, a complete streets approach will be adopted that ensures the needs and safety of all road users are considered and appropriately accommodated”* (Section 3.2.2.3). Municipalities should also develop and implement transportation demand management policies so that, amongst other things, trip distance and time are reduced.
- Section 3.2.3.1 states that *“public transit will be the first priority for transportation infrastructure planning and major transportation investments”*. In addition, municipalities should make decisions regarding transit on the basis on the following criteria:
 - Plan for transit whereby residential and employment high densities are existing and/or planned;
 - Improve transit in strategic growth areas;
 - Expand transit whereby transit-supportive densities and mix of uses are existing and/or planned;
 - Improve connections to urban growth centres, major transit station areas and other strategic growth areas;
 - Increase modal share of transit; and,
 - Reduce greenhouse gas emissions.
- Section 3.2.3.3 states that *“municipalities will work with transit operators, the Province, Metrolinx where applicable, and each other, to support transit service integration within and across municipal boundaries”*.
- Section 3.2.3.4 states that *“Municipalities will ensure that active transportation networks are comprehensive and integrated into transportation planning to provide a) safe, comfortable travel for pedestrians, bicyclists, and other users of active transportation; and b) continuous linkages between strategic growth areas, adjacent neighbourhoods, major trip generators, and transit stations, including dedicated lane space for bicyclists on the major street network, or other safe and convenient alternatives”*.

Regional Policies

Region of Durham Strategic Plan (2015-2019): Section C (Healthy Environment and Sustainable Communities)

- Section C.3 of the Strategic Plan related to creating a healthy environment and sustainable communities seeks to ensure that the Regional transportation infrastructure is functional, integrated, reliable, and barrier-free to support the movement of residents to work, school, and local services.

Region of Durham Official Plan (2017): Section 8 (Urban System); Sub-Section 8B (Living Areas); Section 11 (Transportation System)

- Section 8.2.1 states that Urban Areas are to be developed with *“linkages for pedestrians and cyclists which link communities internally and externally and to the public transit system”* and *“a grid system of arterial roads,*

and collector roads, where necessary, to provide for a transit-supportive road pattern while recognizing environmental constraints”.

- Section 8B.1.3 states that Living Areas will be developed to support and provide access to public transit.
- Section 8B.2.3 provides further direction to developments within Living Areas and states that they should incorporate *“the provision of convenient pedestrian access to public transit, educational facilities and parks”* and *“a grid pattern of roads”*.
- Section 11.1 states that the goals of the Regional Official Plan for the transportation system are to:
 - *“Provide a Transportation System that is integrated, safe, efficient and reliable for all users and modes;*
 - *Offer a variety of mobility choices for all Durham residents;*
 - *Develop a Transportation System that supports the retention of existing businesses and attraction of new investment and economic activity; and,*
 - *Support sustainable transportation initiatives that respect natural, social and cultural environments”.*
- The major road network that is adjacent to the Brookhill Secondary Plan Area, as shown on Schedule C1 – Road Network identifies Highway 401 as a “Freeway”, Regional Road 57 as “Type A Arterial”, and Highway 2 as “Type B Arterial”.
- Schedule C3 – located to the southeast of Brookhill, the Transit Priority Network identifies Highway 2 as “Transit Spine” with a “Transportation Hub”, surrounding the planned Bowmanville GO transit station.
- Section 11.3.18 states that development adjacent to “Transit Spines” and “Transportation Hubs” shall provide for:
 - *“Complementary high density and mixed uses at an appropriate scale and context [...];*
 - *Building oriented towards the street, to reduce walking distances to transit facilities;*
 - *Facilities which support non-auto modes; and,*
 - *Limited surface parking”.*
- Section 11.3.9 states that Highway 2 is one of the most significant transit corridors within the Region, helping to link designated Transportation Hubs. As such, this corridor should be developed to its fullest potential in accordance with the Regional OP directions.
- More broadly, the Region encourages suitable transit services to be provided in newly developing areas as early as possible, where this is technically and financially feasible, and supports the extension of GO rail service to Bowmanville.
- The Regional OP also directs for the implementation of a Regional Cycling Plan that will recognize that cycling facilities form part of a balanced transportation system and establish a network of cycling facilities across the region, supported by policies, programs and recommendation actions for implementation.
- Section 11.3.24 states that the Regional OP supports an urban environment and infrastructure that encourages and supports walking throughout the Region through policies and practices that ensure safe, direct, comfortable, attractive and convenient pedestrian conditions.
- Regional arterial road classifications in Bowmanville include Type A Arterials, Type B Arterials, and Type C Arterials. The road classification structure and criteria outlined in Table E7 of the ROP have been updated by ROPA 171 and include, but are not limited to, the following:

- Type A Arterials – traffic movement is primary consideration, predominantly serve inter-regional and inter-municipal trips, travels speed of 70 km/h in Urban Area and 80 km/h outside urban Areas, sidewalks on both sides separated from traffic lane, a multi-use path may be provided as an alternative to a sidewalk, intersection spacing of 700m in north-south direction and 300-500m in east-west direction, 36-45 m right-of-way, 4-6 lanes in Urban Area, and 2-6 outside Urban Area;
- Type B Arterials - traffic movement is major consideration, predominantly serve inter- and intra-municipal trips, travels speed of 60 km/h in Urban Area and 80 km/h outside urban Areas, sidewalks on both sides, a multi-use path may be provided as an alternative to a sidewalk, intersection spacing of 525m in north-south direction and 300-500m in east-west direction, 30-36 m right-of-way, 4-6 lanes in Urban Area, and 2-4 outside Urban Area; and,
- Type C Arterials - traffic movement is slightly more important than land access, predominantly intra-municipal trips, travels speed of 50-60 km/h in Urban Area and 80 km/h outside urban Areas, sidewalks on both sides, a multi-use path may be provided as an alternative to a sidewalk, intersection spacing of 300m, 26-30 m right-of-way, and 2-4 lanes within Urban Area.

Region of Durham Transportation Master Plan (2017)

- The Region of Durham Transportation Master Plan resulted from the input of many individuals and stakeholders, representing the Region’s vision for a sustainable future and building on several foundational documents including the Regional Official Plan. In June of 2018, Durham Region adopted ROPA 171 to implement the Durham Transportation Master Plan.
- The TMP builds on the ROP’s land use and transportation framework by providing additional detail on several of its policies, and by identifying the facilities and services required to support Durham Region’s future development pattern and growth targets.
- The TMP outlines the policies, actions and recommended infrastructure modifications that are required to address transportation needs to 2031 and beyond, based on the seven following directions:
 - Strengthening the bond between land use and transportation;
 - Elevating the role of integrated public transit including Rapid Transit;
 - Making walking and cycling more practical and attractive;
 - Optimizing road infrastructure and operation;
 - Promoting sustainable travel choices;
 - Improving goods movement to support economic development; and,
 - Investing strategically in the transportation system.
- The TMP identifies solutions to respond to Durham Region’s transportation needs, as well as to take advantage of opportunities in the Region and the broader Greater Toronto and Hamilton Area.
- This TMP is designed around the overall goal of creating a transportation system that provides improved travel choices for walking, cycling and transit, while accommodating continued, but moderated growth in automobile and truck traffic.
- It recognizes that it is neither feasible nor sustainable to build infrastructure to meet all demands and that making better use of infrastructure is critical.

Municipal Policies

Municipality of Clarington Official Plan (2018): Part 4 (Infrastructure); Section 5.3 (Public Realm); Section 19.3 (General Policies); Section 19.4 (Transit); Section 19.5 (Active Transportation); Section 19.6 (Road Network)

- The goal of the Municipality is to “*facilitate the movement of people and goods by means of an integrated, accessible, safe, and efficient transportation system providing a full and practical range of mobility options*”.
- Section 5.3 Public Realm includes policies for the design of public streets “*to provide an interconnected grid-like pattern of streets and blocks that are walkable and flexible*. The design of public streets will have consideration for natural features, will limit the length of streets and blocks to assist with pedestrian and bicycle circulation; will maximize the number of street connections to arterial roads, will be designed for pedestrian and cyclist safety, will have a connected system of sidewalks, will avoid cul-de-sacs; and not and street to-street walkways; and restrict access and circulation through neighbourhoods.
- Section 19.3.4 recognizes the importance of integrating complete streets principles in the planning and design of new roads, particularly in new neighbourhoods.
- The Region of Durham is responsible for the public transit system in the Municipality of Clarington and under Section 19.4.4, the Municipality will work to ensure a transit supportive environment and will:
 - Direct higher density development along Regional and Local Corridors;
 - Orient buildings towards the street frontage in Centres and along Corridors to reduce walking distances to transit and enhance the pedestrian environment;
 - Develop an active transportation network that supports transit use;
 - Improve pedestrian access from the interior of neighbourhoods to arterial streets;
 - Facilitate the securement of lands required for public transit rights-of-way;
 - Design of streets in accordance with complete streets principles;
 - Improve connections of sidewalks and multi-use trails to major destinations, transit, and neighbourhood facilities;
 - Utilize wayfinding signage;
 - Ensure new development connects to active transportation network;
 - Prioritize pedestrian and cyclist crossings;
 - Promote cycling as a safe mode of transportation; and,
 - Accessible Waterfront Trail.
- Section 19.5 outlines the Municipality’s policies regarding the active transportation network that will create a foundation for a walkable community that supports an efficient transit system.
- Complete streets principles are recognized by the Municipality as important criteria for the planning and design of urban streets in new neighbourhoods. Section 19.6.4 includes principles that are to be considered to implement complete streets in secondary plans, such as:
 - Street design elements to improve the quality of service for pedestrians, cyclists, transit users, and vehicles
 - Safe and convenient access to transit stops
 - Local streets with multiple points of access and limited block lengths;
 - Intersections designed to not only meet the desired level of service for vehicles but the desired level of service for pedestrians and cyclists
 - Streets designed with integrated accessibility features.

- Arterial Roads are classified as either “Type A Arterial Road”, “Type B Arterial Road”, and “Type C Arterial Road”, each of which are designed to accommodate varying volumes of vehicles at variable distances. They are to be designed in a context sensitive manner:
 - *Type A Arterial Roads are designed to efficiently move large volumes of traffic at moderate to high speeds over relatively long distances.*
 - *Type B Arterial Roads are designed to move significant volumes of traffic at moderate speeds from one part of the municipality to another.*
 - *Type C Arterial Roads are designed to move moderate volumes of traffic at slower speeds over relatively short distances.*

5.2.1 Mobility - Summary Conclusions

- The PPS emphasizes the need to provide the necessary public infrastructure and services in coordination with land use planning in order to support and encourage growth. In regards to transportation, this includes promoting connectivity within and between different transportation systems and modes, including across jurisdictional boundaries. The PPS promotes land uses patterns, density, and a mix of uses that work to minimize vehicular trips and support existing and planning transportation infrastructure.
- Similar to the PPS, the Growth Plan also promotes the provision of transit and active transportation infrastructure to support achieving complete and healthy communities that reduce the reliance on personal vehicle usage. The Growth Plan also emphasizes the role of transit in the allocation of growth and intensification of existing areas, as providing regional and local transit that facilitates compact development and smart growth.
- A variety of transportation options should be available to residents in the Secondary Plan Area, with the built environment designed to encourage physical activity, facilitate active transportation and support public transit in place of motor vehicles and driving. The accommodation of various travel choices ensures the economic, social, and environmental sustainability and accessibility of transportation systems.
- Urban Areas, such as Bowmanville and the Brookhill Neighbourhood are to provide pedestrian and cyclist linkages between communities and to transit systems, as well as a grid system of arterial roads as necessary to provide for a transit-supportive road pattern, while recognizing environmental constraints. Living Areas are to be developed with particular consideration for supporting and providing access to transit, with developments incorporating convenient pedestrian access to a range of amenities and facilities.
- A future GO Station is located south of the Brookhill Community, within the Regional Centre. The Growth Plan identifies areas within a 500 to 800 metre radius of GO Stations as being Major Transit Station Areas, where greater levels of intensification and a broad mix of uses are to be supported.
- A number of road classifications are located within the vicinity of the Brookhill Secondary Plan Area, each serving a unique role as defined below. Notably, arterial roads are to reflect their local contexts:
 - **Highway 2:** “Type B Arterial Road” and “Transit Spine”. Type B Arterial Roads are designed to move significant volumes of traffic at moderate speeds between municipalities. Additionally, as Highway 2 passes through the Bowmanville Urban Centre to the south of the Brookhill Secondary Plan Area, it

functions as the primary commercial street, and is to exhibit high standard of urban design, including the pedestrian environment, among other characteristics.

- **Bowmanville Avenue:** “Type A Arterial Road”. Type A Arterial Roads are designed to efficiently move large volumes of traffic at faster speeds.
 - **Green Road and Nash Road:** “Type B Arterial Road”. As with Highway 2, Green Road and Nash Road are designed to move significant volumes of traffic at moderate speeds between municipalities.
 - **Longworth Avenue and Scugog Street:** “Type C Arterial Road”. Type C Arterial Roads are designed to move moderate volumes of traffic at slower speeds over short distances.
- Schedule C3 of the Regional OP and Map J of the Official Plan identifies Highway 2 as a “Transit Spine”, with a transportation hub located to the southeast of the Brookhill Secondary Plan Area, surrounding the future Bowmanville GO transit station. Development adjacent to these areas is to provide for complementary high density and a mix of uses at an appropriate scale and context, orient buildings towards the street to reduce walking distances to transit facilities and facilities, all of which will support non-auto modes, and limited surface parking.
 - Complete streets principles will be incorporated into the Secondary Plan. Complete streets are recognized by the Municipality as important criteria for the planning and design of urban streets in new neighbourhoods, including considering a context-based approach for the character of the planned land uses with the appropriate street design; street design elements that improve the quality of service for pedestrians, cyclists and transit users in addition to the level of service for vehicles; providing safe and convenient access to transit stops and multiple points of access to and from local streets, with limited block lengths, and designing intersections to meet desired levels of service while minimizing crossing distances, as well as integrating accessibility features into street design.
 - Cycling infrastructure will need to be expanded to allow for connections to adjacent development, Bowmanville West Centre, and the future Bowmanville GO Station
 - To comply with Priority Green Framework, all roads should have sidewalks and street trees on both sides; block lengths should be designed to be less than 250 metres to support active transportation; roads are designed as complete streets; and collector streets will be continuous to ensure efficient transit service movement.

5.3 Natural Environment and Open Space

Issue and Opportunity #7: Natural Heritage System

How can the natural heritage system be enhanced and its features and functions protected?

The natural heritage system is an important component of the Municipality’s landscape and ecology, encompassing the key natural features and linkages. The preservation and enhancement of the natural heritage features must be supported in the design of the community and by the policies of the Secondary Plan. New Endangered Species and Species at Risk policies must be introduced.

Definition:

Natural Heritage Features and Areas mean “features and areas, including significant wetlands, significant coastal wetlands, other coastal wetlands in Ecoregions 5E, 6E and 7E, fish habitat, significant woodlands and significant valleylands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Marys River), habitat of endangered species and threatened species, significant wildlife habitat, and significant areas of natural and scientific interest, which are important for their environmental and social values as a legacy of the natural landscapes of an area”. (2014 PPS)

Provincial Policies

Provincial Policy Statement (2014): Section 2.1 (Natural Heritage); Section 4.7 (Implementation and Interpretation)

- The province requires that “*Natural features and areas shall be protected for the long term*” (Section 2.1.1).
- The PPS further states that “*The diversity and connectivity of natural features in an area, and the long-term ecological function and biodiversity of natural heritage systems, should be maintained, restored or, where possible, improved, recognizing linkages between and among natural heritage features and areas, surface water features and ground water features*” (Section 2.1.2).
- The PPS requires identification of natural heritage systems in southern Ontario (Section 2.1.3).
- The PPS also requires that “*Development and site alteration shall not be permitted in habitat of endangered species and threatened species, except in accordance with provincial and federal requirements.*” (Section 2.1.7).
- The PPS provides direction for municipalities, through their Official Plans, where they “*shall identify provincial interests and set out appropriate land use designations and policies. To determine the significance of some natural heritage features and other resources, evaluation may be required. Official plans should also coordinate cross-boundary matters to complement the actions of other planning authorities and promote mutually beneficial solutions. Official plans shall provide clear, reasonable and attainable policies to protect provincial interests and direct development to suitable areas*” (Section 4.7).

A Place to Grow (2019): Section 4.2.1 (Water Resource Systems); 4.2.2 (Natural Heritage System); 4.2.4 (Lands Adjacent to Key Hydrologic Features and Key Natural Heritage Features)

- Section 4.2.1 states that upper tier municipalities in partnership with lower-tier municipalities are to undertake watershed planning or equivalent, identify and protect water resource systems through designations and

policies, allocate growth based on watershed planning, inform designated greenfield areas with subwatershed plan and consider the Great Lakes Strategy.

