

**The Walk Home:  
Re-imagining the Ontario Greenbelt's  
Commuter Rail Communities**

by  
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in fulfillment of the  
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## **author's declaration**

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

I understand that my thesis may be made electronically available to the public.

## **abstract**

Dominated by a low-density urban sprawl growth model post-World War II, the Greater Golden Horseshoe (GGH) has expanded rapidly without limitation resulting in extensive exhaustion of its open space, greenfield lands, and a mounting pressure to push beyond the boundary of the Ontario Greenbelt to accommodate further suburban growth. The Greenbelt is inundated with proposals by municipalities and developers alike. These proposals threaten to eat up large swaths of productive farmland, destroying forests and wetlands with continuations of the same suburban sprawl, industrial parks along the Metrolinx commuter rail corridors, and the 404 Highway.

This thesis is positioned at the boundary between the urban sprawl in the region, and the valuable agricultural and ecological lands protected within the Greenbelt. The work lays out a case study for a new development model based on existing or planned commuter rail stations. The model will seek to preserve and protect the most valuable lands and boundaries of the Ontario Greenbelt from the type of extensive, piecemeal urban development presently nibbling away at its ecological territory and integrity.

The design proposes a complete middle density, transit oriented, mixed-use community around Richmond Hill's Gormley Go station: a station presently isolated in the middle of farmers' fields accessible principally by the park-and-ride commuter. This thesis presents the argument for a dense, interactive, and walkable community around the station – one that is focused on the vitality of the pedestrian experience, while maintaining the natural heritage of the greenbelt lands around it.

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Your help has been invaluable and meaningful to me in ways I cannot find the words to describe. I am grateful to have had the opportunity to work with you both.

To my family, my friends, and to Evan, thank you for your unwavering support and encouragement, without all of you I believe I would be lost.

## **dedication**

For my family, and every person I am privileged to call a friend.



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## ***1.0 Introduction***



Fig. 1.01 Community of Gormley





*"Long gone are the days when automobiles expanded possibility and choice for the majority of Americans. Now, thanks to its ever-increasing demands for space, speed, and time, the car has reshaped our landscape and lifestyles around its own needs. It is an instrument of freedom that has enslaved us."*<sup>1</sup>

– Jeff Speck, *Walkable City: How Downtown can Save America*

Dominated by a low-density urban sprawl growth model post-World War II, the Greater Golden Horseshoe (GGH) has expanded rapidly without limitation resulting in extensive exhaustion of its open space, greenfield lands, and a mounting pressure to push beyond the boundary of the Ontario Greenbelt to accommodate further suburban growth. The Greenbelt is inundated with proposals by municipalities and developers alike. These proposals threaten to eat up large swaths of productive farmland, destroying forests and wetlands with continuations of the same suburban sprawl, industrial parks along the Metrolinx commuter rail corridors, and the 404 Highway.

This thesis is positioned at the boundary between the urban sprawl in the region, and the valuable agricultural and ecological lands protected within the Greenbelt. The work lays out a case study for a new development model based on existing or planned commuter rail stations. The model will seek to preserve and protect the most valuable lands and boundaries of the Ontario Greenbelt from the type of extensive, piecemeal urban development presently nibbling away at its ecological territory and integrity.

The design proposes a complete middle density, transit oriented, mixed-use community around Richmond Hill's Gormley Go station: a station presently isolated in the middle of farmers' fields accessible principally by the park-and-ride commuter. This thesis presents the argument for a dense, interactive, and walkable community around the station – one that is focused on the vitality of the pedestrian experience, while maintaining the natural heritage of the greenbelt lands around it.

1. Speck, Jeff. *Walkable City: How Downtown can Save America, One Step at a Time*. 1st ed. New York: Farrar, Straus and Giroux, 2012. p. 75.

One of the most substantial questions presently facing North American cities like Toronto is how and where to accommodate projected urban growth levels. For Toronto, continually mounting pressures from expanding metropolitan and regional population increases create a situation with resultant deteriorating and over-extended infrastructures. In practice, despite the excellent future oriented planning of provincial agencies like Metrolinx, the immediate pressures on historical legacy transportation systems have inspired an ad hoc 'quantity-over-quality' approach to the Greater Toronto Region's urbanization. Where expanding expressway and arterial road traffic congest the routes, new lanes are added; as people move outwards to dodge rising city and inner suburb housing prices, highways are extended; and when cars overflow in surface parking lots, multi-storey garages are erected.

Metrolinx planning cannot reach everywhere beyond the more well used corridors. Society widely acknowledges that, outside of these corridors, this additive piecemeal approach cannot solve the urban region's problems indefinitely and will only serve to stifle a solution to the problem before the system itself enters into an overarching crisis. At the policy level, most municipal and regional planning efforts focus on how to slow the spread of urban sprawl, yet little progress has been made towards a complete overhaul of the system itself focused on the future need of the urban region. Slowing and reducing traffic down, while a step in the right direction, is no longer a viable overall solution to continuing growth. The region is suffering under the unconstrained hand of urban progress and without a rapid, reliable long-distance mobility to help transform urban planning the Greater Golden Horseshoe (GGH), the urban area centred on Toronto, and stretching along Lake Ontario from Niagara to Peterborough, and reaching to Barrie in the north, will continue to grapple with these escalating challenges.

This thesis seeks to investigate an alternative transit-oriented urban development strategy for the GGH through reconsidering the role of two predominant planning frameworks; the Ontario Greenbelt and the Province of Ontario's existing transit infrastructures. As a design departure, it will take the Garden City model of urban planning, long the aspiration of suburban developers, as a point of departure, but intensify its urban densities. The thesis will explore the potential evolution of this urban planning model towards a high-density, rapid transit-oriented, and sustainable bounded urban region. As a case study demonstration, this thesis plans to investigate the integration of a Garden City style community around an existing GO commuter rail station situated in a rural area north of Toronto along the 404 highway, the Gormley GO station.

This commuter rail station is presently within the Ontario Greenbelt, a restricted building area in present provincial policy and must be reached by car traffic from a wide surrounding area. The thesis seeks to propose a new model of a dense small town sized GO station-centered community as an alternative to current urban planning policy and restrictions which polarize urban development into low density build and no-build areas and generate extensive car traffic and large commuter parking lots. Despite encouraging limited dense urban development around commuter rail stations, the ultimate thesis goal, however, is to create a new model that will preserve and protect the most valuable lands and boundaries of the Ontario Greenbelt from the current type of extensive piecemeal urban deterioration and that will result from the incremental development pressures presently and steadily nibbling away at the Greenbelt area's ecological integrity.



## 1.1 Methodology & Structure

This thesis is organized into three main sections. The first section, the introduction, looks to define the scope and focus of thesis through a review of the literature and resources relevant to the research and design proposal. This includes a review of texts that denote the evolution of the urban & suburban model of development in North America, theory and precedents that introduce or expand on ideas of green infrastructure and garden cities and the means in which these green infrastructures can be implemented to support positive urban development changes towards sustainable and social cities.

The Second section of this thesis includes a comprehensive analysis of the Greater Golden Horseshoe (GGH) context and the case study site within it. The first subsection of this reviews the policy and catalysts that are active within the GGH including Greenbelt and Natural Heritage protection legislation, regional urban development strategies, and the region's growing commuter transportation network particularly focusing on the Metrolinx GO train system. The second subsection explores the historical narratives of the chosen case-study site, particularly focused on its integrated history with rail transportation, as well as the contemporary situation of the site within the larger regional context. The final subsection examines the various abiotic, biotic and cultural systems and features of the case-study site at varying scales including the regional GGH scale, the municipal Toronto and York Region scale, and the local case-study area.

The final section of this thesis details an urban design proposal for the chosen case-study area of Gormley surrounding the new GO station built in

2016. The project focuses on the design of a middle density, transit oriented, mixed-use community with integrated green space within the existing Oak Ridges Moraine corridors and the existing residential urban fabric of West Gormley. This thesis demonstrates how complete communities focused on pedestrian vitality may be integrated around Greenbelt commuter GO stations while preserving and protecting the most valuable lands and boundaries of the Greenbelt. The thesis champions this model as an alternative to current sprawl residential development patterns in the region.

## 1.2 Literature review

### *The evolution of North American city planning*

North America has, for the better part of a half-century, been dominated by a manner of low-density, de-centralized and segregated land planning strategy resulting in today's prolific suburban sprawl. The introduction of modern planning methods in Toronto brought with it a drive to 'renew' the city's low-density neighbourhoods. However, these downtown urban renewal projects brought with them their own issues. In the 1970's, under the ideas and planning critic of Jane Jacobs, an extreme opposition to the implementation of modern planning principals within the existing fabric of Toronto's built-up core was initiated with an election of the City's Reform Council. This reversal of policy in the City's downtown, focused all future urban growth towards the periphery of the city, where it had been already happening for two decades since the early 1950's. Undeveloped open space and farmlands at the edge of the city became the targeted location for speculative land developers and Modernist planners to develop into new suburban communities. The expansion of the city region's existing urban edges picked up speed and by the late 1970's urban planning in Canada was most-entirely in the form of a low density suburban sprawl.<sup>2</sup>

As of 2017, over 80% of the total Canadian population was living in urbanized areas and this has not abated in the three years to the present. This trend, combined with increasing dependencies on the automobile, has placed an exceptional burden on Canada's existing infrastructure and transportation

2. Sewell, John. *The Shape of the City: Toronto Struggles with Modern Planning*. Toronto: University of Toronto Press, 1993. p. 94-96.

systems. To the average Canadian this pressure makes itself known in the daily traffic congestion faced by commuters, in housing affordability as builders struggle to keep up with the ultimate social desire for single family homes, and in the extensive natural and economic resource depletion crises facing our cities in the expanding urban regions. To date, despite the expansion of commuter rail and LRT planning, the principal means of combating the urban issues related to deficient mobility has been to continually expand and lengthen the already pervasive highway and roadway systems in Canada, and especially in the GGH. However, this approach has limits as well as well and it only serves to promote the usefulness of car travel in a low density suburban fabric, and it worsen the magnitude of suburban sprawl that consumes much of the natural landscapes in the surrounding urbanizing regions.

Since World War II the majority of urban area in the GGH was design and built, or modified, for automobile use. The boom in automobile ownership following the end of the war offered increased access to personal mobility and made public transit systems wholly avoidable. The region's current auto-centric transportation system, and network of highways and superhighways has stifled the efficiency of the regions mobility. Congestion, continual preservative and expansive construction have all but halted the movement of people and goods within the urban landscape.<sup>3</sup> Wide-scale reliable rapid transit is key to overcoming these issues in the GGH, and the regional cannot achieve its sustainable community goals without it. Traditionally, the design and implementation of transportation systems in the corridor has been the responsibility of engineers, planners and politicians, resulting in transit

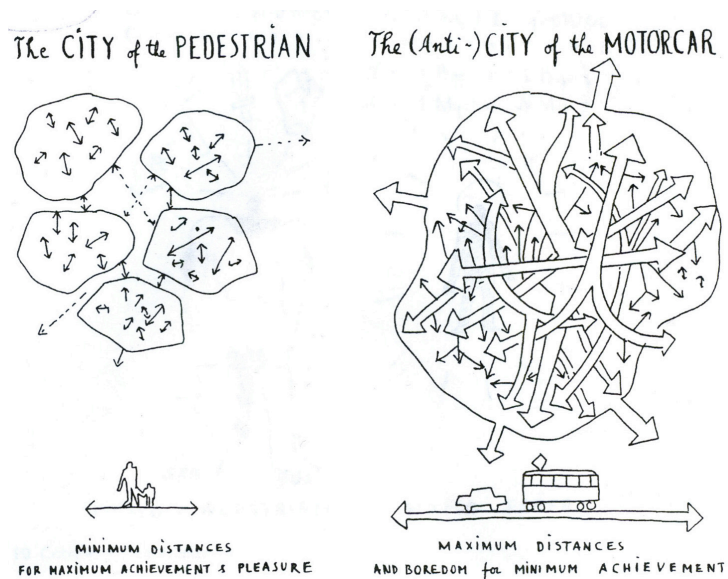
3. Lorinc, John. *The New City: How the Crisis in Canada's Urban Centres is Reshaping the Nation*. Toronto: Penguin Canada, 2006. p. 103-106.

While eliminating the car as a mode of transport is socially, political and economically impracticable, attractive alternatives to auto-centric travel such as improving rapid & frequent regional transit systems have been suggested to be catalysts for revitalizing regional travel in the GGH.

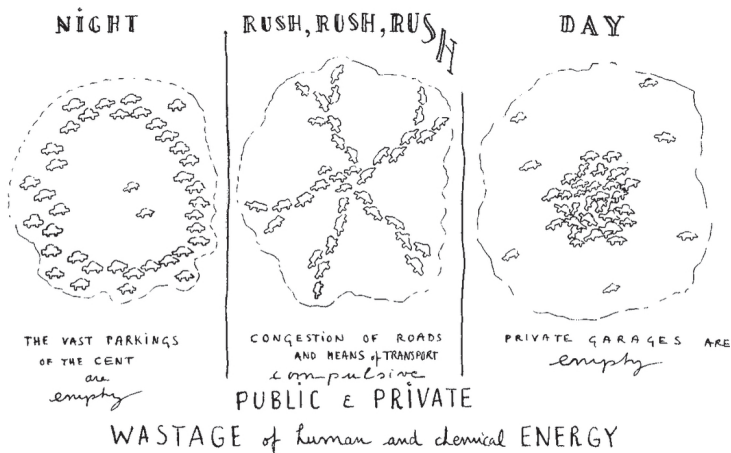
Literature and research investigating the social, economic, and environmental detriments of auto-centric city planning are extensive. The importance of urban sustainability and the challenges facing modern cities was well highlighted in the 1960's by Jane Jacobs in *The death and Life of Great American Cities*. Yet, despite Jacob's strong critiques and cautions these challenges have yet to be adequately addressed and still persist today, having since continued to grow in magnitude and intensity as populations increase and cities move towards increasingly urban settlement patterns. John Lorinc, a Canadian journalist, points out in "The New City", that recently the growth of suburban neighborhoods has changed gears from typical bedroom communities toward high-growth employment centers coined as "edge cities" by Journalist Joel Garreau. Edge cities have become attractive alternative to city-dwellers that can no longer afford to live in traditional downtown neighborhoods and are driving up real-estate prices at unprecedented rates. They have also inspired a new suburb to suburb commute that has heavily elongated commute times and resulted in deteriorating city's air quality as well as spatial qualities.<sup>4</sup> The long-term consequences of such unproductive development patterns and policies, through which we have created unhealthy and inefficient cities, are the rapid consumption and depletion of the Cities resources.<sup>5</sup>

4. Garreau, Joel. *Edge City: Life on the New Frontier*. New York: Doubleday, 1991. p. 80.

5. Lorinc, John. *The New City: How the Crisis in Canada's Urban Centres is Reshaping the Nation*. Toronto: Penguin Canada, 2006. p. 97-99.



MOTORIZED ~ TRAFFIC  
THE EFFECTS OF FUNCTIONAL ZONING



Beyond the extensive propagation of urban sprawl, the challenges presented today due to the proliferation of car travel are evident in the inefficient land-use practices by cities and provinces as well as the isolation and separations created by auto-centric zoning traditions. Cities, particularly those that primarily developed in the post-war period following the end of World War II, abandoned the traditional inherited 'European' notions of the street and public space in favor of car-oriented planning strategies. In the auto-centric city the car eliminated the extents of distance, simultaneously eliminating the space between destinations and any space not intent for experience with one's vehicle.

Leon Krier is critical of this approach to city planning, arguing for the development of cities made up of walkable communities and intermixed diversified programming. He is particularly critical of the "hyper-growth" that characterizes modern cities and regions, like the GGH, and the functionalist zoning practices that fragment the urban fabric and social spheres of cities.<sup>6</sup> Where today cities grow without bounds spurred on by the limitless extents of road construction, Krier maintains that cities function like an organism that can only grow so large before becoming a monstrosity. "We should realize that the right form of the city exists only in the right scale"<sup>7</sup> When a city reaches maturity, growth should occur through reproduction rather than expansion.

Fig 1.02 "The City of the pedestrian", "The (anti-)City of the motorcar", and "Motorized Traffic - The Effects of Functional Zoning", by Léon Krier

6. Krier, Léon, Richard Economakis, Demetri Porphyrios, and David Watkin. Leon Krier, *Architecture & Urban Design*, 1967-1992. London: Academy Editions, 1992, p. 8.  
7. Krier, Léon. "The City within the City." *Architectural Design* 54, no. 7 (1984): p. 70-105.

## The Garden City & The Greenbelt

The Greenbelt concept originated in pre-industrial revolution Britain as a means to protect agricultural lines and food supplies for larger cities. In 1902, Ebenezer Howard's garden cities idea promoted the integration of greenbelts surrounds to improve the quality of life within the cities by providing amenities and recreational areas.<sup>8</sup> The garden city movement, inspired by Howard, was a direct response to the rise of large industrial cities and a first attempt to reunite country and town. In *The Garden City*, Stephen Ward describes Howard's proposals that first appeared in *To-morrow*; a peaceful path to Real Reform "a comprehensive vision of social and political reform involving the gradual transformation of the existing concentrated cities into a decentralized but closely interrelated network of garden cities, collectively called the social city."<sup>9</sup> In Howard's proposal, an individual garden city would be built on a basis of co-operative action and house a population of 30,000; 32,000 including the agricultural residents within the surrounding greenbelt.<sup>10</sup> While these features would come to define the Garden City they were not necessarily original ideas – Howard's intent was to achieve a 'unique combination of proposals' primarily concerned with the practicalities of achieving such a garden city.<sup>11</sup>

The city plan was conceived on a circular basis with program distributed within larger zoning belts. Service and public buildings at the center, ringed with a residential belt with the railway and factories on the perimeter, followed by

8. Hanley, Nick and Jacqui Knight. "Valuing the Environment: Recent UK Experience and an Application to Green Belt Land." *Journal of Environmental Planning and Management* 35, no. 2 (1992): 145-160.
9. Ward, Stephen. *The Garden City: Past, Present and Future*. London: Taylor & Francis Group, 1992, p.2.
10. Howard, Ebenezer. *Garden Cities of to-morrow being the Second Edition of "to-morrow: A Peaceful Path to Real Reform"*. Project Gutenberg, 2014, p.24
11. Ward, Stephen. *The Garden City: Past, Present and Future*. London: Taylor & Francis Group, 1992, p.2.

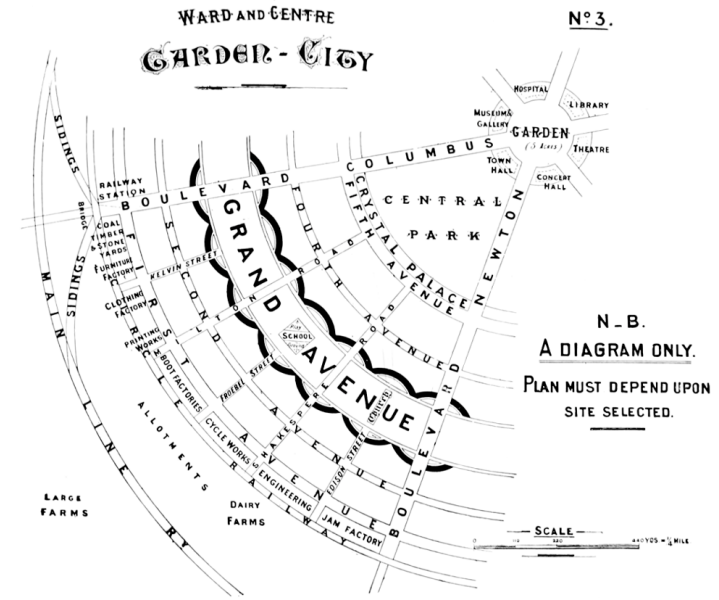


Fig 1.03 The Garden City Ward and Centre Diagram, by Ebenezer Howard

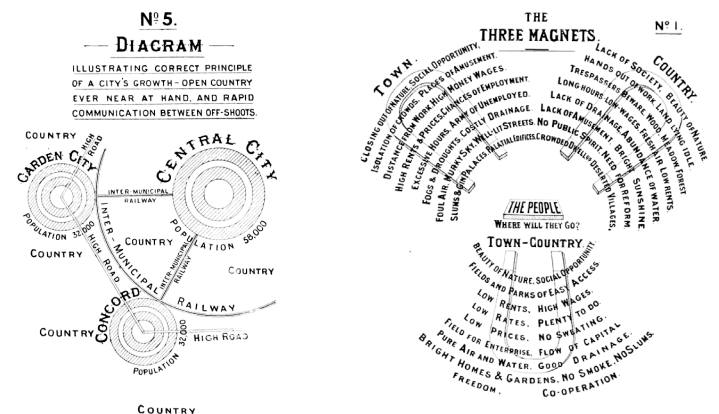


Fig 1.04 Principle of A City's Growth, by Ebenezer Howard

Fig 1.05 The Garden City "The Three Magnets", by Ebenezer Howard



Fig. 1.06 Looking down on Don Mills in 1968.



Fig. 1.07 Don Mills Curling Rink - Toronto Star Archives



Fig. 1.08 Don Mills, 1968 - Toronto Star Archive

the greenbelt. What this thesis is most interested in exploring from Howard's Garden City model is the incorporation of the greenbelt area and integration of railway networks to facilitate sustainable growth within the city boundary.

One key function of the greenbelt in the Garden City plan was to identify city edges and draw boundaries for urban growth. They have since been commonly used in Europe, North America, Asia and 'have become synonymous with urban containment because they are often employed as barriers to urban sprawl'.<sup>12</sup> It has been further discussed and argued by Frey that 'the greenbelt is now used as a modern version of the town wall with the main objective to contain the city's development and to preserve the country in the immediate surrounding primarily for recreational purposes'.<sup>13</sup> Ward points out that the garden city may provoke a "Massive movement of population to the countryside [that] would reduce densities and land values in the overcrowded cities and facilitate their complete reconstruction."<sup>14</sup> In this way the Garden cities are not limited to producing positive sustainable change within the bounded wall of the city alone but have potential to share this growth with adjacent urban areas as well.

### *Don Mills*

The Garden City movement inspired a number of different settlements in North America, including in Ontario. Don Mills, a district of Toronto, was one such Garden city settlement developed between 1951 and 1965 by industrialist E.P Taylor and was planned by Harvard student Macklin Hancock. Hancock

12. Nelson, Arthur C. "A Unifying View of Greenbelt Influences on Regional Land Values and Implications for Regional Planning Policy." *Growth and Change* 16, no. 2 (1985): p.43.

13. Frey, H. W. "Not Green Belts but Green Wedges: The Precarious Relationship between City and Country." *Urban Design International* (London, England) 5, no. 1 (Jun, 2000): p.18.

14. Ward, Stephen. *The Garden City: Past, Present and Future*. London: Taylor & Francis Group, 1992, p.41.



employed several garden city planning principals, including the separation of program and divisions of neighbourhoods, the integration of industry within the community as well as the creation of a greenbelt linked to the community's park network in an attempt to unify the community with nature once again. John Sewell comments on the Don Mills in *The Shape of the City* that "While Hancock delivered innovations in land-use planning, it was Taylor's skills as an entrepreneur and developer that made the plan so very successful. Taylor came up with radical new concepts in land development that ensured the spread of this new urban form."<sup>15</sup> The town is widely considered to be a success.

### *The Pedestrian Pocket*

Nearly 90 years after Howard's Garden City was first established, architect and urban designer Peter Calthorpe developed the Pedestrian Pocket; "an alternate model for suburban development that seeks to modify settlement patterns in urban fringe areas, from blanketing low-density sprawl to networks of villages."<sup>16</sup> The Pedestrian Pocket is a Transit Oriented Development strategy that starts to build off of the key ideas outlined in the Garden City movement. It relies on four key concepts; low-rise high density housing, mixed-use main street, light rail transit and a back office all linked by rail to existing town centers as well as other pockets.<sup>17</sup> In both name and principal, the strategy looks to prioritize the pedestrian within the urban fabric. While, the pocket design does accommodate the car as well as transit and parking, the condensed walkable nature of the pocket lends itself to the pedestrian, thereby redirecting movement towards more sustainable modes.

15. Sewell, John. *The Shape of the City: Toronto Struggles with Modern Planning*. Toronto: University of Toronto Press, 1993. p.93.

16. Girling, Cynthia. "The Pedestrian Pocket: Reorienting Radburn." *Landscape Journal* 12, no. 1 (1993): p.40.

17. Kelbaugh, Doug. *The Pedestrian Pocket Book : A New Suburban Design Strategy*. New York, NY: Princeton Architectural Press in association with the University of Washington, 1989. p.x.

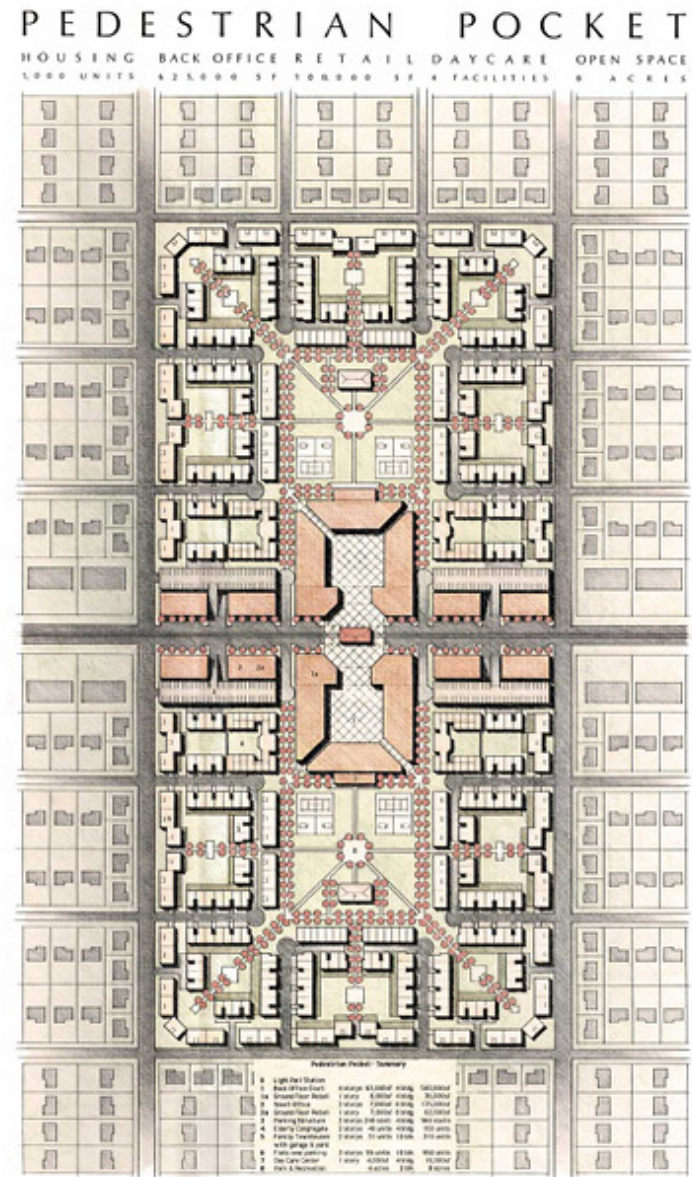


Fig 1.09 Pedestrian Pocket Illustration

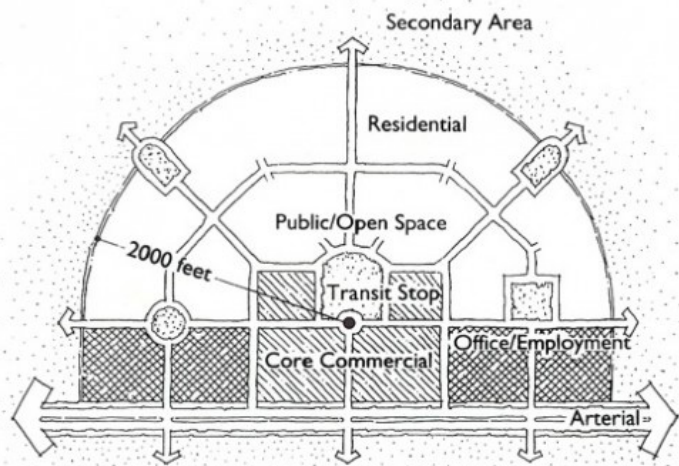


Fig 1.10 Peter Calthorpe's Pedestrian Pocket Diagram

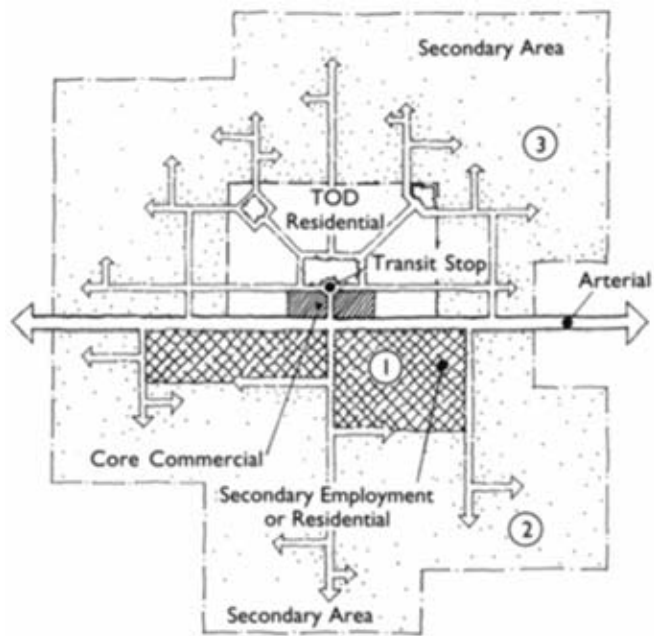


Fig 1.11 Peter Calthorpe's Transit Oriented Development Diagram



## ***2.0 Greater Golden Horseshoe Context***



Fig. 2.01 Farmer's Fields South of 'New Gormley'



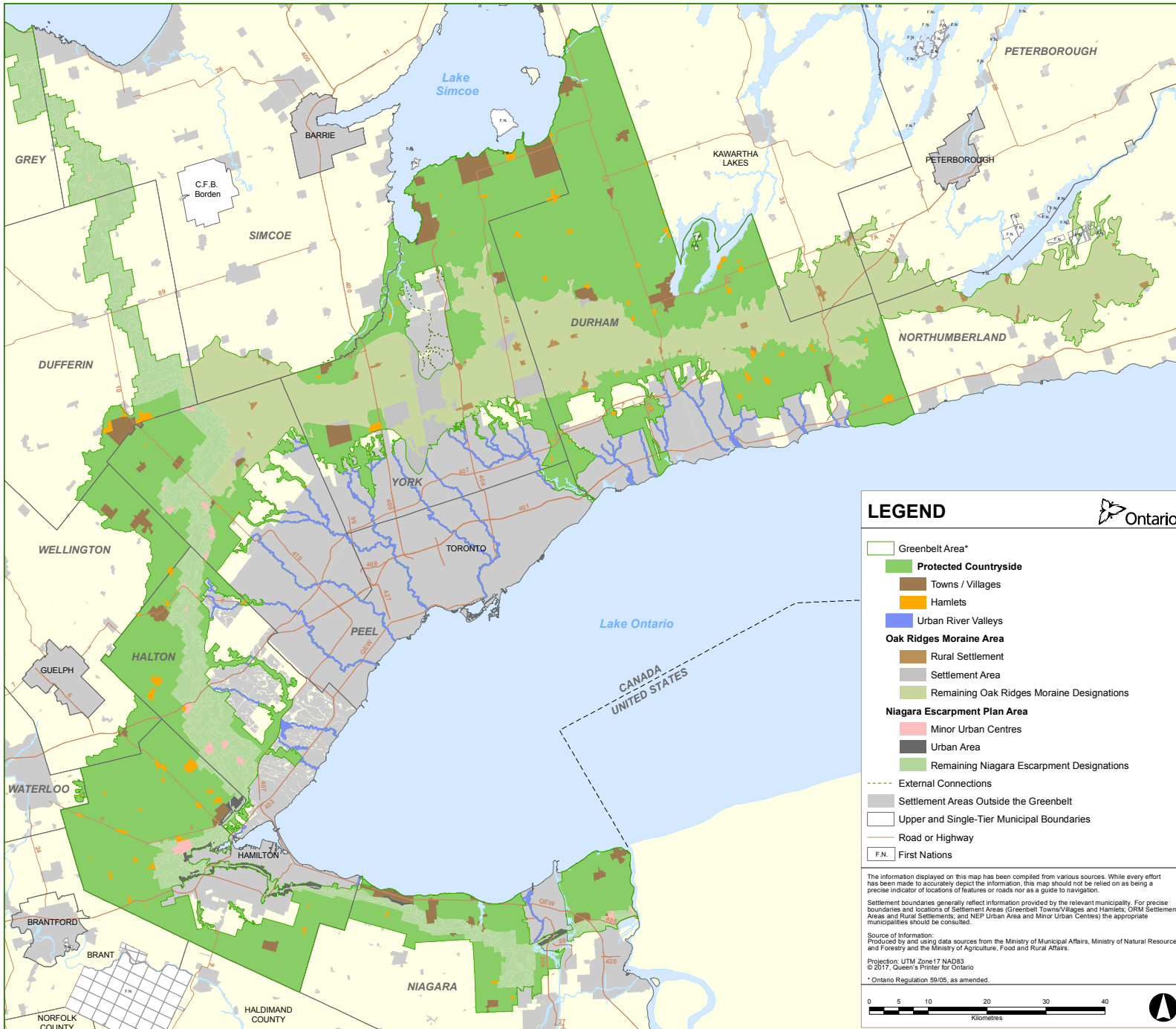


## 2.1 Policy and Catalysts

Dominated by a low density urban sprawl growth model since post-WW2, the Greater Golden Horseshoe (GGH) has expanded rapidly without limitation resulting in extensive exhaustion of open and greenfield lands. This rapid depletion of valuable green space has not gone unnoticed, between 2005 and 2008 the Ontario Government enacted three significant policy initiatives directed at preserving existing agricultural and open space areas as well as moving cities toward more sustainable urban form. These policies included The Greenbelt Act of 2005, The Places to Grow Act of 2006, and The Big Move of 2008. These three legislative acts together form a more sustainable framework through which all new urban growth would occur.

In conjunction with the Greenbelt legislature, Ontario's planned transit infrastructure projects will also have significant impact on the evolution of urban form in the GGH. Metrolinx, Ontario's governing transit authority, has developed and expanded a regional transit plan that includes several high order transit improvements targeted towards developing "a sustainable transportation system that is aligned with land use, and supports healthy and complete communities. The system will provide safe, convenient and reliable connections, and support a high quality of life, a prosperous and competitive economy, and a protected environment."<sup>1</sup> These improvements have the potential to aid in the transformation of the GGH's urban form and desirability as well as provide the opportunity to consider the relationship of these transit projects to their cities and the greenbelt.