- Section 4.2.2 states that municipalities will map Natural Heritage System (NHS) and exclude settlement areas, as well as overlay the NHS on top of the municipality's official plan and incorporate policies to maintain, restore and enhance the NHS. Development is to demonstrate that there will be no adverse effect on the NHS.
- When mapping the NHS, Municipalities must also permit for agricultural uses, agriculture-related uses, on-farm diversified uses, and normal farm practices; protect identified NHS under existing policies; refine provincial mapping of the NHS through a municipal comprehensive review; protect natural heritage features beyond the NHS; and, continue protecting, in the event where a settlement area is expanded into the NHS, the natural heritage features within the NHS.
- Section 4.2.4 states that municipalities shall generally limit "*new development or site alteration within 120 metres of a key natural heritage feature within the Natural Heritage System or a key hydrologic feature will require a natural heritage evaluation or hydrologic evaluation that identifies a vegetation protection zone*" (Section 4.2.4.1), where development is generally not permitted.

Regional Policies

Region of Durham Official Plan (2017): Section 2 (Environment)

- The Greenbelt Natural Heritage System is located in proximity to the periphery of the Brookhill Community, as identified on Schedule 'B' Map B1 of the Regional OP. This area is to be managed as a connected and integrated natural heritage system in accordance with the Greenbelt Plan and the relevant policies of the Regional OP.
- Section 2.2.1 states: "*in the planning and development of the Region, the natural environment, which includes areas designated as Oak Ridges Moraine, Waterfronts, and Major Open Space Areas, as well as the Greenbelt Natural Heritage System, and key natural heritage and hydrologic features, shall be given paramount consideration in light of their ecological function and scientific, educational and health values*".
- Active transportation paths may be permitted in any designation, provided that the functions and features of natural heritage and hydrologic features, and agricultural operations, are not adversely affected. Fragmenting valleylands, including through ownership patterns is also discouraged, pursuant to Section 2.3.7
- Section 2.3.15 prohibits development or site alternation in key natural heritage and/or hydrologic features, including any associated vegetation protection zones, infrastructure, with the exception of forest, fish and wildlife management, conservation, flood and erosion projects, infrastructure, as subject to the policies of the Greenbelt Plan and the Regional OP, minor recreational uses such as trails, footbridges, picnic facilities and existing uses, as well as agriculture and aggregate extraction.
- Within Urban Areas, the scope of the environmental impact study for any *development* or *site alteration* will be determined in accordance with the Council approved EIS Guideline.
- Section 2.2.12 states that outdoor lighting shall be directed away from natural heritage features.
- Section 2.3.7 states that pedestrian, bicycle and bridle paths may be permitted in proximity to those features provided that they are adversely affected.

- Section 2.3.15 states that infrastructure and minor recreational uses are permitted within Key Natural Heritage and Hydrologic Features, but that other forms of development/site alteration are not permitted.
- Section 2.3.20 states that water resources are encouraged to be rehabilitated to a natural state and that alterations to watercourses are discouraged.
- Sections 2.3.21 and 2.3.22 provide policies that direct development to maintain hydrological functions and minimize impact on water resources.
- Section 10.1 outlines the Regional Official Plan requirements for its Greenlands System as follow:
 - *“To establish a continuous Greenlands System of open spaces [...] that weave through and between the Urban and Rural Systems to ensure ecological health and renewal, and to assist in creating distinct Urban Areas;*
 - *To protect significant habitats of plants, fish and wildlife within natural, built and cultural environments; and,*
 - *To protect, sustain and enhance waterfronts within the Region as major and vital components of the Region’s natural, built and cultural environments.”*

Municipal Policies

Municipality of Clarington Official Plan (2018): Section 3 (Protecting the Natural Environment and Managing Natural Resources); Section 3.4 (Natural Heritage System); Section 3.5 (Watershed and Subwatershed Plans); Section 14 (Open Space System); 14.4 (Environmental Protection Areas)

- Section 3.1 states that it is the Municipality’s goal to *“protect and enhance the natural heritage system and its ecological integrity.”* and to *“promote responsible stewardship of the natural heritage system and wise use of natural resources in order to provide long term and sustainable environmental, economic and social benefits.”*
- Section 3.2 sets forth objectives to protect the natural heritage system and its features and functions; enhance ecological processes and biodiversity; protect residents from natural and man-made hazards; and to recognize Lake Ontario Waterfront as a dynamic and distinctive element of the Municipality.
- Section 3.4.2 identifies the following *natural heritage features* and *hydrologically sensitive features* comprise the *natural heritage system*. Natural Heritage Features include wetlands, areas of natural and scientific interest, significant woodlands, all significant valleylands, fish habitat and riparian corridors, habitat of endangered species and threatened species, rare vegetation communities, and wildlife habitat. Hydrologically Sensitive Features includes wetlands, watercourses, seepage areas and springs, groundwater features, and Lake Ontario and its littoral zones.
- Section 3.5.4 states that *“Consideration shall be given to relevant watershed and subwatershed plans and the achievement of overall watershed targets identified in these plans during the preparation of secondary plans and during the development approval process.”*
- Sections 14.2.1 and 14.2.3 provide strategic objectives such as the need to protect natural heritage features, hydrologically sensitive features and their ecological function, and to ensure passive recreational activities are compatible with the natural environment.
- Section 14.4 provides policy directions as to the preservation and protection of the natural environment such as:

- No development permitted on lands designated Environmental Protection;
- Extent of the Environmental Protection Area designation includes a 30 metre vegetation protection zone from the natural heritage system and hydrologically sensitive features outside of urban and rural settlement areas;
- Precise limits shall be detailed through the appropriate studies as part of a development application;
- The setback for development from lands designated as Environmental Protection Area shall be determined based on the sensitivity of the specific feature; and,
- For new development, lot lines shall not extend beyond the established setback.

Issue and Opportunity #8: Cultural Heritage

How can the cultural heritage features or elements of the Brookhill Neighbourhood be protected, enhanced, and integrated into the community?

Definition:

ADJACENT LANDS mean those lands contiguous to a protected heritage property or as otherwise defined in the municipal official plan. (PPS)

HERITAGE ATTRIBUTES means the principal features or elements that contribute to a protected heritage property's cultural heritage value or interest, and may include the property's built or manufactured elements, as well as natural landforms, vegetation, water features, and its visual setting (including significant views or vistas to or from a protected heritage property). (PPS)

SIGNIFICANT means, in regard to cultural heritage and archaeology, resources that have been determined to have cultural heritage value or interest for the important contribution they make to our understanding of the history of a place, an event, or a people. (PPS)

Provincial Policies

Provincial Policy Statement (2014): Section 2.6 (Cultural Heritage and Archaeology)

- Under Section 2.6, the PPS states that significant built heritage resources and significant cultural heritage landscapes are to be conserved, and that development and site alteration are not allowed on lands containing, or potentially containing, archaeological resources or on lands adjacent to protected heritage property unless the heritage resources have been conserved.
- Further, planning authorities should consider and promote archaeological management plans and cultural plans and shall consider the interests of Aboriginal communities in conserving cultural heritage and archaeological resources.

Regional Policies

Region of Durham Strategic Plan (2015-2019): Section B (Population Health & Quality of Life)

- By 2019, Durham Region will support a healthier regional population and a better quality of life for our residents that are more affordable, livable, inclusive and safe. As indicated in direction B7, this includes “*Celebrating cultural diversity, heritage, the arts and our unique histories to strengthen local neighbourhoods and community cohesion.*”

Region of Durham Official Plan (2017): Section 2 (Environment); Section 8 (Urban System); Schedule E (Complete Application Requirements)

- Section 2.1.1 of the Regional OP indicates that a goal of the Region is to preserve and foster the attributes of communities and the historic and cultural heritage of the Region.
- A general policy of the Regional OP is encouraging conservation, protection and/or enhancement of Durham's built and cultural heritage resources.
- Section 2.3.7 states that Regional Council will encourage area municipalities to utilize the Ontario Heritage Act to conserve, protect, and enhance the built and cultural heritage resources of the municipality, establishing Municipal Heritage Committees to consult with matters related to heritage resource planning and designating heritage conservation districts and properties, pursuant to the Ontario Heritage Act.
- Section 8A.1.2 states that Centres are to be developed, with prime consideration for the spatial distribution of structures, architectural treatment, and the preservation and enhancement of cultural heritage resources, among other matters.
- Schedule E of the Regional OP identifies that Archaeology and Cultural Heritage Assessments are required for any proposal for *development or site alteration* in proximity to lands that contain known archaeological resources or areas of archaeological potential.

Municipal Policies

Municipality of Clarington Official Plan (2018): Section 8 (Cultural Heritage)

- A goal of the Municipal OP is to “*promote a culture of conservation that supports cultural achievements, fosters civic pride and sense of place, strengthens the local economic, and enhances the quality of life for Clarington residents*”.
- Objectives include encouraging the conservation, protection, enhancement, and adaptive reuse of cultural heritage resources including structures, sites and streetscapes of cultural heritage value or interest, significant archeological and historic resources, significant landscapes, vistas and ridge-lines, and landmarks and focal points.
- Cultural heritage and cultural heritage resources are to be incorporated into community design and development, and community efforts and events that celebrate the municipality's culture and heritage encouraged.
- To achieve these goals, the municipality is to promote public awareness surrounding cultural heritage,

encourage the involvement of the private sector to support conservation, support museums and archives, restore, enhance, and maintain municipally owned cultural heritage resources, encourage the reuse of cultural heritage resources, document features in case of demolition, and incorporate heritage buildings into new development, among other initiatives.

- Where cultural heritage resources are designated or listed under the Ontario Heritage Act, the municipality is able to allow alterations, renovations, additions, and repairs, depending upon the compatibility and consistency with the building and surrounding area.
- However, where possible, built heritage resources should be retained for their original use and in their original location, but relocation can also be considered. If development occurs adjacent to a cultural heritage resource listed on the municipal register, a Heritage Impact Assessment is required. The municipality is to continue to update the register on an on-going basis.
- Regarding Archaeological Resources, an archaeological assessment is required where development will cause an impact to archaeological resources or areas of archaeological potential. It is understood that archaeological remains of prehistoric and historic habitation present within the Municipality is to be determined through provincial screening criteria.

Issue and Opportunity #9: Parks and Community Facilities

What policies are needed to support and ensure Brookhill's parks system, open spaces, trails, and recreational facilities continue to support the community for the next 20+ years?

Ensuring residents have convenient access to a connected and diverse range of open spaces and parks offers increased opportunities for improved public health. Offering a range of alternative open space opportunities in Brookhill will provide for an enhanced public realm that is both animated and pedestrian friendly.

Definition:

Public Service Facilities means “*land, buildings and structures for the provision of programs and services provided or subsidized by a government or other body, such as social assistance, recreation, police and fire protection, health and educational programs, and cultural services. Public service facilities do not include infrastructure*”. (PPS)

Provincial Policies

Provincial Policy Statement (2014): Section 1.5 (Public Spaces, Recreation, Parks, Trails and Open Space); Section 1.6 (Infrastructure and Public Service Facilities)

- To achieve “healthy, active communities”, the PPS promotes the provision of “*a full range and equitable distribution of publicly-accessible built and natural settings for recreation, including facilities, parklands, public spaces, open space areas, trails and linkages, and, where practical, water-based resources*” (Section 1.5.1 b).
- The PPS requires that “*Infrastructure and public service facilities be strategically located to support the effective and efficient delivery of emergency management services*” and that “*Public service facilities should be co-located in community hubs, where appropriate, to promote cost-effectiveness and facilitate service integration, access to transit and active transportation*” (Section 1.6.4 and 1.6.5).

- Section 42 of the Planning Act supports the provision of parks by enabling municipalities to require parkland dedication as part of development, at the rate of 5% of the land area for residential uses or up to 1 hectare per 300 dwelling units, and 2% of the land area for commercial and industrial land uses.
- Under Provincial legislation the design of all new public spaces must meet AODA standards.

A Place to Grow (2019): Section 4.2.5 (Public Open Space)

- The Growth Plan requires municipalities to plan for a park system that is publicly-accessible that includes open space and trails that demarcate permitted and not permitted public access, is based on a coordinated approach to trail planning, and is based on good land stewardship practices for public and private lands. (Section 4.2.5.1).
- Section 4.2.5.2 states that “*Municipalities are encouraged to establish an open space system within settlement areas, which may include opportunities for urban agriculture, rooftop gardens, communal courtyards, and public parks*”.

Regional Policies

Region of Durham Official Plan (2017): Section 5 (Cultural, Health & Community Facilities, and Infrastructure); Section 8 (Urban System)

- Section 5.1.1 states that it is the Region’s goal to “*accommodate opportunities for locating cultural, health and community facilities in the Region*”.
- Section 5.2.2 states that municipally owned and operated community facilities are encouraged within Urban Areas. Community facilities be directed to locations that are visible and accessible to residents of the Region, preferably within walking distance or in close proximity to existing and future transit routes.
- Section 8B.2.3 states that development within Living Areas should include “*parks, trails, pathways and educational facilities*”.

Municipal Policies

Municipality of Clarington Official Plan (2018): Section 5.3 (Public Realm); Section 14 (Open Space System); Section 14.7 (Green Space); Section 18 (Community Amenities); Section 18.3 (Parks); Section 18.4 (Trails); Section 21 (Infrastructure and Utilities)

- An objective of the OP is to “*protect natural heritage features, hydrologically sensitive features and their ecological functions from the effects of human activity*”.
- Section 5.3 states “*that the public realm is the most highly visible portion of our community. It comprises public streets, sidewalks, parks and publicly accessible open spaces, trails and paths, rights-of-way, public buildings and civic facilities.*”
- The Municipality of Clarington OP has established an Open Space System which includes the designation “Green Space”. Green Space under Section 14.7 includes lands that are “*intended to link other significant components of the Municipality’s Open Space System, including Environmental Protection Areas, and Waterfront Greenway.*”

- Further under Section 14.7.2 lands designated Green Space “*shall be used primarily for conservation and low intensity recreational uses...*”.
- The Municipal parkland standard is 1.8 hectares per 1,000 persons. (Section 18.3.2)
- Under Section 18.3.6 parkland throughout the Municipality will include urban design elements to improve thermal comfort, connect with the Open Space System utilizing trails, bicycle paths, walkways, sidewalks, and utility corridors; will be centrally located to the areas which they serve, street frontage shall not be less than 30% of the park perimeter; and parks will be designed to be accessible and inclusive to all users.
- Under Section 18.3.7, park classifications define the function and facilities of parks in the Municipality. The classifications applicable to the Study Area include the following:
 - Neighbourhood Parks - serve the basic recreational needs of the surrounding residents, shall be of a size between 1.5 to 3 hectares
 - Parkettes - shall be between 0.5 ha and 1 ha in size and are required wherever the Municipality deems it necessary to augment or adjust the park requirements of any neighbourhood.

5.3.1 Natural Environment and Open Space– Summary Conclusions

- The Natural Heritage System is located within the Brookhill Neighbourhood and is considered to be a fundamental structuring element, required to be accurately identified and protected by Provincial and Regional policies.
- The Natural Heritage System should be incorporated and connected into the open space and parks system, with views and vistas maintained.
- Where Natural Heritage and Hydrologic Features are located, outdoor lighting is to be directed away from these features, with active transportation paths, infrastructure and minor recreational uses permitted provided no adverse effects on these features, while other forms of development/site alteration are not permitted.
- Options for restoration and further the greening of the area with priority for native planting should be explored.
- Identified cultural heritage features and resources are to be preserved in-situ wherever possible. Where development occurs, these features should be preserved, restored, and integrated where possible to preserve their heritage integrity. Heritage Impact Assessments are required for any development that could impact cultural heritage resources and features.
- Cultural heritage resources are to be incorporated into community design and development, and community efforts and events that celebrate the municipality’s culture and heritage is to be encouraged.
- Given that the area could include archaeological resources or areas of archaeological potential, archaeological impact assessments will be required prior to any development.

- A Public Realm Framework should be established to create a physical environment that is legible and appealing that identifies neighbourhood parks, urban squares, parkettes, gateways, a streetscape hierarchy, and public art opportunities.
- A variety of parkland options should be considered, including neighbourhood parks and parkettes. Alternative parks such as pocket parks, which are small scale components of the parks system generally between 75 m² and 1,000 m² in size, should be considered with frontage on at least one public street and surrounded by built form to provide activated building frontages.
- Further park options should be considered, such as POPS, or privately owned publicly accessible space that are a specific type of open space which is accessible to the public but remains privately owned, offering opportunities for additional open space that will complement the public park system.
- Mid-block connections that provide access within and between development blocks and are barrier free and visible from the sidewalk should also be considered.
- The introduction of AODA standards/universal design and CPTED policies are to be included in elements of all parks and greenway system, as well as all community facilities.
- Active transportation network including paths and trails in appropriate green spaces should be considered to connect with the municipal-wide network
- To comply with Priority Green Framework, the Natural Heritage System is to be protected and enhanced, connectivity is provided between natural heritage features; maintain views and vistas of landmarks and NHS; integrate NHS with parks and open space system; parks are provided within a 400m walking distance; and establish a tree cover target for public and private property.

5.4 Infrastructure and Buildings

Issue and Opportunity #10: Servicing and Low Impact Development

How can green infrastructure, such as water, wastewater and stormwater management, as well as emerging stormwater management (SWM) strategies be effectively implemented in the Brookhill Secondary Plan Area?

The appropriate supply and quality of servicing is integral to the management of growth, conservation of resources, and quality of life. Provincial, regional and municipal policies are placing an emphasis on promoting and encouraging green infrastructure, innovative stormwater management strategies, energy conservation, and low impact development to support infrastructure systems. The need to mitigate the impacts of climate change is also at the forefront of recent policies and plans. These strategies include reducing the number of paved surfaces to reduce run-off flows, using green infrastructure/natural corridors, and Low Impact Development (LID) methods to increase infiltration in urban areas.

Definitions:

GREEN INFRASTRUCTURE means natural and human-made elements that provide ecological and hydrological functions and processes. Green infrastructure can include components such as natural heritage features and systems, parklands, stormwater management systems, street trees, urban forests, natural channels, permeable surfaces, and green roofs. (PPS)

INFRASTRUCTURE means physical structures (facilities and corridors) that form the foundation for development. Infrastructure includes: sewage and water systems, septage treatment systems, stormwater management systems, waste management systems, electricity generation facilities, electricity transmission and distribution systems, communications/telecommunications, transit and transportation corridors and facilities, oil and gas pipelines and associated facilities. (PPS)

LOW IMPACT DEVELOPMENT (LID) is a stormwater management strategy and design approach that seeks to manage urban runoff and stormwater pollution. LID emphasizes conservation and use of on-site natural features to protect water quality by implementing infiltrating, filtering, storing, evaporating, and detaining runoff close to its source.

MUNICIPAL SEWAGE SERVICES mean a sewage works within the meaning of section 1 of the Ontario Water Resources Act that is owned or operated by a municipality. (PPS)

MUNICIPAL WATER SERVICES mean a municipal drinking-water system within the meaning of section 2 of the Safe Drinking Water Act, 2002. (PPS)

Provincial Policies

Provincial Policy Statement (2014): Section 1.1 (Managing and Directing Land Use to Achieve Efficient and Resilient Development and Land Use Patterns); Section 1.6 (Infrastructure and Public Service Facilities); Section 1.8 (Energy Conservation, Air Quality and Climate Change)

- Healthy, liveable and safe communities are achieved by:
 - e) promoting cost-effective development patterns and standards to minimize land consumption and servicing costs;
 - g) ensuring that necessary infrastructure, electricity generation facilities and transmission and distribution systems, and public service facilities are or will be available to meet current and projected needs; and,
 - h) promoting development and land use patterns that conserve biodiversity and consider the impacts of a changing climate” (Section 1.1.1).
- The PPS states under Section 1.6.2 that *“Planning authorities should promote green infrastructure to complement infrastructure.”*
- Under the PPS, the province requires that growth be planned such that existing servicing systems are optimized and such that water conservation and water use efficiency are promoted (Section 1.6.6.1).
- Municipal sewage services and municipal water services are the preferred form of servicing for settlement areas and individual on-site sewage and water services may only be used for infilling and minor rounding out of existing development within settlement areas (Sections 1.6.6.2 & 1.6.6.4).
- Section 1.6.6.5 states that partial services shall be permitted within settlement areas only *“to allow for infilling and minor rounding out of existing development on partial services provided that site conditions are suitable for the long-term provision of such services with no negative impacts”*.
- Section 1.6.6.7 states that *“Planning for stormwater management shall:*
 - *Minimize, or, where possible, prevent increases in contaminant loads;*
 - *Minimize changes in water balance and erosion;*
 - *Not increase risks to human health and safety and property damage;*

- *Maximize the extent and function of vegetative and pervious surfaces; and,*
- *Promote stormwater management best practices, including stormwater attenuation and re-use, and low impact development”.*
- Under Section 1.8 of the PPS “*Planning authorities shall support energy conservation and efficiency, improved air quality, reduced greenhouse gas emissions, and climate change adaptation through land use and development patterns*”.

A Place to Grow (2019): Section 3.2.6 (Water and Wastewater Systems); Section 3.2.7 (Stormwater Management); Section 4.2 (Policies for Protecting What is Valuable)

- The Growth Plan requires municipalities to “*generate sufficient revenue to recover the full cost of providing and maintaining municipal water and wastewater systems*” (Section 3.2.6.1).
- Servicing will be planned, designed, constructed, or expanded based on opportunities for optimization and improved efficiency of the current servicing system through strategies, location of growth, a comprehensive water or wastewater master plan informed by watershed planning or equivalent, and attenuation capacity for large subsurface sewage disposal systems (Section 3.2.6.2).
- The Growth Plan requires municipalities to develop stormwater master plans that
 - *“are informed by watershed planning or equivalent;*
 - *protect the quality and quantity of water by assessing existing stormwater facilities and systems;*
 - *characterize existing environmental conditions;*
 - *examine the cumulative environmental impacts of stormwater from existing and planned development, including an assessment of how extreme weather events will exacerbate these impacts and the identification of appropriate adaptation strategies;*
 - *incorporate appropriate low impact development and green infrastructure;*
 - *identify the need for stormwater retrofits, where appropriate;*
 - *identify the full life cycle costs of the stormwater infrastructure, including maintenance costs, and develop options to pay for these costs over the long-term; and,*
 - *include an implementation and maintenance plan”* (Section 3.2.7.1).
- Section 3.2.7.2 states that large-scale development requires a stormwater management plan or equivalent.
- The Growth Plan establishes policies under Section 4.2 to ensure that “*decisions on allocation of growth and planning for water, wastewater, and stormwater infrastructure will be informed by applicable watershed planning.*” (4.2.1.3)
- Further under 4.2.9, water conservation is supported through official plan policies and other strategies by including water demand management and water recycling objectives.

Regional Policies

Region of Durham Official Plan (2017): Section 2 (Environment); Section 5 (Cultural, Health & Community Facilities, and Infrastructure); Section 8 (Urban System)

- Section 2.3.20 (f) states that the Region shall “*promote groundwater infiltration, through improved stormwater management design*”.

- Section 3.3.2 requires that the Region ensures at a minimum, a 5-year supply of serviced lands in Regional Centres, Local Centres, and Employment Areas that will be *“maintained at all times to meet market needs, taking into account anticipated demand, the need to balance population growth with employment opportunities, the ease of servicing and the financial resources of the Region”*.
- Section 5.1.2 states that it is the Region’s goal to *“provide adequate Regional municipal services and enable utilities to meet the existing and future needs of orderly growth in the Region in an environmentally and financially sound and efficient manner”*.
- Section 5.2.3 states that the Region shall give priority to municipal water and sewage services within Urban Areas for development and redevelopment proposals that are of a compact form of development.
- Sections 5.2.4 and 5.2.5 state that the location, design and construction of municipal services will be determined and provided in a cost-effective manner, based on capitalizing the use of existing infrastructure, while utilities will be provided that minimize negative impacts on the natural, built and cultural environment. In addition, proponents are to give primary consideration to existing utility corridors in locating and designing new utilities.
- Section 5.3.11 states that *“Urban Areas shall be developed [...] based on the principles of sequential development, progressive extension, improvement, rehabilitation and economical utilization of the Regional water supply and sanitary sewerage systems, and minimization of financial impacts on the Region”*.
- Section 7.3.14 notes that for the preparation of a secondary plan, servicing of the area will be on full municipal water and sanitary sewerage systems in accordance with Policy 5.3.11.
- Section 8B.2.3 states the development within Living Areas should have regards to *“the types and capacities of the existing municipal services, infrastructure and the feasibility of expansion”*.

Municipal Policies

Municipality of Clarington Official Plan (2018): Section 4.6 (Secondary Plans); Section 7 (Growing a Prosperous Community); Section 20 (Stormwater Management)

- Managing growth in Clarington must ensure an efficient and cost-effective use of existing infrastructure. As stated under Section 4.6.6, *Secondary Plans shall include phasing policies that address the following: Sequential phasing of development within the Secondary Plan; efficient use and extension of all infrastructure and services, in particular, optimizing the use of existing infrastructure and services; and, minimizing the financial implications to the Municipality of servicing, operating and cost recovery for municipal services.*
- Further under Section 4.6.7, new secondary plan areas must address Clarington’s Green Development Program and plan for more resilient infrastructure.
- The Municipality will seek the assistance of other levels of government to meet economic development objectives and include water supply and sanitary sewer services (Section 7.3.3) and encourage the Region to construct municipal infrastructure works to service all areas within the lakeshore urban area boundaries (Section 7.3.4).
- The objectives for stormwater management are provided under Section 20.2 and include the following:

- *“To manage development impacts on watercourses in order to enhance water quality, protect fish habitat and to prevent increases to flood and erosion hazards*
- *To promote green infrastructure measures, including low impact development, as part of the overall stormwater management strategy”.*
- Section 20.3.2 pertains to stormwater management plans and the need for an integrated approach that protects the ecological health of watersheds, improves resiliency, and contributes to the protection of human life and property during storm events.
- Section 20.3.3 pertains to a treatment train approach to stormwater management through green infrastructure, lot level controls, and low impact development techniques.
- Section 20.3.7 notes the permissions for stormwater management facilities to be located in any land use designation with the exception of the natural heritage system, identified as floodplain or Environmental Protection Area.
- Section 20.3.8 sets forth policies for the design of stormwater management facilities in accordance with the Municipality’s Engineering Design Guidelines:
 - a) *“Stormwater is considered a valuable water resource to be retained and infiltrated into the land to the fullest extent possible to maintain the natural hydrology of the site;*
 - b) *Stormwater shall be discharged into watercourses and the waterfront in a manner that does not cause additional flooding, erosion, slope instability, and/or reduced water quality;*
 - c) *Stormwater management techniques shall contribute to reducing or mitigating the risk to people and damage to property, buildings, infrastructure and the environment due to actual or predicted impacts of climate change;*
 - d) *The use of passive and active renewable energy sources is encouraged;*
 - e) *Facilities shall include the installation of high quality landscaping including, where possible, enhancement of natural heritage features, permeable surfaces and the use of natural design; and*
 - f) *Facilities will be integrated into the open space system and shall incorporate high quality landscaping, permeable surfaces enhancement of natural heritage features, include community amenities and where appropriate, provide opportunities for low intensity recreation.”*

Issue and Opportunity # 11 - Climate Change and Resiliency

What policies are needed to start preparing Brookhill residents and the Municipality’s infrastructure for the community mitigation and adaption changes that will be required in future years to deal with climate change?

- The impacts of climate change are already being felt in Ontario. They include more frequent and severe weather events that challenge the Municipality’s stormwater management (SWM) capacity
- Major storm events are increasingly creating risks to public safety and damage to public infrastructure and private property.
- Emerging SWM strategies include reducing the amount of paved surface to reduce run-off flows and using green infrastructure/natural corridors and Low Impact Development (LID) methods to increase infiltration in vegetated areas and SWM ponds before run-off reaches the Municipality’s sewer pipes.

- The need for resiliency is becoming more urgent due to weather extremes, economic disruption, and resource depletion. There is a need to better understand how resilience can be built into our urban environments to ensure our ability to adapt to extreme weather events.

Provincial Policies

Provincial Policy Statement (2014): Section 1.0 (Building Strong Healthy Communities); Section 1.6 (Infrastructure and Public Service Facilities); Section 1.8 (Energy Conservation, Air Quality and Climate Change); Section 3.1 (Natural Hazards)

- Under the PPS, the Province requires that impacts of climate change be considered in different areas including land use, air quality and natural hazards. Healthy, liveable and safe communities are achieved by *“promoting development and land use patterns that conserve biodiversity and consider the impacts of a changing climate”* (Section 1.1.1h).
- The PPS states under Section 1.6.1 that *“Infrastructure, electricity generation facilities and transmission and distribution systems, and public service facilities shall be provided in a coordinated, efficient and cost-effective manner that considers impacts from climate change while accommodating projected needs”*.
- The PPS states further under Section 1.6.2 that green infrastructure shall be promoted to complement infrastructure.
- Under the PPS *“Planning authorities shall support energy conservation and efficiency, improved air quality, reduced greenhouse gas emissions, and climate change adaptation through land use and development patterns”* (Section 1.8).
- Further, *“Planning authorities shall consider the potential impacts of climate change that may increase the risk associated with natural hazards”* (Section 3.1.3).

A Place to Grow (2019): Section 4.2.9 (A Culture of Conservation); 4.2.10 (Climate Change)

- The Growth Plan requires municipalities to establish policies and strategies pertaining to:
 - Water conservation through water demand management and water recycling;
 - Energy conservation through energy efficiency and demand management initiatives;
 - Air quality improvement and protection through reduction in emissions from municipal, commercial, industrial, and residential sources;
 - Integrated waste management; and,
 - Excess soil reuse (Section 4.2.9).
- Section 4.2.10 states that *“municipalities will develop policies in their official plans to identify actions that will reduce greenhouse gas emissions and address climate change adaptation goals, aligned with the Ontario Climate Change Strategy, 2015 and the Climate Change Action Plan, 2016”*. In addition, municipalities should develop:
 - Strategies to reduce greenhouse gas emissions;
 - Greenhouse gas inventories for transportation, buildings, waste management and municipal operations; and,
 - Interim and long-term greenhouse gas emission reduction targets.

Regional Policies

Region of Durham Strategic Plan 2015-2019: Section C (Healthy Environment and Sustainable Communities)

- Section C of the Strategic Plan states that by 2019, Durham Region will have a healthier environment that is more resilient, adaptable and sustainable.
- A number of strategic directions are provided to help achieve this objective, including:
 - Investing in efforts to mitigate and adapt to climate change to build resiliency across the region;
 - Protecting, enhancing and where appropriate restoring significant water resources, agricultural land, natural heritage and environmentally sensitive areas;
 - Ensuring that Regional transportation infrastructure is functional, integrated, reliable and barrier-free to support the movement of residents to work, school, and local services;
 - Demonstrating leadership in sustainable asset management and environmentally friendly municipal practices; and,
 - Working more closely with local municipalities and other partners to manage growth through effective, progressive and integrated long-term planning.

Region of Durham Official Plan (2017): Section 2 (Environment)

- Section 2.1.2 states that it is the Region's goal to "*incorporate good community planning and design that enhances the Regional landscape and minimizes pollution of air, water and land resources*".
- Section 2.3.45 states that energy efficiency and improving air quality shall be considered in the planning and development of the region.
- Section 2.3.47 outlines policy directions for Regional Council, as follow:
 - "*Promote tree planting for the purposes of improving air quality, health and reducing energy use through shading and sheltering;*
 - *Support alternative, renewable energy sources and green technology;*
 - *Recognize the potential implications of climate change and will continue to investigate and implement mitigation measures where appropriate; and,*
 - *Promote more energy efficient buildings and infrastructure including retrofitting existing development to more energy efficient standards [..]*".
- The Regional OP also directs for development to comply with the standards of the Region and Ministry of the Environment. Conservation and Parks, including issues related to groundwater, stormwater management, and wastewater management.

Region of Durham Community Energy Plan (2018)

- The Durham Community Energy Plan is a pathway to a low carbon future which requires "new investments by the public sector, the private sector and households, and will stimulate a new economy".
- The Energy Plan notes that municipal and regional interventions are foundational to achieving this future as they will unlock strategies through creating policies to support district energy, supporting advanced building performance standards, financing retrofits and renewable energy, as well as education.

- A number of recommendations are provided to support this low carbon pathway, including:
 - Continuing to test novel approaches and new strategies to reduce GHG emissions as part of the monitoring and evaluation of the DCEP;
 - Establishing a central entity to lead and coordinate between municipalities, the Region and other organizations to ensure implementation and maximize economies of scale;
 - Developing a five-year implementation plan based on the DCEP program areas, as well as implementing a monitoring and evaluation strategy for the DCEP;
 - Working with financial partners to develop a DCEP capitalization strategy; and,
 - Recognizing and enabling the DCEP in any revisions to the Durham Region Official Plan and local area municipal official plans.

[Towards Resilience: Durham Community Climate Change Adaptation Plan \(2016\)](#)

The Region of Durham has a number of initiatives and strategies (18 proposed programs) set forth under *Towards Resilience: Durham Community Climate Adaptation Plan (DCCAP)*, which is the Region's plan to prepare the region for climate change and extreme weather. One of the main points is that Durham's infrastructure (roads, bridges, stormwater systems, water supply and sewage treatment systems, buildings, energy supply systems, communication networks) were built in the period 1950 to 2000. This infrastructure was designed and built to be resilient to the climate of this period. This climate no longer exists and steps need to be taken to ensure that upgrades and new development are built to the requirements of this changing environment.

One such strategy is the *Draft Durham Climate Resilience Standards for New Buildings*. This is a standard developed to improve the disaster resilience of new low-rise residential buildings. The Region is expecting 53,000+ new housing units to be built between now and 2025. The opportunity is now to ensure that new development can be resilient.