1. Metrolinx. (2018). *2041 Regional Transportation Plan for the Greater Toronto and Hamilton Area*. p.iv.



# greenbelt

PLAN 2017

**Appendix II:**  
Schematic showing settlements within Greenbelt Area

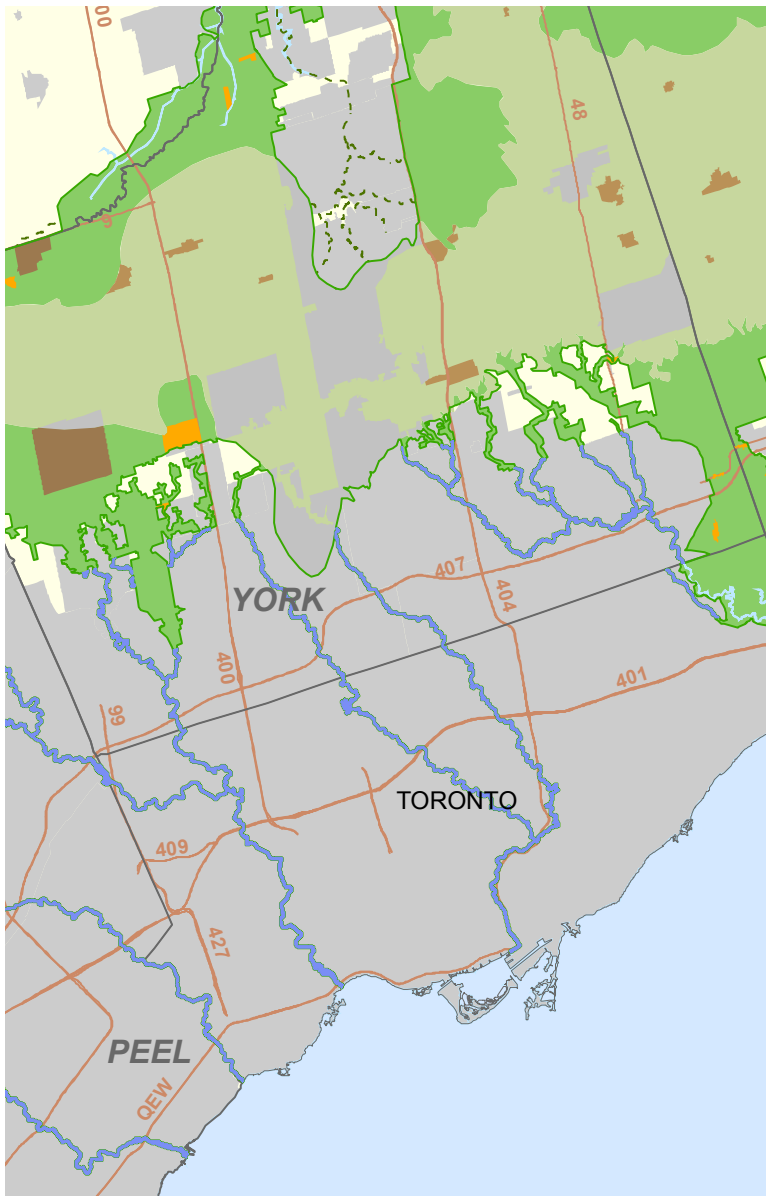


Fig 2.02 Greenbelt Plan (The Greenbelt Plan 2017)

### *The Greenbelt Act*

The Greenbelt Act of 2005 initiated planning reform in Ontario by protecting 1.8 million acres of sensitive land from development. This land was designated as the Greenbelt – an arching swath of land that formed a containment ring around the ever-expanding GGH. This move was directly aimed at limiting the extensive reach of urban sprawl in the region and establish a clear boundary for new growth. The southern boundary of the Greenbelt left a limited amount of land between the already urbanized area of the GGH and the newly protected land; this area is known as the Whitebelt.

The Whitebelt was intended to act as a buffer between the two opposing lands and swallow the current urban growth of the city while the city concentrated on developing sustainable growth plans focused on intensifying existing urban areas.<sup>2</sup> However, with urban growth showing no signs of changing direction or slowing down, the Whitebelt has been rapidly depleting since its inception. As the built area of GTHA continues to grow, applying increasing pressure on this boundary it becomes clear that an alternative means for urban growth is required.

2. Tomatly, Ray, and Bartek Komorowski. *Inside and Out: Sustaining Ontario's Greenbelt*. PDF. Toronto: Friends of the Greenbelt Foundation, 2011, p.2-4.



## *Places to Grow Act*

The Places to Grow Act that followed the Greenbelt Act provided a framework for the coordination of a range of municipal planning decisions directed towards achieving 'complete communities'.<sup>3</sup> This range of issues included infrastructure, transportation, as well as land-usage and urban form, whose coordination could strengthen the social, economic, and environmental health of cities in the region. In support of the previous Greenbelt Act, the Ontario growth plan outlines provincial policies to directly confront the regions urban issue. The Places to Grow Act included requirements for urban development including that "By the year 2015 and for each year thereafter, a minimum of 40 per cent of all residential development occurring annually within each upper-and single-tier municipality will be within the built-up area".<sup>4</sup> This intensification strategy was adopted to address "86% of the net new residents added between 2001 and 2011 were housed in new suburban subdivisions built on greenfield sites".<sup>5</sup>

3. Ontario. (2020). *A Place to Grow: Growth Plan for the Greater Golden Horseshoe, Office Consolidation 2020*. p.3.
4. Ontario. Ministry of Public Infrastructure Renewal. (2006). *Growth Plan for the Greater Golden Horseshoe 2006*. p14.
5. Burchfield, Marcy, Vishan Guyadeen, and Anna Kramer. *Growing Pains : Understanding the New Reality of Population and Dwelling Patterns in the Toronto and Vancouver Regions*. Ottawa, Ontario: Canadian Electronic Library, 2015. p.9.

### ***The Big Move - Metrolinx***

The Big Move of 2008 was an additional legislative move by the Ontario Government aimed at transforming transportation in the Greater Toronto and Hamilton Area (GTHA) by 2031. The Big Move was later followed up in 2018 by The 2041 Regional Transportation Plan that expands and updates the goals originally set in 2008. Both of these documents outline the desperate need for transit and transportation relief action citing an estimated six billion dollar cost to the region's productivity with a predicted continual increase in lost productivity if mobility is not addressed. The Big Move outlines 13 overarching goals for the proceeding 25 years ranging from reduced carbon footprints, multi-modal integration and connectedness, prosperity and competitiveness, and increased efficiency.<sup>6</sup> These goals are supported by nine Big Moves aimed towards transforming the GTHA transportation system.<sup>7</sup>

While ambitious in its goal-setting, the Big Move was a step towards a much needed broader and consolidated approach to transit planning in the region. The inclusion of transportation policies in the Places to Grow Act is integral to the region's goal for sustainable communities. Historically, transportation plans have been the responsibility of municipalities and have been limited by absent coordination efforts between urban and transportation planning departments leading to the fragmented and inefficient arrangement of systems today. A unified, safe and efficient transit system is an absolute necessity in order to begin to discourage car use and promote consider intensifying growth to establish more sustainable cities.

### ***GO Transit Network***

6. *Metrolinx. (2008). The Big Move: Transforming Transportation in the Greater Toronto and Hamilton Area. p.15-19.*
7. *ibid. p.21.*

The greenbelt is a key component of the region's and province's urban growth containment strategy for the GGH. As mentioned previously, one of the most significant questions North American Cities like Toronto presently face is how and where to accommodate future growth. The Greenbelt plan defines where future development is prohibited – to an extent. But how does Ontario's greenbelt initiative contain urban growth? What are its strengths and challenges? The Ontario Greenbelt represents one of the largest and most significant actions in recent regional planning standards for the GGH however, the full extent of the effectiveness of the measure and the impact on the sustainability of both urban and rural communities is still undetermined.

The greenbelt has enacted protective measures for a large portion of rich agricultural and open space lands from the forces of urbanization. At the same time, it has frozen in place municipal rural land development efforts for towns and cities within the greenbelt and has left room along its most northern boundaries for leapfrog developments.<sup>8</sup> Leapfrog development has been the one of the more significant consequences of the greenbelt plan, where new low density suburban sprawl occurs beyond the limits of the greenbelt outer fringe rather than intensifying existing urban areas as was intended. Simcoe County has been identified a prime example of this kind of development. Suburban growth in Simcoe county where there are few sources of employment has sky-rocketed, indicating a surge in long-distance commuters without access to efficient public transit resorting to driving to work in Toronto or York Region, creating pressure for additional highways through the greenbelt. Effectively squandering a percentage of the progress made by the Greenbelt plan.<sup>9</sup> Furthermore, while the Greenbelt plan has been an essential step in the path forward to a sustainable region, one must be critical of the policy itself as well

8. "Bigger Better Belts." *Alternatives Journal (Waterloo)* 39, no. 2 (2013). p.34-38.

9. *ibid.* p.34-38.

as the reality of under-the-table practices by all parties including municipalities and developers.

In its policies The Greenbelt Plan supports “[all] existing, expanded or new infrastructure ...within the protected country side” provided “it serves the significant growth and economic development expected in Southern Ontario beyond the greenbelt by providing for the appropriate infrastructure connections among growth centres and between these centres and Ontario’s borders”.<sup>10</sup> This objective is essentially a loophole within the greenbelt act to allow for projects such as highways, airports, landfills, quarries and golf courses – to name a few – to be built within the belt. The result being a policy that simultaneously makes large progressive steps forward very loudly while quietly allowing for a ‘business-as-usual’ course toward unsustainable development. This illustrates the ways in which the region’s contradictory legislature and policy-making ultimately self-sabotages their principal environmental commitments.<sup>11</sup> However, conservation should not necessitate the termination of urban growth. If concessions must be made, there should be discussion related to the productivities of these concessions within the larger sustainability goal.

10. Ontario. Ministry of Municipal Affairs and Housing. (2017). *Greenbelt Plan 2017*. p39-40.

11. Wekerle, Gerda R., L. A. Sandberg, Liette Gilbert, and Matthew Binstock. “*Nature as a Cornerstone of Growth: Regional and Ecosystems Planning in the Greater Golden Horseshoe.*” *Canadian Journal of Urban Research* 16, no. 1 (2007): p.21.

## Ministerial Zoning Orders

One particular concern for greenbelt and natural heritage preservation is the use of Ministerial Zoning Orders or MZO's too fast forward development in the region. The area of land that this thesis focuses on around the Gormley station was included in an MZO requested by the Richmond Hill Council in 2020 to rezone and open these lands for industrial uses. The request was denied stating that the Provincial government was unwilling to consider the opening of those protected lands at this time through an MZO. That being said, the current Ontario Government has awarded 45 MZO's since taking office in 2018, more than double the total MZO's issued over the last 15 years, many of which have be awarded to developers who donated notable sums to Doug Ford's 2018 Campaign. And while none of these MZO's have touched the Greenbelt yet, they have allowed development to move forward on several protected wetlands and woodland areas including a new go Station.



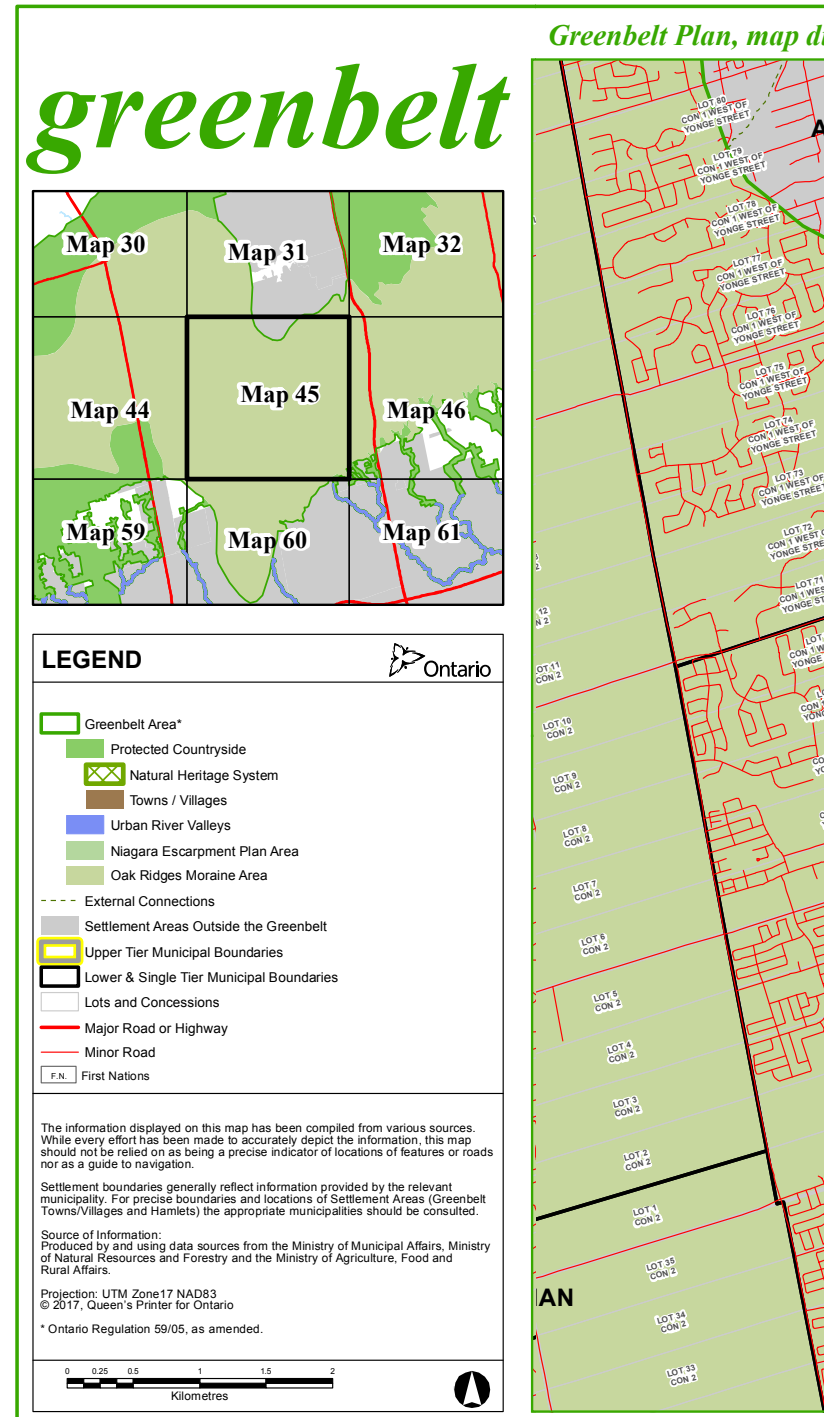
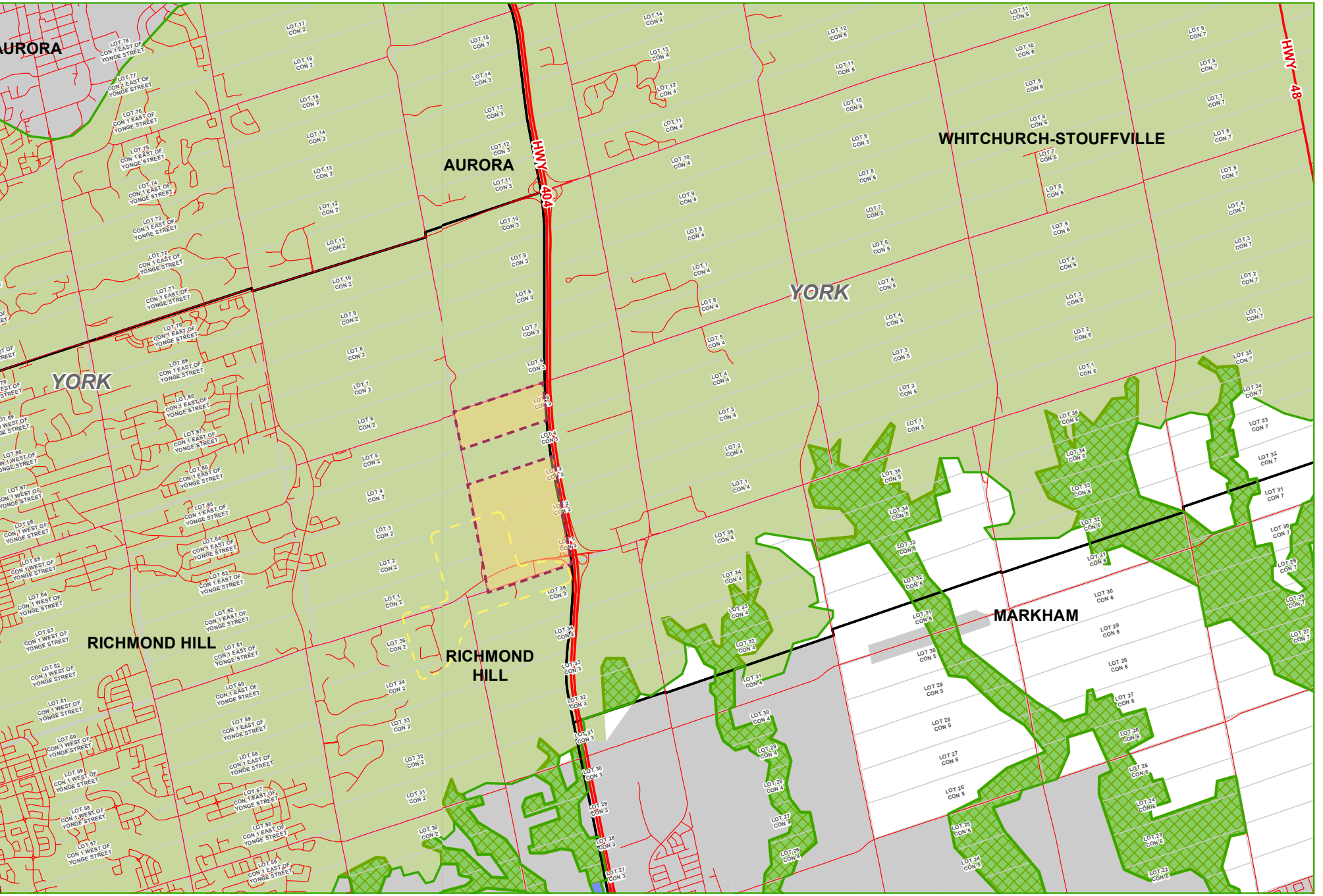
-  MZO Subject Lands
-  Local Site

Fig 2.03 Greenbelt lot division map with Richmond Hill MZO lands and Case-Study Area Boundary



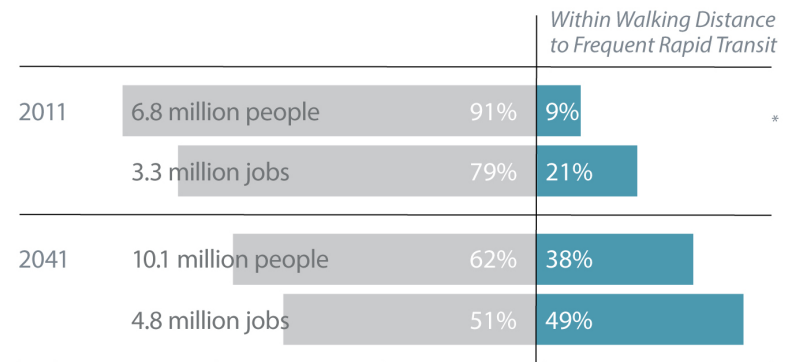


It is evident that The Big Move initiated an impressive investment period in the region with over \$30 Billion dollars being spent on transit initiatives. This was responsible for the expansion and improvement to transit systems across the GTHA including the UP express, BRT systems, and the transformation of the Go Transit service. Go Transit, once solely a commuting platform, now functions as a two-way, all day travel service with some lines boasting 15-minute train frequencies. While GO Transit still has its flaws, this significant investment as well as future expansion plans have pushed it in the right direction towards becoming a rapid and reliable mass public transit system. It is clear that in many areas of the region, improvements to the existing transit system are necessary before more intensification can take place because the existing routes are at capacity or otherwise insufficient. In response to this reality Metrolinx has introduced The Regional Express Rail Program projected to “[transform] today’s GO rail system from a commuter-focused service into one that offers frequent two-way, all-day service” aimed at more than doubling the number of GO Transit riders by 2031.<sup>12</sup> Through continued provincial investment GO transit has the potential to function as the underlying structure for the GGH’s future mobility.

One reason this thesis focuses on the area around Go Train Stations is an acknowledgment of the vast reach of the Metrolinx commuter network in the region. The GO Service has grown rapidly since Metrolinx was established in 2006 and is expected to continue to grow in ridership with new rail network expansions in the next 20 years where they are expecting to increase weekly GO Train trips from 1500 weekly to more than 6000 by 2041.

**Future of the Ontario Greenbelt**

12. Metrolinx. (2018). 2041 Regional Transportation Plan for the Greater Toronto and Hamilton Area. p.24.



\* Walking Distance is 400 m from Priority Bus, BRT and LRT lines, and 800 m from subway and 15-minute GO stations

Fig 2.04 Residents and Jobs Within Walking Distance of Frequent Rapid Transit

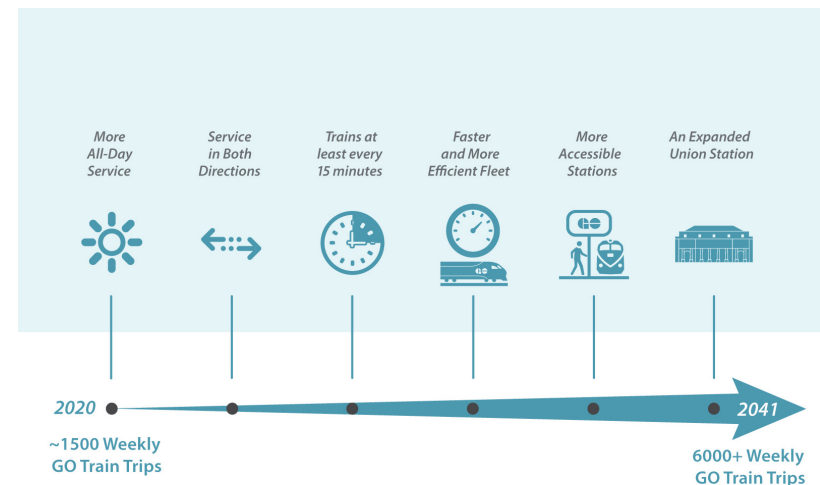


Fig 2.05 Increase in Weekly GO Train Trips by 2041

### Go Train Network Expansion

- GO Train
- - - GO Train - Future
- Subway
- - - Subway - Future
- Light Rail Transit (LRT)
- - - Light Rail Transit (LRT) - Future
- Bus Rapid Transit (BRT)
- UP Express

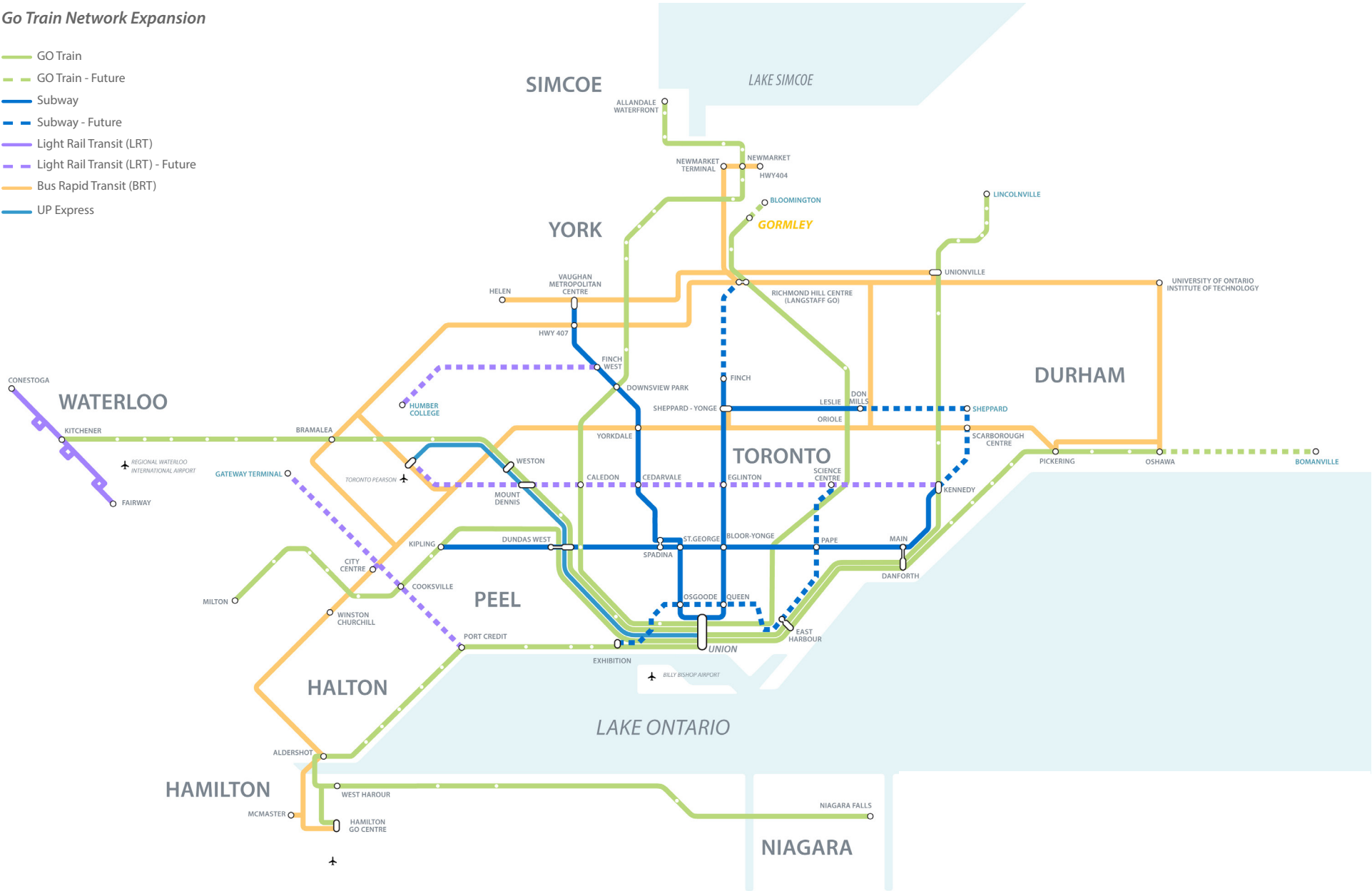


Fig 2.06 Go Train Network Expansion by 2030



### GO Transit Parking Expansions

But with that increase in ridership, and the regions expected population growth, demand for parking at Go stations will likely be at an all-time high by 2041 given that Park-and-ride commuters make up more than 60% of all GO Passengers. This will likely result in expansive parking infrastructure growth at and around go stations including the Gormley GO as their parking demand forecast is indicated to be high.

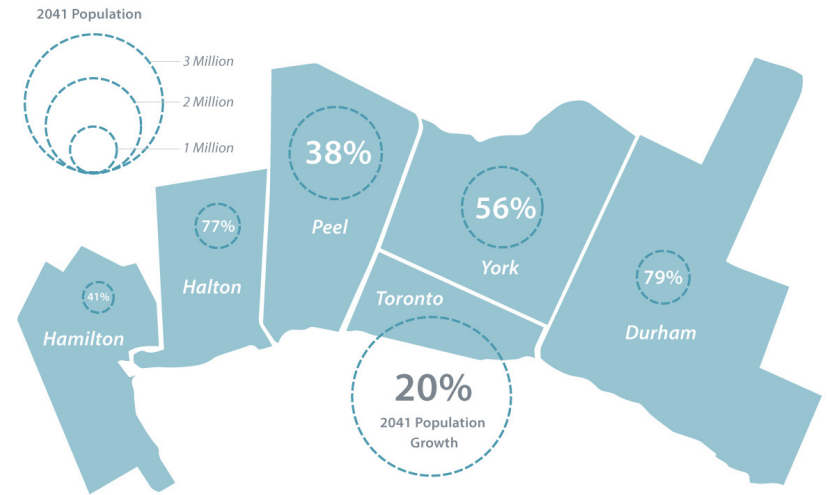


Fig. 2.07 Population Increases by 2041 in the Greater Golden Horseshoe Area

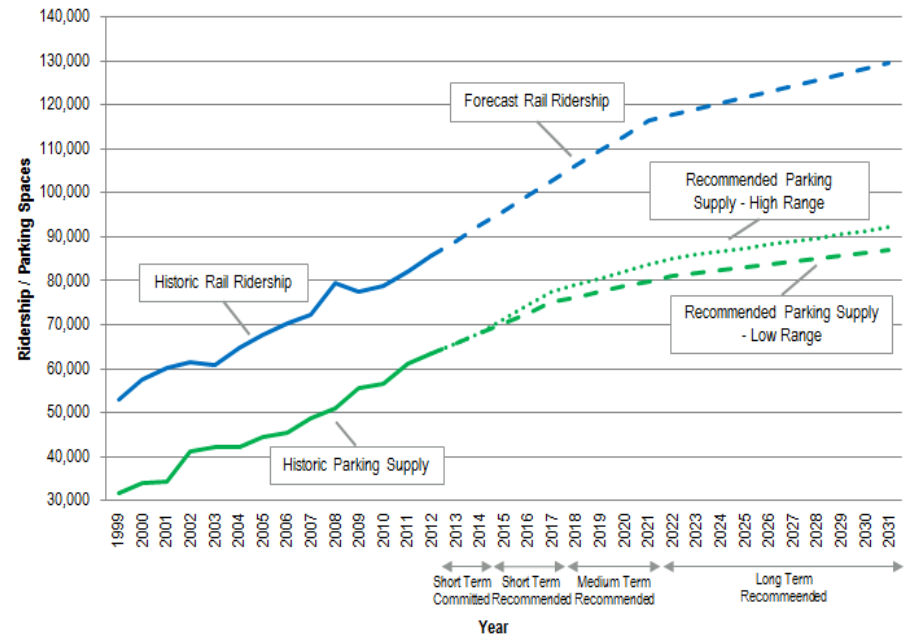


Fig. 2.08 MetroLinx Ridership and Parking supply by 2031

# GO Transit Rail Parking & Station Access Plan

## Strategic Parking Forecasts From 2014

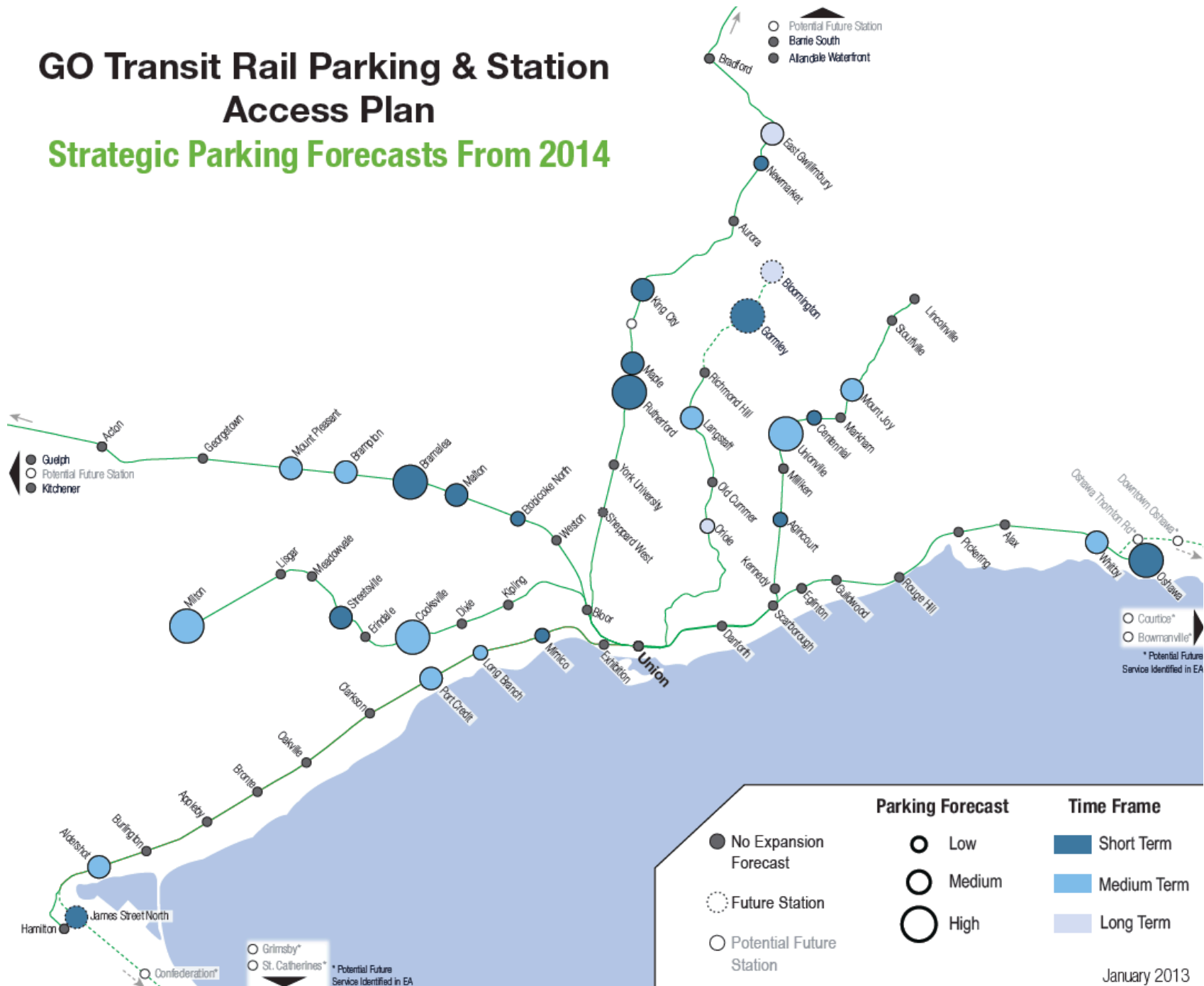


Fig. 2.09 Go Transit Rail Parking & Station Access Plan - Strategic Parking Forecast From 2014.