The Region also undertook a study that looked at urban heat islands and its effects in the Region. The report is called *Keeping Our Cool: Managing Urban Heat Islands in Durham*. Urban heat island effects are intensified by land use and development decisions, as well as and climate change. The report examined heat island mapping in each of the 8 municipalities in the Region and the context of risks and concerns for Durham Region.

Durham Region has also created the *Durham Community Energy Plan (DCEP)* in association with all 8 local municipalities, utilities, and the regional government of Durham. The objective of the Report is to "*accelerate the transition to a clean energy economy in Durham while simultaneously achieving multiple economic, environmental and social benefits*". The report highlights Energy Use by Sector in the Region: 36% transportation, 30% residential, and 19% industrial. The report also discusses how the Region is going to reduce energy and GHG emissions by the year 2050 across all sectors. Six programs are outlined including the development of a Durham Green Standard that would use the Toronto Green Stand (TGS) as a model program for adaptation for Durham.

[Envision Durham - Climate Change and Sustainability Discussion Paper, May 2019](#)

The Climate Change and Sustainability Discussion Paper is the second discussion paper to be prepared as part of Envision Durham, the Municipal Comprehensive Review (MCR) of the Regional Official Plan. The report was presented to the Planning and Economic Development Committee on May 7, 2019, with a recommendation to forward the report to Regional Council, area municipalities, and agencies. The report provides an overview of the impacts that climate change will have on Durham and sets forth strategic directions for public input. It highlights the current ROP policy framework related to climate change and sustainability and recognizes Provincial policy

requirements since the last ROP review. The key areas of discussion that have implications on climate change policies include: Urban Built Form, Energy Infrastructure, Transportation, and Natural Environment.

Municipal Policies

Municipality of Clarington Official Plan (2018): Section 2 (Vision and Principles); Section 4.6 (Secondary Plans); Section 5.5 (Sustainable Design and Climate Change), Section 7.0 (Growing a Prosperous Community)

- The Official Plan is predicated on three key principles, one of which is Sustainable Development. The Plan sets forth a number of directions under Section 2.2.1 Sustainable Development that include:
 - Acting locally in response to climate change, threats to air quality and other environmental concerns
 - Recognizing the interaction of all parts of ecosystems and protects the integrity and vitality of natural systems and processes;
 - Recognizing cumulative impacts by not exceeding the carrying capacity of air, land and water to absorb the impact of human use;
 - Remediation of past environmental degradation;
 - Contributing to the reduction of energy and water consumption;
 - Shared stewardship of natural resources; and,
 - Development and built form will have consideration for resilience and sustainability.
- Section 4.6.7 requires new secondary plan areas to address the criteria outlined under the Green Development Program to plan for more resilient infrastructure and to move towards net zero communities by incorporating techniques to reduce greenhouse gas emissions.
- The Official Plan promotes sustainability and climate change mitigation under the objectives of Section 5.2 by creating neighbourhoods that promote environment-first principles, land efficiency, compact and connected communities, and managing resources and energy efficiently.
- Under Section 5.5 Sustainable Design and Climate Change, the Municipality will seek to address climate change, become a more sustainable community, minimize the consumption of energy, water, and other resources, and reduces impacts on the natural environment. Further the Municipality will:
 - a) *“Promote energy, water and resource efficiency and conservation corporately and in existing and new development;*
 - b) *Promote the reduction of greenhouse gas emissions and the adaptation of buildings and infrastructure to be more resilient to the potential adverse environmental impacts of climate change;*
 - c) *Promote improved air and water quality;*
 - d) *Promote mixed land uses at higher densities to efficiently utilize existing infrastructure;*
 - e) *Promote the integration of transit and active transportation modes into the early stages of new development;*
 - f) *Promote the reduction, reuse and recycling of waste, with particular attention to multi-residential housing forms, which meets applicable Provincial standards and has given consideration to the Region’s waste collection design and servicing requirements; and*
 - g) *Support industrial and agricultural practices that minimize greenhouse gas emissions; and,*
 - h) *Promote employment and housing in Urban and Village Centres and Regional Corridors to shorten commute times and decrease greenhouse gas emissions.”*

- Section 5.5.2 states that urban forests are fundamental to address climate change and shall be protected to absorb carbon dioxide from the atmosphere and to mitigate heat island effects of development. Street trees shall also be provided within the public right-of-way.
- Under Section 7.3.6 the Municipality “*encourages innovative developments and practices that are sustainable and supports the use of green infrastructure which minimizes the effects of human activity on the environment.*”

5.4.1 Climate Change and Resiliency – Summary Conclusions

- Opportunities for intensification, cost-effective development standards, and the use of active transportation and transit in proximity to existing services and infrastructure will help minimize land consumption and servicing costs, in line with the PPS, should be promoted in the Secondary Plan.
- Provisional guidance for the choice of best practices in stormwater management in order to control flooding, erosion, sedimentation, and water quality in any natural or manmade waterway, should be promoted in the Secondary Plan.
- The appropriate integration of natural waterways and ponds to enhance and develop functional corridors for wildlife habitat, open space, and parkland should be encouraged and promoted.
- Low Impact Development policies that promote and incorporate innovative and appropriate LID opportunities and best practices, such as infiltration/filtration facilities that may include: permeable pavement, bioretention trenches, rain gardens, infiltration trenches, soakaway areas, and grass swales as part of a treatment train approach should be considered. The facilities may be located on public or private property within parks, front and back yards, parking lots, and road rights-of-way.
- Building on the Priority Green Framework, the community design should take into consideration climate change mitigation and resilience planning. To understand how to build resilience into our urban environments, we need to understand the local context. Not all areas are the same, nor do they have the same issues. The Secondary Plan should include climate change adaptation and mitigation policies, as well as policies that speak to resilience.
- Identifying different shocks and stresses to better understand vulnerabilities either natural or manmade, such as major hazards, events, or crisis, and where actions or interventions need to be focused.
- Interventions can include the integration of resilience in policies, standards, and by-laws to direct development and infrastructure; allocate infrastructure spending towards building resilience and addressing priority risks and vulnerabilities; and major event response and preparedness.
- Best management practices in stormwater management including widened open space corridors and Low Impact Development policies that promote and incorporate innovative and appropriate LID opportunities and best practices should be implemented.
- Complete streets, active transportation, reduced parking strategy, separation of sensitive land uses, among others, should be applied to improve air quality and minimize climate change impacts associated with new growth.

- Urban Forest System policies that speak to the benefits of the urban forest such as reduction in air pollution, urban heat island effect, energy savings, habitat for urban wildlife, biodiversity, and opportunities for recreation and physical activity should be incorporated. Consider a tree canopy target.
- Innovative residential building designs that contribute to energy reduction and natural resource conservation, green roofs, synergies between buildings, and site management practices should be promoted.
- Passive solar orientation in the layout of the community to maximize solar energy gain opportunities should be utilized.
- To comply with Priority Green Framework, stormwater management will plan for maximizing retention and infiltration with negative impact on wetlands, water bodies, groundwater and natural hydrological systems, Low Impact Development approaches; minimize hard surface infrastructure such as reduced parking standards, permeable paving; SWM facilities designed as an amenity and part of recreational system; provision of community gardens; maximize energy efficiency and water conservation; and design for passive solar opportunities.

PART IV TECHNICAL STUDIES

6.0 SUPPORTING TECHNICAL STUDIES AND REPORTS

In Phase 1, the consultants listed below submitted Draft Technical Reports. Some of the reports require information/data from the Preferred Plan which will be not be prepared until Phase 3 at which time their reports will be finalized. The following reports have been prepared based on work completed to date and have been provided for inclusion in the Planning Rationale Report. The reports in their entirety have been submitted separate from the Planning Rationale Report. The reports have been summarized in the following sections to highlight the key findings and outline the parameters for moving forward with the development of a land use plan for the Study Area.

- Landscape Analysis Report (TPP)
- Natural Heritage Evaluation Report (PlanB Natural Heritage)
- Slope Stability Study (SCS Consulting Group)
- Master Servicing and Stormwater Management Report (SCS Consulting Group)
- Transportation Study (R.J. Burnside)
- Brookhill Tributary Erosion Assessment (Ecosystem Recovery Inc. 2019) - Forthcoming in Phase 2
- Sustainability Plan and Urban Design Report (TPP)

6.1 Landscape Analysis Report

The Landscape Analysis was prepared by The Planning Partnership. The key findings and recommendations are summarized below.

On May 21, 2019, a landscape and ecological site analysis was conducted by The Planning Partnership on the Brookhill Secondary Plan subject lands. The scope of the investigation addresses the existing vegetation, hydrological features, soils and topography, and habitat value, with the intent of informing future preservation and development decisions.

The subject lands include naturalized areas, manicured lots, agricultural fields, and numerous private residential properties. The site is bounded to the east by Bowmanville Creek, otherwise the perimeter conditions and surrounding land uses vary to include transportation corridors, naturalized areas, agricultural lands, and suburban residential developments. The site is also bisected by Green Road and Nash Road. As a starting point, the site was divided into landscape typologies based on their primary uses and character. In total six landscape typologies were defined, including:

- Mown Field
- Thicket
- Woodland
- Woodland Edge
- Agricultural Field
- Existing Residential Development

Recommendations

As a result of the landscape analysis study a series of recommendations have been established to guide future development within the subject lands.

Existing Site Features

- Where possible preserve existing natural areas. A 15m buffer zone should be provided between new development and existing wooded areas.
- Remove invasive species from woodlands.
- Remove any ash trees affected by Emerald Ash Borer located within 15m of new or existing trails.
- Preserve existing row of mature Eastern White Pine. Trees are in excellent condition and high aesthetic quality.

Potential Future Site Features

- Consider introducing a trail and lookout system along existing watercourses. A raised boardwalk is the preferred construction for this area, as it can facilitate visitor movement around and over the water systems with minimal contact. Crossings over the watercourses should be minimized, but opportunities exist for lookouts projecting over the water.
- Introduce walking trails throughout the existing woodland. Ensure trails do not interfere with sensitive habitat areas.
- Introduce walking trails along the top of ridges. Provide lookouts and frame aesthetic vistas and views.
- Preserve and enhance views into high-quality natural areas.
- Introduce open space amenities throughout the site.

The subject lands demonstrate a variety of diverse and compelling landscape typologies and key features that should be taken into consideration during development-related decision-making for the site. This is a site of considerable landscape character and quality, and care should be taken to ensure that the unique aspects of the site persevere through future development.

6.2 Natural Heritage Evaluation Report

The Natural heritage Evaluation Report was prepared by PlanB Natural Heritage. Excerpts from the report and key findings are summarized below.

The Natural Heritage Evaluation (NHE) report was prepared as part of Phase 1 (Opportunities and Constraints) of the Brookhill Secondary Plan study process. The report has been prepared largely based on existing background information augmented by field reconnaissance data. In-season field survey data, species at risk assessments, analysis of land use alternatives, impact assessment, and recommended mitigation measures will be provided at the conclusion of Phase 2 of the Secondary Plan process.

The purpose of the NHE is to address the environmental policy requirements of the Provincial Policy Statement - Natural Heritage policies (2017), the Greenbelt Plan (2017), the Region of Durham Official Plan (2017), the Municipality of Clarington Official Plan (2018), and the Central Lake Ontario Conservation Authority (CLOC) Regulations/Guidelines (2014), as it relates to establishing a “sustainable” natural heritage framework for future urban land use within the Brookhill Neighbourhood. To address this objective, the report provides the following information:

- A description and evaluation of the bio-physical resource features within the study area, based largely on existing background information and supplementary in-season field surveys;

- Confirmation of natural area boundaries and linkages;
- Identification of opportunities/constraints to future urban development (i.e. Natural Heritage System framework);
- An evaluation of potential impacts of future urban development on natural heritage features/functions and linkages; and,
- Recommended mitigation/management measures to reduce development related impacts, protect sensitive environmental features, and achieve habitat enhancement, where feasible.

In-season field surveys for amphibians, breeding birds, and plant communities were completed to characterize existing environmental conditions and to confirm opportunities and constraints to future urban development. Further confirmation and refinement of the natural heritage framework will be completed on the basis of in-season field survey data and aerial photograph interpretation.

Preliminary Natural Heritage System

A preliminary natural heritage system for the Brookhill Neighbourhood has been prepared. The NHS encompasses the natural heritage features described above plus the greater of the minimum buffer policy requirements of the Municipality of Clarington and CLOC. Further refinements to the natural heritage system may be made in selective areas based on the results of in-season field surveys.

Recommendations

Natural Heritage System Management Objectives

Based on the existing conditions characterization of the study area, the following environmental management objectives are recommended to protect, restore, and enhance the natural heritage features of the Brookhill Neighbourhood for the *long-term*:

- Maintain and enhance existing woodland area;
- Maintain and enhance existing wetland area;
- Provide minimum 15 m to 30 m naturalized buffers to natural heritage features;
- Provide minimum 30 m vegetated stream buffers;
- Maintain and enhance species dispersal corridors and linkages between natural heritage features;
- Maintain and enhance the overall pattern, volume, and quality of recharge to the groundwater system;
- Maintain and enhance existing surface water contributions to wetlands and floodplain habitats;
- Protect watercourses from urban pollution, sedimentation, channel/bank erosion, and thermal impacts;
- Provide opportunities for sustainable passive recreational use of the natural heritage system through wise resource management, public education/awareness, and environmental stewardship measures;
- Protect hazard land features such as floodplains, valley slopes, and stream meander belt width;
- Protect and restore drainage features identified for protection; and,
- Protect and enhance habitat for species at risk.

6.3 Preliminary Slope Stability Study

The preliminary Slope Stability Study was prepared by SCS Consulting Group. Excerpts from the report and key findings are summarized below.

The purpose of the Preliminary Slope Stability Study is to estimate the stable slope limits and adequate setbacks such that the tableland areas will be protected from long-term slope stability impacts. The Preliminary Slope Stability Study focuses primarily on the west bank of Bowmanville Creek and includes a small portion of the east bank in the

northeast. A desktop analysis and review were undertaken using the methodology used to develop the erosion hazard limit per the Understanding Natural Hazards guidelines prepared by the Ministry of Natural Resources and Forestry (MNRF), 2001.

For the purposes of establishing a development limit, a preliminary long term stable top of slope has been identified where the valley slopes were close to and steeper than 3:1 or where the creek is coincident with the toe of slope.

Future Study Requirements

More detailed slope stability assessments based on geotechnical site investigations are to be carried out by the respective land owners to precisely determine development limits as part of future draft or site plan applications.

6.4 Master Servicing and Stormwater Management Report

The Master Servicing and Stormwater Management Report was prepared by SCS Consulting Group. Excerpts from the report and key findings are summarized below.

The purpose of the MSSR is to confirm the technical requirements associated with providing the following services to support urban development within the study area: sanitary sewers, water supply, stormwater management, site grading and external servicing, all in accordance with the current policies and criteria of the Municipality of Clarington, the Ministry of the Environment, Conservation and Parks (MECP), the Central Lake Ontario Conservation Authority (CLOCA), and the Region of Durham.

Existing Drainage Conditions

Bowmanville Creek runs from north to south along the east limits of the Brookhill Secondary Plan Area and Study Area. A tributary of the Bowmanville Creek known herein as the Brookhill Tributary collects flow from within the Study Area and surrounding areas and meets the Bowmanville Creek at the south end of the Study Area. The Brookhill Tributary is composed of an East and West Branch which meet approximately 1 km upstream of the confluence of the Brookhill Tributary and Bowmanville Creek.

Stormwater Runoff Control Criteria

Criteria	Control Measure
Quantity Control	Brookhill Tributary: Control to existing peak flows for the 2 through 100 year storm events. Bowmanville Creek: Quantity control not required.
Quality Control	MECP Enhanced Level Protection (80% TSS Removal).
Erosion Control	Detention of the 25 mm rainfall runoff for 24 to 48 hours.
Water Budget	Remedial measures are required to match groundwater recharge in proposed conditions to groundwater recharge in existing conditions

Sanitary Sewer

Trunk sanitary sewers are proposed on Bowmanville Avenue from Nash Road to Highway 2 and on Highway 2 from Bowmanville Avenue to the existing CPR line. The section of trunk sanitary sewer on Highway 2 and on Bowmanville Avenue from Highway 2 to Stevens Road are proposed to be completed in 2020 and the section on Bowmanville Avenue north of Stevens Road is proposed to be completed in 2027.

Water Distribution

Per discussions with the Region of Durham on April 12th, 2019, the existing water supply infrastructure has been sized to accommodate development in the Brookhill Secondary Plan Area. To be confirmed during Phase 2 work.

Existing Utilities

Hydro - Electrical service in the community is provided by Hydro One Networks Inc. on the west side of Bowmanville Avenue, and Elexicon Energy Inc. (formerly Veridian Connections Inc.) on the east side of Regional Road No. 57.

Gas - Natural gas service in the community is provided by Enbridge Gas Inc.

Bell Canada - Bell Canada is the provider of telephone service within the community and has existing infrastructure surrounding the development area on Longworth Avenue and Bowmanville Avenue.

Cable -Rogers Communications Inc. is the cable provider within the community.

Existing Grading

The Study Area generally slopes from 1 % to 5 % towards the West, East and Main branches of the Brookhill Tributary as well as Bowmanville Creek and ranges in elevation from approximately 146 m in the north to 95 m in the southeast. Adjacent to the West, East and Main branches of the Brookhill Tributary slopes range from 15% in the north to three to one in the south where the Brookhill Tributary meets Bowmanville Creek. The majority of slopes adjacent to Bowmanville Creek are approximately three to one with some areas of approximately 10-20 % sloping.

6.5 Transportation Study

The Transportation Study was prepared by R. J. Burnside and provides a summary of existing transportation conditions for all modes of travel (i.e. walking, cycling, transit and driving). Excerpts from the report and key findings are summarized below.

Challenges and Opportunities

Based on a review of existing conditions, there are potential areas of constraints to and opportunities for improvements within the study area, depending on the ultimate land use plan as follows. Details pertaining to future planned improvements by the Municipality, Region, and transit authorities will be explored further in Phase 2 of the Study.

Active Transportation

The existing sidewalk network primarily serves the existing residential neighbourhoods and commercial and institutional areas south of the study area with excellent connections between these uses. Observations in the field found that many residents are utilizing the existing sidewalk network to access the commercial areas in particular.

There are opportunities to continue the sidewalk network to the north and east as development occurs, including extending the Bowmanville Valley Trail along the Bowmanville Creek into the study area with connections to the east and west. There are also opportunities to install wider sidewalks and improve crossing infrastructure to enhance the pedestrian experience. Challenges will include making those connections and following the river, where some bridges may be required.

Other challenges will be to provide adequate crossing infrastructure of Durham Highway 2 and Bowmanville due to growing vehicular traffic in certain areas and their respective operating speeds. The Region will initiate construction of a widening of Bowmanville Avenue to four lanes, from north of Aspen Spring Drive to south of Longworth Avenue in 2019. According to the *Bowmanville Avenue Class Environmental Assessment (Bowmanville EA) Study*, dated

July 2017, this will include a 3.0 metre multi-use path on the west side and a sidewalk on the east side of Bowmanville Avenue.

Cyclist infrastructure is rather sparse in the area, but there are opportunities to extend existing bike lanes and routes to within the study area and beyond including the future GO Station improving crossing infrastructure. Based on the Region's *Transportation Master Plan 2017* (Region TMP), Green Road south of Nash Road and the future Longworth Avenue extension are planned as Primary cycling roads. Challenges will be fitting that infrastructure within existing road rights-of-way, requiring widening.

Transit

Transit currently provides adequate service to most of the built-up areas to the south of the study area. There are opportunities to extend some of these routes into the study area to cover the majority of future development and to increase the frequency or headway of buses to provide better service, which will in turn increase ridership. Durham Region Transit recognizes this and proposes a number of new routes and route extensions and enhancements in their Five-Year Service Strategy.

There is also an opportunity to increase connections to the Bowmanville GO Park and Ride so that it continues to be a transit hub for Bowmanville, especially with the pending extension of the Lakeshore GO Line to Bowmanville and future GO Rail Station at that location.

Vehicle Road Network

The existing vehicle road network is generally functioning well with excess capacity for future growth, except for Bowmanville Avenue just north of Highway 2. This section of road is currently experiencing close to capacity conditions and a high delay. As noted previously, the Region is starting construction of a widening of Bowmanville Avenue to four lanes to improve capacity. There are opportunities to improve the pedestrian and cyclist experience by reviewing legacy road network design, such as right turn channelizations and higher speed limits that may not be appropriate within a growing urban area. As part of the Bowmanville construction, the right turn channelizations at the Bowmanville Avenue and Durham Highway2 intersection will be removed.

Challenges will include maintaining good vehicle network operations along with future growth, while providing an enhanced and safe network for pedestrians, cyclists and transit users.

6.6 Update of the Brookhill Tributary Environmental Impact Study

Forthcoming in Phase 2. To be prepared by Ecosystem Recovery Inc.

6.7 Sustainability Plan and Urban Design Report

The Draft Sustainability Plan and Urban Design Report was prepared by The Planning Partnership. The report will be updated as the Preferred Plan is developed. Excerpts from the report and key findings are summarized below.

The Sustainability Plan and Urban Design Report provides an overview of the need for sustainable communities, the need for the reduction of greenhouse gas emissions, and the need for resilience in community planning. The need for resiliency is becoming more urgent due to weather extremes, economic disruption, and resource depletion. There is a desire to better understand how resilience can be built into our urban environments to ensure our ability

to adapt, as well as establish a focused way of understanding and applying resilience within the practice of urban design and planning.

The best communities have a plan that includes the right balance between clear direction for development and the flexibility to respond to changing circumstances over time - policy changes, changes in engineering techniques, demographic changes, and broader societal changes.

Sustainability and Climate Change

Through the review of Provincial, Regional, and local policies undertaken for the Planning Rationale Report, several Preliminary Observations were set forth in response to sustainability and climate change.

1. Building on the Priority Green Framework, the new community design will take into consideration climate change mitigation and resilience planning. To understand how to build resilience into our urban environments, we need to understand the local context. Not all areas are the same, nor do they have the same issues. The Secondary Plan should include climate change adaptation and mitigation policies, as well as policies that speak to resilience.
2. Identify different shocks and stresses to better understand vulnerabilities either natural or manmade, such as major hazards, events, or crisis and where actions or interventions need to be focused. Extreme weather events are both shocks and stresses due to the intensity and duration of storms and the resultant disruptions, such as loss of basic services and critical infrastructure, displacement of populations, and economic impact.
3. Interventions can include the integration of resilience in policies, standards, and by-laws to direct development and infrastructure; allocate infrastructure spending towards building resilience and addressing priority risks and vulnerabilities; and major event response and preparedness.
4. Implement best management practices in stormwater management including widened open space corridors and Low Impact Development policies that promote and incorporate innovative and appropriate LID opportunities and best practices.
5. Minimize air quality and climate change impacts associated with new growth through complete streets, active transportation, reduced parking strategy, separation of sensitive land uses, etc.
6. Incorporate Urban Forest System policies that speak to the benefits of the urban forest such as reduction in air pollution, urban heat island effect, energy savings, habitat for urban wildlife, biodiversity, and opportunities for recreation and physical activity.
7. Consider a fifth layer or theme to address community health and well-being and an ageing society.
8. Promote innovative residential building designs that contribute to energy reduction and natural resource conservation, green roofs, synergies between buildings, and site management practices.
9. Utilize passive solar orientation in the layout of the community to maximize solar energy gain opportunities.
10. Delivering District Energy in a greenfield location will be difficult unless there is a large user, such as a hospital. District energy is not feasible for low density residential and other considerations for renewable energy should be assessed. By reducing energy demand at the building level, a range of options are created for renewable power generation. For individual houses and commercial buildings photovoltaic, solar thermal, and ground source heat pump systems are much easier to justify financially making on site renewable power generation possible.
11. Landscape design will support the natural heritage features and character of the Secondary Plan area and broader Municipality of Clarington. Landscape design will protect the relationship between: natural areas of

scenic and biological value created by topography; vegetation and water resources and existing woodlots; and, adjacent rural farmland's scenic and social value created by farm building clusters, fields and hedgerows;

12. Landscape design will support the preservation of natural heritage resources through planning and design consistent, with initiatives to establish “green” strategies including no pesticide use in parks, native tree planting programs, clean air initiatives, and clean water/watershed initiatives.

Policy implications may include:

- Meet regional/municipal greenhouse gas emissions reduction targets;
- Increased energy generation and diversification of renewable resources;
- Increase and promote clean electricity supply and reduce demand of fossil fuels;
- Increased energy efficiency through green building design and construction for new buildings;
- Comprehensive multi-modal transportation system and mobility strategy involving reduction in auto use and the promotion of transit and active transportation;
- Opportunities for energy capture through various sources;
- Innovations in mass mobility considering urban and rural needs;
- Reduction in urban heat island effects which are intensified by land use and development decisions, as well as and climate change.
- Electrification of private and public auto fleet, expand number of charging stations;
- Support public/private collaboration;
- Acknowledge that our weather will be warmer, wetter, and wilder, and shape resilience policy accordingly; and,
- Support the implementation of street tree and open space naturalization programs to increase urban canopy cover.

Urban Design

Based on the existing community structure, urban design guidelines, and urban design best practices, the following are opportunities for the Brookhill Secondary Planning Area:

- Evaluate the proposed Vision Statement based on the contemporary context of Brookhill and the current population;
- Build upon the urban design principles to frame a Secondary Plan that promotes a healthy, connected, and complete community;
- Improve the Urban Design Guidelines to address:
 - Intensified form of development;
 - A complete and robust public realm; and,
 - The synergies between the built form and landscape/open space.
- A community structure that promotes the following elements:
 - A permeable street and block pattern to create a pedestrian-scaled environment;
 - A Neighbourhood Commons with a strong and consistent building edge and continuous and coordinated streetscape treatments around the public space;

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- A Village Corridor that incorporates special built form and public space designs that communicate the character of the neighbourhood, while promoting gateway and landmark features at key intersections;
 - A Natural Heritage System that is framed and provides for view corridors onto natural features;
 - A high-quality public realm that enhances mobility, promotes a healthy lifestyle and contributes to the character of the community; and,
 - An active transportation network that is accessible and connected.
- Promote a built form that is appropriate for the Brookhill Secondary Planning Area, while promoting an intensified form of development, as exemplified in the case studies found in Part III of the Sustainability Plan and Urban Design Report.

PART V PUBLIC INPUT

7.0 SUMMARY OF PUBLIC INPUT

Two Public Information Centre workshops (“PIC”) formed integral parts of the Phase 1 Brookhill Secondary Plan Update process. The following section provides an overview of the first and second PIC’s.

Public Information Centre #1

The first Public Information Centre was held on Monday, November 26, 2018 from 6:00 pm to 8:00 pm at the Garnet B. Rickard Recreation Complex at 2440 Highway 2 in Bowmanville. The Information Centre included an open house with large format displays of the presentation slides, a presentation to introduce the study and team, and table group discussions. Approximately 30 people attended the Public Information Centre.

Workshop participants reviewed the displays and spoke to a member of the project team one-on-one. The presentation and the displays provided context for the Brookhill Secondary Plan Update study area, introduced the team, explained what a Secondary Plan is, provided a summary of the principles that formed the foundation of the 2007 Secondary Plan, and described the work program and the opportunities for continued involvement in the Update.

Following the presentation, workshop participants were invited to discuss with others at their table group and provide input to two questions:

- Review the 2007 Brookhill Secondary Plan’s Principles. What words or phrases are missing? What words or phrases should be added?
- Review the four priorities for the Secondary Plan Update. What is important to you with respect to each priority? What should the team be mindful of during the process to prepare the Update?

During the first Table Group activity, participants were asked to review the 2007 Brookhill Secondary Plan’s Principles and provide words or phrases that were missing from the statements.

The following is a summary of some of key thoughts regarding the Secondary Plan principles:

- **Focus:** Important to have more community services and amenities, such as a community centre and farmers’ market.
- **Greenlands:** Integrated open space and parks are important and should be a priority.
- **Connections and Linkages:** walkable communities are important with trails and sidewalks. On-street parking is necessary.
- **Uses:** Important to have more diverse and smaller centres and ensure that development is compatible with existing buildings in the area.
- **Infrastructure:** Concerns about impact of development on groundwater and drinking water.
- **Design Excellence:** Suggested that the team do a “lessons learned” from the built part of Brookhill

During Table Group Activity #2, participants were asked to review the four priorities for the Secondary Plan Update – Sustainability and Climate Change, Urban Design, Affordable Housing, and Community Engagement. People were

asked what was important to them with respect to each priority and what should the team be mindful of during the process to prepare the Update. The following is a summary of the input recorded at each Table Group:

- **Sustainability and Climate Change:**
 - Preservation of mature trees
 - Plant variety of native tree species
 - Save the trees, they provide privacy

- **Urban Design:**
 - Gradual integration/transition of different housing types e.g. Stevens Road East- large lot residential land to east of Munday Court should fall under large lot designation
 - #57 redesignated for urban environment – sidewalks, tree lined, etc.
 - control flow of traffic through neighbourhood
 - No Drive-through roads
 - More sidewalks
 - More choices for transportation
 - Open space as a network

- **Affordable Housing:**
 - Apartment buildings being built now are not attractive

- **Community Engagement:**
 - Timely report out of results of consultation is important
 - Brookhill community has a Facebook group
 - Share information on the decision-making process
 - Put technical reports on line

The above input received by the public will be utilized in the preparation of the Secondary Plan. A “What We Heard” Report was prepared that provides a more robust summary of PIC #1.

Public Information Centre #2

The second Public Information Centre was held on Tuesday, June 25, 2019 from 6:30 pm to 8:30 pm at the Garnet B. Rickard Recreation Complex at 2440 Highway 2 in Bowmanville. The Information Centre included an open house with large format displays of the presentation slides, a presentation to provide an overview of the opportunities and challenges from the background work, and table group discussions. PIC participants reviewed the displays and had the opportunity to speak to a member of the project team one-on-one. The presentation and the displays introduced the team and the study, and highlighted the findings from the background reports. Approximately 29 people attended the second Public Information Centre.

Following the presentation, workshop participants were invited to share their thoughts on the priorities for the Brookhill Neighbourhood with respect to:

- Transportation;
- Servicing;
- Natural Heritage;
- Urban Design, Sustainability & Landscape; and,
- Land Use.

Table Group Discussions

During the Table Group activity, participants were asked to review the findings from the background reports and to record any notes of clarification or additional information on Workshop Sheets. Tables were divided by discipline with a member from the consulting team at each table.

The following is a record of the notes that were taken during the Table Group activity.

Transportation

Location-Specific Comments

1. Residents on Linden Lane and Munday Court have a difficult time to access Bowmanville Ave due to traffic volume and speed limit. They had expressed that traffic congestion will worsen with 407 interchange opens. Also, they believe that the speed limit on Bowmanville is too high and should be 60 km/h max.
2. Access to plaza on Green Road - only one access to the plaza that allows drivers to make a left in and left out. Individual felt it was inconvenient and felt that the north driveway is congested /queued up because of this.
3. A resident living on Ross Wright Ave had a concern with the extension of Longworth, will traffic increase along Green? With Bowmanville congested, he was concerned that traffic will diver to use Green via Longworth. As a result, it will be difficult for residents along Ross Wright to get out onto Green.
4. Lack of pedestrian crossing
5. Will Longworth Ave extension to Green Rd warrant a signal?
6. Self-made (informal) trail by cyclist
7. Bike lanes concern with parked cars
8. Existing cyclist using Scugog Street rather than Bowmanville
9. Missing connection from homes along Bowmanville and within the area to the Bowmanville Valley Trail and Downtown area
10. Potential of trails and bike paths at either end of the property, that would facilitate very nice paths and biking off main vehicular roads like Green Rd
11. More stoplights needed along Bowmanville Ave North of Stevens South of Longworth Ave

General Comments

1. Consider use of roundabouts with the right design
2. Infrastructure for e-scooters, shared bike spaces, e-bikes station
3. Pedestrian linkages with parks, schools, and residential areas
4. Use Bowmanville as a major vehicle road and redirect pedestrian and cyclists away from this road to use other north-south roads with better facilities
5. Suggested proposed trails should include benchmarks
6. Case study to consider for design: Kanas (Overland Park), Shanghai, Sedona (Arizona)
7. Width of trail should be wide enough to separate cyclists from pedestrian and there should be a clear indication separating the two

Servicing

General Comments

1. How will existing developed lots east of Bowmanville Ave. will be serviced with sanitary sewers (currently on septic)? Will the proposed trunk sanitary sewer on Bowmanville Ave. be deep enough to service this area by gravity, or will a pumping station be required?
2. Can the trunk sanitary sewer on Bowmanville Ave. proposed to be constructed in 2027 be constructed sooner?
3. Trunk sanitary sewers on Bowmanville Avenue from the intersection of Stevens Road to Highway 2 are proposed as part of the 2020 works.

Natural Heritage

Location-Specific Comments

1. Integration of mature trees and hedgerows in southeast corner of the study area

General Comments

1. Potential impacts of future trails and lookouts on private property (i.e. privacy, unauthorized access)
2. Can development occur within environmental protection areas?
3. Brookhill Tributary erosion, need money to fix the problem. The erosion problem was identified previously, mitigation measures were provided, and the money is in Clarington's bank account for future implementation. Plan B role is to determine if additional measures and money is required to mitigate the impacts of future growth or whether the original assessment and funding is sufficient.

Urban Design, Sustainability and Landscape

Location-Specific Comments

1. Concern about trail system location on private property located in the north-east. More information as trail plan develops.