2005

**Aldershot GO**



Area: 18,800m<sup>2</sup>

**Milton GO**



Area: 27,300m<sup>2</sup>

**Richmond Hill GO**



Area: 35,700m<sup>2</sup>

**Mount Pleasant GO**



Area: 18,500m<sup>2</sup>

2018



Area: 52,500m<sup>2</sup> (+279%)  
Parking Supply: 1,641 Spots  
Parking Utilization: 100%



Area: 47,000m<sup>2</sup> (+172%)  
Parking Supply: 1,472 Spots  
Parking Utilization: 100%



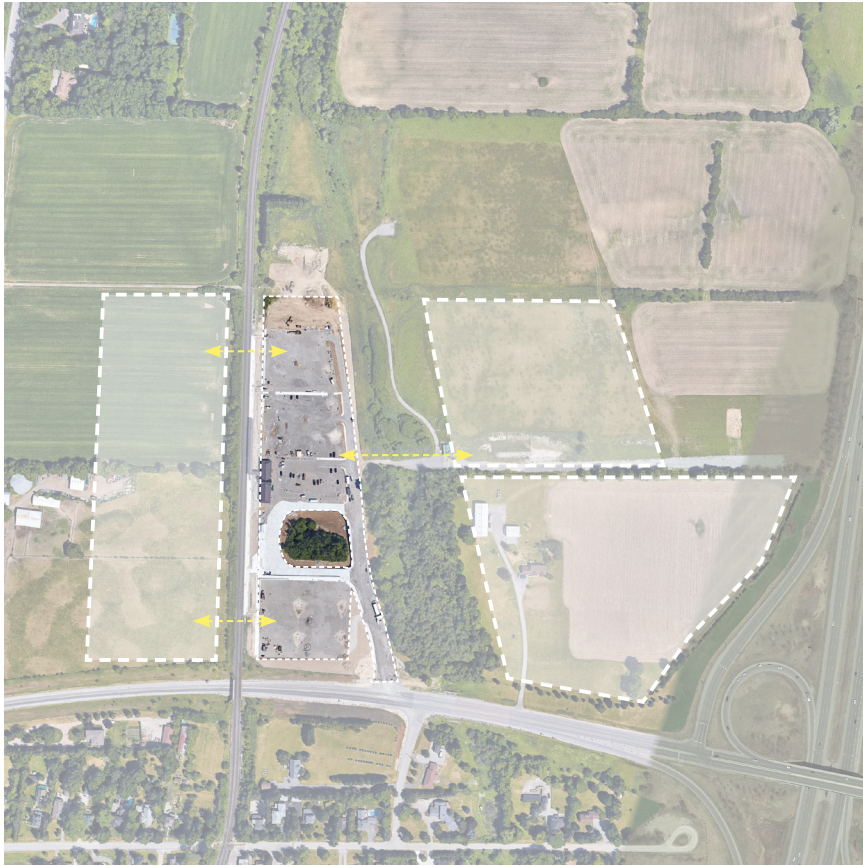
Area: 60,000m<sup>2</sup> (+168%)  
Parking Supply: 2,005 Spots  
Parking Utilization: 100%



Area: 40,400m<sup>2</sup> (+218%)  
Parking Supply: 1,487 Spots  
Parking Utilization: 100%



### Gormley GO - 2018



Area: 32,800m<sup>2</sup>  
Parking Supply: 882 Spots  
Parking Utilization: 82%  
Parking Forecast: High

Parking Growth Around Go stations is nothing new though, from 2005 to 201 most Go stations required additional parking infrastructure, increasing their lot sizes up to 280% and these Go stations are still at full capacity. The Gormley Go station has around 900 spots averaging 82% capacity currently.

Given Gormley's high demand parking forecast, it is expected that in the future the station will be required to expand its lot size much like the other stations. Due to its unique situation between an ORM Linkage watercourse on its east and the rail tracks to the west this expansion will have to leapfrog given that structured parking is unlikely due to its significant cost compared to surface parking. As a result, these lands surrounding the station are at risk of further unsustainable land use development from not only MZO's but also Auto-dependant sprawling infrastructure.

*(Opposite)*

**Fig. 2.10 Go Transit Parking Expansions from 2005 to 2008**

*This diagram illustrates the expansion footprint area increases at GO station Parking lots between 2005 and 2018 as well as their current parking utilization rates that indicate further demand for parking expansion due to ridership increase.*

*(Left)*

**Fig. 2.11 Go Transit Parking Expansion Potential Around Gormley GO Station**

*This diagram illustrates the expansion footprint area potential at the Gormley GO station parking lot due to increasing park-and-ride ridership upping the parking demand.*

## 2.2 Case Study Site

Gormley is a small community, founded in 1854, in the York Region of Ontario, split between the Richmond Hill and Whitchurch-Stouffville municipalities via Highway 404. The old settlement community of Gormley that holds the hamlet's heritage conservation district, small businesses and small industrial area lies East of the 404. East Gormley developed as a small rural community, enriched by the economic benefits of an early 20th century railway station, and the development of local industry that followed. New residential development supported by the introduction of a GO station (Gormley GO) has grown west of the 404, this area is known as New Gormley or West Gormley.

### *Establishment of Gormley*

The original settlement known as Gormley's Corners was first settled by several German Mennonite Families from Pennsylvania located at the intersection of Woodbine Avenue and the Stouffville Side-road in 1854, and was named after James Gormley, the first postmaster who served between 1851 and 1876.<sup>13</sup> At the peak of its prosperity Gormley supported a hotel, store, blacksmith shop, weaver, boot and shoemaker and several rural industries as well as local residences.<sup>14</sup>

13. City of Richmond Hill Public Library. "Rails Through Richmond Hill" in *Early Days in Richmond Hill: A History of the Community to 1930*. Retrieved from <https://edrh.rhpl.richmondhill.on.ca>

14. City of Richmond Hill. *Gormley Heritage Conservation District Study*, 2013. p.15.

Top to Bottom

**Fig. 2.12 Gormley Station From the South**

"Gormley Station from the South," showing the business and industrial centre of New Gormley early in the twentieth century. Buildings include, from left to right, blacksmith shop, David and Jacob Heise's double house, driveshed, railway station, North American Cement Block and Tile Company office (in background), and grain elevator.



**Fig. 2.13 Gormley Station from the North**

An above view of the Gormley station platform that served both local industry and passenger transit.



**Fig. 2.14 Gormley Station at Track Level**

Track level view of the Gormley CNR station depicting milk jugs - one of the corner stone industries in Gormley's history.

**Fig. 2.15 Gormley Station Tracks**

A view of the Gormley Station Tracks and Train passing through from the North.



### *"Gormley Gleanings"*

The town of "West Gormley" is making rapid strides, and it is only a question of a short time till the "old town" will become a sleepy suburb of its western rival. The Gormleyites are rejoicing in the assurance of a regular station on the C.N.O., which is already doing a lot of business there. The company have built stock and hog yards, and carloads of cattle and hogs have been handled. A temporary platform has been built for the convenience of passengers and the loading of milk, the business in which, from present indications, will soon assume immense proportions. Progress is in the air. "West Gormley" lies high and dry, there is abundance of ozone, and plenty of pure water. From the windows and verandahs of its homes can be seen the whole township of Markham and a little of Scarboro, not forgetting Richmond Hill.<sup>15</sup>

- *The Liberal*, March 21, 1907



Top to Bottom

**Fig. 2.16** Cober's store in New Gormley

The local general merchant store in 'New Gormley'.

**Fig. 2.17** View of 'New Gormley' Houses

View of 220 Gormley Street West, with 188 in the background.



### *The Coming of the Railway*

The "West Gormley" of "New Gormley" community, now part of the Town of Richmond Hill was established when the new James Bay Railway line was built through the area west of the original Gormley's Corners settlement. The James Bay Railway Company began construction of the line, which ran from Toronto to Sudbury, between 1905 and 1908 and in 1907 a new station was constructed in "New Gormley" south of Stouffville road. The rail line, later known as the Canadian Northern Ontario Railway before simply being called the Canadian Northern, was an important regional connection from Toronto through Parry sound and north to Sudbury to service the mining region of Northern Ontario as it grew in the early 20th century.

The railway shaped the area greatly, "It was not until the James Bay/ Canadian Northern Railway arrived, however, that New Gormley really started to grow. [...] New Gormley became a busy and industrious community. The early morning train to Toronto brought farmers from miles around with wagons and sleighs loaded with thirty-litre (eight-gallon) cans of milk to be shipped to the city."<sup>16</sup>

The railway shifted the centre of the hamlet towards the intersection of Leslie St and Stouffville Road and the local businesses that relied on the new rail line clustered around the station area along with substantial new housing. New Gormley became a successful and industrious area important to local farmers and business.<sup>17</sup>

15. "Gormley Gleanings", *The Liberal*, March 21, 1907

16. City of Richmond Hill Public Library. "Rails Through Richmond Hill" in *Early Days in Richmond Hill: A History of the Community to 1930*. Retrieved from <https://edrh.rhpl.richmondhill.on.ca>

17. City of Richmond Hill. *Gormley Heritage Conservation District Study*, 2013. p.17.



## Changing Times

Changing regional transportation patterns that favored the widespread use of the automobile began a rise in trucking transportation of goods that eventually overtook rail transport. This combined with new social and economic factors following the end of World War II, the rail station in Gormley fell into disuse and local business and industries faded away with it. With Passenger rail traffic also decreasing in the area the Gormley Station that once contributed greatly to the area's growth and success was closed and demolished by the Canadian National though the Rail line did remain active. Most of the industry that was established during this period has since gone with the exception of a concrete block manufacturing plant adjacent to the rail line south of Stouffville Road.<sup>18</sup>

As noted by the Richmond Hill Conservation District study, "In more recent history, the construction of Highway 404 has divided Old Gormley and New Gormley with a physical barrier, and with the creation of the Region of York in 1971, New Gormley, once split between Whitchurch and Markham Townships, became part of the expanded boundaries of the Town of Richmond Hill."<sup>19</sup> Further to this significant transformation in the landscape of Gormley, a change in the alignment of Stouffville Road which at one time ran through the centre of "New Gormley" was redirected and now arcs around the north edge of the historic settlement removing main flow of traffic and effectively creating a secluded enclave in a transforming urban fabric.<sup>20</sup>

18. City of Richmond Hill. *Gormley Heritage Conservation District Study*, 2013. p.22.

19. *ibid.*

20. *ibid.*



*(Opposite)*

**Fig. 2.18 Rail Crossing through 'New Gormley' Neighbourhood**

*View of the grade pedestrian crossing South of Gormley Station from Gormley Road West to Gormley Court.*

*(Below)*

*Top to Bottom*

**Fig. 2.19 Highway 404 North**

*View of the 404 highway East of the site looking North.*

**Fig. 2.20 Highway 404 South**

*View of the 404 highway East of the site looking South.*





## Present Day

Gormley is presently the last GO Station on the Richmond Hill line, though one additional station, Bloomington GO, is currently under construction to serve increasing demand. The Richmond Hill line offers service between Gormley and Union Station every thirty minutes during peak commuting hours and every hour throughout the off peak periods. However, the public transit connections to and from the station are limited to a single bus that only operates 7 times a day for 9 stops along Stouffville road, thus necessitating automobile usage to access the station. It is clear that the Gormley station was built to serve the automobile without sensitivity to sustainable land-use or transportation strategies. Additionally, neither Gormley nor Bloomington stations have offered any opportunities for transit-oriented development or plans for future integration of other transit networks. These stations currently exist solely to serve the park-and-ride commuter thereby continuing to exacerbate the region's current suburban sprawl problems.

Bridging two different municipalities poses an issue for creating cohesive future planning strategies. The "New Gormley" community currently lies within the Richmond Hill Municipality and is included in the West Gormley Secondary Plan.<sup>21</sup> However, "Old Gormley" is situated within Whitchurch-Stouffville and is addressed by their Gormley Community Secondary Plan.<sup>22</sup> The Secondary plans for Gormley; Richmond Hill in 2010 and the Whitchurch-Stouffville in 2000, were completed before the introduction of the GO Station in 2016. While the station lands do not technically reside within either secondary plan's boundary it would seem prudent for these plans to assess and revise their planning strategies to reflect the opportunities and growth potential by such a change.

21. *West Gormley Secondary Plan. City of Richmond Hill, July 2010.*

22. *Gormley Community Secondary Plan. Town of Whitchurch-Stouffville, September 2000.*



(Opposite, Top to Bottom)

**Fig. 2.21 Gormley GO Station Entrance**

*View of the Gormley Go station parking lot entrance along Stouffville Road.*

**Fig. 2.22 Gormley GO Station Platform**

*View of the Train platform at Gormley GO Station facing South.*

**Fig. 2.23 Gormley GO Station Tracks North**

*View of rail tracks leading North towards Bloomington GO Station.*

(Below)

**Fig. 2.24 Gormley GO Station Tracks West**

*View of case-study site including farmer's fields across from Go Station Track to the West.*

Recently in 2019, The town of Whitchurch-Stouffville submitted a preliminary proposal to “adjust the Greenbelt Area boundary to facilitate a northerly expansion of the urban settlement area boundary in the City of Markham to the northern limit of the existing Gormley Industrial Secondary Plan Area in the Town of Whitchurch-Stouffville for employment growth” within the Town’s proposed Provincially Significant Employment Zones.<sup>23</sup> The Town further proposed establishing a process of “swapping ‘Whitebelt’ areas within the Town to facilitate opportunities for adjusting the Countryside or Protected Countryside Area boundaries in order to accommodate logical settlement area boundary expansions. The Town suggests that the area directly south of the East Gormley area is ‘preferable for a settlement area boundary expansion to accommodate employment development to the year 2041’ or reasons including proximity to existing employment areas, Highway 404, and Markham borders as well as the land’s mostly countryside area designation within the Oak Ridges Moraine Conservation Plan (ORMCP) and Natural Heritage System in the Greenbelt Plan.<sup>24</sup>

23. *Town of Whitchurch-Stouffville. Council Addendum Agenda Meeting October 22, 2019. pg.2. Retrieved from <https://whitchurch.civicweb.net/>*

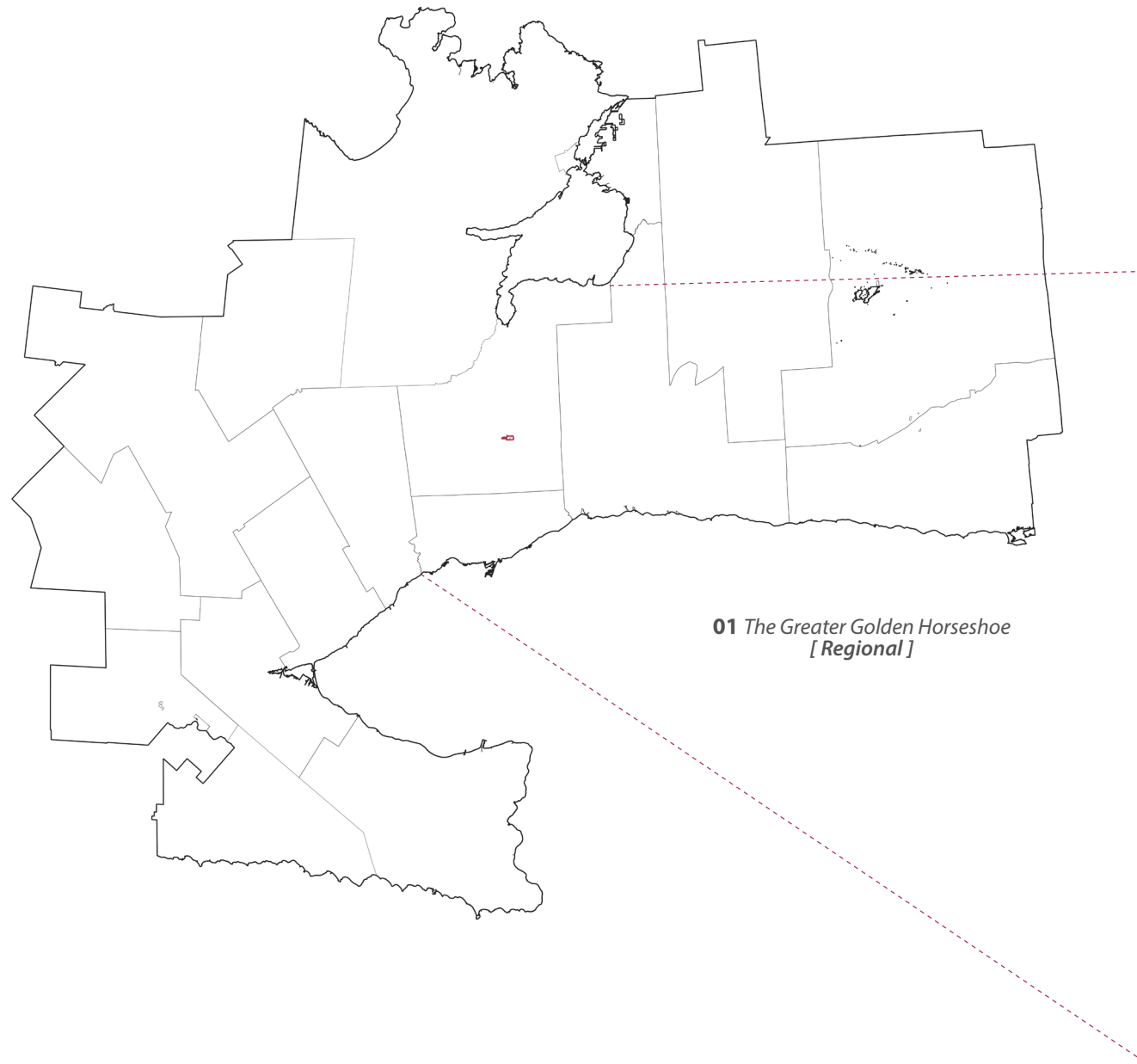
24. *ibid. pg.7.*



## 2.3 Ecosystem Analysis

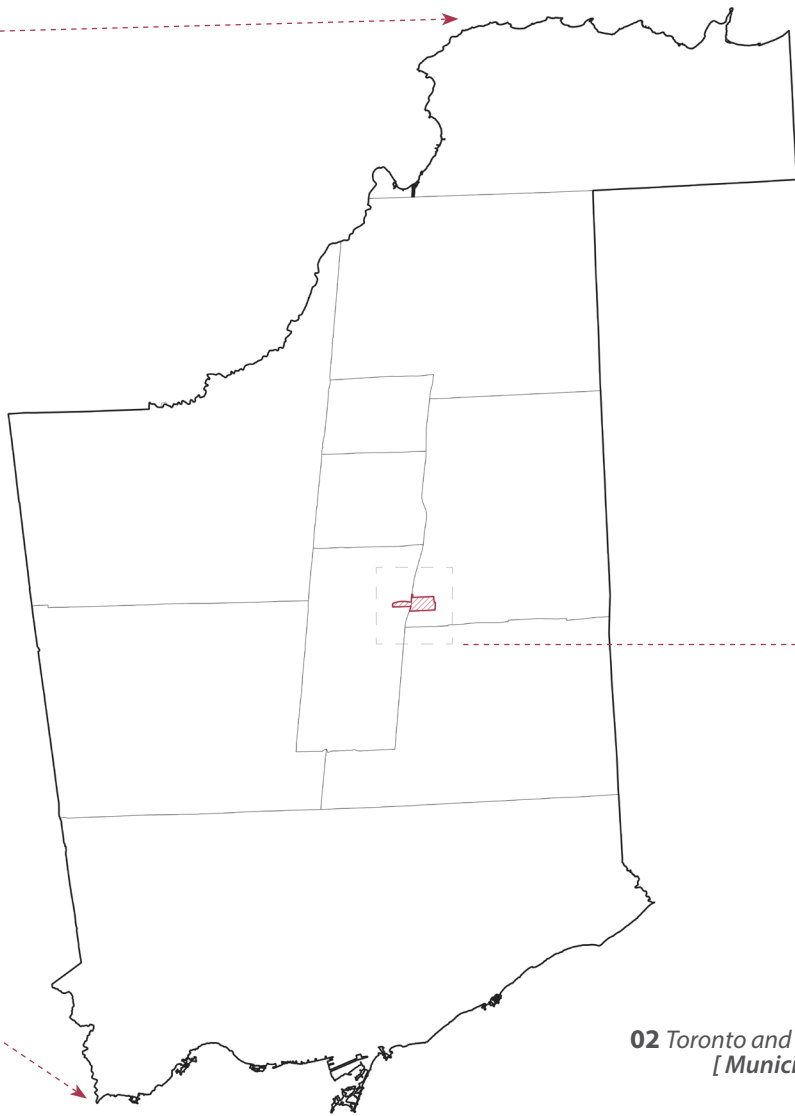
### *Holarchy*

This section focuses on the ecosystem analysis that looked at the ecosystems in the area including abiotic biotic and cultural features at a variety of scales. The first being the regional scale which is at the scale of the Greater Golden Horseshoe (GGH), the second being the Toronto York municipal scale, and the third being the local level and immediate area surrounding the site and the hamlet of Gormley.

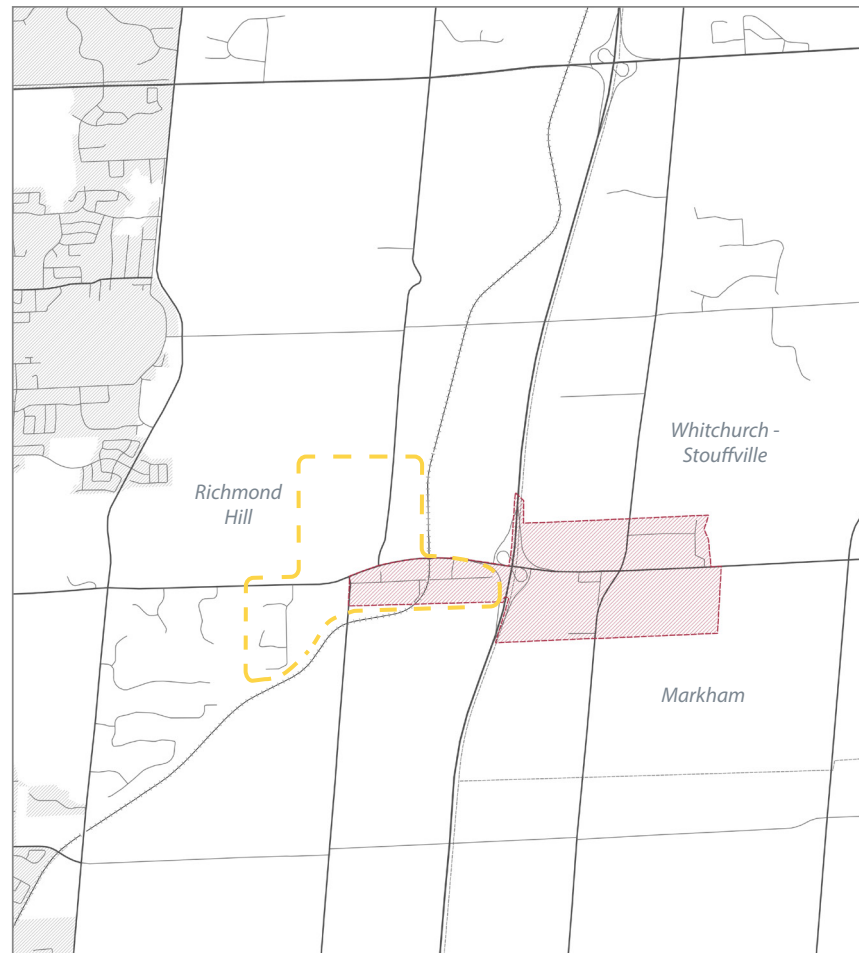


**Fig. 2.25 Ecosystem Hierarchy**

*This diagram illustrates the hierarchy scale of each of the ecosystems that will be analyzed and their connections to wider systems.*

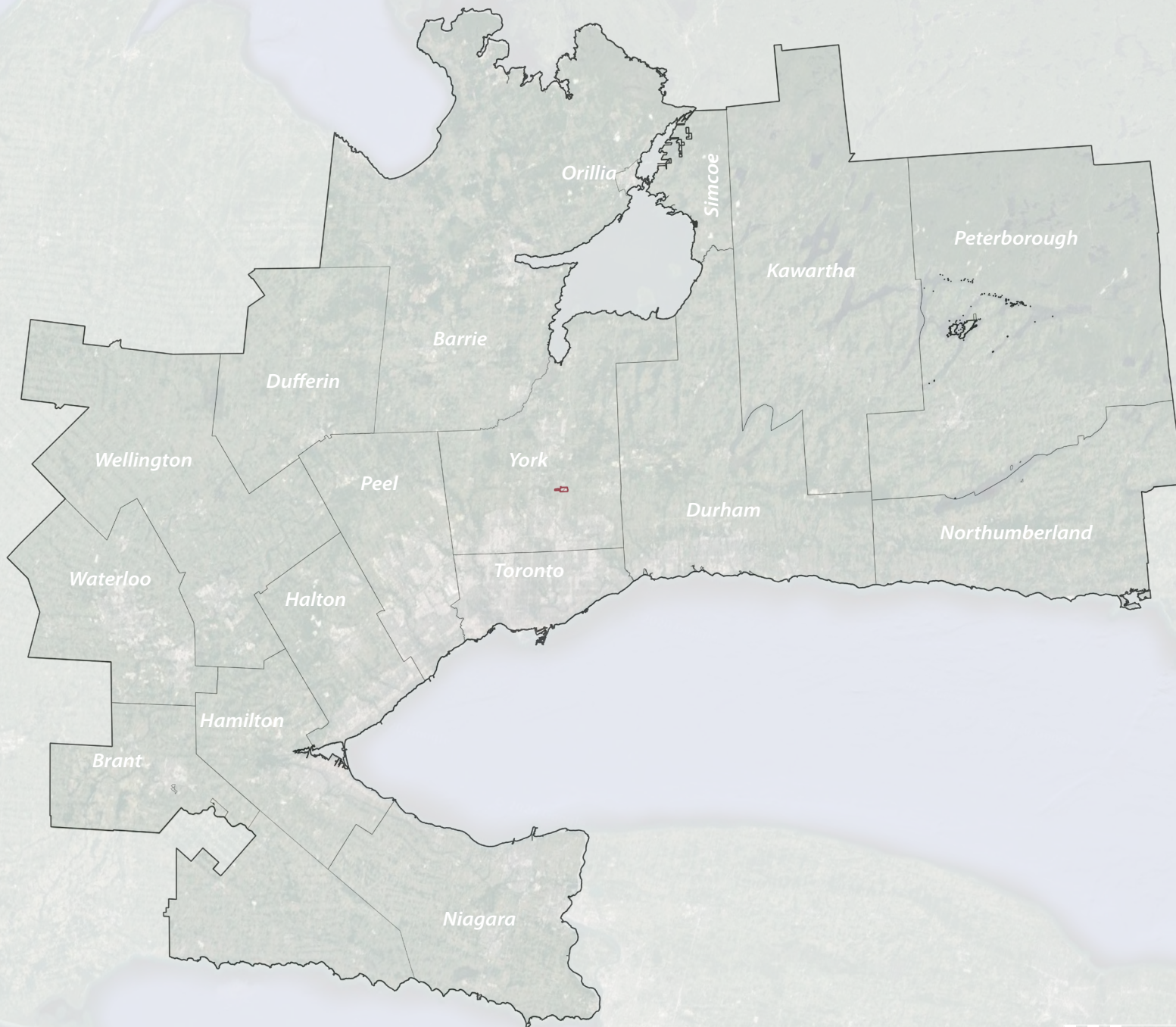


**02 Toronto and York Regions**  
[Municipal]



**03 The Hamlet of Gormley, Ontario**  
[Local]





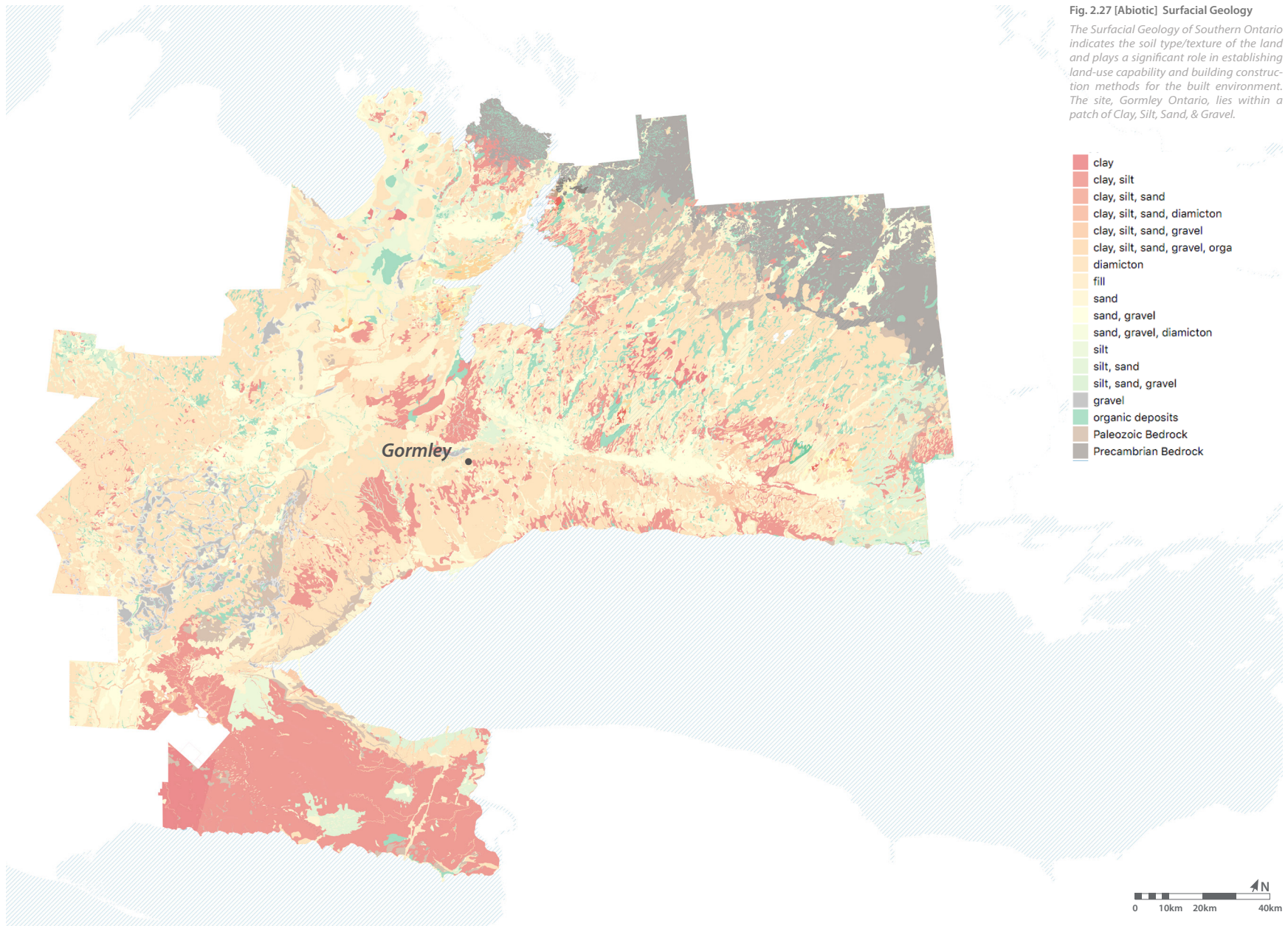
**Fig. 2.26 Regional Ecosystem Scale**

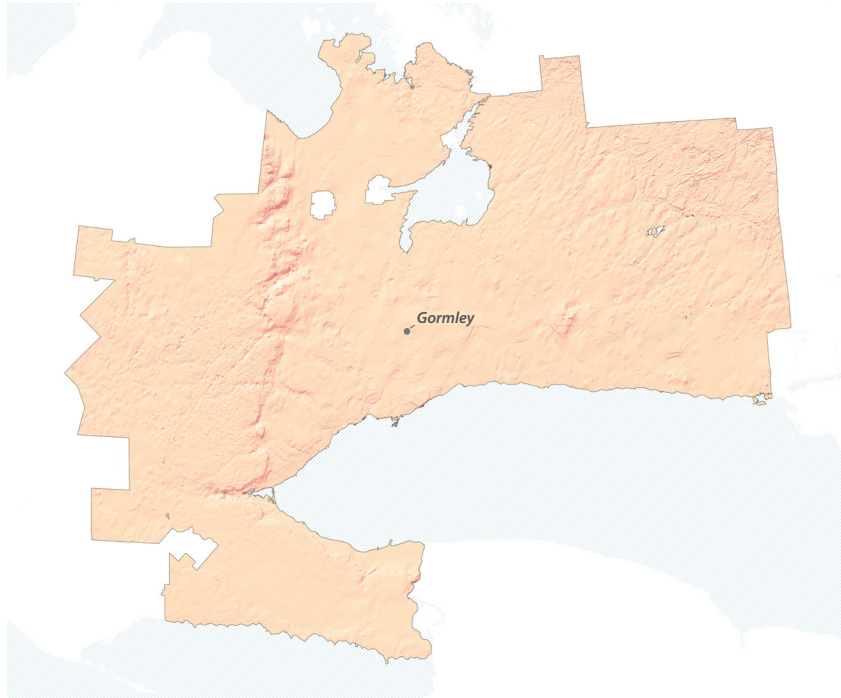
*The regional ecosystem is defined as the Greater Golden Horseshoe boundary that includes the municipal regions outlined within.*

***Regional : The Greater Golden Horseshoe***

The secondary region of Southern Ontario, the Greater Golden Horseshoe, is the first scale of analysis. This scale brings perspective to the wider environment and systems that surround the site but may not always be perceived at the local level. Abiotic features include: surficial geology and bedrock base and deposit topography. Biotic systems include: ecodistricts and natural heritage systems. Lastly, cultural features include: road networks and regional population distributions.