General Comments

1. A specific section in the Secondary Plan should be included to deal with Sustainability & Climate Change. Recent severe weather events require much better resiliency planning.
2. The text of the Secondary Plan should include a Statement about Climate Change and how new policies and Design Criteria can help development within the Plan to adjust to changing conditions resulting from Climate Change. As an example, the 100 year storm of the future may not be the same as the 100 year storm of today.
3. Secondary Plan should include a section on climate change and how design criteria will be adjusted especially related to storm sewer sizes and stormwater management.

Land Use

Location-Specific Comments

1. Sidewalks are needed on both sides of Bowmanville Ave. Concerns with existing conditions along Bowmanville Ave (no bus, no sidewalks, difficult to access road from existing streets)
2. Existing grocery store on Longworth to the east
3. Opportunity for place of worship
4. Need high density on east side of Bowmanville Ave, south of Longworth Ave, for condos or seniors home
5. Timing of school site for existing residents of Brookhill, children are currently being bused outside of Bowmanville to Hampton

General Comments

1. Good opportunity for a win/win. With new growth, what are the opportunities to help to promote the historic core area / access / parking, etc.
2. Integrated bicycle paths - safety
3. Charging stations - electrification
4. How about planning for executives moving to the area because of the new OPG HQ. High-density housing is not attractive to the overall character of our town. There is a piece of land (10 acres) at the eastern end of Stevens that could meet the needs while being consistent with the current neighbourhood (1 acre lot homes) + wouldn't create more traffic on already strained Bowmanville Ave.
5. Also, since Bowmanville Ave is already so busy during peak traffic times, it would be best to add the 4 lanes first before building all these new neighbourhoods.

PART VI ANALYSIS

8.0 PRELIMINARY ASSESSMENT

The following section provides an overview of the existing conditions and constraints/opportunities associated with the Brookhill Secondary Plan study area. Based on the policy review, a summary of key points has been set forth to guide the development of the study area. Further, the findings and recommendations based on the results of the background work and review of conditions have been coalesced to provide a set of criteria for development.

8.1 Opportunities and Challenges Established through Policy Review

Further to the parameters established by the technical studies, several directives have been set forth through the review of the provincial, regional, and local policy frameworks and priorities as set out in Part III Policy Review. To summarize, the following key points are provided to support the development of the study area:

Opportunities

- The Secondary Plan will address criteria established through the Priority Green Development Program, with policies to plan for more resilient infrastructure, and to move towards near zero communities by reducing greenhouse gas emissions.
- The scale and density appropriate for the area in the context of growth to the 2041 planning horizon, and the targets of the Growth Plan will be reviewed. The Region requires that Greenfield Areas achieve a minimum overall density of 50 residents and jobs combined. The Municipal Official Plan and Growth Plan also require a minimum density of 50 residents and jobs. The feasibility for an increased density target will be discussed with the Municipality and the Region of Durham, and reviewed in correlation with a more compact built form.
- Provide an appropriate range and diversity of housing types, densities, tenures, and cost to meet the needs of residents throughout all stages of their lives. This includes affordable housing options, as well as housing specifically designed for seniors close to neighbourhood centre locations, and universally accessible housing. The Municipality of Clarington OP directs for 30% of all new housing to be affordable and assisted housing.
- Urban design will contribute to a sense of place, ensuring a safe, human scale urban environment.
- The Secondary Plan Update policy document must respond to the existing conditions while providing a built environment that creates opportunities for daily physical activity, addresses an ageing population, and supports the needs of residents of all ages and abilities.
- Key considerations for good urban design include community structure, street connectivity, streetscaping, building placement orientation and articulation, provision of parking, provision of public space, land use mix, variety of parks, and access to services and amenities. Other considerations should include sustainable design (e.g. passive solar orientation, Low Impact Development), active transportation, and Crime Prevention Through Environmental Design (CPTED). A clear policy framework should be established for design related to compatible development with existing neighbourhoods.
- Provincial, Regional, and Municipal planning frameworks provide direction for healthy communities. However, it is not one single action or policy topic that will define or lead to the achievement of a healthy community, but

rather an approach to implementation that considers all of the policy sections of the Secondary Plan comprehensively.

- Based on the above policy direction, development within the Brookhill Secondary Plan Area will accomplish several goals, including:
 - Accommodating residential growth without needing to expand the settlement areas;
 - Ensuring that new development does not negatively impact the character and appearance of existing stable residential communities;
 - Providing for a mix of residential dwelling types, tenure, and affordability to meet projected needs of current and future residents;
 - Achieving mixed-use development where residents are closer to commercial areas and are more able to use alternative modes of transportation;
 - Promoting efficient development and land use patterns which sustain the financial well-being of the Province and municipalities over the long term;
 - Accommodating an appropriate range and mix of residential, employment, institutional, recreation, park and open space, and other uses to meet long-term needs;
 - Promoting development and land use patterns that conserve biodiversity and consider the impacts of a changing climate;
 - Planning public streets, spaces and facilities to be safe, meet pedestrian needs, foster social interaction and facilitate active transportation and community connectivity;
 - Design streets in accordance with complete streets policies;
 - Integrating arts, cultural, and recreational facilities with local business, health and social services, schools, parks, and civic buildings;
 - Promoting the accessibility of services, culture, and recreation facilities by walking, cycling, or transit;
 - Providing a full range and equitable distribution of publicly accessible built and natural settings for recreation facilities;
 - Facilitating accessibility for persons with disabilities and older persons; and
 - Promoting conservation in energy, water and wastewater management.

- Key strategies for facilitating growth through the Secondary Plan Update process include:
 - **Supporting the environment for change:** The Official Plan policies provide the foundation for establishing the right environment for change by developing a strong vision and supportive policies which prioritize and support residential projects. By furthering these objectives in the Secondary Plan, this will announce the Municipality's position and interest in realizing denser, but appropriate, forms of development, as well as providing a guiding framework for how development can fit in the Study Area.
 - **Promoting a Compact Form:** The Secondary Plan should plan for new greenfield development which is well connected, provides a range of housing options, and includes densities which create compact, efficient, and livable communities.

- **Develop as a mixed-use area:** In support of the Residential and Environmental Protection designations, and a Local Corridor, the Brookhill Secondary Plan Area should support a broad range of housing types, including affordable and seniors housing, and a mix of uses, particularly concentrated along Bowmanville Avenue, while balancing and protecting the natural heritage system. This creates more opportunities for residents to live within or near the neighbourhood centre services creating stronger support for local businesses, shared investment in the public realm, and contributes to the creation of a more dynamic neighbourhood.
- A variety of transportation options should be available to residents, with the built environment designed to encourage physical activity, facilitate active transportation and support public transit in place of motor vehicles and driving. The accommodation of various travel choices ensures the economic, social, and environmental sustainability and accessibility of transportation systems.
- The Natural Heritage System should be incorporated and connected into the open space and parks system, with views and vistas maintained.
- Options for restoration and further the greening of the study area with priority for native planting should be explored.
- Identified cultural heritage features and resources are to be preserved in-situ wherever possible. Where development occurs, these features should be preserved, restored, and integrated where possible to preserve their heritage integrity. Heritage Impact Assessments are required for any development that could impact cultural heritage resources and features.
- Establish a Public Realm Framework to create a physical environment that is legible and appealing that identifies neighbourhood parks, urban square, parkettes, gateways, streetscape hierarchy, and public art opportunities.
- A variety of parkland options should be considered, including neighbourhood parks and parkettes. Alternative parks such as pocket parks, which are small scale components of the parks system generally between 75 m² and 1,000 m² in size, should be considered that have frontage on at least one public street and require surrounding built form to provide activated building frontages.
- Low Impact Development policies that promote and incorporate innovative and appropriate LID opportunities and best practices, such as infiltration/filtration facilities that may include: permeable pavement, bioretention trenches, rain gardens, infiltration trenches, soakaway areas, and grass swales as part of a treatment train approach should be considered. The facilities may be located on public or private property within parks, front and back yards, parking lots, and road rights-of-way.
- Building on the Priority Green Framework, the community design should take into consideration climate change mitigation and resilience planning for the local context. The Secondary Plan should include climate change adaptation and mitigation policies, as well as policies that speak to resilience.
- Climate change interventions can include the integration of resilience in policies, standards, and by-laws to direct development and infrastructure; allocate infrastructure spending towards building resilience and addressing priority risks and vulnerabilities; and major event response and preparedness.

- Urban Forest System policies that speak to the benefits of the urban forest such as reduction in air pollution, urban heat island effect, energy savings, habitat for urban wildlife, biodiversity, and opportunities for recreation and physical activity should be incorporated. Consider a tree canopy target.
- Innovative residential building designs that contribute to energy reduction and natural resource conservation, green roofs, synergies between buildings, and site management practices should be promoted.
- Passive solar orientation in the layout of the community to maximize solar energy gain opportunities should be utilized.

Challenges

- Ongoing changes to provincial policy will be monitored and addressed through the Study, to ensure that the Municipality conforms with any new or amended provincial policy.
- Impacts of **Bill 108 – More Homes, More Choice Act** (2019):
 - Proposed legislative changes to increase the supply of housing and provide more affordable housing options by, among other things, changing how funds are collected from developers and eliminating the basis for appeal and the two stage LPAT hearing process implemented under Bill 139.
 - **The Local Planning Appeal Tribunal Act** - Reinstate the rules of the Ontario Municipal Board (OMB) but under the name of its replacement the Local Planning Appeal Tribunal (LPAT). Bill 108 is giving the Local Planning Appeal Tribunal (LPAT) the ability to overturn elected municipal council's planning decisions on things like new developments
 - **The Planning Act** – Planning Act changes are not yet in force. Transition Regulations set out the rules for planning matters in process upon proclamation of Bill 108. Changes that are not specifically addressed under the Transition Regulations would apply upon proclamation of Bill 108.

Section 37 - Height and Density Bonusing, is replaced with a new Section 37 that introduces a **Community Benefits Charge System** which will allow municipalities to charge for community benefits (excluding those included under the amended Development Charges Act), based on the value of land the day before building permit, subject to a percentage cap, and which can also include in-kind contributions. Prior to passing a Community Benefits Charge By-law, the municipality must carry out a Community Benefit Strategy.

The Community Benefits Charge By-law is applicable for all development applications (except OPAs and SPAs), as well as for building permits. Draft Regulations propose that the deadline for municipalities to transition to the community benefits system be January 1, 2021, after which municipalities could no longer collect DCs for soft services or collect through bonusing. The Draft Regulations also address:

- Reporting requirements for new Community Benefits Charges similar to existing requirements for Development Charges and Parkland Dedication;
- Exemptions from Community Benefits Charges for long-term care facilities, retirement homes, universities and colleges, memorial homes, clubhouses or athletic grounds of the Royal Canadian Legion, hospices and non-profit housing from community benefits charges;
- Providing a range of percentages for land value caps to take into account varying values of land, although specific percentages have not yet been proposed. These ranges will be developed in accordance with 2 goals: to ensure historic municipal revenues (DCs for soft services, alternative parkland rate and bonusing) are maintained, and to make costs more predictable;
- An ineligible services list, consistent with the ineligible services list for Development Charges; and,

- A dispute process for property valuation.

Section 42 - Parkland Dedication. The intention is that parkland acquisition land and/or cash-in-lieu funds would no longer be eligible under Section 42, but are **to be captured within the new Section 37 Community Benefits Charge System**. The changes to the Planning Act:

- Upon proclamation of Bill 108 - Remove the ability for municipalities to charge developments alternative rates for parkland dedication (1 hectare/300 units for land and 1 hectare/500 units for payment-in-lieu). The maximum parkland dedication charges will be the standard maximum rates of 5% of the land area for residential development and 2% of the land area for commercial, industrial and institutional development; and,
- Ensure that the ability of municipalities to implement a Parkland Dedication By-law that is directly tied to a municipality's decision whether or not to enact a Community Benefits By-law. The proposed changes indicate that Section 42 By-laws are to be deemed of no force and effect when a municipality passes and enacts a Community Benefits By-law under the proposed amendments to Section 37. Once enacted, parkland acquisition/improvements would be funded through the Community Benefits By-law.

- **Development Charges Act** – Legislation related to the Community Benefits Charges are currently proposed to come into force on January 1, 2020. The intention is that the **'soft services' (recreation, library, housing) would be removed from the Development Charges Act** and considered as part of a new Community Benefits Charge. The appropriate Development Charge amount would be determined based on the charges in effect on the day of a rezoning or site plan application (or building permit) with collection remaining at the time of building permit issuance. Some

- **Growth Plan (2019)** – proposed/future changes to the Growth Plan may impact Envision Durham MCR process. A Place to Grow includes a number of policy changes that will affect the Region's Growth Management Study including revisions to key intensification and density targets that the Region must plan to achieve.

- **Intensification and Density Targets – Durham Specific**

Gradient Intensification Targets: Previous targets of 60 per cent of all residential development have been reallocated as follows:

- 50 percent for the Cities of Barrie, Brantford, Guelph, Orillia and Peterborough, and the Regions of Halton, Durham and Niagara;

Gradient Greenfield Area Density Targets: Previous targets of 80 residents and jobs per hectare reduced to:

- 50 residents and jobs per hectare for the Cities of Barrie, Brantford, Guelph, Orillia and Peterborough and the Regions of Durham, Halton and Niagara;

8.2 Opportunities and Challenges from Technical Reports

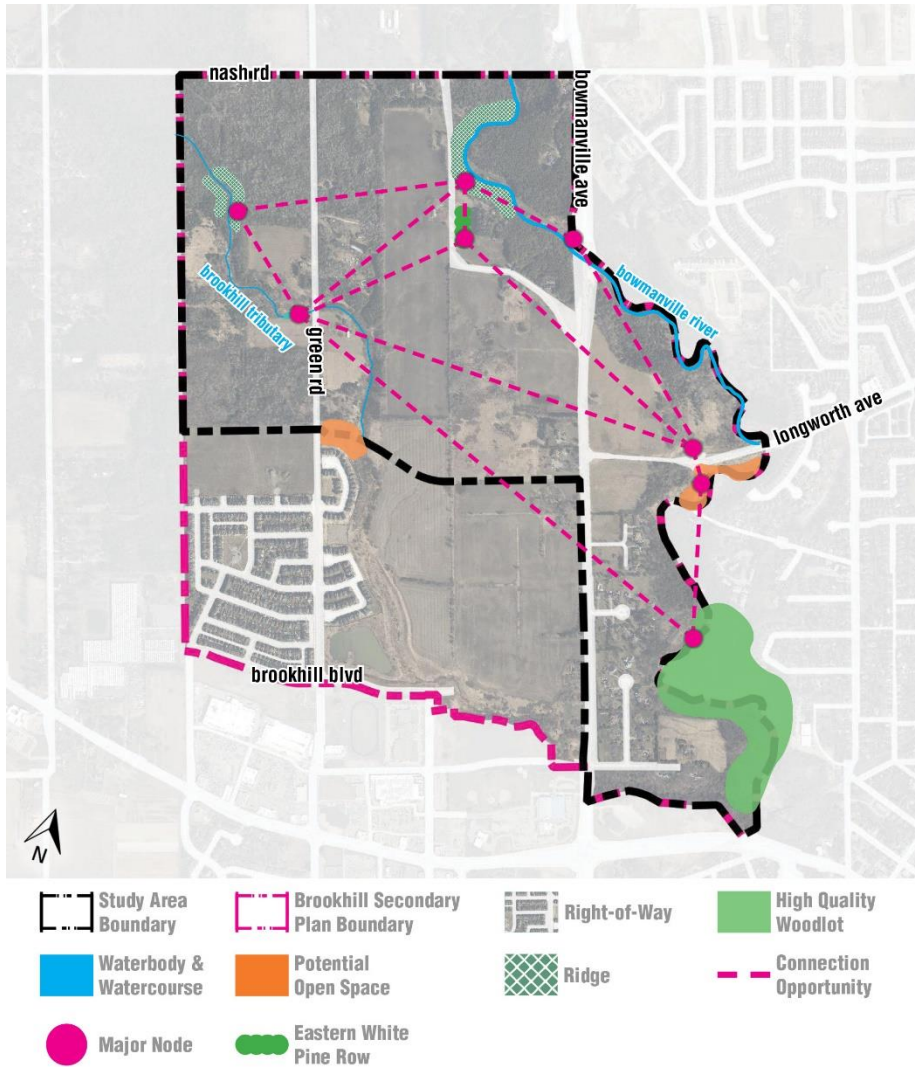
By defining the site conditions, challenges, and potential opportunities for development a clear direction can be established for proceeding with the development of alternative land use concepts for the study area in Phase 2.

Opportunities and challenges have been identified for each area of review under the following headings:

- Landscape Analysis
- Natural Heritage
- Slope Stability
- Master Servicing and Stormwater Management
- Transportation
- Sustainability Plan and Urban Design
- Land Use Planning

The opportunities and challenges are graphically identified or represented on the following pages.