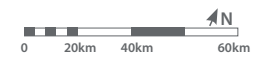
**Fig. 2.28 [Abiotic] Bedrock Topography**  
*This shaded-relief map shows the elevation of the underlying bedrock in Southern Ontario*

0m  254m

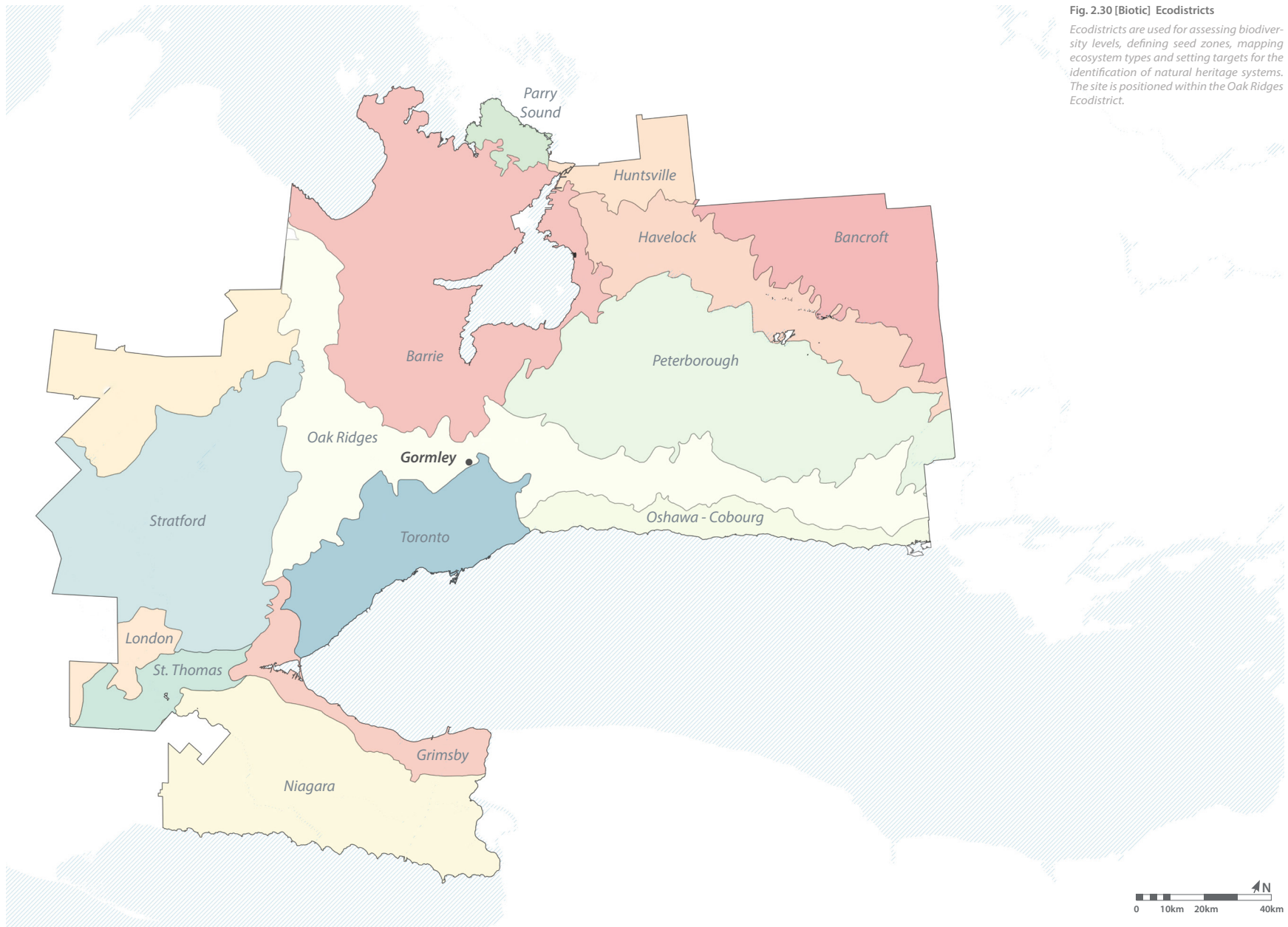


**Fig. 2.29 [Abiotic] Bedrock Deposit Topography**  
*This shaded-relief map shows the elevation of and indicates the thickness of material deposits above the bedrock surface that forms much of the the Souther Ontario Landscape.*

0m  254m





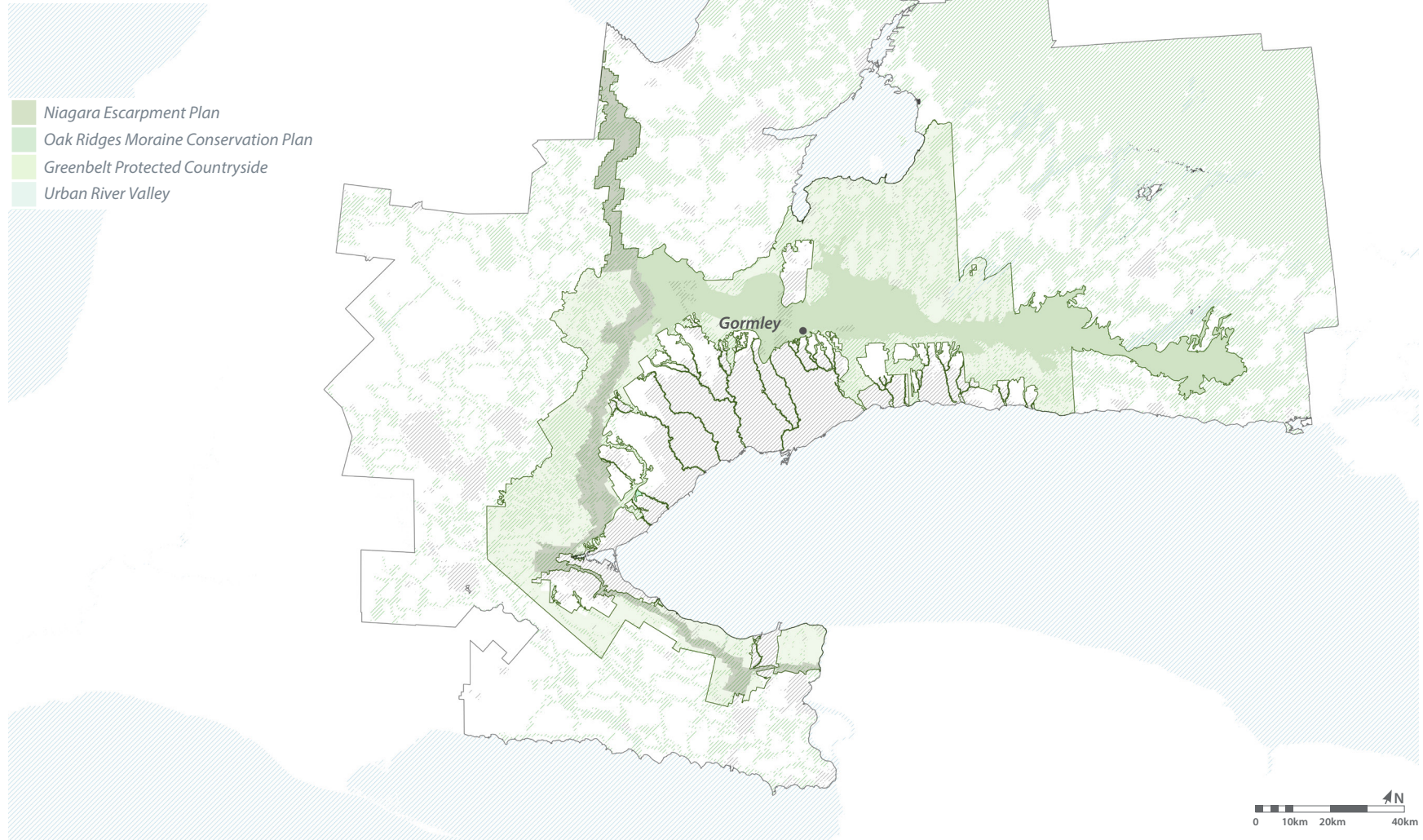


**Fig. 2.30 [Biotic] Ecodistricts**

*Ecodistricts are used for assessing biodiversity levels, defining seed zones, mapping ecosystem types and setting targets for the identification of natural heritage systems. The site is positioned within the Oak Ridges Ecodistrict.*

**Fig. 2.31 [Biotic] Greenbelt & Natural Heritage System**

The Greenbelt Plan establishes the Protected Countryside and Urban River Valley designations. The Greenbelt Area also includes the Niagara Escarpment Plan area and the Oak Ridges Moraine Conservation Plan area. Beyond this is also the Natural Heritage System which is protected under the ministry of natural resources.



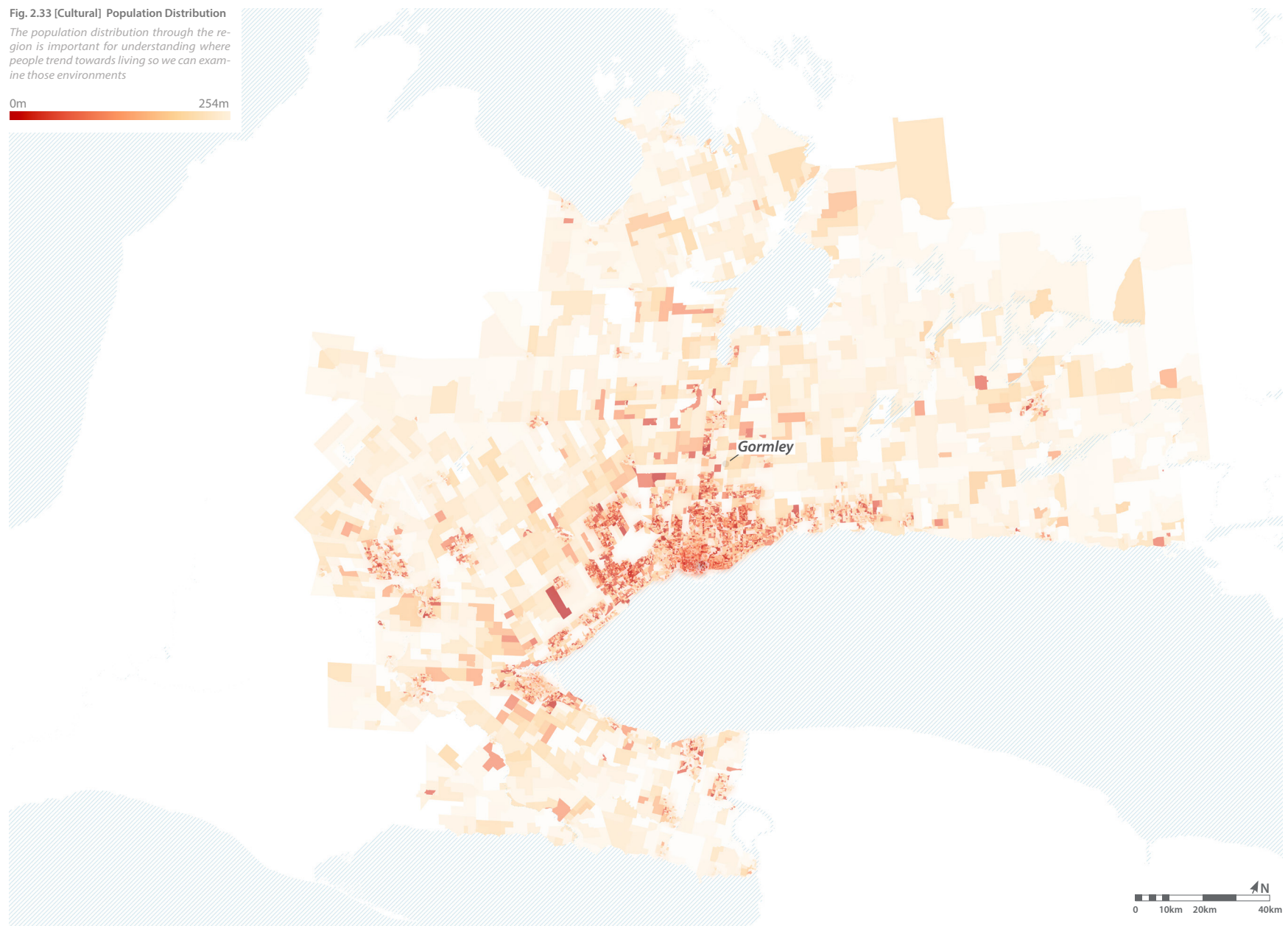




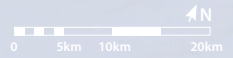
**Fig. 2.33 [Cultural] Population Distribution**

*The population distribution through the region is important for understanding where people trend towards living so we can examine those environments*

0m 254m







**Fig. 2.34 Municipal Ecosystem Scale**

*The municipal ecosystem is defined as the combined Toronto and York Region boundary that includes the local municipal regions outlined within.*

***Municipal : Toronto and York Region***

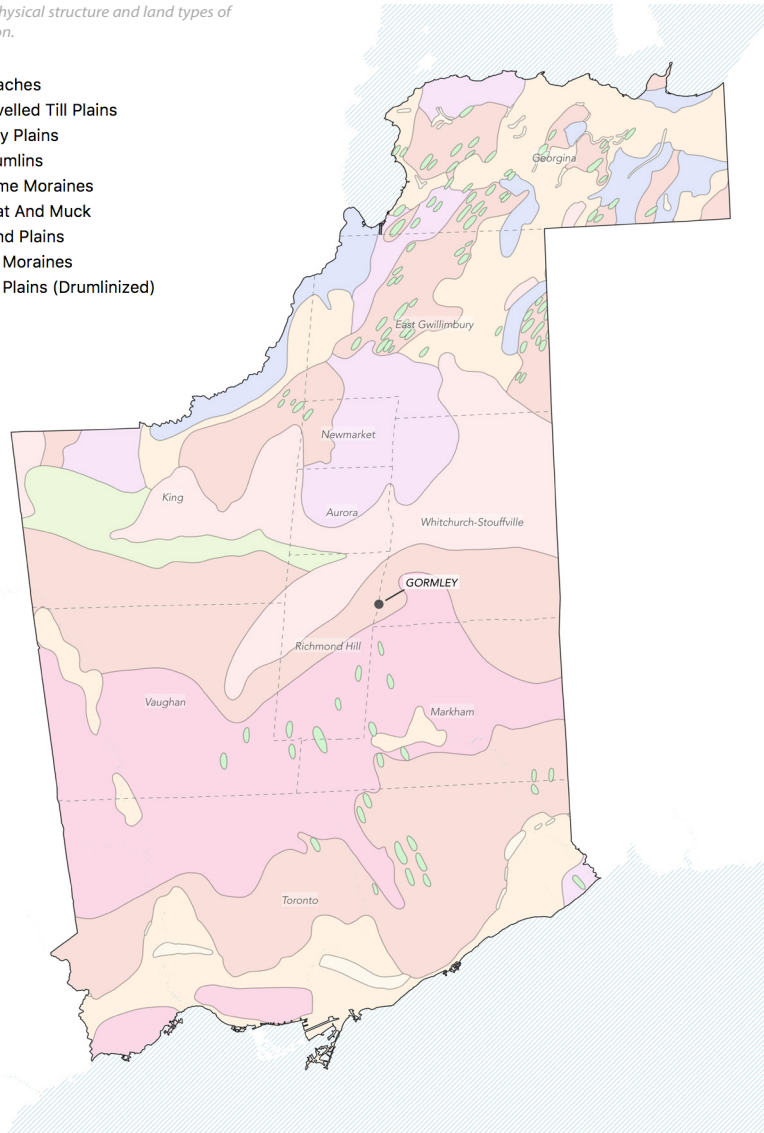
This focuses on Toronto and York region combined boundary as a secondary scale for analysis. This scale looks at Abiotic features that include: physiography, Soil textures, drainage, and capabilities for agriculture. Biotic systems include: natural heritage systems land classifications and watercourse. Lastly, cultural features include: municipal boundaries, land-cover, public transit and transportation networks, provincially significant employment zones, and median family income distribution.



**Fig. 2.35 [Abiotic] Physiography**

*This map of the Physiography of the Toronto and York area contains information on the physical structure and land types of the region.*

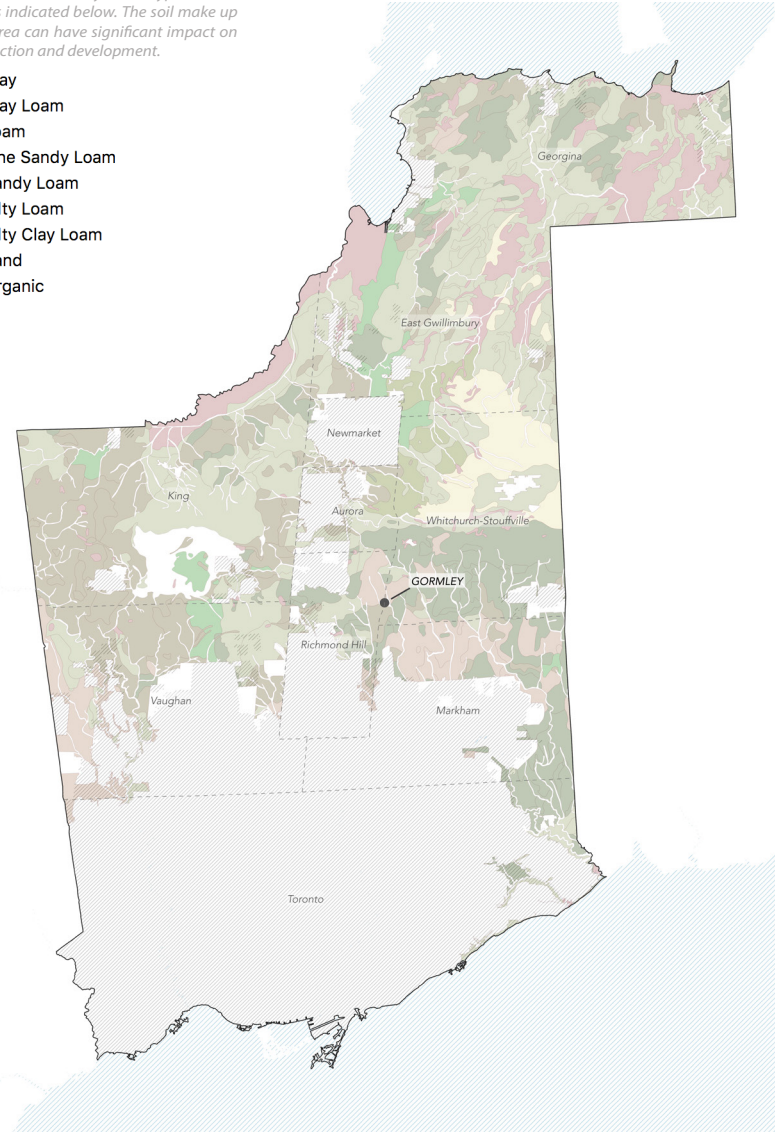
- Beaches
- Bevelled Till Plains
- Clay Plains
- Drumlins
- Kame Moraines
- Peat And Muck
- Sand Plains
- Till Moraines
- Till Plains (Drumlinized)



**Fig. 2.36 [Abiotic] Soil Texture**

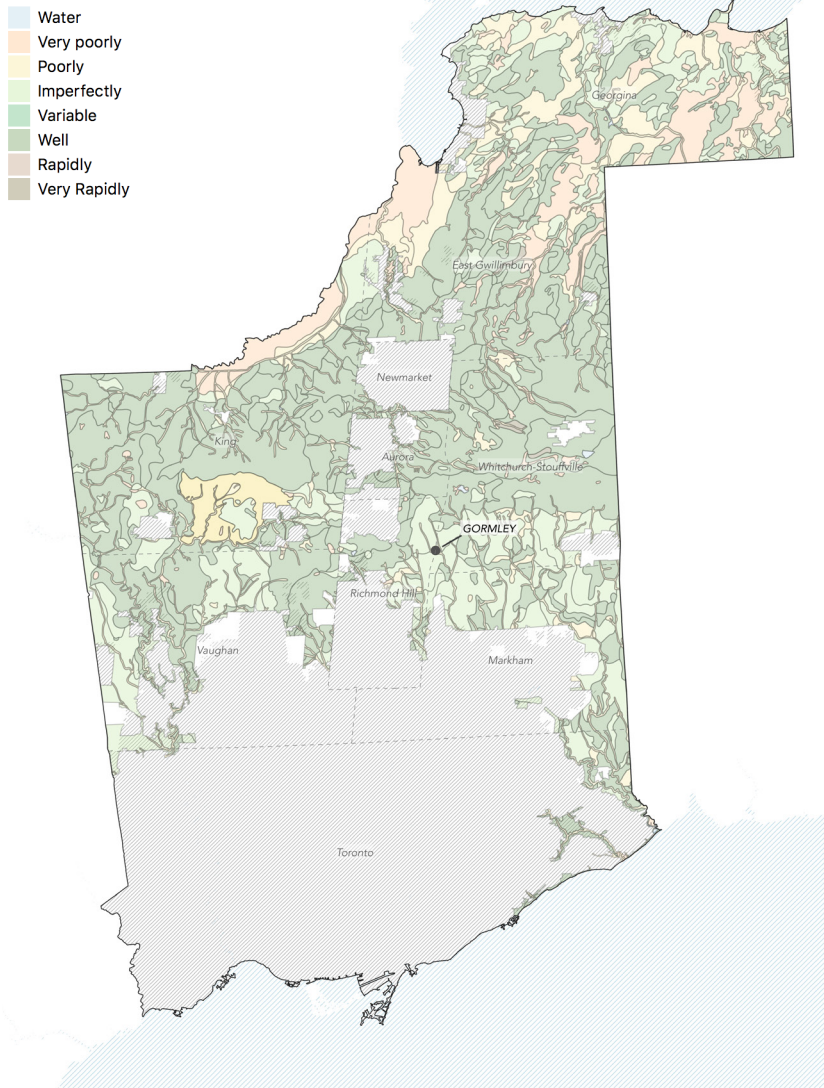
*The Southern Ontario and Toronto area is comprised of a variety of soil types or textures as indicated below. The soil make up of an area can have significant impact on construction and development.*

- Clay
- Clay Loam
- Loam
- Fine Sandy Loam
- Sandy Loam
- Silty Loam
- Silty Clay Loam
- Sand
- Organic



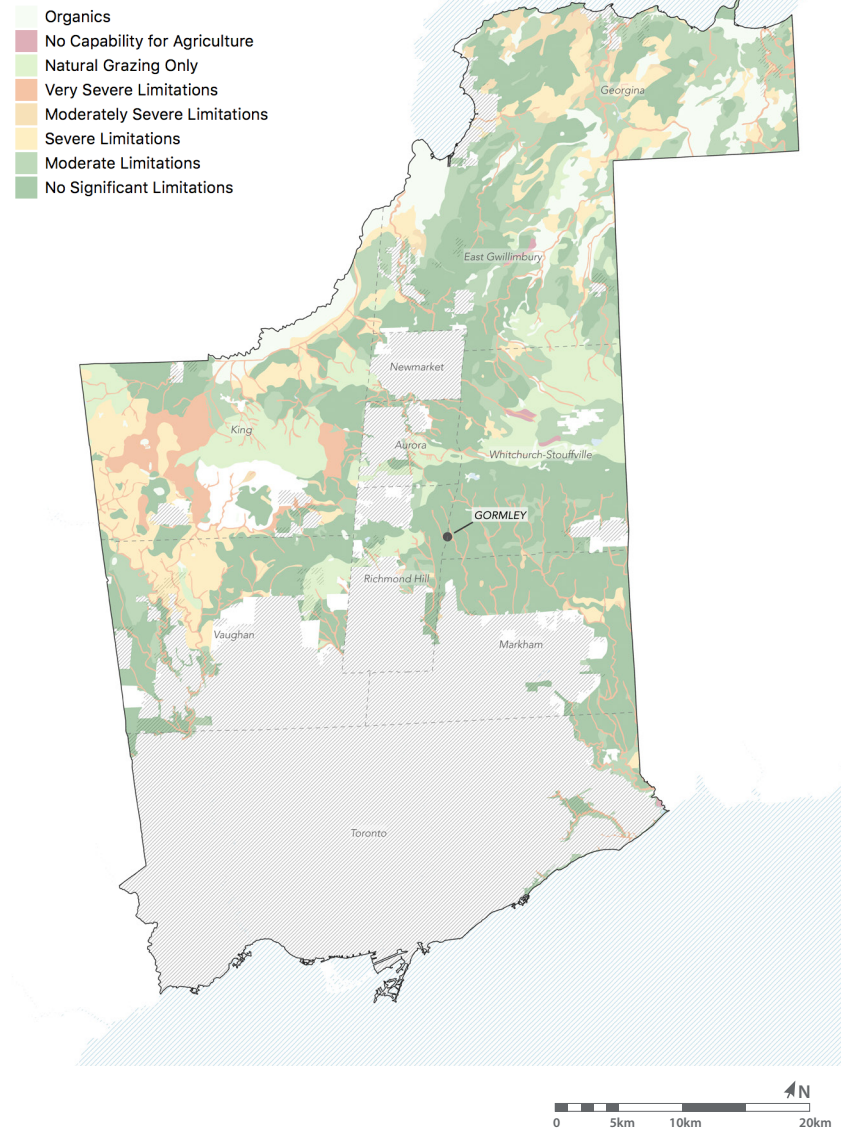
**Fig. 2.37 [Abiotic] Soil Drainage**

Soil drainage can have significant impact on human land use, particularly pertaining to agricultural use and capability for specific crop yields.



**Fig. 2.38 [Abiotic] Capability for Agriculture**

This map indicates that areas of effectiveness of the Toronto and York regions for agricultural practice due to soil type and drainage.





**Fig. 2.39 [Cultural] Municipal Boundaries**

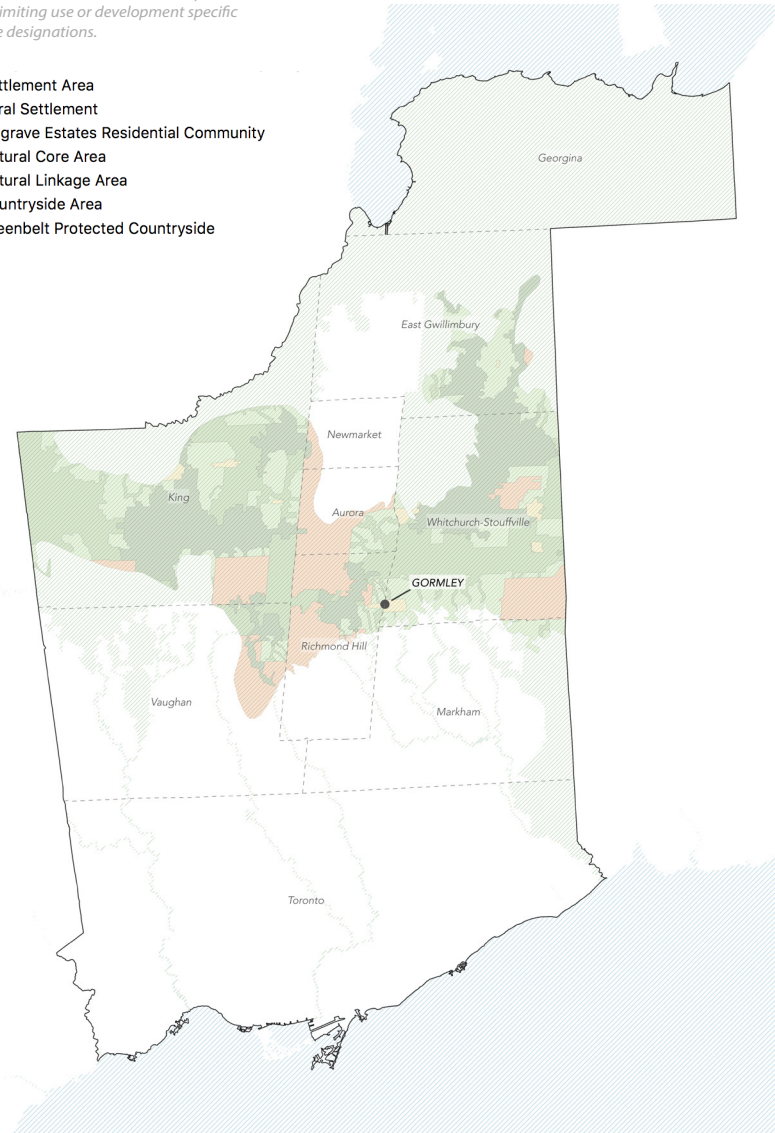
*Municipal boundaries indicate differences in political, economic, environmental priorities and policies which impact the function of those municipalities.*



**Fig. 2.40 [Biotic] Oak Ridges Moraine Land Designation**




*The land designations within the Oak Ridges Moraine Conservation Plan are responsible for limiting use or development specific to those designations.*

- Settlement Area
- Rural Settlement
- Palgrave Estates Residential Community
- Natural Core Area
- Natural Linkage Area
- Countryside Area
- Greenbelt Protected Countryside



**Fig. 2.41 [Biotic] Watercourse**

*This map indicates the watercourses and wooded areas of the Toronto and York regions. It also indicates that Gormley resides within the Rouge River Watershed.*

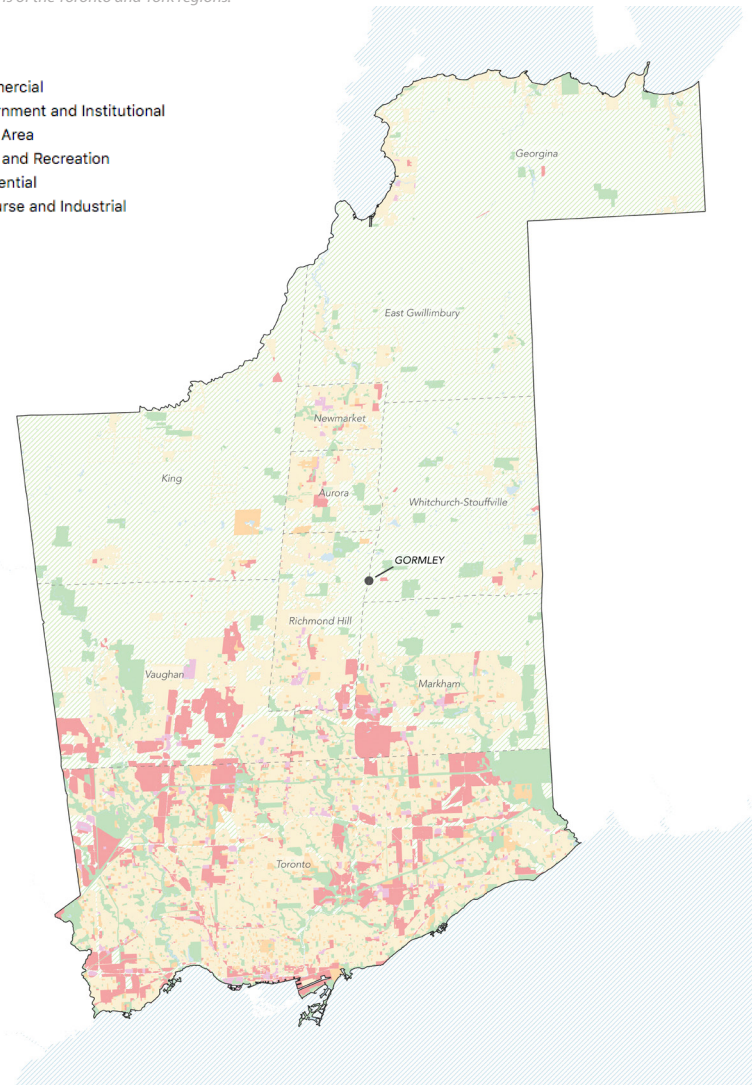
-  Watercourse
-  Wooded Area
-  Rouge River Watershed



**Fig. 2.42 [Cultural] Land-cover**

*This map indicates the existing land cover designations of the Toronto and York regions.*

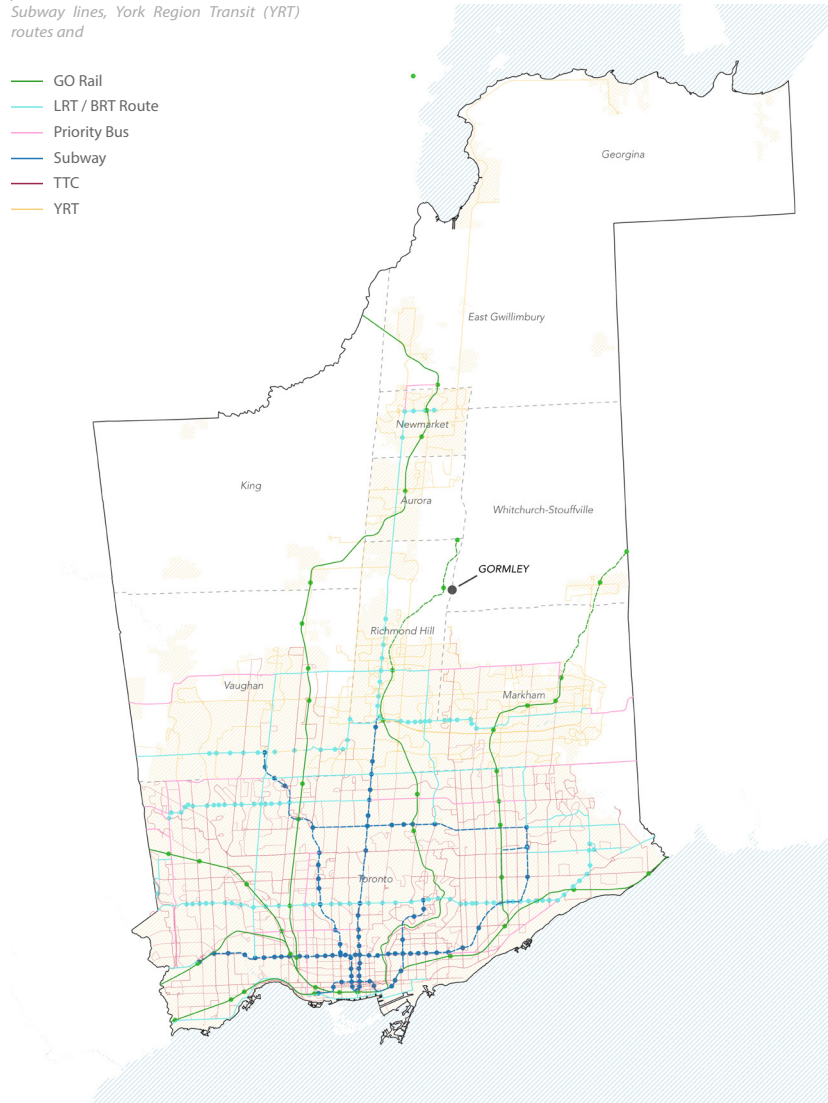
-  Commercial
-  Government and Institutional
-  Open Area
-  Parks and Recreation
-  Residential
-  Resource and Industrial





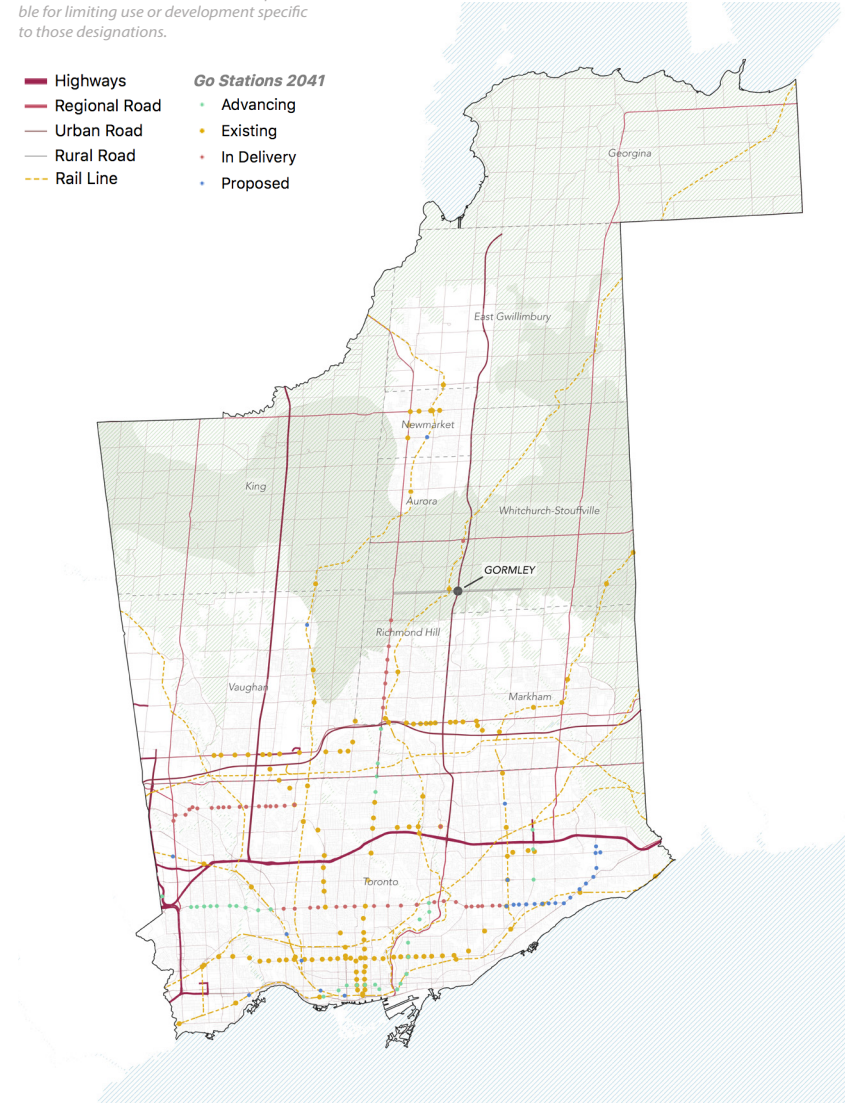
**Fig. 2.43 [Cultural] Public Transit Network**

*the regional public transit network is comprised of GO Transit rail and bus routes, Subway lines, York Region Transit (YRT) routes and*



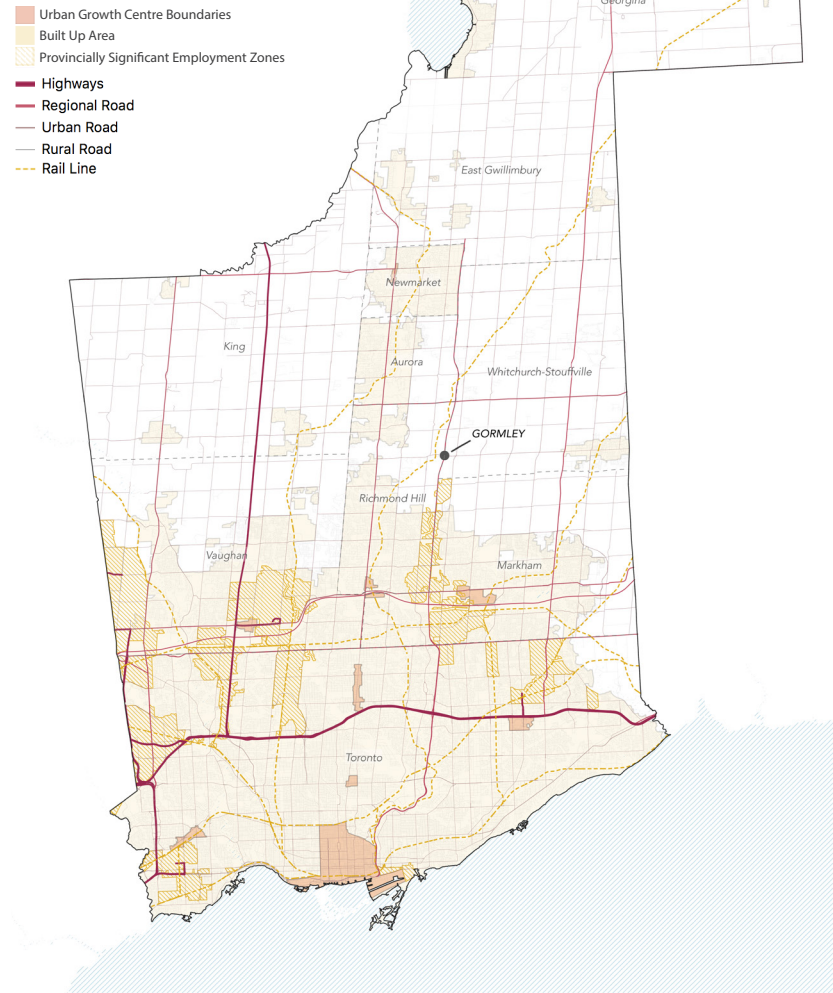
**Fig. 2.44 [Cultural] Transportation Network**

*The land designations within the Oak Ridges-Moraine Conservation Plan are responsible for limiting use or development specific to those designations.*



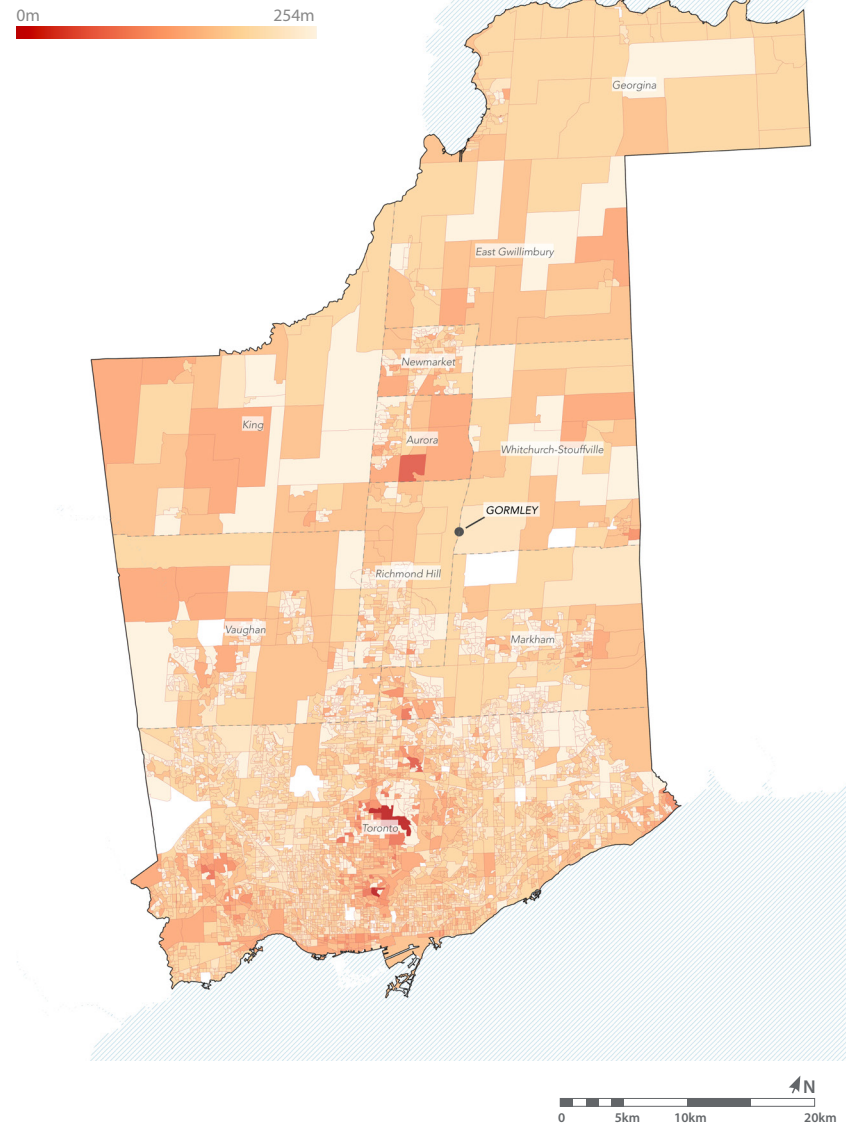
**Fig. 2.45 [Cultural] Provincially Significant Employment Zones**

Urban Growth Centre boundaries are a fixed line that reflects what was built and on the ground when the GGH Growth Plan came into effect in June 2006. Provincially significant employment areas have been identified and located by the Ontario government as high economic output areas in the region.

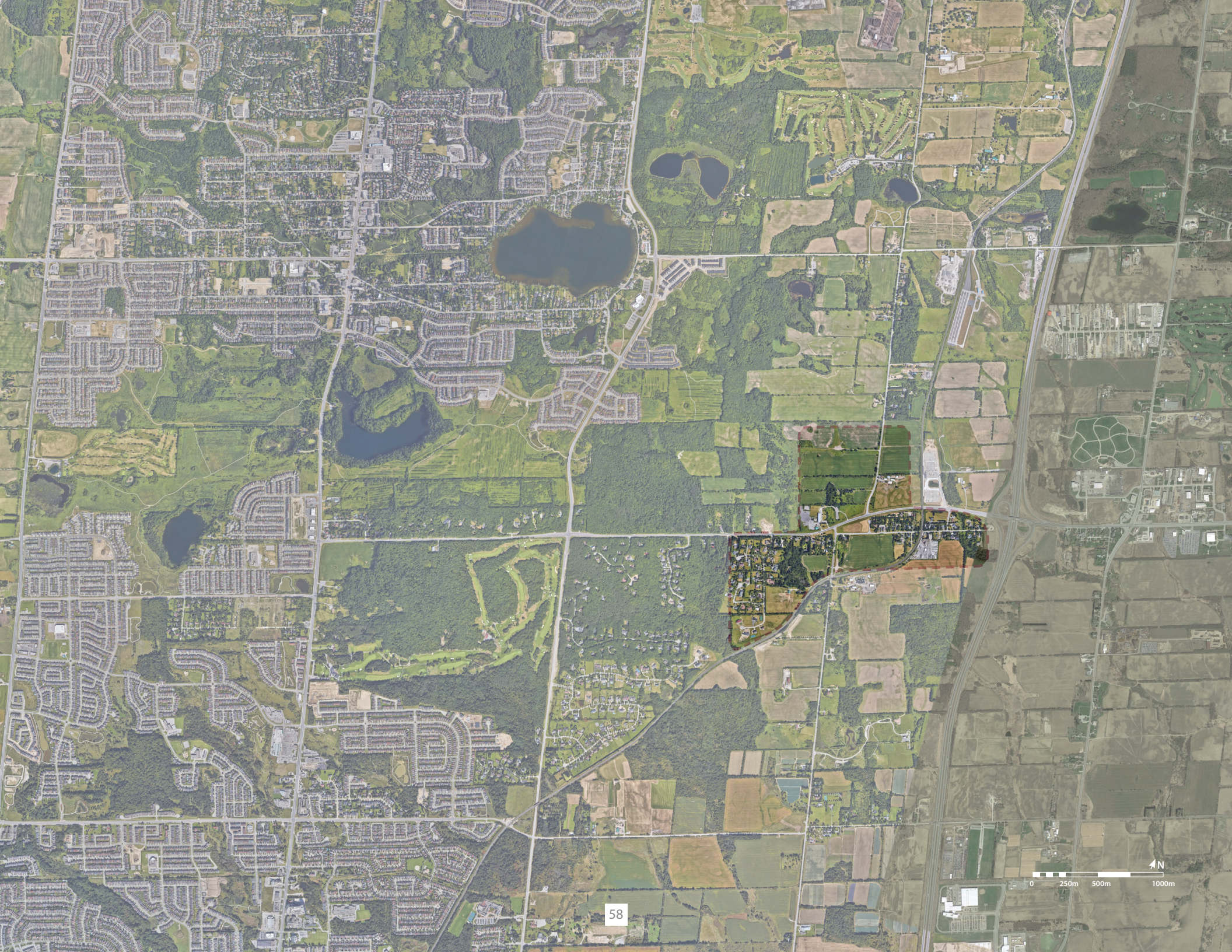


**Fig. 2.46 [Cultural] Median Family Income**

This map shows median family income for the region. This is relevant for understanding the distribution of wealth throughout the region and indicates the distribution of wealth classes across the region.









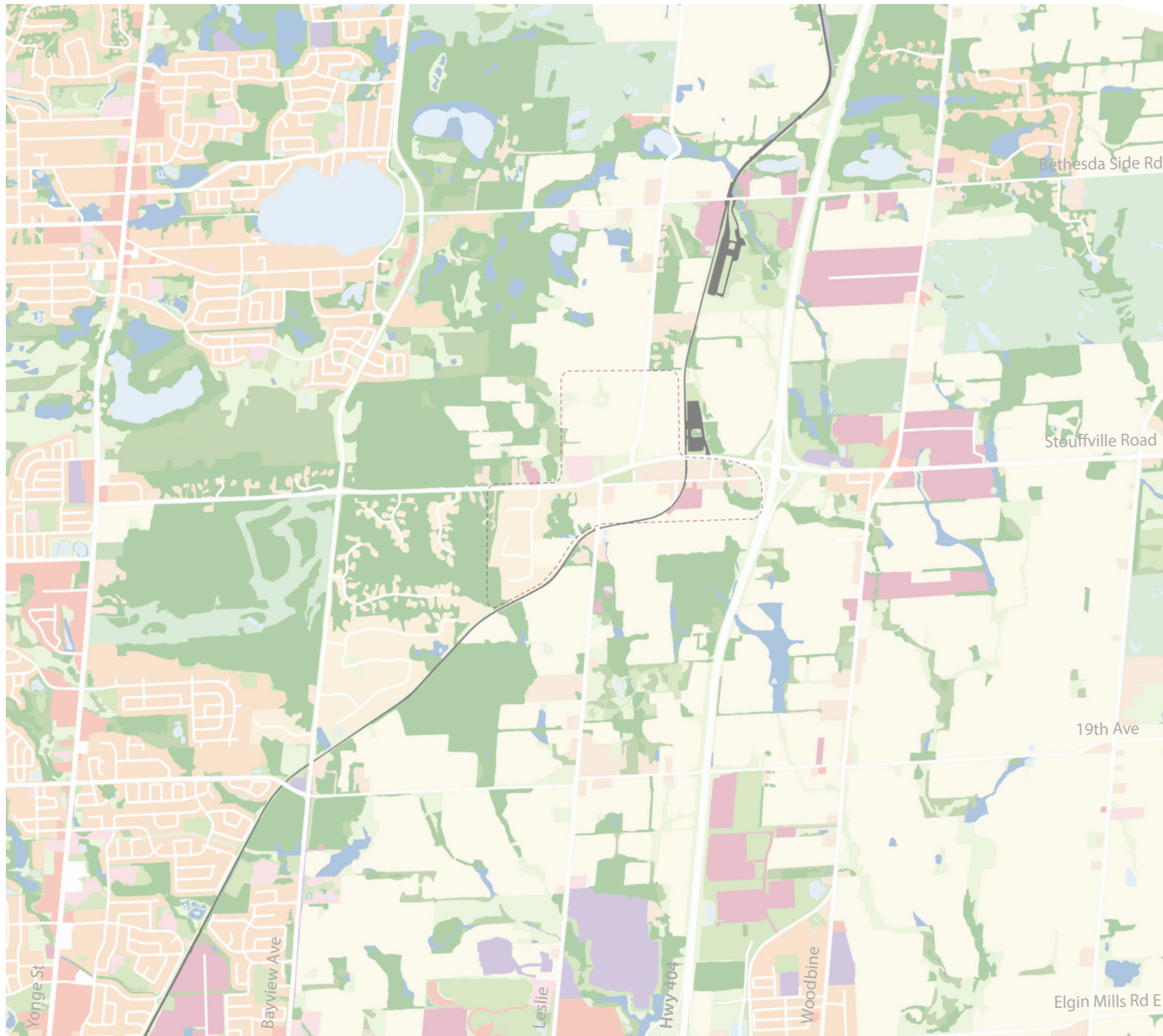
**Fig. 2.47 Local Ecosystem Scale**

*The Local ecosystem is defined as area immediately surrounding the case-study site area.*

***Local : Site and Surrounding Area***

The local scale includes the immediate area surround the case-study Gormley GO station site. This scale looks at biotic systems that include: Oak Ridges Moraine land classifications, and local Flora and Fauna. The cultural features include: land-cover, land and building use types.





**Fig. 2.48 [Cultural] Land Cover**

*The local area surrounding the site hosts a variety of Land uses including a residential settlement corridor to the West and area to the South, Industrial parks to the East and a variety of green-space areas around.*




- Commercial
- Industrial
- Institutional
- Estate Residential
- Rural Residential
- Medium Density Residential
- Vacant Land
- Lacustrine
- Wetland
- Meadow
- Recreational/Open Space
- Successional Forest
- Forest
- Agricultural
- Railway
- Roads

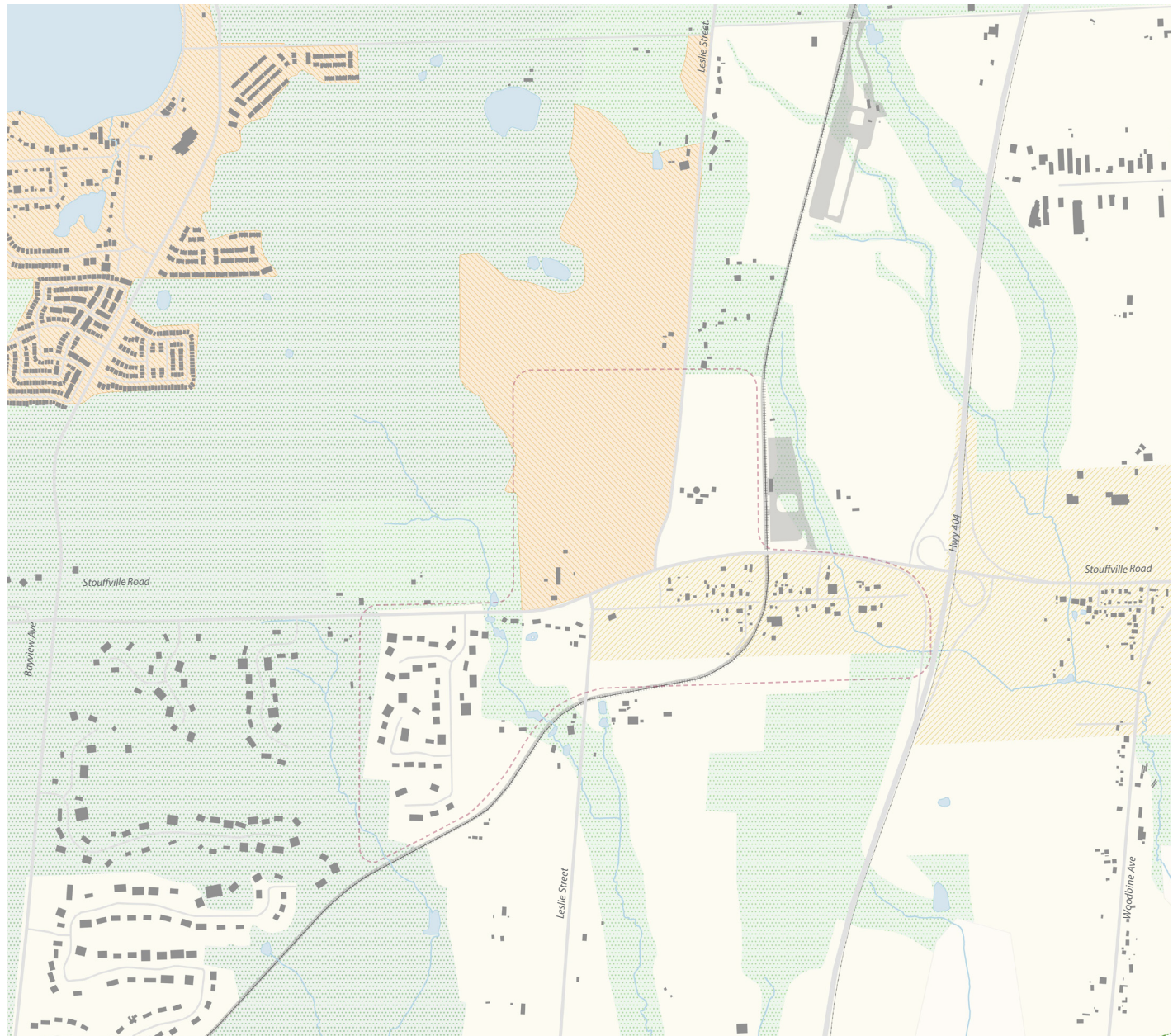




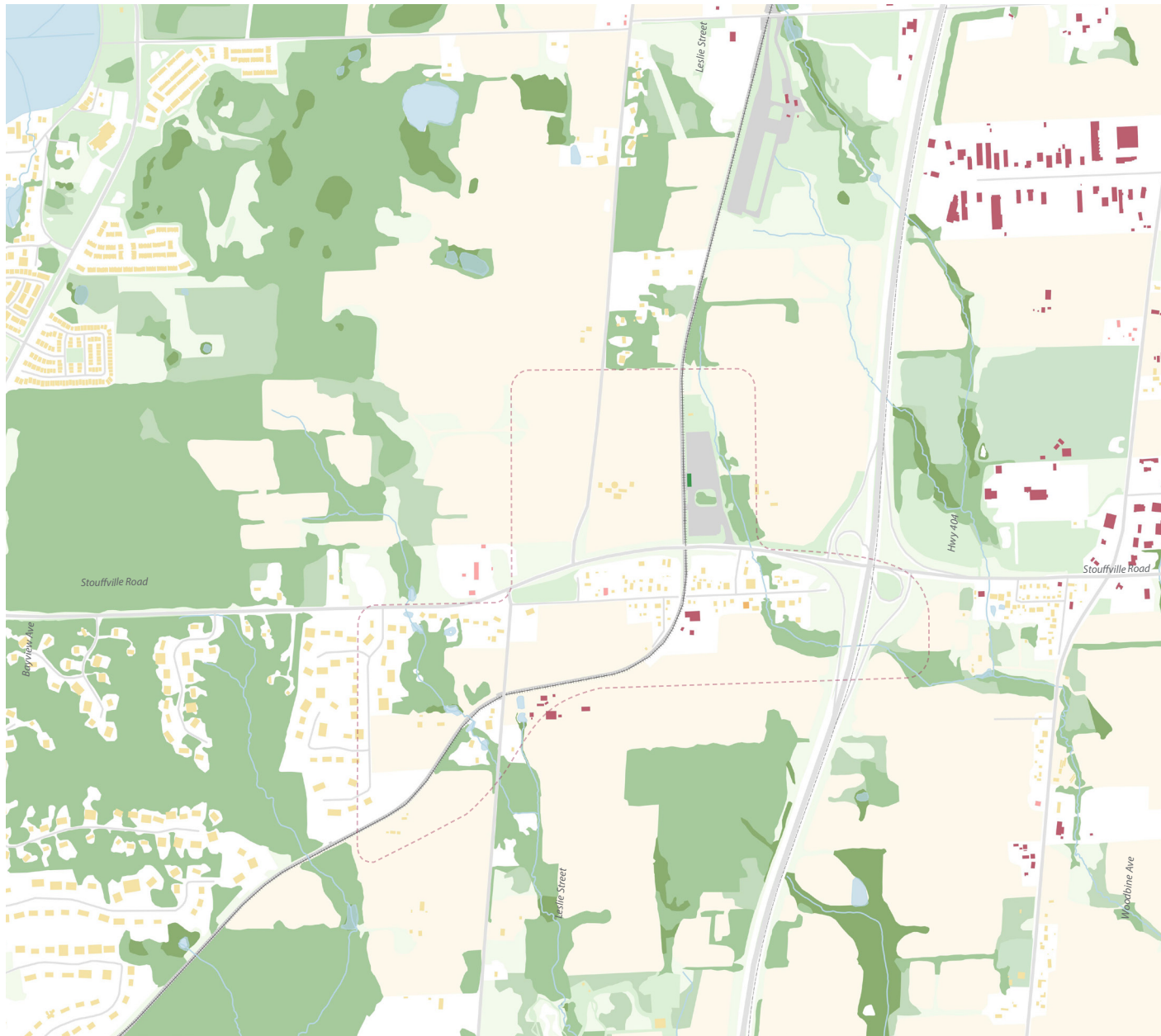
**Fig. 2.49 [Biotic] ORM Land Classification**

The Oak Ridges Moraine Land Classification within the site boundary is predominantly Countryside area, Rural Settlement area from the historic District of Gormley, A settlement area to the West of Leslie Road, and a natural linkage area that runs through the south west side of the site.

-  Core Area
-  Linkage Area
-  Countryside Area
-  Rural Settlement
-  Settlement Area
-  Site



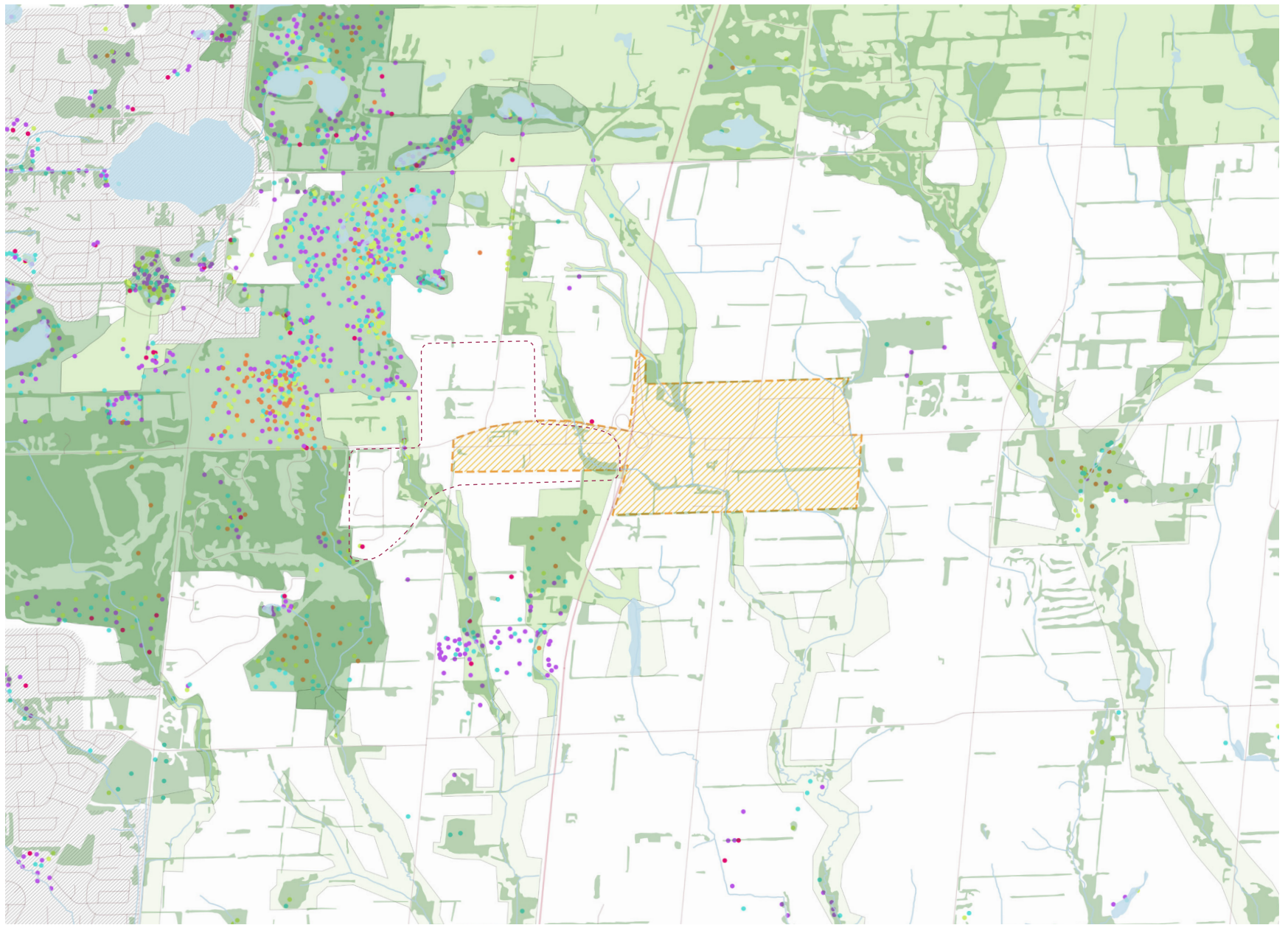




**Fig. 2.50 [Cultural] Land and Building Use**

The site is situated north of the historic Gormley community at the intersection of Leslie Street and Stouffville Road. The site lies on predominantly agricultural lands that run each side of Leslie Street and west of the Canadian National Railway line that carries GO Train service. The buildings surrounding the site are largely residential, with some industrial and civic.

- Residential
- Retail / Commercial
- Civic / Community
- Industrial
- GO Station
- Agricultural Area
- Forest
- Open Green Space
- Wetlands
- Site



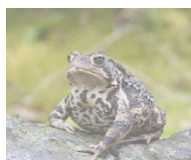


**Habitat 0**

Common Wildlife



Purple Finch



American Toad



Mink



Coyote



Red fox



Eastern Garter Snake

**Habitat 1**

Common Wildlife



White-throated Sparrow



Brown Thrasher



Red-Bellied Snake



Green Frog



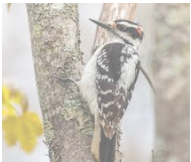
Common Yellowthroat



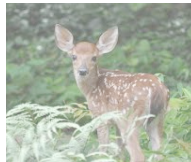
Eastern Chipmunk

**Habitat 2**

Common Wildlife



Hairy Woodpecker



White Tail Deer



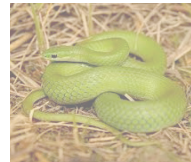
Ruby-Throated Hummingbird



Wood Thrush



Wood Duck



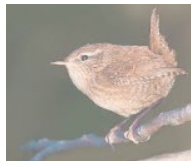
Green Snake / Grass Snake

**Habitat 3**

Common Wildlife



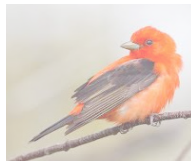
Barred Owl



Winter Wren



Magnolia Warbler



Scarlet Tanager



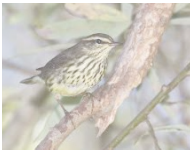
Eastern Newt



Spring Peeper

**Habitat 4**

Common Wildlife



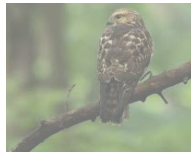
Northern Waterthrush



Spotted Salamander



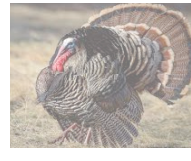
Blackburnian Warbler



Broad-winged Hawk



Common Raven

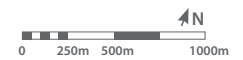


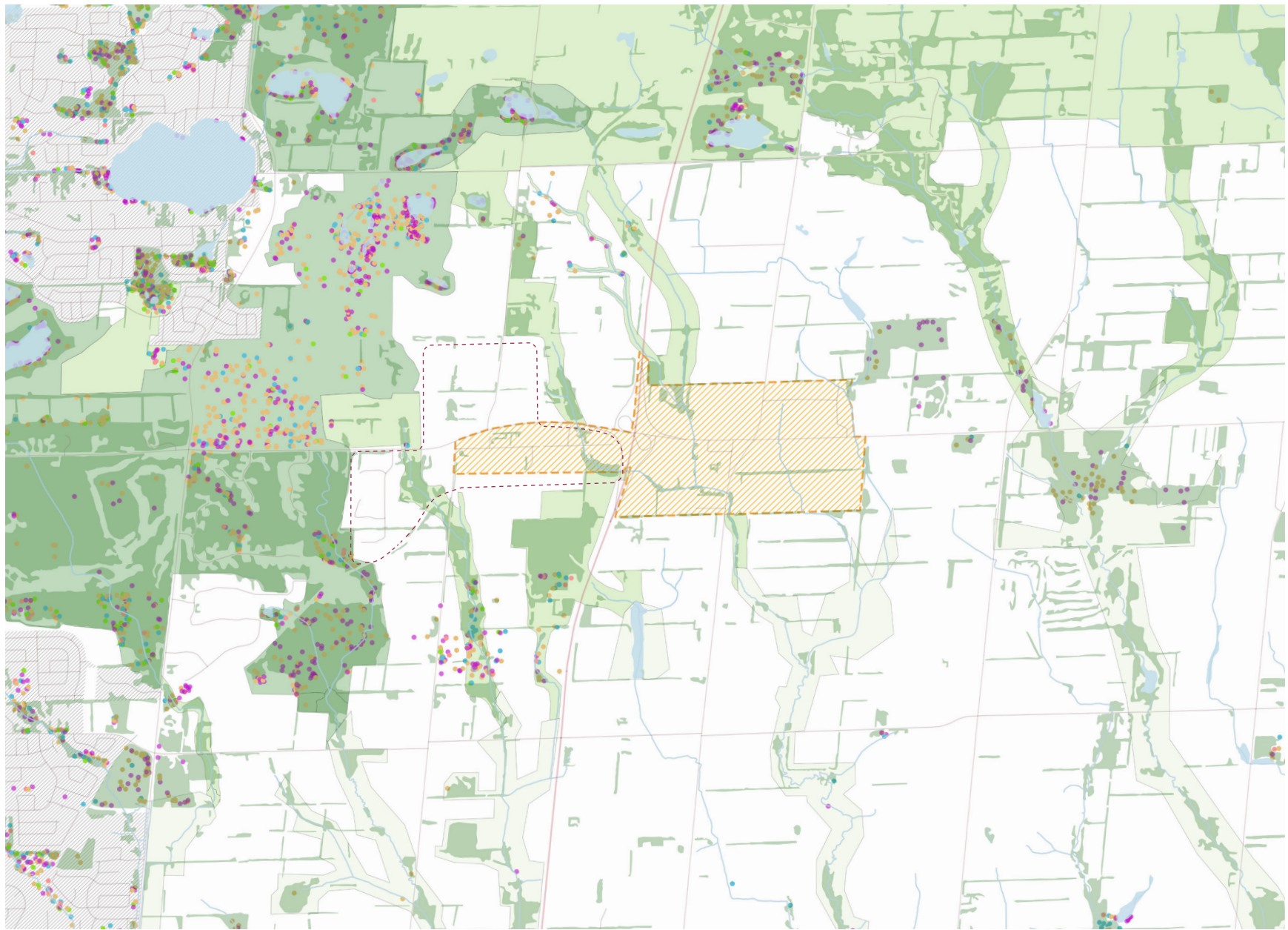
Wild Turkey

Fig. 2.51 [Biotic] Fauna

A higher habitat dependency means a species is likely to have more difficulty adapting to human induced changes in the environment.

- Core Area
- Linkage Area
- Natural Heritage System Area
- Gormley Boundary
- Water
- Site







**Habitat 0**

Common Wildlife



Red Maple



White Cedar



Canada May Flower



Red Form White Baneberry



Red Baneberry



Virginia Waterleaf

**Habitat 1**

Common Wildlife



Red Oak



Paper Birch



Bush Honeysuckle



Marsh Fern



Rough-Stemmed Goldenrod



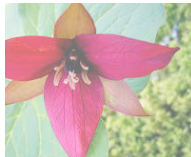
Wild Bergamot

**Habitat 2**

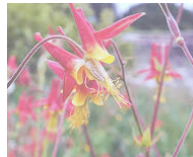
Common Wildlife



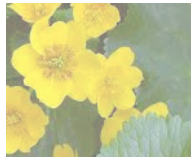
Eastern Hemlock



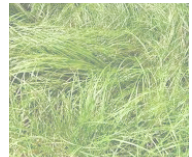
Red Trillium



Wild Columbine



Marsh Marigold



Pennsylvania Sedge



Michigan Lily

**Habitat 3**

Common Wildlife



Pussy Willow



White Trillium



Turtlehead



Great Blue Lobelia



Black Ash



Tamarack

**Habitat 4**

Common Wildlife



Fragrant Water Lily



Golden Saxifrage



Silky Dogwood



Northern Maidenhair Fern



Mountain Holly



Twinflower

**Fig. 2.52 [Biotic] Flora**

This map shows the locations of several flora habitats of different habitat dependency levels. A higher habitat dependency means a species is likely to have more difficulty adapting to human induced changes in the environment.