1. Landscape Analysis



Opportunities

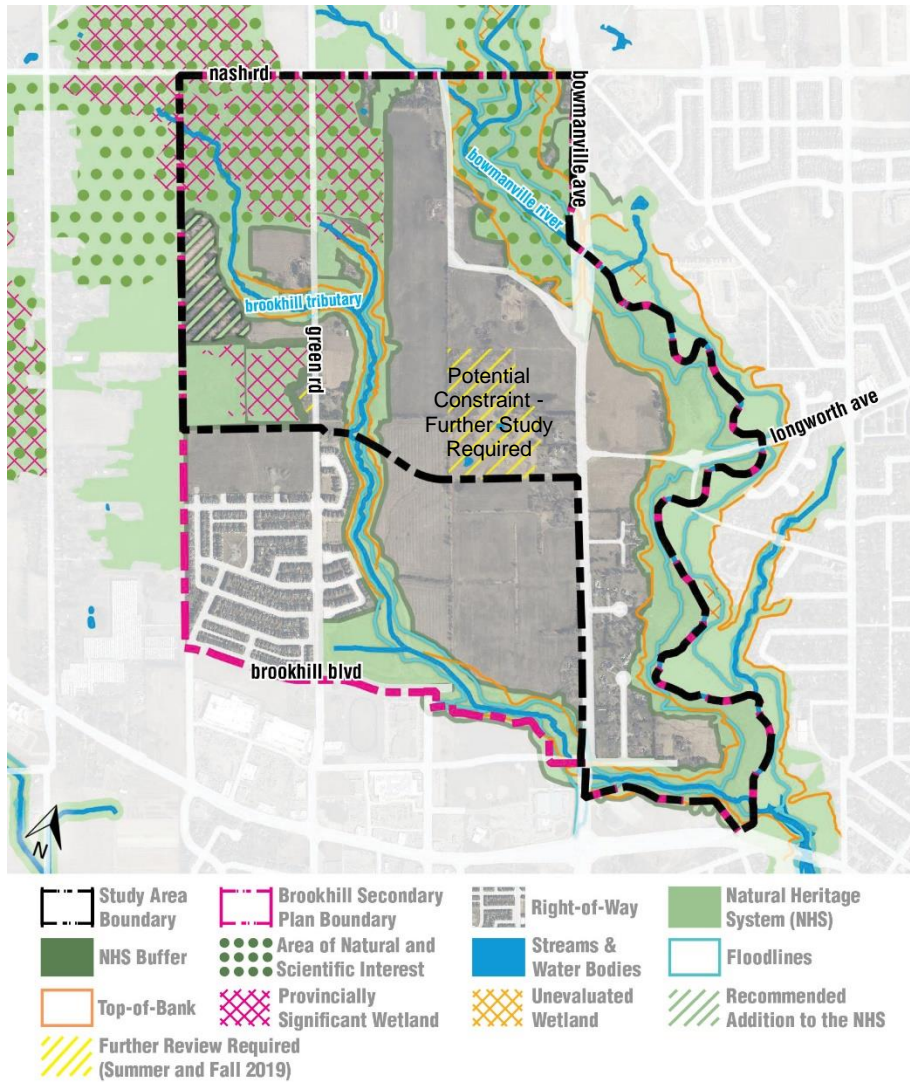
- Introduce a trail and lookout system along existing watercourses. Crossings over the watercourses should be minimized, but opportunities exist for lookouts projecting over the water
- Introduce walking trails throughout the existing woodland. Ensure trails do not interfere with sensitive habitat areas
- Introduce walking trails along the top of ridges and provide lookouts and frame aesthetic vistas and views
- Preserve and enhance views into high-quality natural areas.
- Introduce open space amenities throughout the site
- Establish major nodes and provide wayfinding and connection/circulation routes between them

Challenges

- Encroachment into existing watercourses will negatively affect the health of the riparian zone
- Remove invasive species from woodlots
- Remove any ash trees affected by Emerald Ash Borer located within 15m of new or existing trails

- Preserve existing row of mature Eastern White Pine trees that are in excellent condition and have high aesthetic quality

2. Natural Heritage



Opportunities

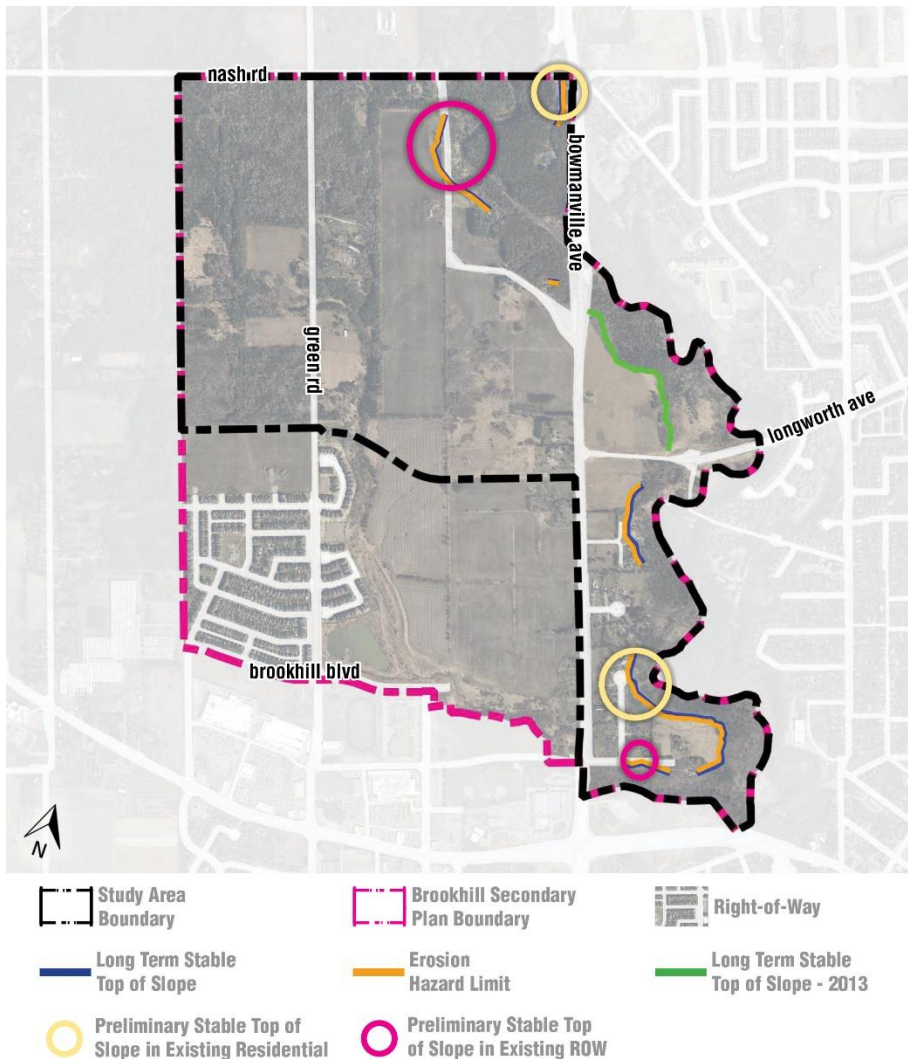
- Balancing urban growth with environmental protection, restoration and enhancement
- Increasing woodland and riparian cover through the application of buffers from NHS features
- Improving the quality/quantity of urban runoff to watercourses and wetlands
- Providing for passive and sustainable recreational opportunities within natural areas
- Promoting environmental stewardship and public awareness

Challenges

- Protecting watercourses from urban pollution, sedimentation, channel/bank erosion, and thermal impacts
- Maintaining the overall pre-development pattern and volume of groundwater recharge, and discharge to wetlands and watercourses

- Minimizing crossings of natural heritage features
- Minimizing erosion in the Brookhill tributary
- Minimizing the negative impacts of human activities on natural heritage features and functions
- Maintaining/enhancing bio-diversity in natural areas
- Controlling establishment of invasive plant species in natural areas and buffers
- Integrating other environmental features such as mature trees and hedgerows
- Additional environmental features identified may have an impact on development potential

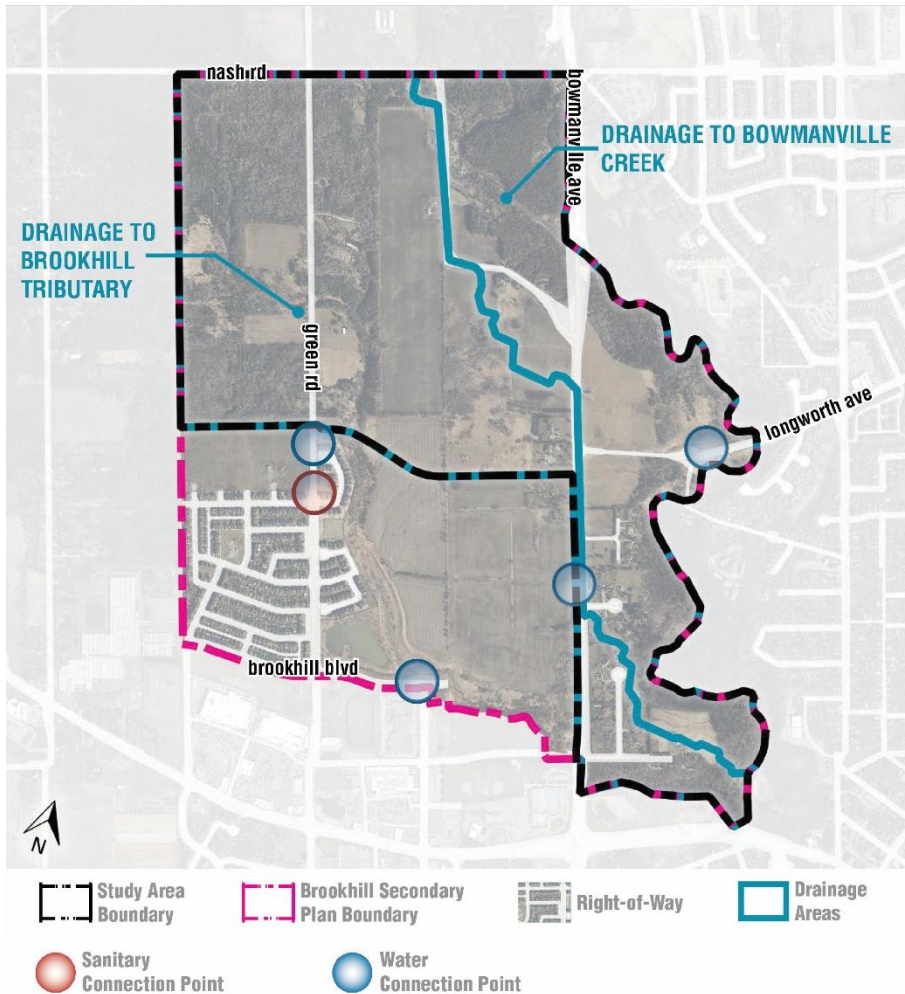
3. Slope Stability



Challenges

- The stable top of slope is within the existing Nash Road right-of-way (ROW), the existing Stevens Road ROW, and portions of the stable top of slope adjacent to Bowmanville Creek are within existing residential lots.
- The preliminary stable top of slope is beyond the physical top of slope in several areas within the study area.

4. Master Servicing and Stormwater Management



Opportunities

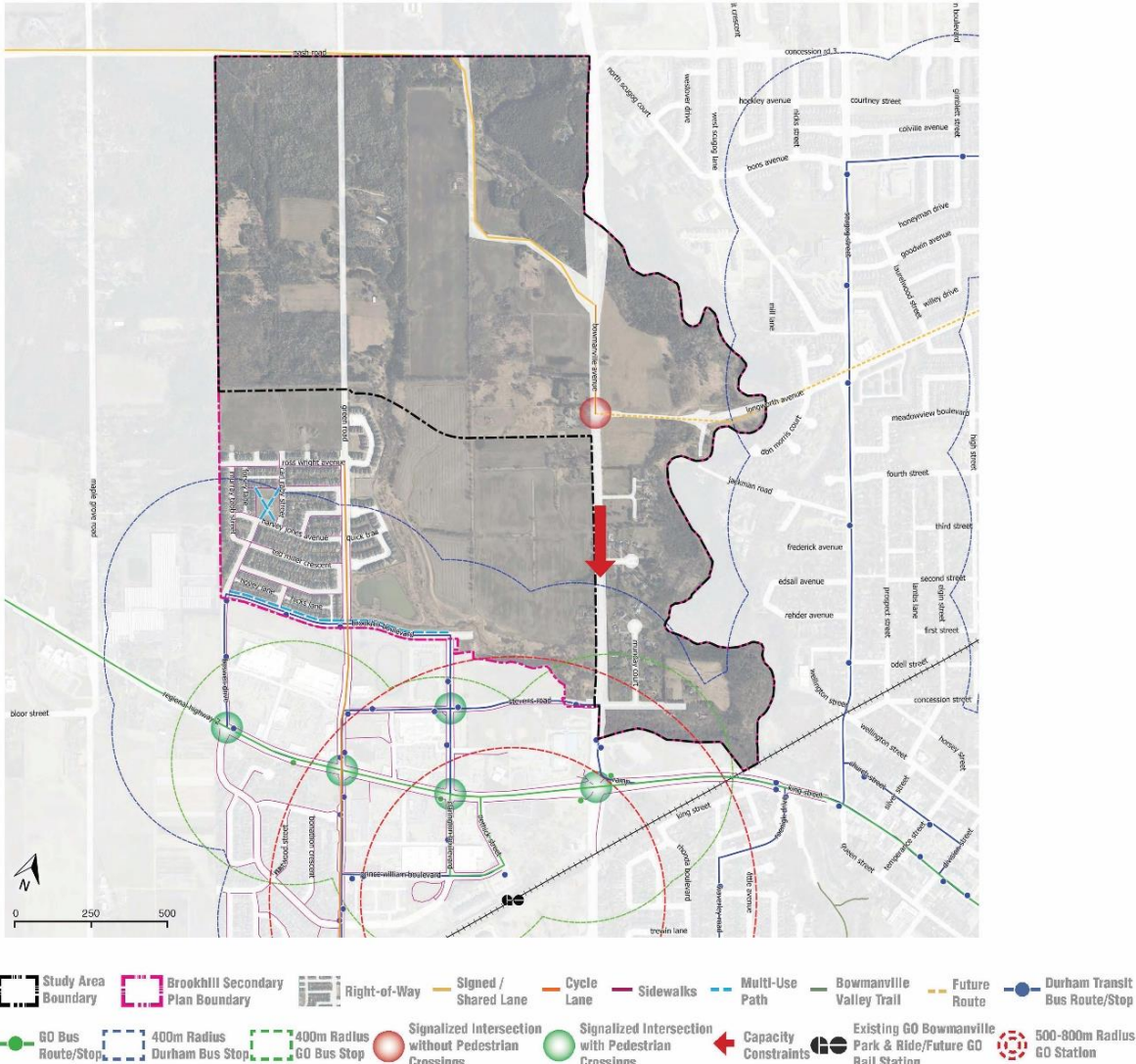
- Existing sanitary and water infrastructure has been sized to accommodate development in the Brookhill Secondary Plan Area (discussions with the Region of Durham on April 12th, 2019)
- Trunk sanitary sewers are proposed on Bowmanville Avenue from Nash Road to Highway 2 and on Highway 2 from Bowmanville Avenue to the existing CPR line. The section of trunk sanitary sewer on Highway 2 is proposed for completion in 2020 and section on Bowmanville Avenue is proposed for completion 2027
- Connect to existing sanitary sewers on Green Road and Clarington Boulevard
- Connect to existing watermains on Longworth Avenue, Bowmanville Avenue, Clarington Boulevard & Green Road

Challenges

- Runoff from the western portion of the study area is conveyed to the Brookhill Tributary
- Runoff from the eastern portion of the study area is conveyed to Bowmanville Creek
- Stormwater Runoff Control
- Quantity Control: Brookhill Tributary: Control to existing peak flows for the 2 through 100 year storm events. Quantity control not required for flows conveyed directly to Bowmanville Creek

- Quality Control: MECP Enhanced Level Protection (80% TSS Removal)
- Erosion Control: Detention of the 25 mm rainfall runoff for 24 to 48 hours
- Water Budget: Remedial measures are required to match groundwater recharge in proposed conditions to groundwater recharge in existing conditions

5. Transportation



ACTIVE TRANSPORTATION

Opportunities

- Continue the sidewalk network to the north and east
- Extend the Bowmanville Valley Trail along the Bowmanville Creek into the study area
- Install wider sidewalks and improve crossing infrastructure
- Extend existing bike lanes and routes within and beyond study area and improve crossing infrastructure

Challenges

- Bridges may be required to make connections to the Bowmanville Valley Trail
- Require adequate crossing infrastructure to cross Durham Highway 2 and Bowmanville Avenue due to growing vehicular traffic in certain areas and respective operating speeds
- Cycling infrastructure is sparse in the area and might be challenging to fit within existing road rights-of-way