- Core Area
- Linkage Area
- Natural Heritage System Area
- Gormley Boundary
- Water
- Site

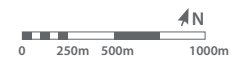




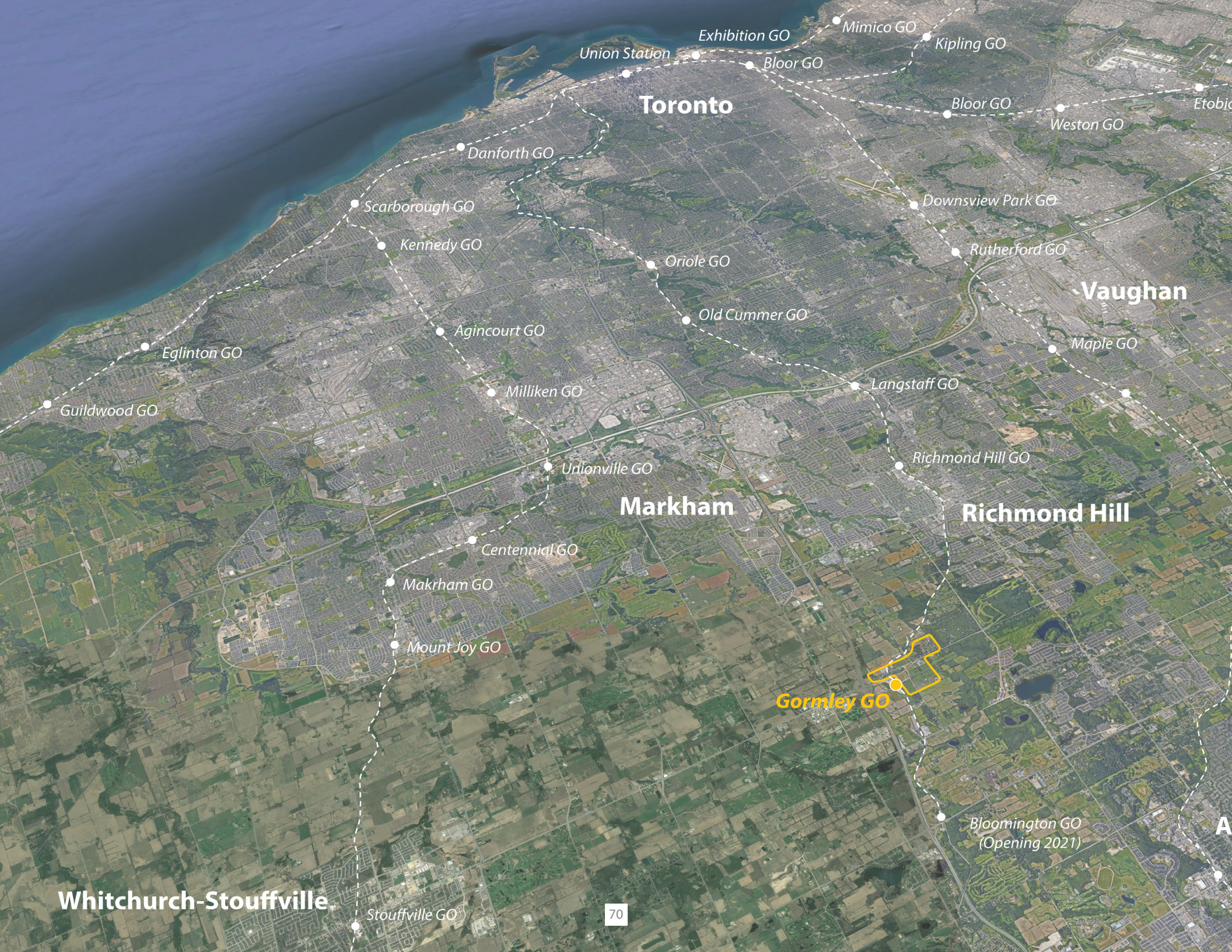
Fig. 3.01 New Gormley Rail Crossing





### *3.0 Design Synthesis*





Toronto

Vaughan

Markham

Richmond Hill

Whitchurch-Stouffville

Gormley GO

Bloomington GO  
(Opening 2021)

70





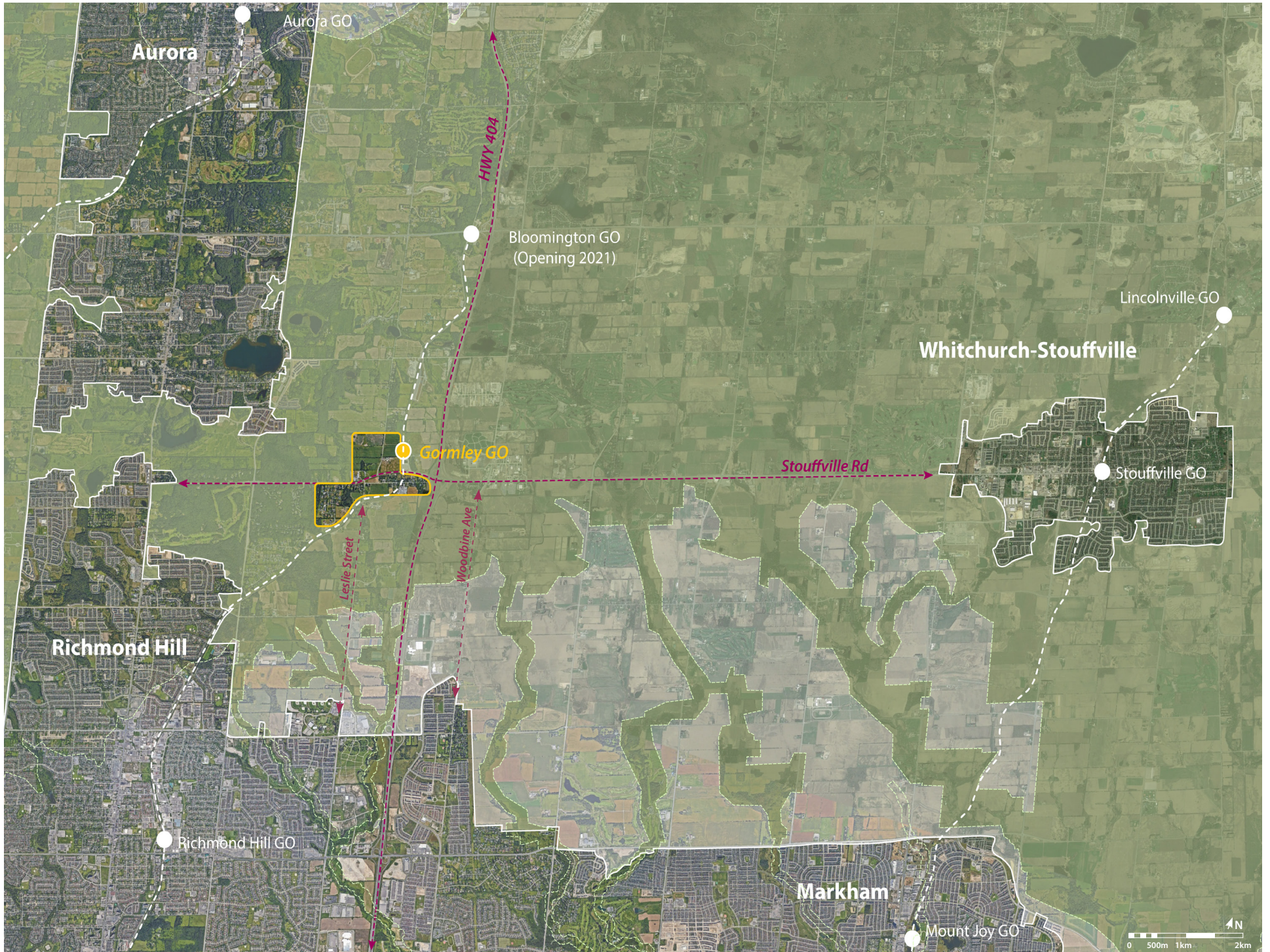
### 3.1 Proposal Introduction

This section introduces the design proposal for a complete middle density, transit oriented, mixed-use community around Richmond Hill's Gormley Go station. This design focuses on the creation of a dense, interactive, and walkable community around the station – one that is focused on the vitality of the pedestrian experience, while maintaining the natural heritage of the greenbelt lands around it.

**Fig. 3.02 Transit Connections and Gormley Site Overview**

*This map illustrates the GO Network transit connections across the region and the site's connection to the downtown Toronto Core and other city centres.*













**Fig. 3.03 Site Positioning to Adjacent Urban Boundaries and Greenbelt Boundary**

*The site is located between the Richmond Hill, Markham and Whitchurch-Stouffville urban boundaries within the greenbelt.*

-  Site
-  Greenbelt Boundary
-  Built Up Area
-  Important Roads
-  GO Rail Line (Dashed White)
-  Site

### **Site Location**

The Gormley station is positioned near the south boundary of the greenbelt as indicated in the dark green on the map, and away from the existing built urban fabric of Richmond hill and aurora to the west, Markham to the south and Whitchurch-Stouffville to the east. Isolated from any kind of urban density in the midst of farmer’s fields and has limited transit access, where Only one Local bus route stops nearby but does not enter the station property and one Go bus makes 10 round trips to Toronto daily. Making this station currently accessible almost exclusively by the park-and ride commuter. It is clear that the Gormley station was built to serve the automobile without sensitivity to sustainable land-use or transportation strategies which only serves to exacerbate low-density urban sprawl.



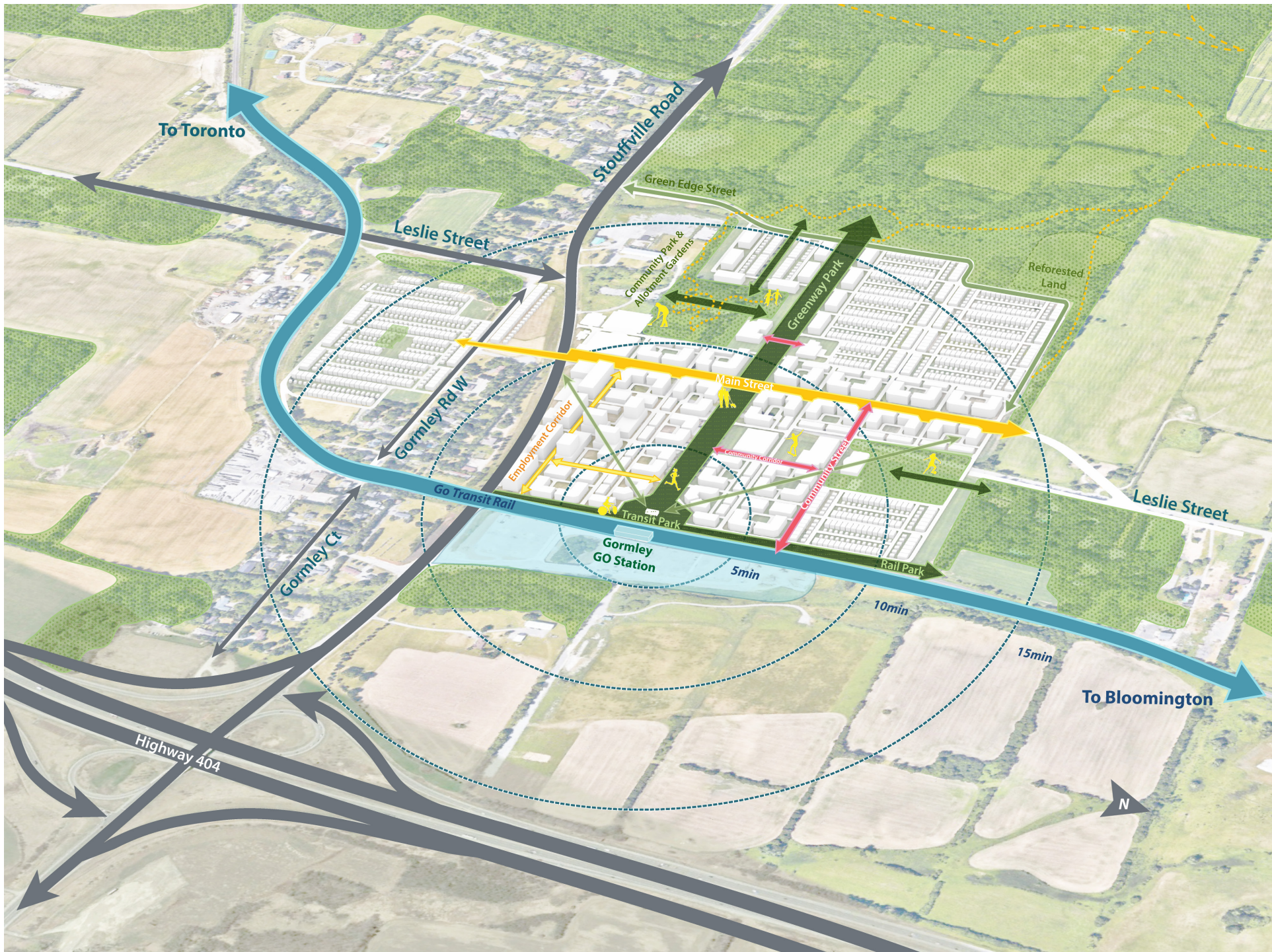




Fig. 3.04 Key Design Principals

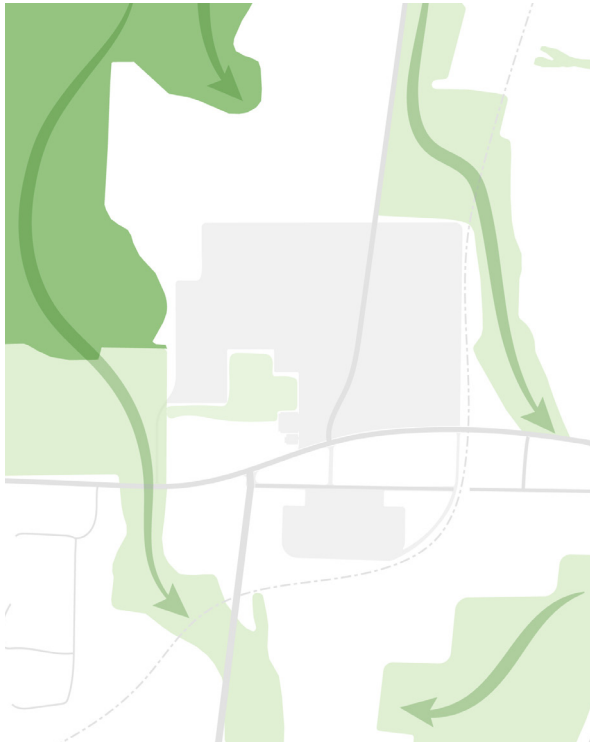
*This image illustrates the key design principals applied to the project including local transportation and transit connections, walkability, community and greenspace networks, the Greenway and commercial and employment corridors*

## Design Principles and Priorities

Support responsible, dense population growth and discourage sprawl.

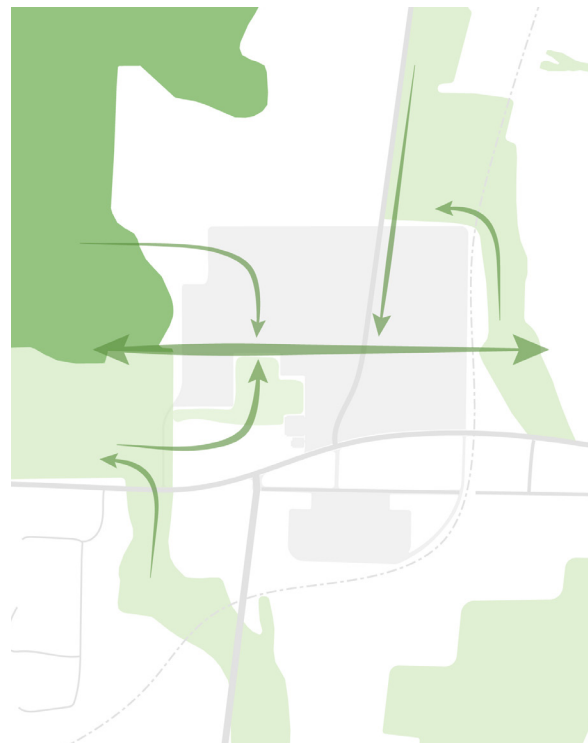
1. **Integrated and accessible transport systems** that prioritize pedestrian and public transit over automobile use by employing safe and extensive **pedestrian-first infrastructure** focused on first-mile and last-mile connectivity.
2. Position the **GO-transit station as the nucleus of the town**; develop this area into a central transit hub and employ **transit-oriented development strategies** to integrate it within the urban fabric.
3. **Mixed-use community planning** with centralized civic services, residential, retail, employment, entertainment and community programming including flexible spaces for growth.
4. Incorporate a **variety of massing, block, and building typologies** that introduce quality open space into the built form.
5. **Define clear boundaries of the urban form** to prevent the over development of the rural surroundings of the town.
6. **Fine-grain urban fabric** to allow for complete pedestrian connectivity to allow for complete **walkability**.
7. Make the **spaces between buildings** a priority, to enhance the quality of the public realm and **foster a sense of place**.
8. **Re-think parking**; employ alternative strategies to the typical suburban parking lot. Redirect the majority of parking into street, underground or consolidated into integrated garages.
9. **Active use programming** (retail, entertainment and community spaces) should be oriented along pedestrian routes and designed for **transparency and interest**.
10. Design streets to incorporate elements that **enhance the human scale, create character and vibrancy** and support a sustainable multi-modal transit system.

## Structuring Moves



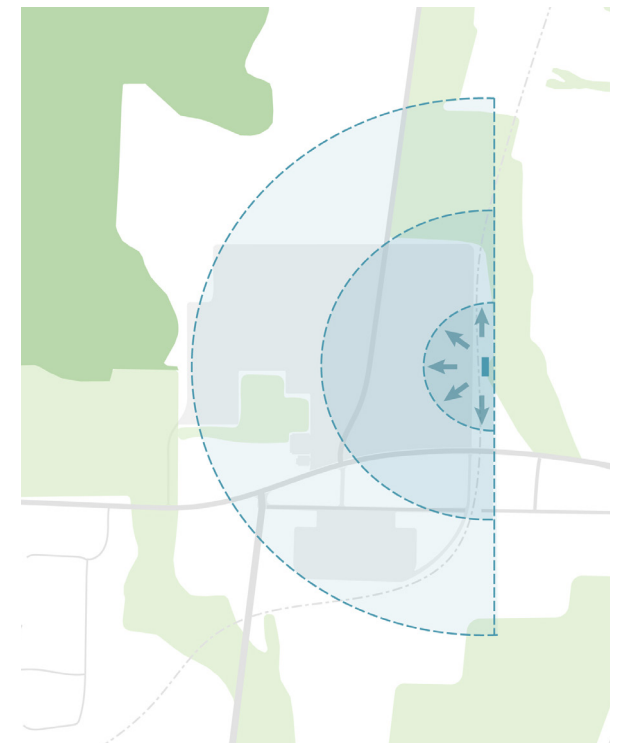
### **Maintain ORM Ecological Corridors**

The boundary of the site respects the existing green-space core areas and linkage corridors, using them to derive its form.



### **Create Green Space and Corridors Through Site**

The Implementation of the Greenway and park system relied heavily on existing greenery including existing tree lines and forested areas as well as reforesting open areas.



### **15 Minute Walking Radius From Transit Station**

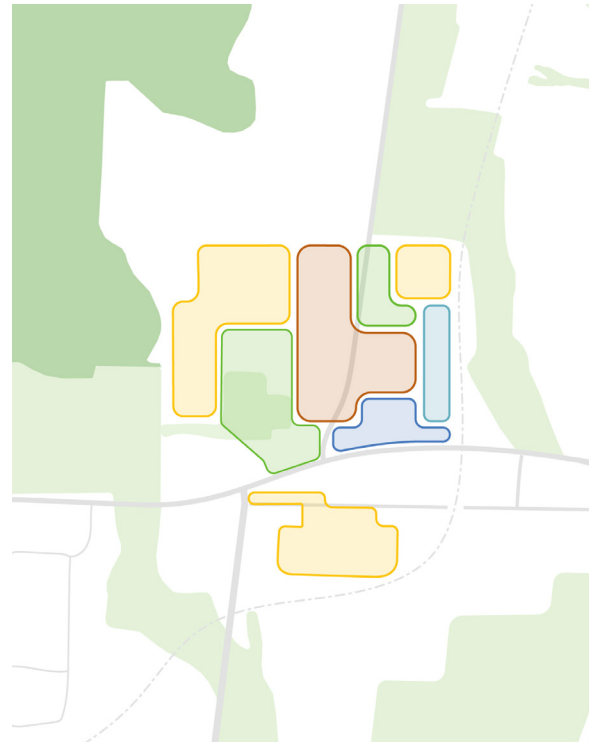
In order to ensure walkability, the boundary of the built form was limited to a 15 minute walking radius from the GO station.





### **Create Pedestrian Oriented Streets and Blocks**

The fabric of the city made of streets and blocks was designed with the pedestrian in mind, with small walkable blocks and pedestrian friendly streets.



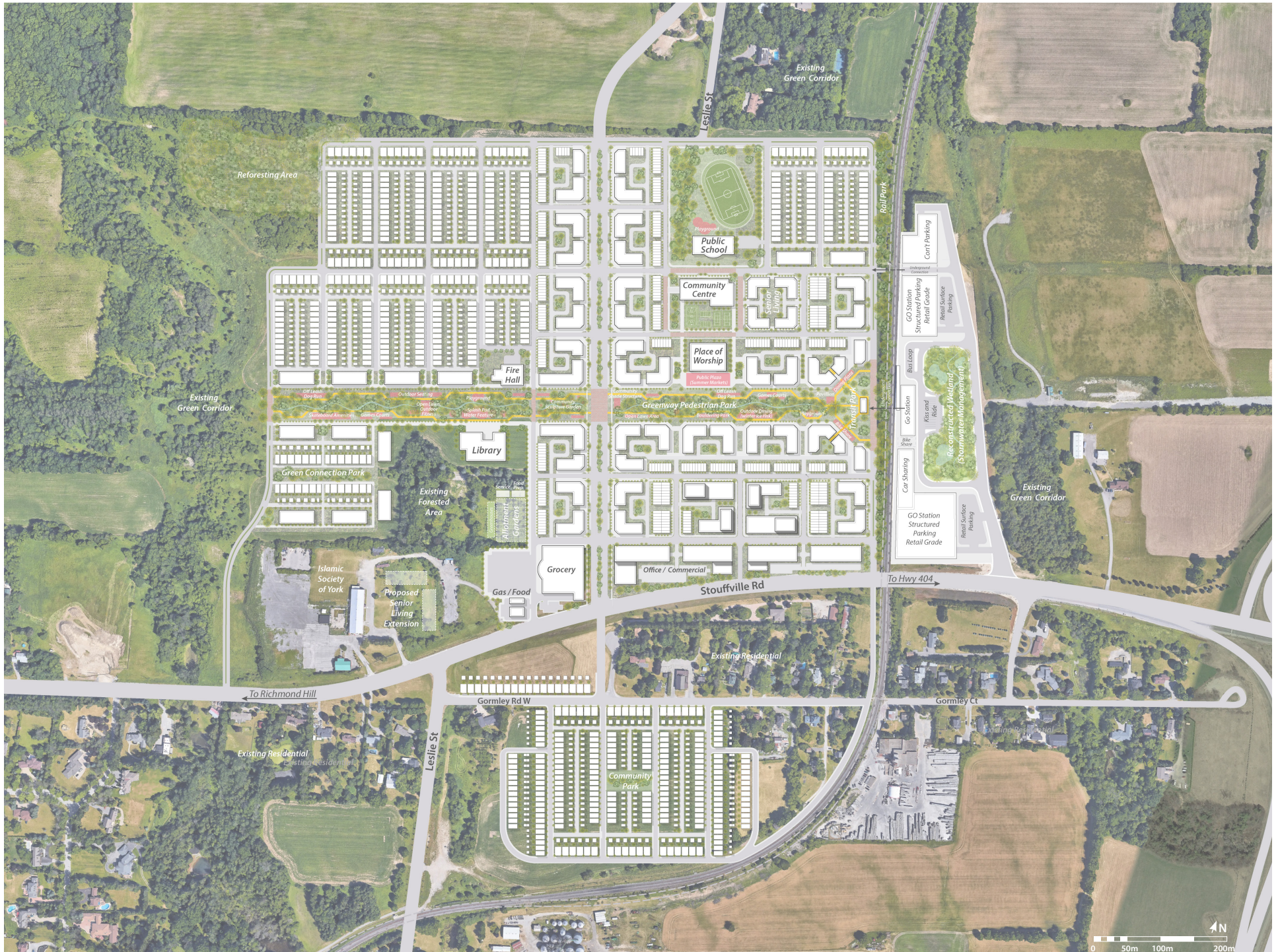
### **Create Diverse and Well Connected Precincts**

The program within the site was organized into a variety of precincts that were focused on creating vibrancy and vitality within the urban space.

**Fig. 3.05 Structuring Moves**

*The master plan revolves around five structuring moves established to provide an urban design framework that helped to define the character of the project.*







**Fig. 3.06 Site Plan**

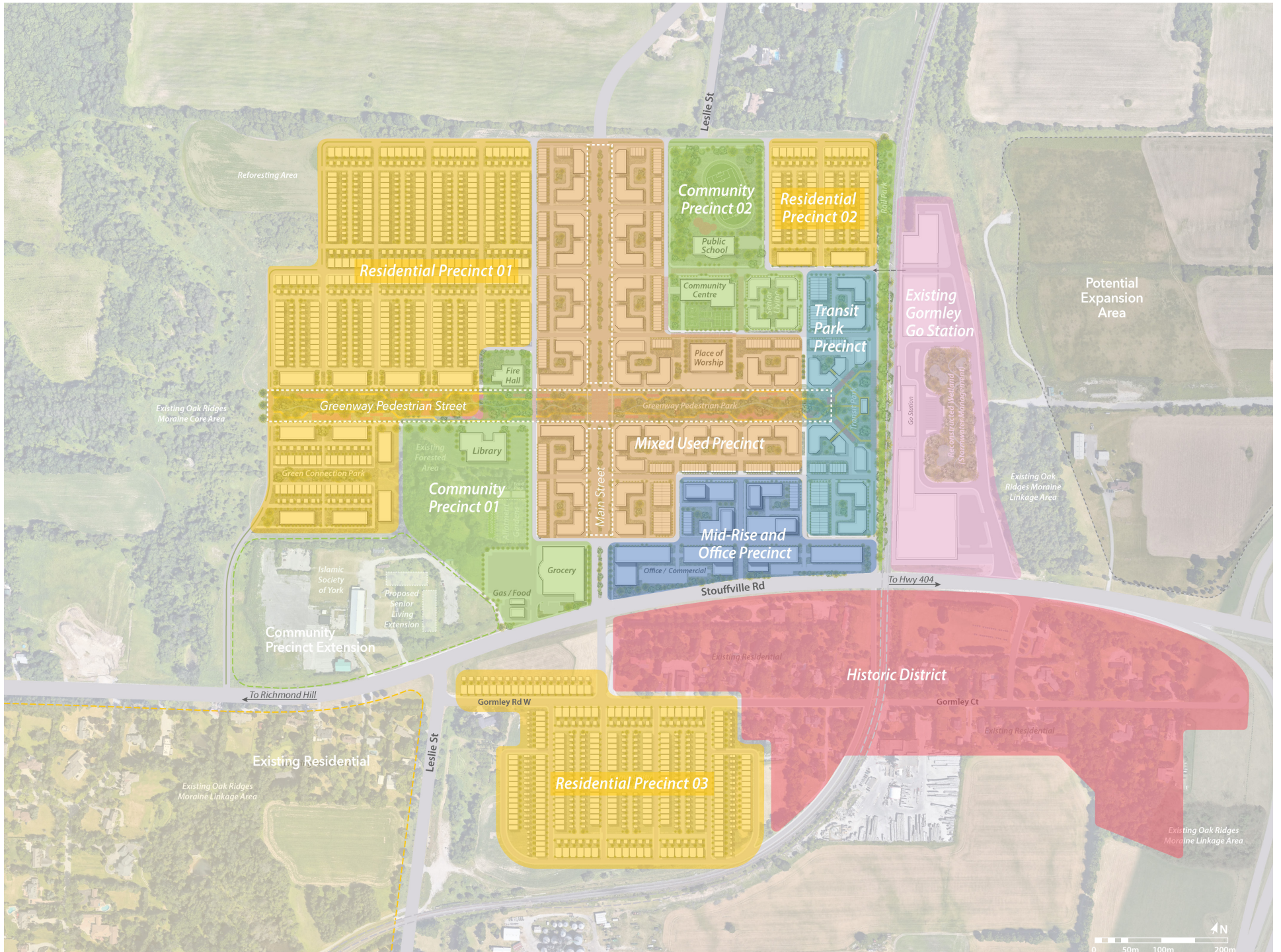
*The site is approximately 1.15km<sup>2</sup> in area with the design centered on the Gormley GO station and Rail Tracks to the East of the plan area.*

## **3.2 Site Analysis**

### ***Site plan***

The main access points for the site are the intersection of Stouffville Road and Leslie St and the existing Gormley go station the urban plan is centered on two perpendicular streets the Main Street and the Greenway. The go station and the transit park adjacent to it are one of the main anchors on the plan with the rail park that acts as a buffer between the new community and the rail tracks.





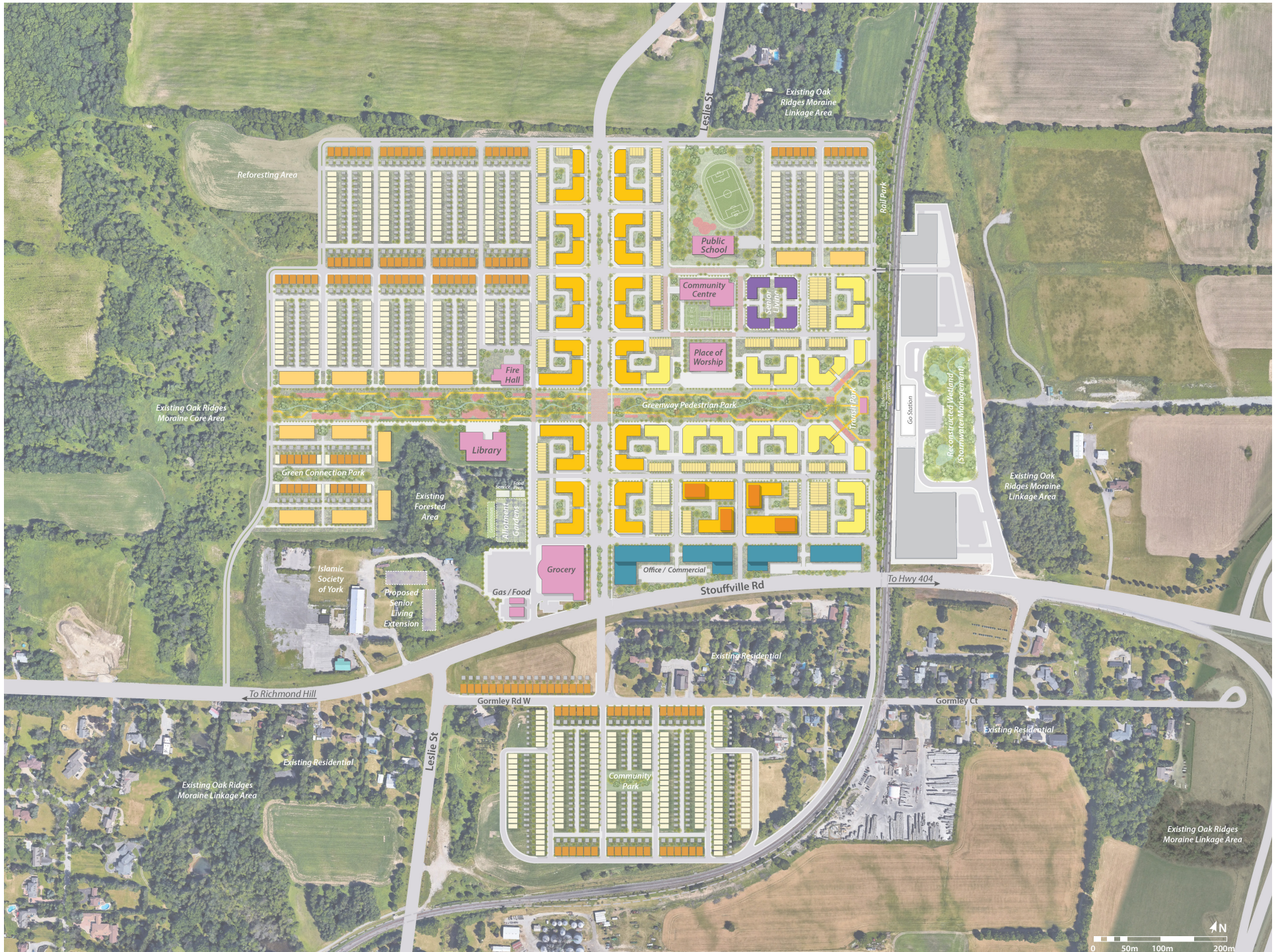
**Fig. 3.07 Precincts**

*The division of the site area into five precincts helps to define the design requirements for the use and character of these areas.*

***Precincts***

The program was divided into five main types of precincts including residential, community, mixed use, mid-rise and office, and the transit park. In addition to this there is also the existing historic district and existing residential and the community extension that includes the existing Islamic society of York as well as the potential expansion area to the east.







**Fig. 3.08 Program Distribution**

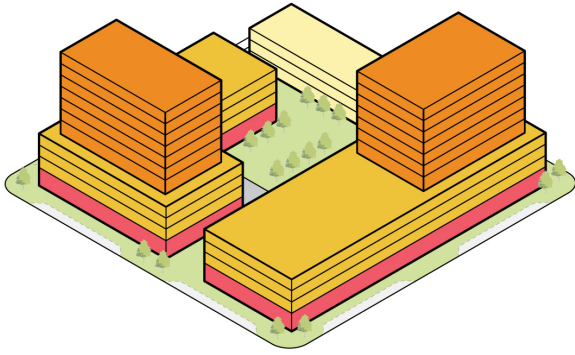
*The site supports a variety of program, types and scales that are designed to form a cohesive and pedestrian friendly urban fabric.*

- Residential Single
- Residential Duplex
- Low-Rise Residential
- Mixed Use (3 Storey)
- Mixed Use (4+ Storey)
- Civic / Institutional
- Senior Living
- Office / Commercial
- Parking

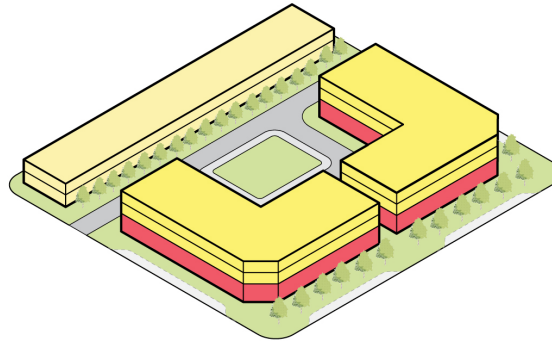
### ***Program Distribution***

The program is distributed throughout the site to create variety and interesting dynamic spaces. The main street is lined with Mid-rise (5 Storeys) Mixed-use with retail or commercial at grade and residential above. The program along the Greenway and transit park is Mid-rise (4 storey) mixed use with retail and residential. Passed the Main Street the Greenway in a pocket of community programming that is centered on the parks and allotment gardens and then moves into low-rise residential apartments towards the Green Edge. The residential areas are pushed to the corners of the site to take advantage of the green edge as well as the residential area to the south intended to integrate with the existing historic district and residential areas of New Gormley. And they are Single family and duplex housing block typologies with laneway parking. The community center, senior living complex, public school and park are located together on the north east side to share amenities and green space and foster community strength.

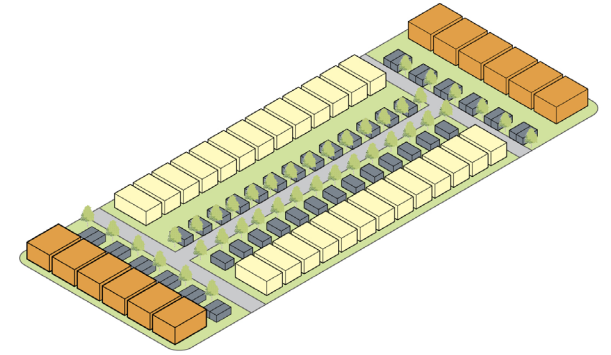
*Mid-Rise + Taller Elements*



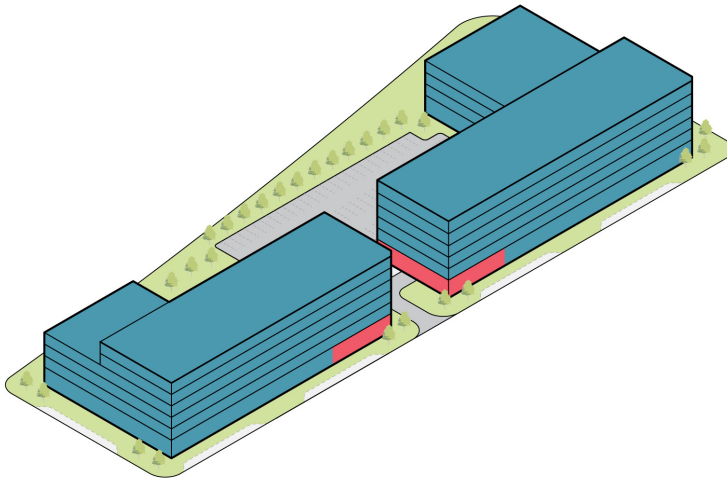
*Mid-Rise + Townhouses*



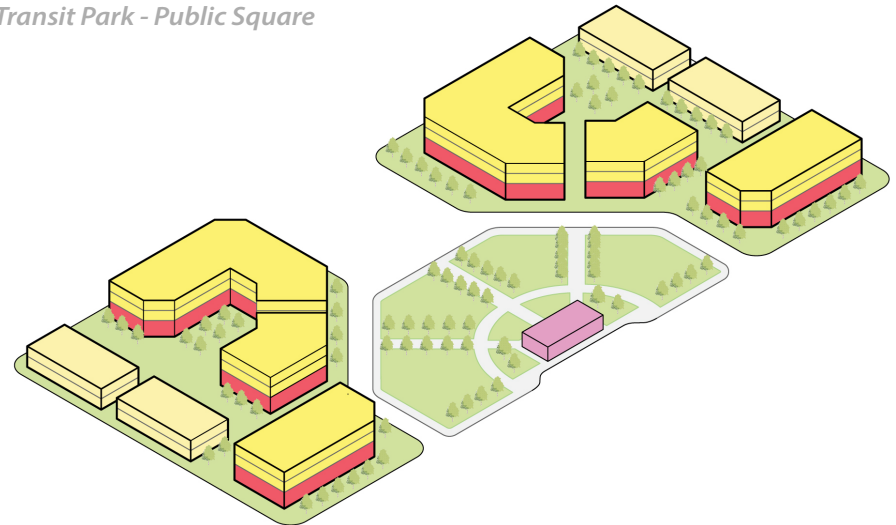
*Single + Duplex*



*Employment / Office*










*Transit Park - Public Square*



**Fig. 3.09 Block Typologies**

*The plan employs five main typologies of blocks varying from low to high density residential mixed use blocks, office typology and a transit orient community park with mixed use framing blocks.*

-  Residential Single
-  Residential Duplex
-  Low-Rise Residential
-  Mixed Use (3 Storey)
-  Mixed Use (4+ Storey)
-  Civic / Institutional
-  Senior Living
-  Office / Commercial
-  Parking

### ***Block Typologies***

The plan employed five primary block typologies for program distribution. The first being mid-rise with taller elements which includes the podium tower typology with mid-rise towers on top that are no higher than ten stories combined with town houses. The second is the mid-rise and townhouse blocks which line the Main Street and Greenway where the townhouses have their own yards, but they also have the ability to share public greenspace with the apartments. Next is the single and duplex block and are the standard residential blocks, that use green alleys for parking so as to enhance the streetscapes for pedestrians. The Employment and office block which focuses its front to the street and contains its parking in the rear and underground with possible retail and commercial spaces along the ground floor. And Finally, the Transit Park and Public Square with Midrise mixed-use with retail at grade that frame the park and share their greenspaces with the townhouses behind.







Units  
**3,833**  
 3,940



Units Per Acre  
**21.54**  
 13.84



Population  
**10,732**  
 11,032



Population Density  
**14,906**  
 9,576



Parkland (sm)  
**107,559**  
 297,560



Parkland / Person (sm)  
**10**  
 27.7



Jobs  
**<3,550**



Senior Living Units  
**<250**

### Program Distribution and Statistics

This design can accommodate 3,800 new housing units at 22 unit per acre with a new population of just under 11,000 residents at a population density of just under 15,000. The site also provides 10sm of parkland per person and 3 ½ thousand jobs in it's "back office". The design also includes 250 senior living units as part of its community precinct. When including the existing residential suburbs of new Gormley the density drops to under 10,000 persons per km2 but increases the Parkland to 28 sm per person.

(Opposite)

Fig. 3.10 Program Distribution View

This diagram illustrates the distribution of program throughout the site in an aerial view.

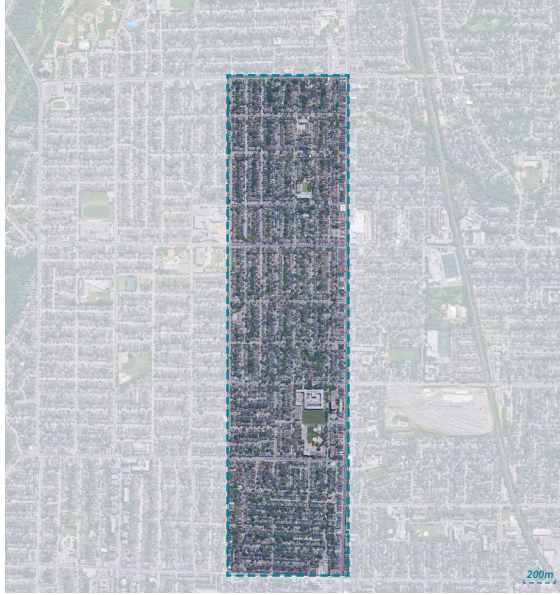
(Left)

Fig. 3.11 Program Statistics

The program stats are determined based on a 2.8 persons per household average and 125-225sf per employee average for employment space.



### Danforth Neighbourhood



Approx. Area: 1.2 km<sup>2</sup>



Source: Statistics Canada, 2016 Census of Population

### Gormley Proposed Neighbourhood



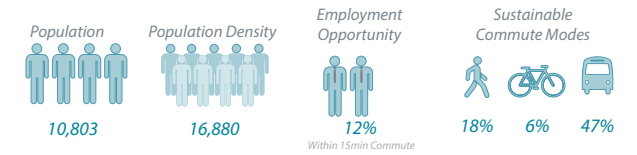
Approx. Area: 1.15 km<sup>2</sup>



### Regent Park Neighbourhood



Approx. Area: 0.64 km<sup>2</sup>



Source: Statistics Canada, 2016 Census of Population



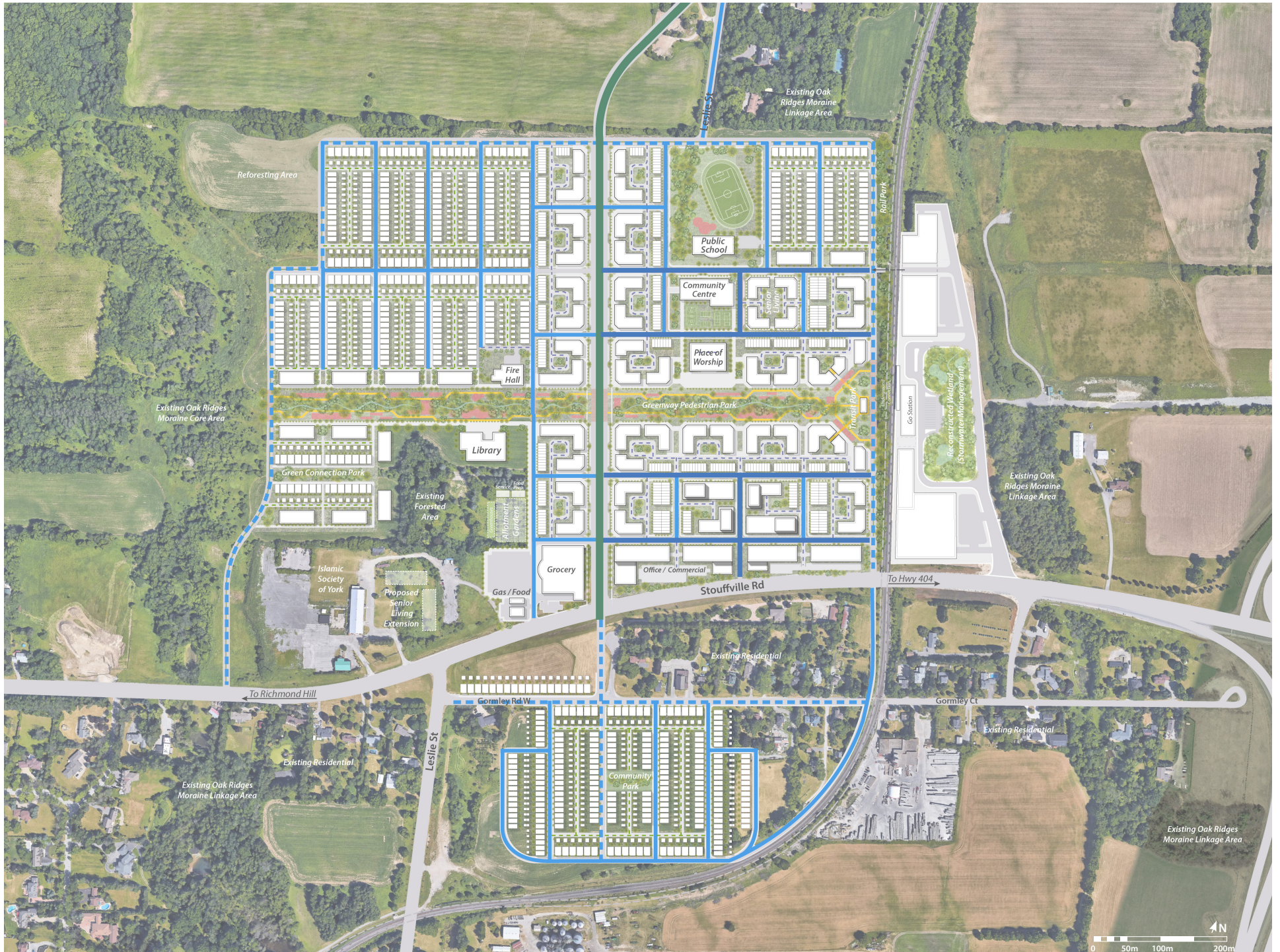
**Fig. 3.12 Neighbourhood Comparison**

*The comparison of the case-study site & plan to well known neighborhoods of similar populations illustrates the vast difference in key urban features dependent on the urban planning strategy employed.*

***Neighbourhood Density Comparison***

Looking at this design including the existing suburbs compared to similarly populated neighbourhoods in Toronto, the population density of these neighbourhoods varies greatly, which can be attributed to the housing type distributions on the site. The Danforth relies heavily on Low density types, Regent's park employs nearly all high density tower types, and the New Gormley Site distributes its density evenly between low, medium, and higher density forms. This design also has a significant increase in local employment opportunity base on a 15 min commute than either the Danforth or regents park and this is reflected in the sustainable commute mode shares.







**Fig. 3.13 Circulation - Street Hierarchy**

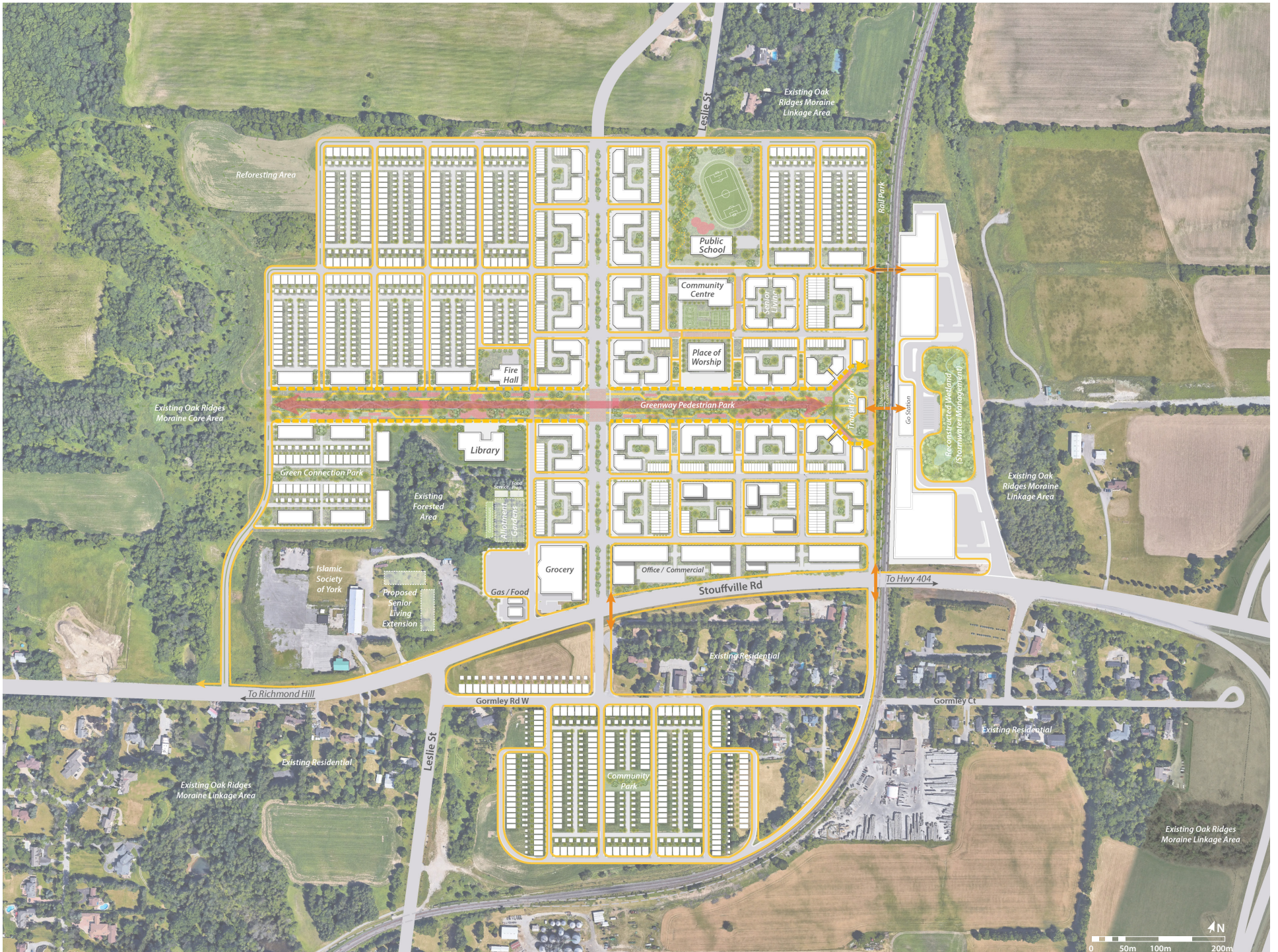
*The plan employs a variety of street typologies to create a fine grain circulation network for all modes of transit.*

- Downtown Thoroughfare
- Neighbourhood Main Street
- Neighbourhood Street Character
- - Residential Boulevard
- Neighbourhood Street
- - Neighbourhood Shared Street
- - Green Alley

### ***Circulation - Street Hierarchy***

These streets typologies include the Downtown thoroughfare along the main street with dedicated pedestrian and cycling infrastructure, neighbourhood main street along each side of the greenway with retail spill out areas and wide pedestrian throughways along with cycle tracks and street parking. The residential boulevard along the green edge of the site that integrates active space for recreation and leisure. The neighbourhood streets that are narrower to reduce speeds for and share lanes with cyclists and features green street frontage. The residential shared streets within the mixed-use blocks where street furnishings and greenery can help delineate shared and pedestrian spaces. And the green alleys used within the residential blocks to create safe enjoyable environments between the houses.







**Fig. 3.14 Circulation - Pedestrian**

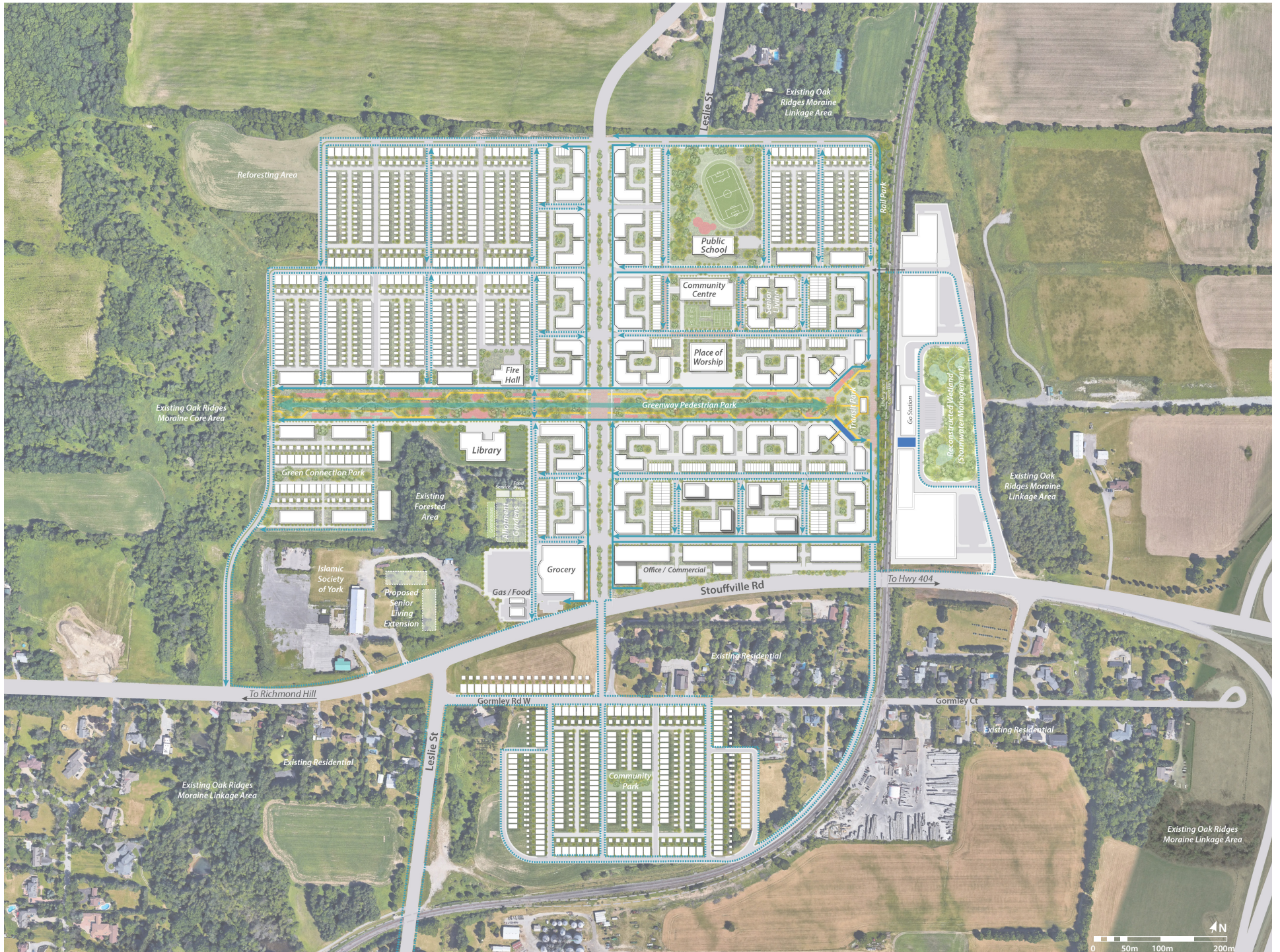
*The plan limits block lengths to ensure walkability, and prioritizes pedestrian circulation by eliminating all car traffic along the greenway.*

- Sidewalk
- Public Promenade
- Park Trail / Path
- Multi-use Trail
- ↔ Connection Points

### ***Circulation - Pedestrian***

The Pedestrian circulation is delivered through various types of paths including sidewalks in residential areas, Wider public promenades along retail corridors, A multi-use trail that allows for shared pedestrian and cycling access, and Park trails and paths in the green areas of the site. The Greenway is an entirely pedestrian street that is wide and populated with active greenspace and pedestrian programs.







**Fig. 3.15 Circulation - Cycling**

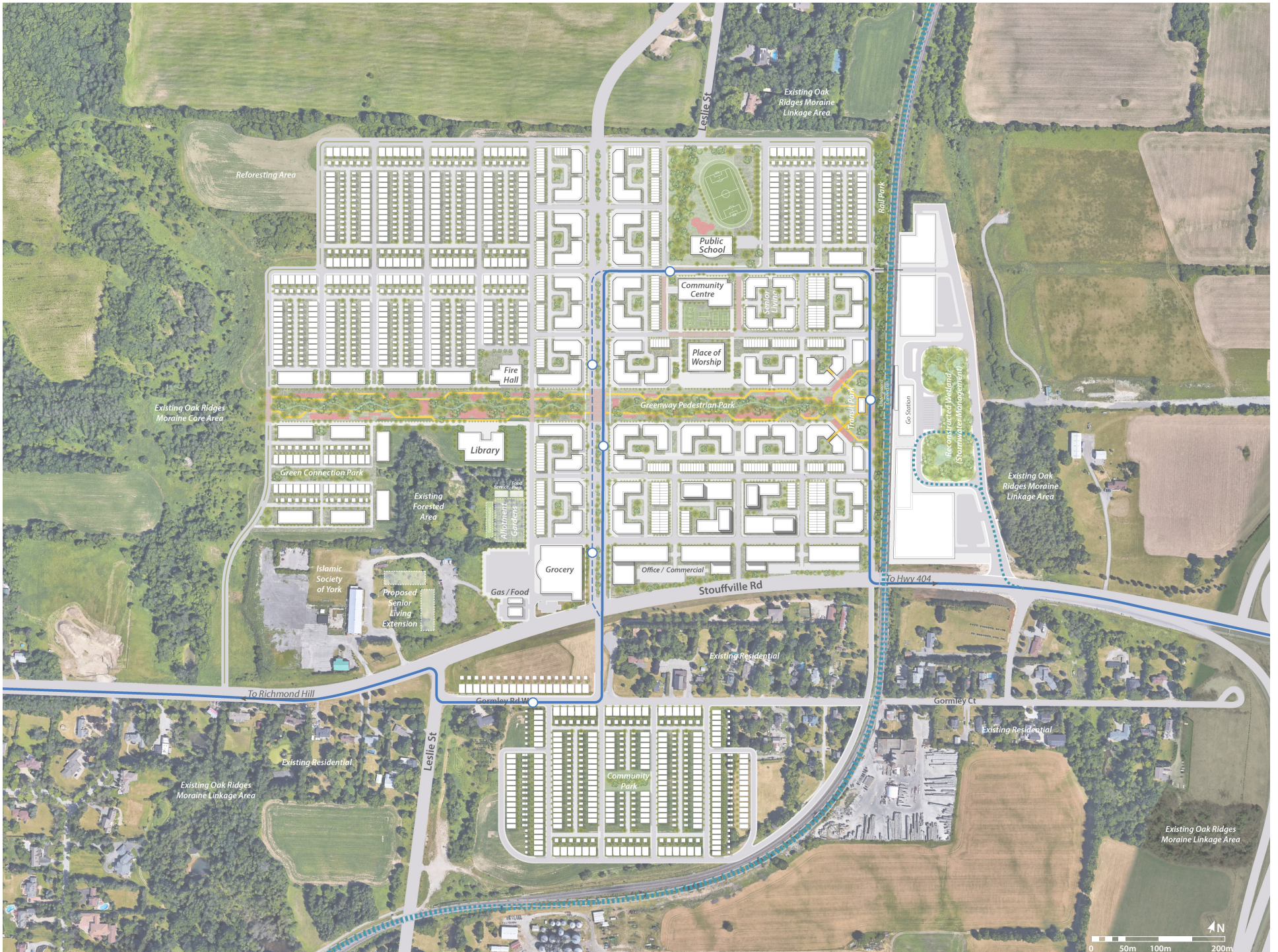
*An extensive and safety-focused cycling infrastructure network promotes active transportation in order promote healthy communities.*

- Single Sided Track
- Double Sided Track
- - 'Sharrow'  
Shared Road Lane
- Bike Share

### ***Circulation - Cycling***

Cycling Circulation around the site has buffered cycling tracks along the main retail and greenway streets, as well as "sharrow" shared Road lines along high traffic streets and has use of the multiuse trail altogether greenway.







**Fig. 3.16 Circulation - Transit**

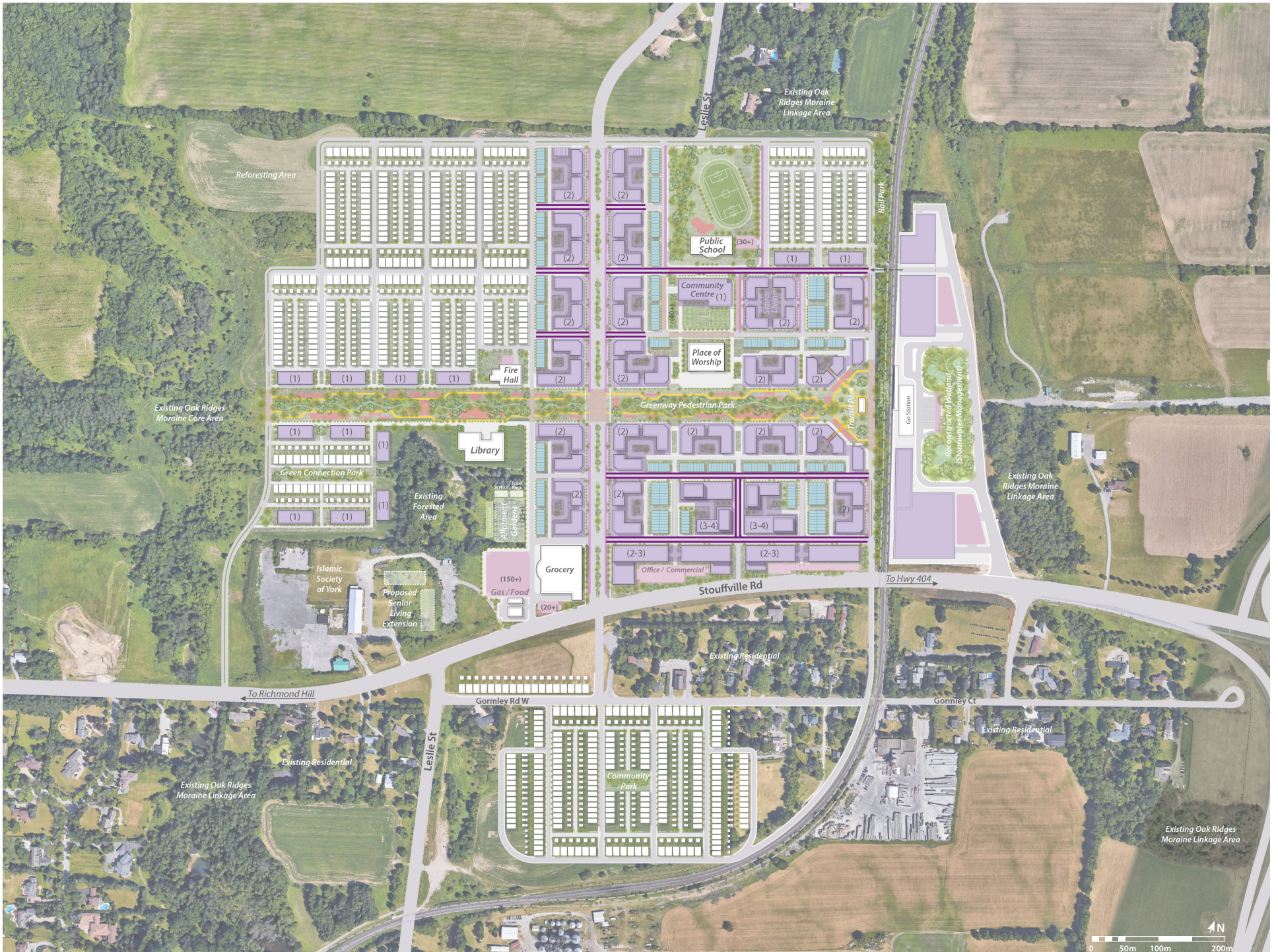
*Convenient and efficient transit options are a fundamental part of redirecting more travel towards more sustainable modes. Rail and bus routes are an integral part of that strategy.*

- Proposed Bus Route
- Proposed Bus Stop
- GO Station Bus Route
- GO Rail

### ***Circulation - Transit***

Transit circulation along the site is focused on creating further local access to the Gormley Go station and is a proposed alteration to the existing Go Bus route currently serving the station that passes along Stouffville road.












**Fig. 3.17 Circulation - Parking**

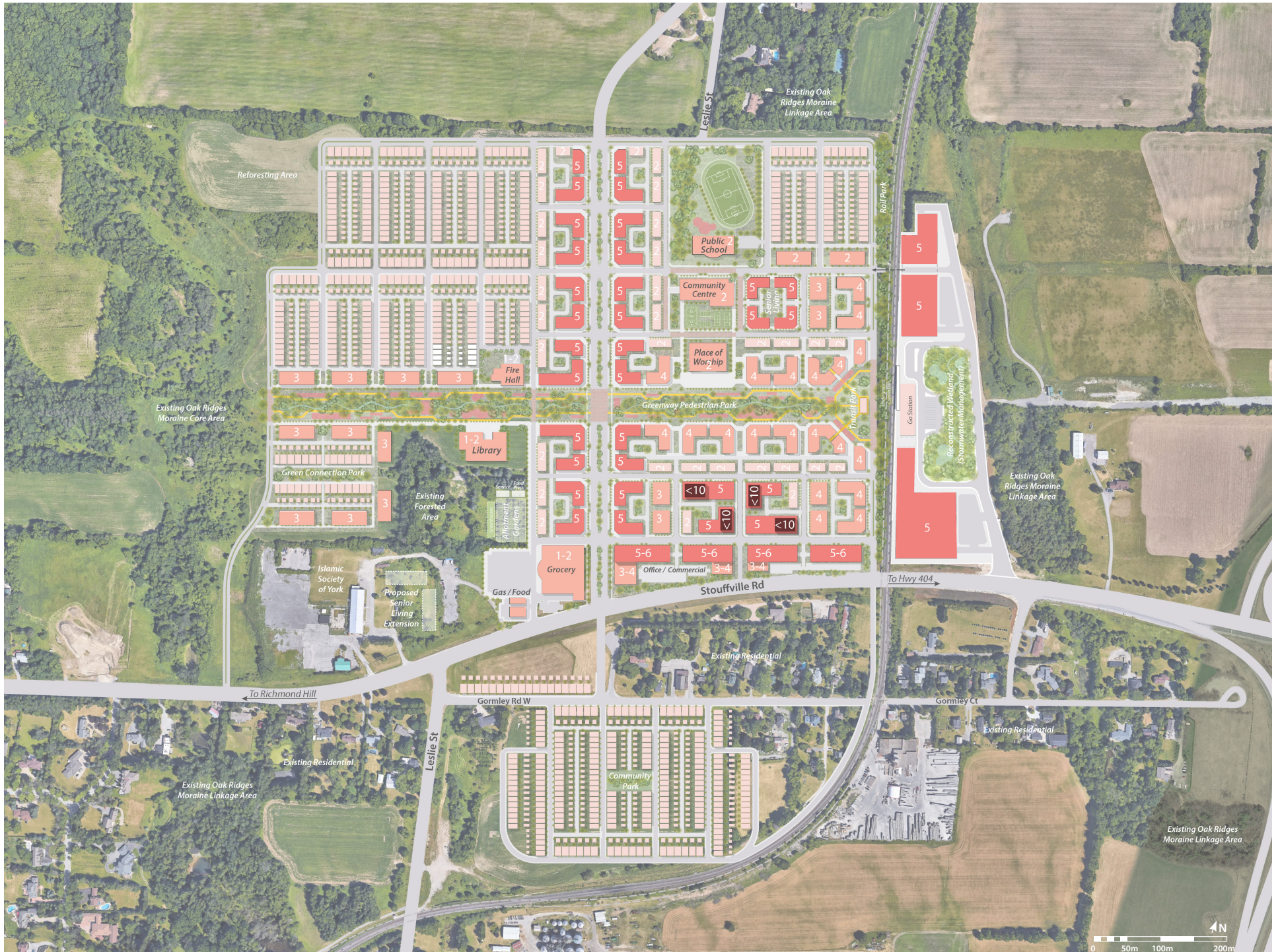
*The overall plan is designed to maximize active or public transit modes and as such redirects much of the parking underground or consolidated into garages including the existing Gormley GO station lot.*

-  One-Sided Street Parking
-  Two-Sided Street Parking
-  Underground Parking
-  Surface Parking Lot
-  Internal Parking

### ***Circulation - Parking***

The Parking on the site is predominantly moved underground in the higher density areas of residential and office space, though main of the main and secondary streets allow for street parking for retail and recreational spaces as well as surface parking for the community spaces and grocery store.







**Fig. 3.18 Building Heights**

*The building heights in the plan are distributed between low-rise, mid-rise, and taller elements with mid-rise and taller elements aligned along public corridors and higher density neighborhoods.*

- Low-Rise
- <Mid-rise
- >Midrise

### ***Building Heights***

The building height distribution throughout the site is predominantly anchored along the main street, and office / mid-rise park, and again along the transit side of the Greenway, and this height decreases toward the edges of the plan in the residential areas.