TRANSIT

Opportunities

- Extend bus routes into the study area to cover the majority of future development and increase bus frequency
- Increase connections to the Bowmanville GO Park and Ride, especially with the upcoming Bowmanville GO Station

Challenges

- The Bowmanville GO Station is approved but not currently funded and there is no fixed timeline for its construction
- Extending transit into the area
- Increasing frequency of bus service
- The above is dependent on Durham Region Transit

VEHICLE ROAD NETWORK

Opportunities

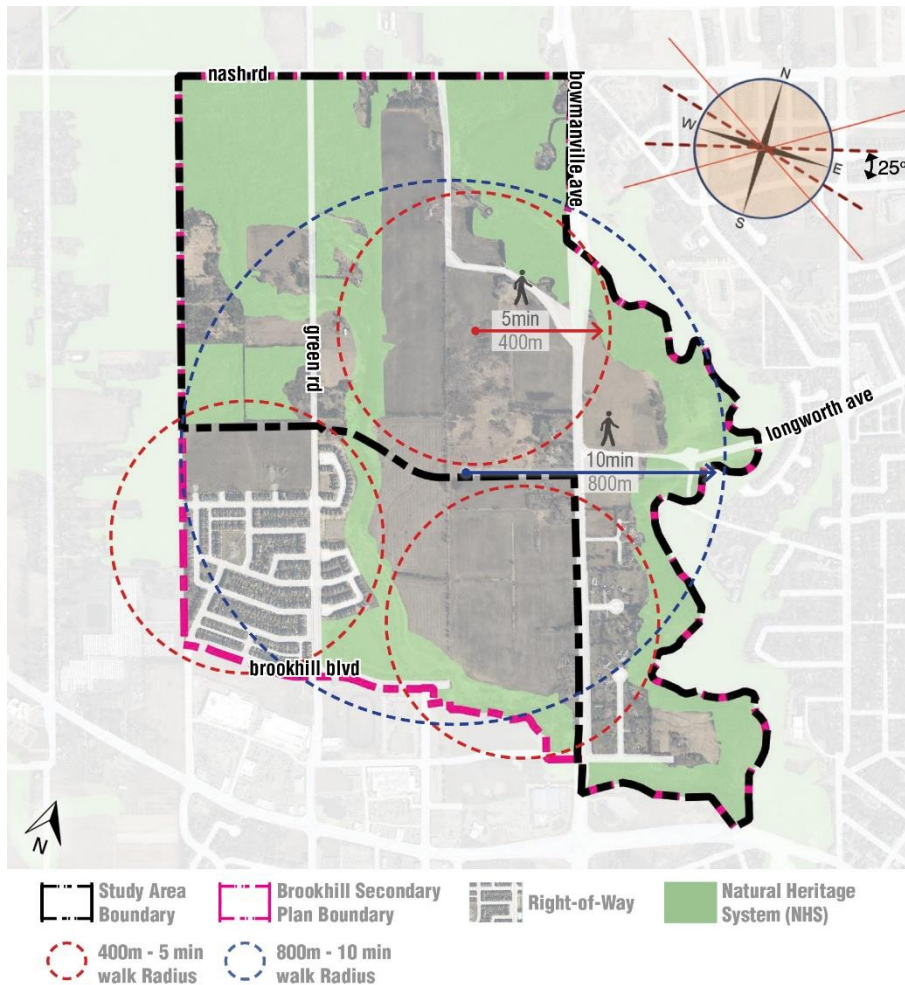
- Existing vehicle road network has excess capacity for future growth
- Improve the pedestrian and cyclist experience by reviewing road network design, such as right turn channelizations and reduced speed limits
- Reconsider the alignment and function of Nash Road

Challenges

- Maintaining good vehicle traffic, while providing an enhanced and safe network for pedestrians, cyclists and transit users
- Peak morning hour traffic movement southbound exceeds capacity at Highway 2 and Bowmanville Avenue
- Peak morning hour traffic movement southbound exceeds single lane capacity for an arterial on Bowmanville Avenue (between Longworth and Stevens)

6. Sustainability and Urban Design

SUSTAINABILITY



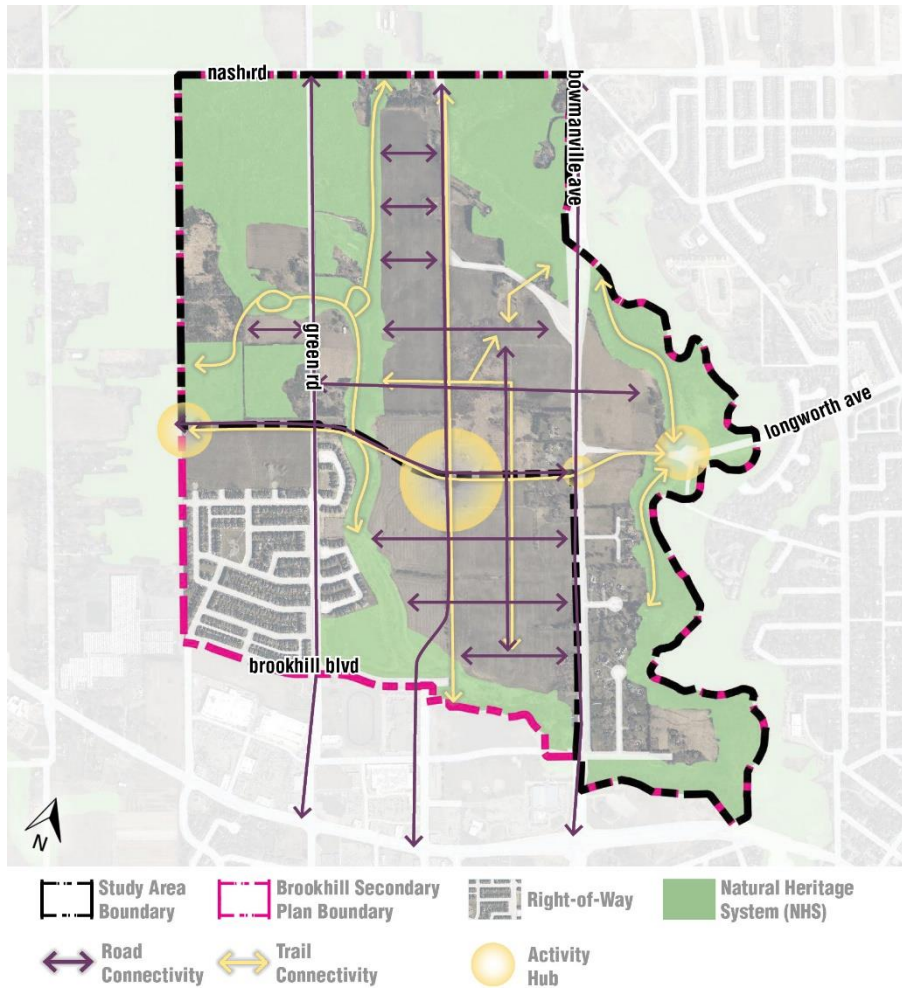
Opportunities

- Support public health by creating walkable neighbourhoods with amenities and services within a 5 minute walk (400 m)
- Reduce greenhouse gas emissions through complete streets, active transportation, and reduced parking strategy
- Opportunities for best management practices for stormwater: rain gardens, planted swales, permeable pavements, rain barrels, and green roofs
- Benefits of the urban forest: reduction in air pollution, urban heat island effect, energy savings, habitat for urban wildlife, biodiversity, and opportunities for recreation
- Promote innovative residential building designs that contribute to energy reduction and conservation: green roofs, synergies between buildings, site management practices
- Utilize passive solar orientation in the layout of the community to maximize solar energy gain opportunities (25 degrees of geographic east-west)

Challenges

- Delivering District Energy in a greenfield location will be difficult without a large user, such as a hospital
- Identify different shocks and stresses to better understand vulnerabilities either natural or manmade, such as major hazards, events, or crisis and where actions or interventions need to be focused

URBAN DESIGN

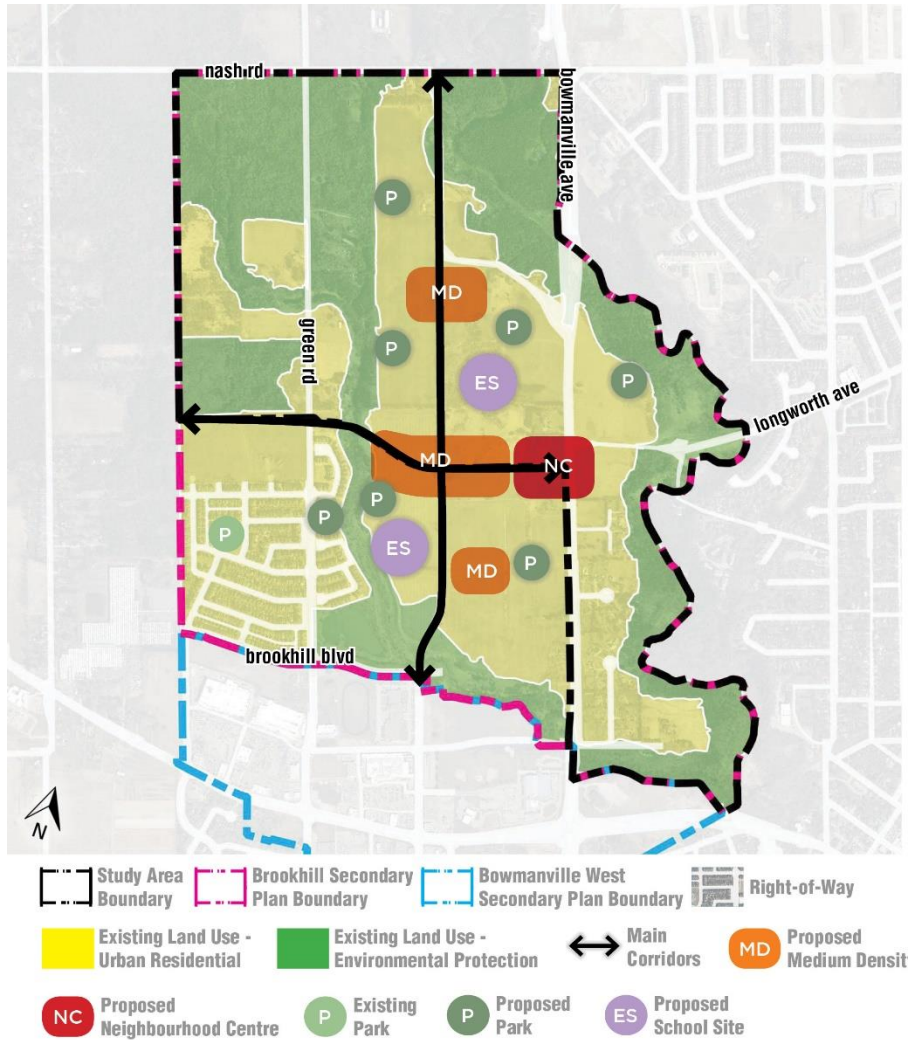


Opportunities

- Promote a healthy, connected, and complete community with a community structure that promotes the following:
 - An intensified form of development with appropriate synergies with public realm
 - A permeable street and block pattern to create a pedestrian-scaled environment
 - A Neighbourhood Commons with a consistent building edge and coordinated streetscape treatments around the public space
 - A Village Corridor that incorporates special built form and public space that communicate the character of the neighbourhood, with gateway and landmark features at key intersections
 - A Natural Heritage System that is framed and provides for view corridors onto natural features

- A high-quality public realm that enhances mobility, promotes a healthy lifestyle and contributes to the character of the community
- An active transportation network that is accessible and connected

7. Land Use Planning



Opportunities:

- Explore feasibility for increased density
- Key strategies to facilitate growth:
 - Support environment for change
 - Promote compact form
 - Develop as mixed use area
- Provide a range of housing types, densities, and tenures to use land more efficiently, reduce the cost of municipal services, and meet 30% affordable housing target
- Promote development that builds on and supports existing community character, provides public benefits, and contributes to a high quality public realm

- Achieve mixed-use development where residents are closer to services and alternative modes of transportation to meet long-term needs
- Promote development and land use patterns that conserve biodiversity and consider the impacts of a changing climate
- Plan public streets, spaces, and facilities to be safe, meet pedestrian needs, foster social interaction, and facilitate active transportation and community connectivity
- Include a neighbourhood centre for convenience of local residents, may include a grocery store
- Provide a full range and equitable distribution of publicly accessible parks and open spaces
- Promote conservation in energy, water, and wastewater management
- Create a: 1) Complete community, 2) High-quality community, 3) Healthy community, 4) Sustainable community, 5) Resilient community & 6) Viable community

Challenges:

- Uncertainty related to:
 - Impacts of Provincial Bill 108
 - New Growth Plan proposed / future changes

8.3 Framework of Intent for the updated Secondary Plan

The Brookhill Secondary Plan update must establish a framework of intent through a renewed vision and principles that will be supported by Objectives, which are in turn implemented through policy statements. Fundamental to achieving a healthy, sustainable community consideration must be given to objectives that will support this framework. Proposed objectives include:

1. A Complete Community

A complete community meets people's needs for daily living throughout an entire lifetime by providing convenient access to an appropriate mix of jobs, local services, a full range of housing, including affordable housing, public services and community infrastructure including educational and recreational facilities, and a robust open space system. Convenient access to public transportation and options for active transportation are crucial elements of a complete community.

2. A High-Quality Community

A high quality, and ultimately a beautiful community, includes well designed buildings, streetscapes, parks and open spaces. A beautiful community protects natural heritage features and views and includes an accessible and well-designed system of public parks and open spaces that celebrate the site and provide opportunities for enjoyment by the entire population. A high-quality community includes destinations, landmarks and gateways that distinguish it within its context and establish a sense of place. Crucial to a high-quality community is the attention to the interplay among built form, the public realm and the natural environment. A high-quality community should engender a sense of pride as a place to live and a sense of stewardship in its long-term care and maintenance.

3. A Healthy Community

A healthy community consciously seeks to improve the health of its citizens by putting public health high on the social and political agenda. Physical, social and mental wellbeing are the necessary components of public health. The built environment should be designed to create opportunities to encourage residents to be physically active and socially engaged. A fundamental element of a healthy community is the inclusion of active transportation. Active

transportation refers to any form of human-powered transportation – walking, cycling, using a wheelchair, scooters, inline skating or skateboarding

4. A Sustainable Community

A sustainable community is environmentally and socially healthy and resilient. It meets the challenges of climate change, and other environmental issues through integrated solutions rather than through fragmented, incremental approaches that meet one objective at the expense of the others. A sustainable community manages its human, natural and financial resources equitably and takes a long-term view – one that is focused on both present and future generations. Sustainability success relies upon having specific and measurable targets for indicators related to climate change, energy use, water and waste.

5. A Resilient Community

A resilient community can effectively respond to emergencies, both related to climate change and otherwise, because it has a plan in place, responsibilities assigned and facilities available. Natural or human made disasters are considered and the necessities of life are provided, particularly for those who are most at risk. Access to power, food, water and health care is ensured, while emergency services are equipped to operate and provide assistance in all conditions

6. A Viable Community

A viable community is market responsive, efficient and cost effective.

9.0 CONCLUSION AND NEXT STEPS

The Municipality of Clarington is growing and the Brookhill Neighbourhood will be a focus for residential and commercial development in the coming years. The Brookhill Secondary Plan Update is an opportunity to further advance the forward-thinking policy framework established in the original policies. An update to the existing Secondary Plan is required to assist with not only bringing the plan into conformity with the Municipality's new Official Plan and initiatives, Durham Region policies and strategies, and Provincial policy, but to establish revised sustainable and urban design guidelines that support and reflect the Priority Green Framework and future growth in this community.

Key considerations have been identified for moving forward with the next phase of work which will establish evaluation criteria for the alternative land use plans.

Next Steps:

Reports

The technical reports and studies completed as part of Phase 1 have established a baseline for moving forward with Phase 2 and the development and evaluation of alternative land use concepts. The reports will be updated as the Preferred Plan is prepared, and field work continues for the natural heritage evaluation. This Planning Rationale Report will also be advanced based on the further work to be completed with a report submitted at the end of each Phase. The subsequent reports, in support of the Planning Rationale Report, will be combined during the final phase into one complete document.

Growth Targets

New targets for growth in terms of intensification and the density of development will be undertaken as an analysis of the opportunities and constraints for the Brookhill area based on the technical background work and discussions with the Steering Committee. An analysis of the current land uses, population and employment densities, looking at both existing and forecasted numbers will be prepared, to assist with establishing development scenario programs for the alternative land use plans that will be prepared in Phase 2.

Evaluation Criteria

Themes and evaluation criteria will be established for the evaluation of the alternative land use plans for the Brookhill Neighbourhood. The Evaluation Themes and Criteria will be based on the policy analysis and findings of the technical reports from Phase 1. The analysis of the alternatives will be a comparative evaluation where the options are assessed in relation to one another.