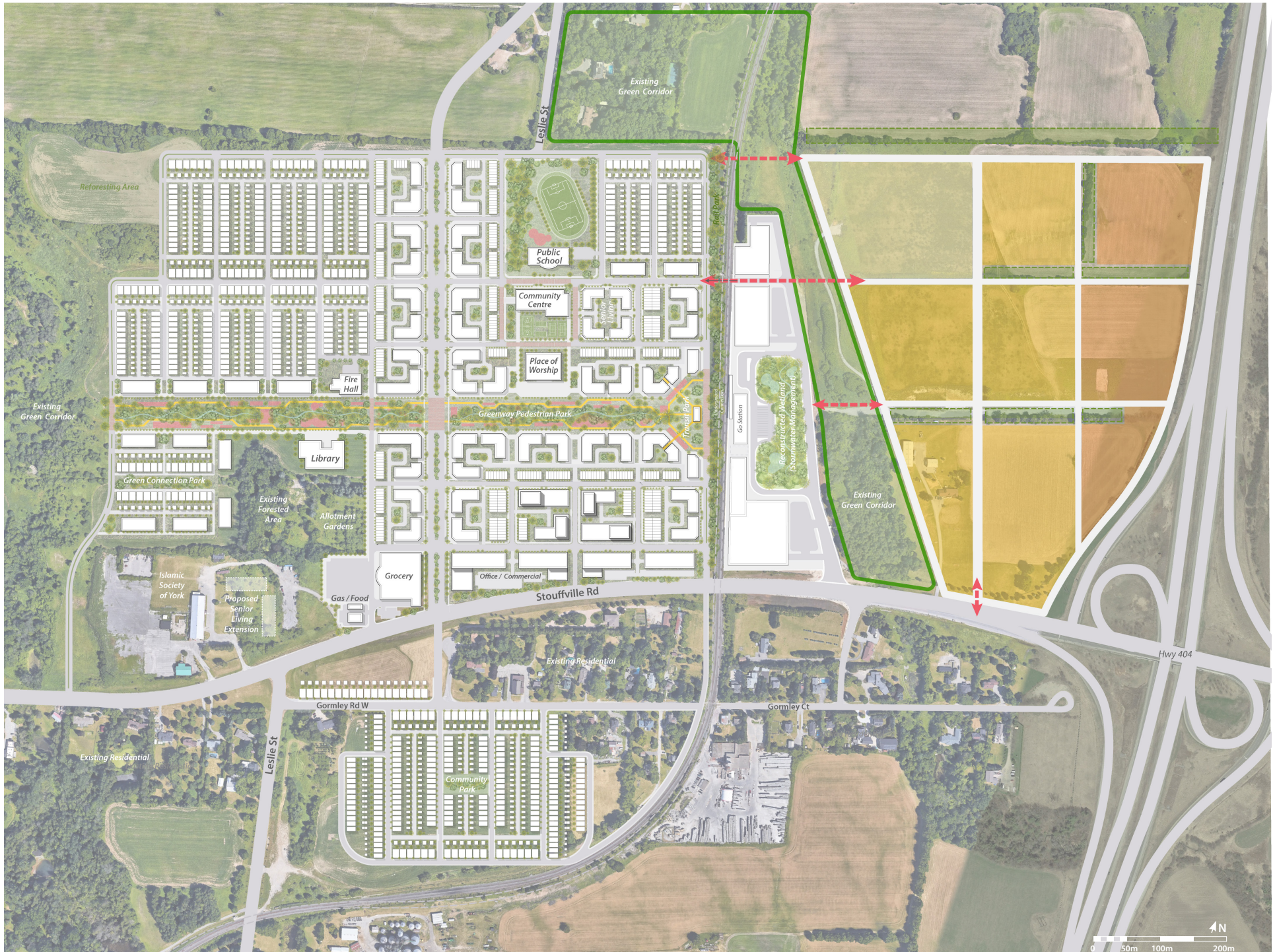
**Fig. 3.19 Parkland**

*The Site is surrounded and permeated by greenspace and parkland. The parks provide diverse neighborhood amenities and create a continuous system throughout the site.*

***Parkland***

This diagram looks to highlight the quality and density of parkland on and around the site. The Greenspace of the ORM Core area to the West is allowed to continue to bleed through the site through the Greenway and community parks and allotment gardens, as well as buffers the town from the rail track via the rail and transit park. The courtyard typology of the mid-rise and townhouse blocks allows for intermittent greenspace and parks throughout the urban form. And the Community center and School help to bring that green edge further into the centre of the plan. The area to the top left of the plan was left out of the urban fabric and is suggested to be reforested area to act as a connection point / park for the residential area in the north corner to the ORM Trail paths that run to the north west of the site.












**Fig. 3.20 Case-Study Site Expansion Potential Opposite the GO Station**

*The case-study area may allow for expansion across from the GO station, this area lends itself to additional residential programming.*

-  Low-Rise
-  <Mid-rise
-  >Midrise
-  ORM Linkage Corridor
-  Existing Tree lines

### ***Expansion Potential***

The area East of the Gormley Go station may allow for expansion of the site up to the boundary of the highway 404 corridor. This expansion would include additional residential, mid-rise mixed-use and higher density zones along the highway to further serve the Go station and include key connection points to the existing community. These area may also support commercial / retail spaces at grade to serve the community and the Go Station Commuters.







**Fig. 3.21 Site Aerial View**

*This diagram illustrates an above view of the case-study area and design.*

### **Site View**

The current go station is isolated, uninvolved with the existing Gormley area urban fabric, and connects only with the Stouffville road corridor that runs east west. The proposed design looks to integrate the station both with the new town but also creating greater connectivity to the existing residential areas of “new Gormley” and provide the kind of density and community infrastructure a commuter rail station can support.



Fig. 3.22 Allen and Pike Streets Pedestrian and Bicycle Improvement Project, New York, NY



Fig. 3.23 Monon Boulevard and Midtown Plaza Greenway Project, Carmel, IN



### **3.3 Key Areas**

#### *The Greenway Street*

The Greenway street was designed to allow for a variety of modal movement, retail spill out from the street fronts activates the pedestrian areas that feature a wide through-way and street furniture. The cycling network is protected with green buffered areas and on street parking. The Greenway's mature tree canopy creates a rich space in the middle of the street with multi-modal pathways and accommodates leisure and activity spaces. The Greenway can also support a bioswale system to help with storm-water run-off pollution filtration.

*Section Through Greenway*



Fig. 3.24 Section Through Greenway





Multi-use Trail

Bioswale

Paths

Buffered Cycle Track

Street Furniture

Pedestrian Through-way

Retail Spill-out





Fig. 3.25 Sidewalk Toronto by Alphabet, Toronto, ON



Fig. 3.26 Union Point by Elkus Manfredi & Sasaki, Boston, NY

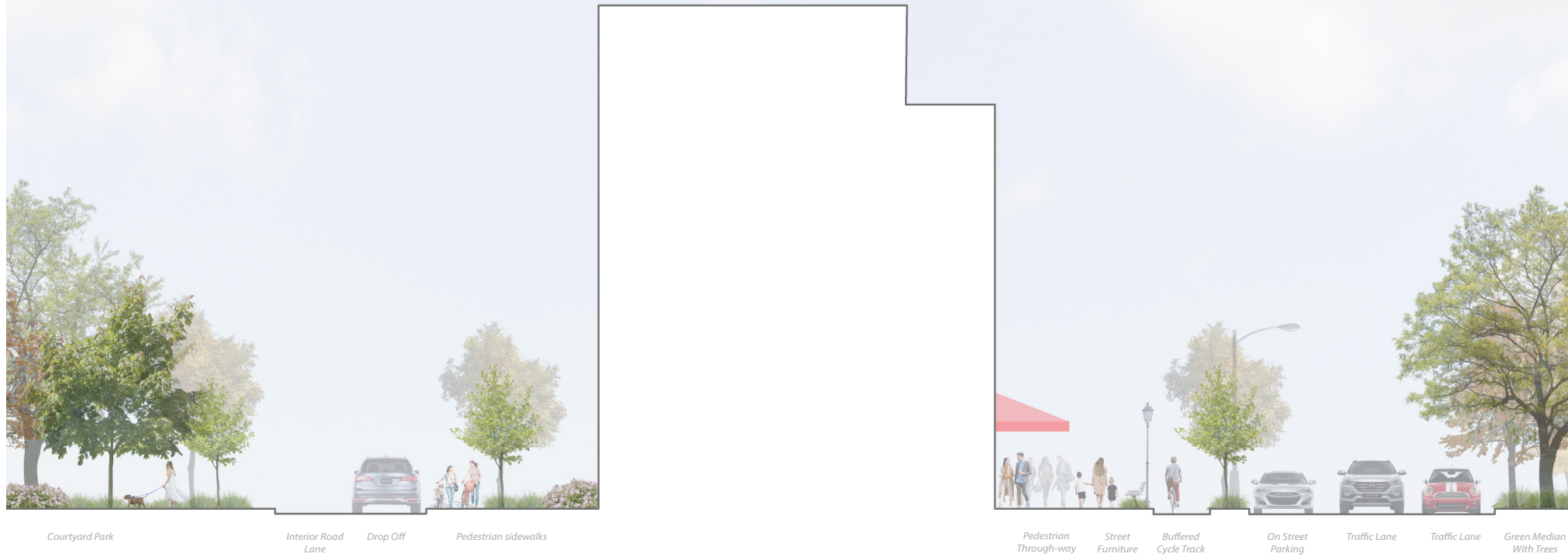




### *The Main Street*

The Main street is activated with higher density residential above varied retail and commercial store-frontage. Cycling paths and on street parking frame the street edge and a central green median with natural vegetation can make the street more vibrant and inhabitable.

*Section Through Main Street*



Courtyard Park

Interior Road Lane

Drop Off

Pedestrian sidewalks

Pedestrian Through-way

Street Furniture

Buffered Cycle Track

On Street Parking

Traffic Lane

Traffic Lane

Green Median With Trees

Fig. 3.27 Section Through Main Street



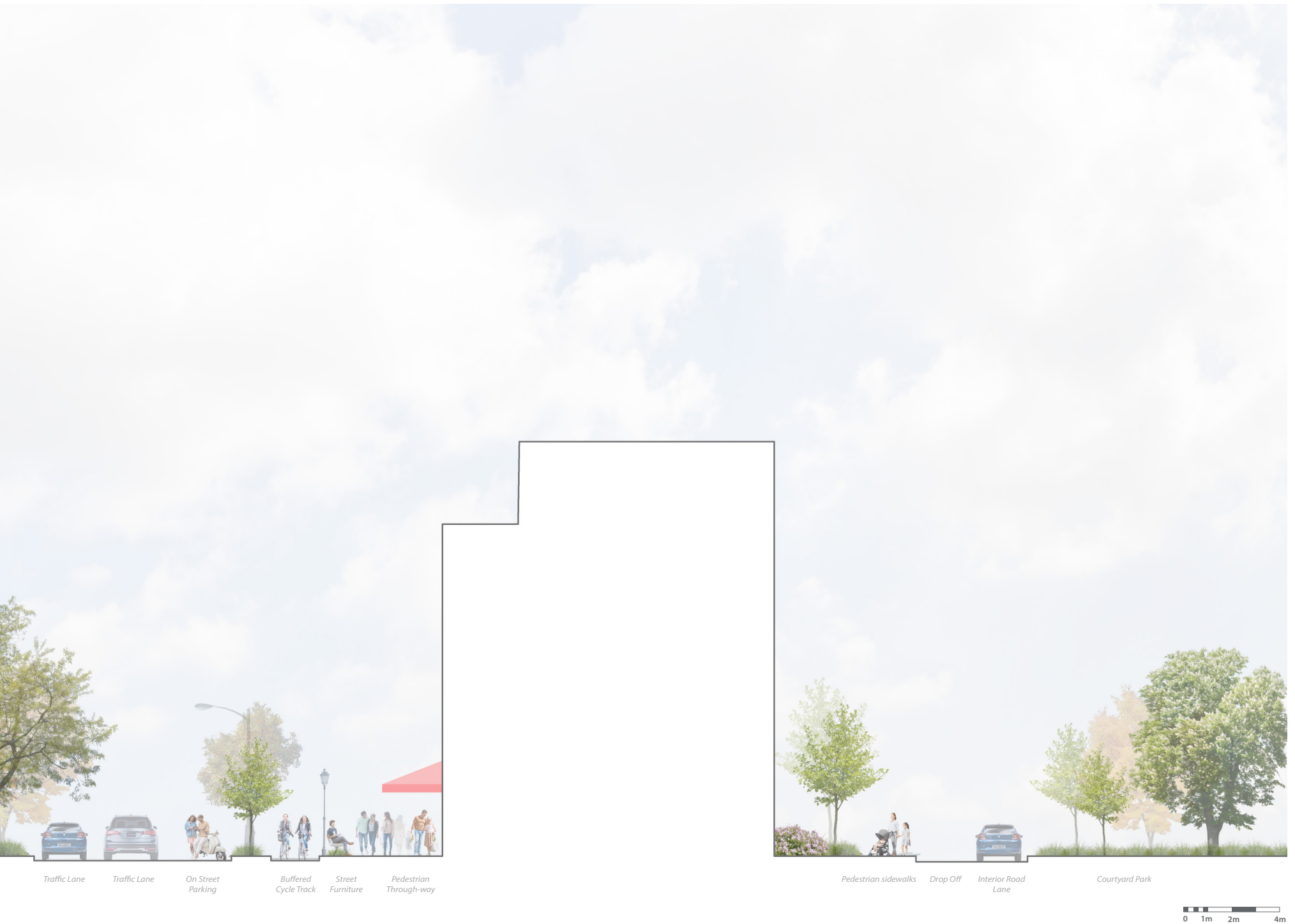




Fig. 3.28 Q Street Green Alley, Washington DC

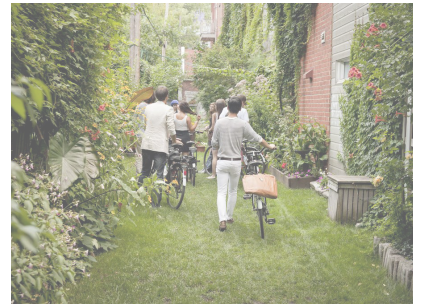
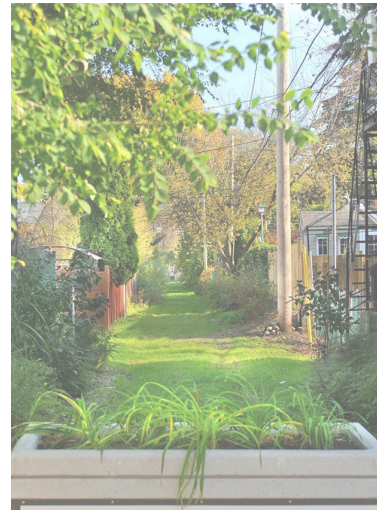
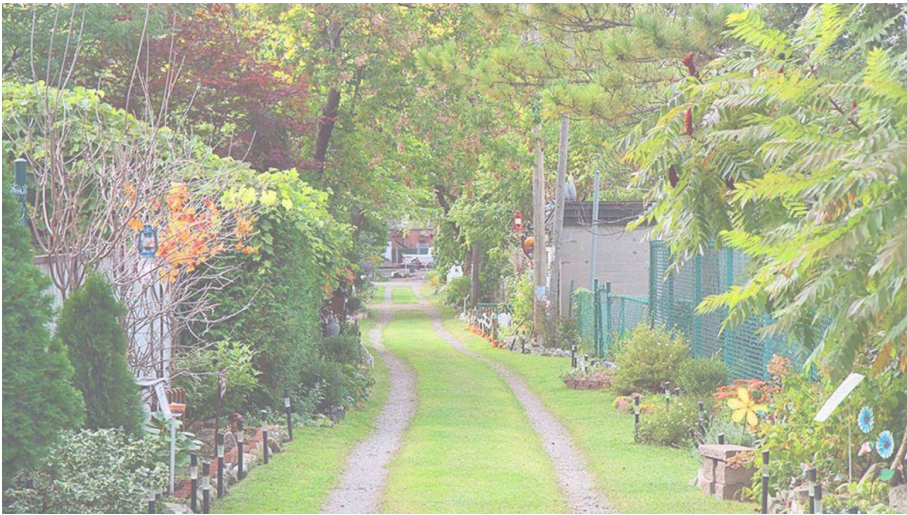


Fig. 3.29 Green Laneways, Montreal



### *The Residential Street*

The residential areas feature rear-yards that face onto the green laneway shared streets, and the single loaded residential streets run parallel to the green edge forming its boundary as a way to open up the green edge to the public realm of the street rather than fencing with private backyards. This allows the green edge to be visible public space and thereby reduces the safety concerns related to housing backing onto unlit forest or ravine. The trails that follow the green edge can then also take advantage of the road infrastructure such as streetlights and furniture. The design also proposes the use of bioswales along the edge of the streets to help filter runoff entering the green edge.

*Section Through Residential*



*Oak Ridges Moraine Core Area  
+ Trails*

Street Furniture    Bioswale Storm-water Filtration    Pedestrian sidewalks    Traffic Lane    Green Median With Trees

Fig. 3.30 Section Through Residential





0 1m 2m 4m

### ***Transit Park***

One of the Key areas of the Plan is the transit Park, that acts as the connection point between the existing Gormley Go station and the new community. This park will have flexible green spaces enhanced with native vegetation plantings that frame the new station secondary entrance that leads to an underpass to access the Go Station tracks. Focused on enhancing the pedestrian experience this space will utilize various colors and textures delineate pedestrian crosswalks and sidewalks, bicycle lanes, automotive lanes, and transit lanes. Mixed-use buildings frame the streetscape and designated transit lanes and bicycle lanes promote convenient and efficient alternative modes of transportation.



Fig. 3.31 View of the Transit Park







### **Greenway Park**

A Second Key area is the Greenway and Main street. The Greenway is comprised of an existing tree line and as such will have significantly more canopy coverage than newly planted trees. This can create dense vibrant greenspace between the mid-rise buildings that frame the street, and is wide enough to incorporate a variety of multi modal paths and street furniture enhancements as well as allow for Bioswale channels. The aim of the project as a whole is to create a dense, interactive, walkable community focused on the vitality of the pedestrian experience. And these strategies activate the urban fabric of the site and prioritize the pedestrian experience ensure the safety and walkability of the pedestrian pocket.



Fig. 3.32 View of the Greenway







Fig. 4.01 Farmers Fields Across from GO Station





## ***4.0 Conclusion***





## Conclusion

In a 2017 report, The Ontario Ministry of Municipal Affairs and Housing noted that “The Greenbelt is a cornerstone of Ontario’s proposed Greater Golden Horseshoe Growth Plan which is an overarching strategy that will provide clarity and certainty about urban structure, where and how future growth should be accommodated, and what must be protected for current and future generations”.<sup>1</sup> The greenbelt should and must be protected for the overall health of the region. However, the laws that protect the greenbelt are relatively young and continually criticized and confronted by various stakeholders and interests putting the protected lands at risk. This thesis positions urban development not as the anthesis to conservation but as its colleague – working together responsibly to achieve a greater regional sustainability. Metrolinx advocates for the importance of public transit in building sustainable cities and communities but without complementing these transit systems with progressive, sustainable land use planning these communities and the region at large will continue to experience the effects of auto-dependant sprawl.

The development of a transit-centred, high-density garden city situated in a low-quality green and Whitebelt space in the context of Ontario’s Greenbelt such as the Gormley area would alleviate pressures exerted on the Region’s greenbelt boundaries and conservation areas. The Gormley GO Station’s position relative to existing road and highway networks, visible demand in ridership and community, and the surrounding area greenbelt ORM Countryside designation makes it an ideal candidate for such a development. The responsible development of this land in the greenbelt can provide the region with a new, more socially and environmentally sustainable model for future urban growth.

1. Ontario. Ministry of Municipal Affairs and Housing. (2017). *Greenbelt Plan 2017*. p1.

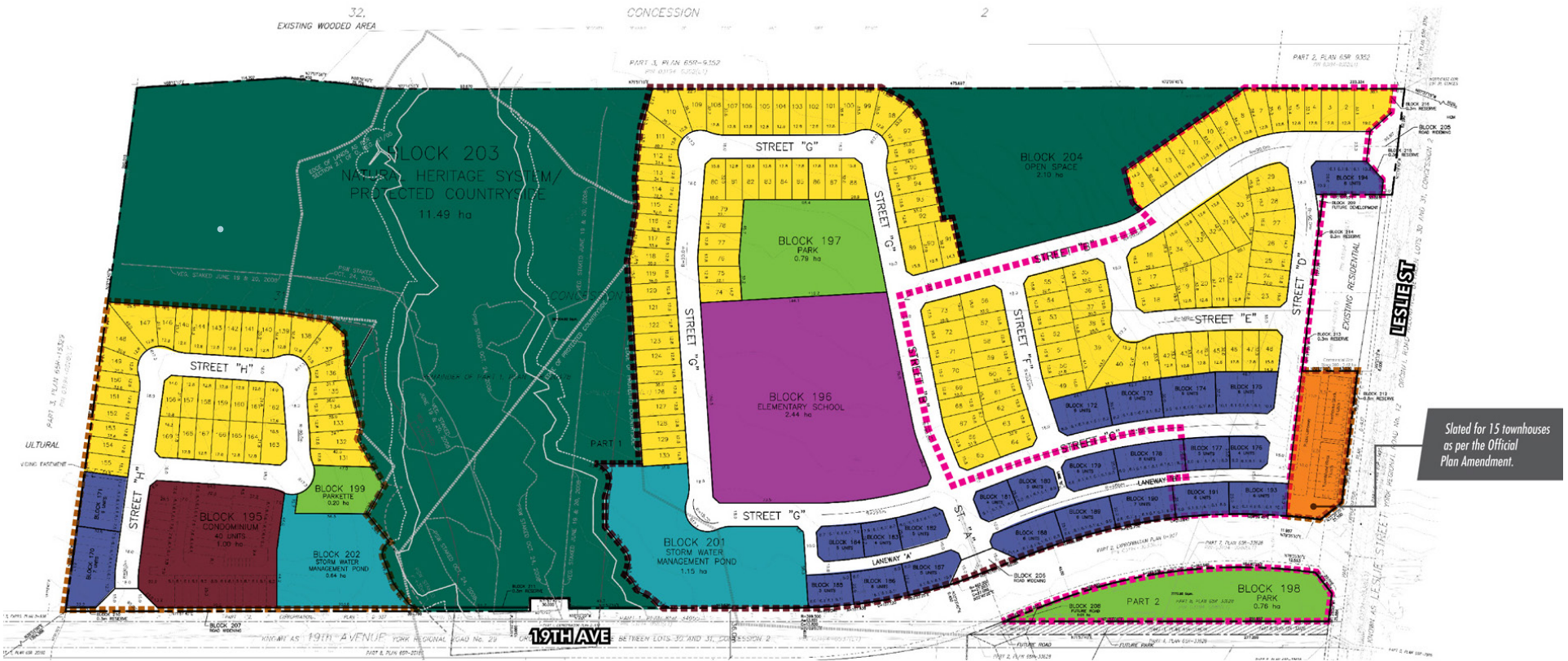


TYPE	UNIT	MAX SIZE (SF)	AVG. LOT WIDTH	PARKING SPACES <sup>1</sup>	AREA
Single Family (Detached)	169	5,613 <sup>2</sup>	42 ft.	4	20.0 AC.
Freehold Townhouses	136	3,500 <sup>3</sup>	20 ft.	2 or 4 <sup>3</sup>	6.6 AC.
Condominium Townhouses	40	2,700	20 ft.	2 or 4 <sup>3</sup>	2.5 AC.
Commercial <sup>4</sup>	-	-	-	-	1.2 AC.
Elementary School	-	-	-	-	6.0 AC.
Parks & Parkettes	-	-	-	-	4.3 AC.
Open Space & Natural Heritage Features	-	-	-	-	33.6 AC.
Roads <sup>5</sup>	-	-	-	-	14.4 AC.
Storm Water Management Pond	-	-	-	-	4.4 AC.
<b>TOTAL</b>	<b>360<sup>6</sup></b>				<b>93 AC.</b>

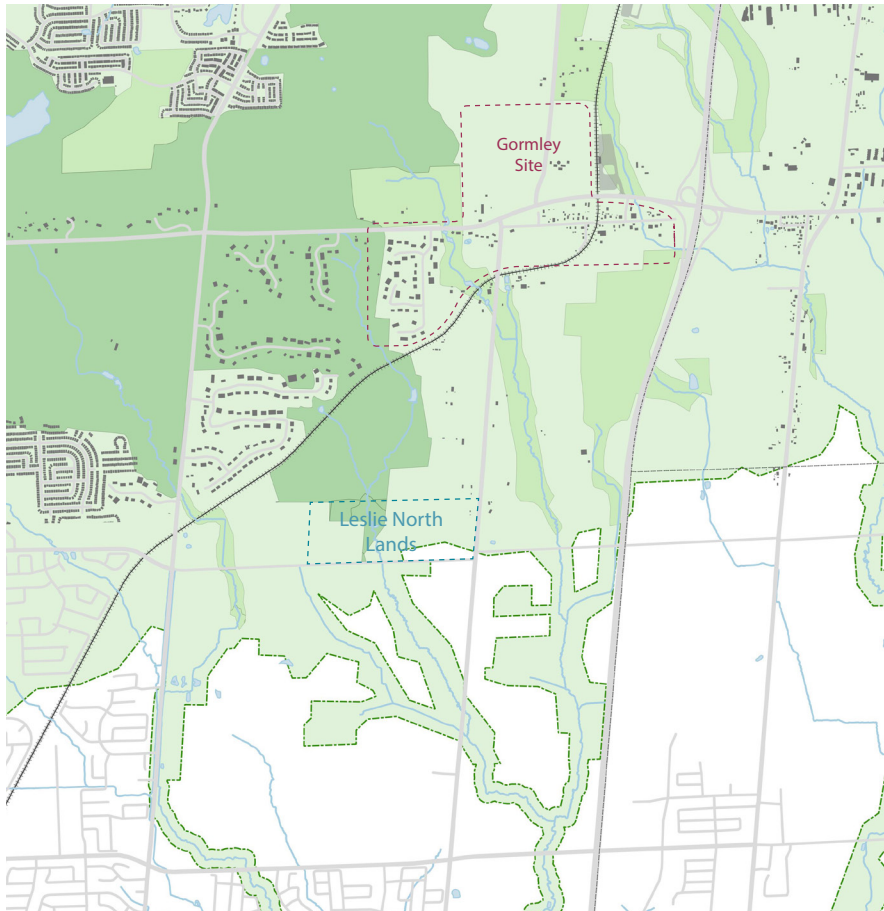
(Left to Right)  
**Fig. 4.02 North Leslie Land Development Site Aerial View**  
 The area slotted for development lies at the corner of 19th Ave and Leslie Street in Richmond Hill

**Fig. 4.03 North Leslie Land Development Program Statistics**  
 The proposal includes single family and townhouse residential building types.

(Below)  
**Fig. 4.04 North Leslie Land Development Master Plan**  
 This drawing illustrates the proposed program distribution on the North Leslie Lands







\* Based on 2.8 persons per household Average

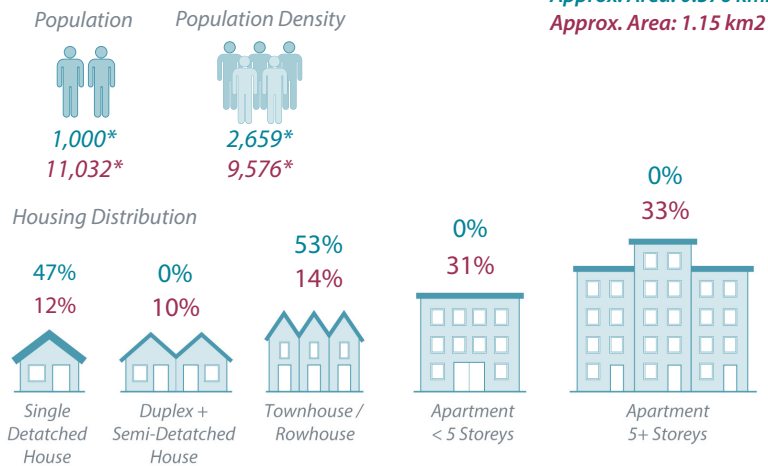


Fig. 4.05 Gormley Case-Study Design Proposal and North Leslie Land Development Proposal Comparison

#### 4.1 Current Local Growth: Leslie North Suburban Greenbelt Developments

One of the reasons that establishing an alternative model for growth within the greenbelt is important is because there are still low-density sprawl developments that are approved for parcels of land within the greenbelt. One of these is very near to the Gormley Go station site, In May 2018, 93 acres of lands at 19th Ave and Leslie street were approved for a low density residential development within the Greenbelt and Oak Ridges Moraine boundaries. The site was re-zones and a draft plan approved to permit the development of 169 single detached units and 170 Townhouses and an elementary school. The plan cites highway access and proximity to transit as well as significant growth in the area as motivators, where since 2013 the surrounding area has grown by almost 14%.<sup>2</sup>

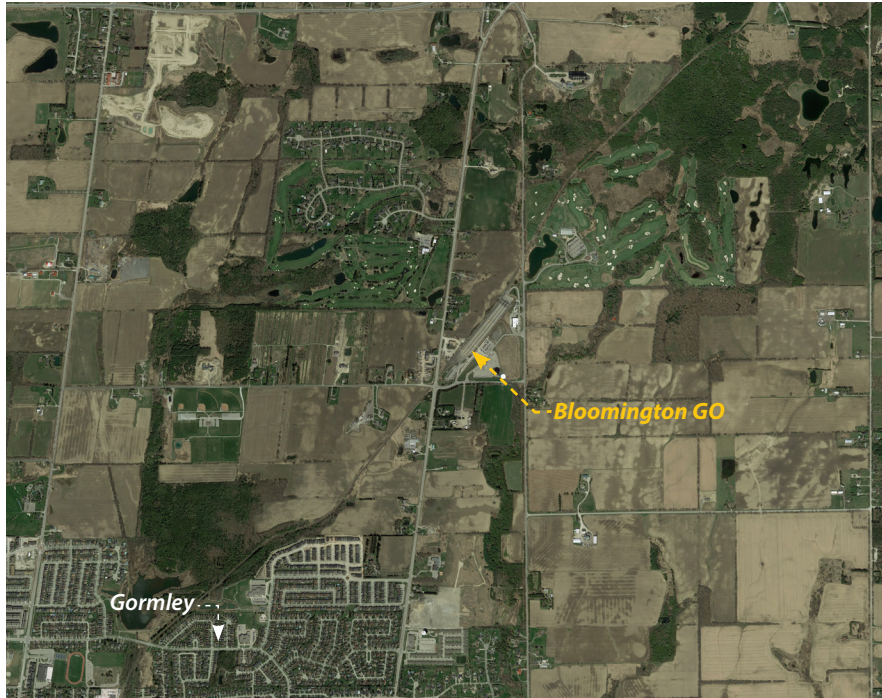
Continued approval of development plans like this are a prime example of the kind of destructive piecemeal deterioration of the greenbelt boundary and lands, and as such we should investigate was to incorporate the necessary growth for the region in other ways that are responsible for both our city's and our environment.

2. CRBE Canada. Approved Residential Development Opportunity: 19th Avenue & Leslie Street, Richmond Hill. Retrieved from <http://cbreCanada.com/19thandlelie/>



### The Richmond Hill Line

Bloomington GO is located just one stop north of the Gormley station on the Richmond Hill line. It opened in late June early July of this year and similarly to the Gormley station it's isolated from urban areas. The new station, which has been in the works for almost five years, was built in the middle of a wetlands area, though some environmental conservation efforts were incorporated into the building's design.



The Richmond Hill Line

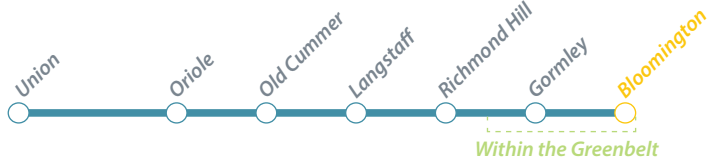
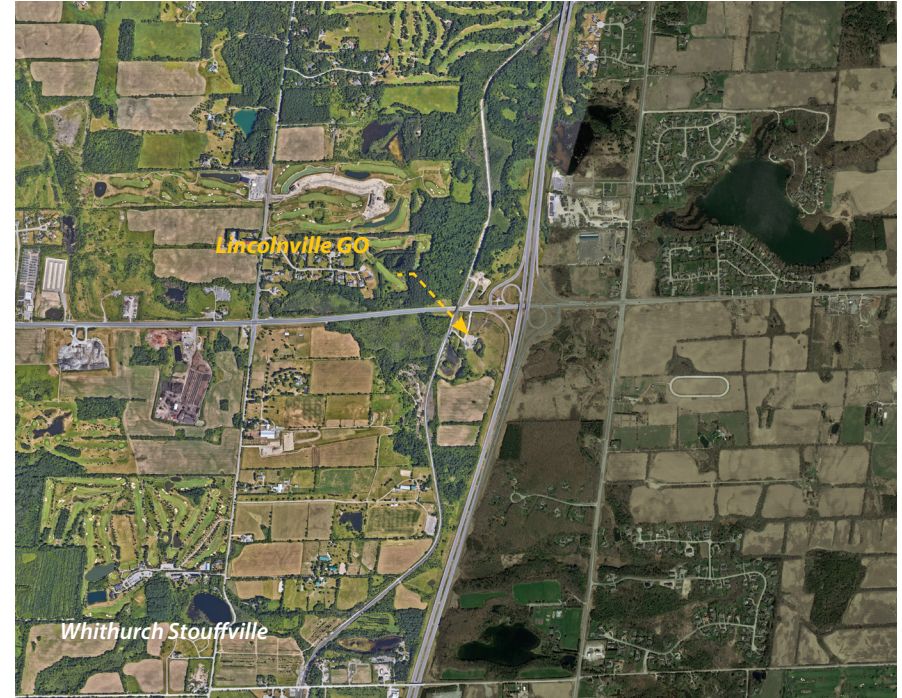


Fig. 4.06 Bloomington GO Station Location

### The Stouffville Line

A New Lincolville GO station is under construction now to replace an outdated platform, the new station will include amenities and 673 parking spots. The new station will separate from an existing layover facility and relocate further up the tracks with three new tracks.



The Stouffville Line



Fig. 4.09 Lincolville GO Station Location



Fig. 4.07 Bloomington GO Station Front



Fig. 4.08 Bloomington GO Station Wetlands View



Fig. 4.10 Lincolville GO Station Renovation Illustration



Fig. 4.11 Lincolville GO Station Crossing



## The Barrie Line

The King City Go station opened in 1982, and in 2002 the station more than doubled its parking capacity, and currently the station is part of Metrolinx expansion program with improvements and expansions featuring more parking, a second track and platform, pedestrian bridges to access the new track and platform, a new Kiss & Ride and improved biking amenities.



Fig. 4.12 King City GO Station Location



Fig. 4.13 View of King City GO Station Across Tracks



Fig. 4.14 View of GO Train in King City

## 4.2 Application: Other Greenbelt Rail Corridor Communities

And these ideas proposed in this thesis, while centred around Gormley GO station, may be applied to other commuter rail stations as well, especially those that lie within the greenbelt. These are three such examples of Commute GO Stations that sit within the greenbelt boundary that could be targets for Sustainable urban growth. The first is the Bloomington Station that opened last month, built on top of the greenbelts wetland, and similarly to Gormley this station is isolated from urban areas and is accessible predominantly by car. A second station to consider is the Lincolnville go station currently under construction just north of the Stouffville station this expansion included nearly 700 parking spots and three new tracks. The station is currently surrounded by a cluster of industrial parks, farmland and several golf courses. And lastly, King City Go station is a good example of an existing station currently expanding its tracks and platforms, and adding new auto infrastructure that could consider orient future urban growth towards sustainable transit oriented developments that allow for greater densities and land uses in the small town.

Similar to the Metrolinx Gormley Go station, these current station plans demonstrate a lack of consideration for sustainable land use without the inclusion of a sustainable urban planning strategy for the lands around the stations that provide the kind of transit oriented community developments and intramodality necessary to create a complete integrated transit network. As they stand now, these stations while outwardly championing the commuter rail network as a step towards sustainability in the region, actively present a situation that simply makes it easier to live and drive within Toronto's outer suburban fabric thereby furthering its expansion efforts. However, if protecting the Ontario's Greenbelt's integral green space is a priority for the province these rural station areas may provide a way for the region to shift towards a sustainable transit oriented community planning strategy that is necessary to stem continuations of auto-dependent sprawl.





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