

4.0

The Opportunity for Tower Neighbourhood Renewal in the Greater Golden Horseshoe

Many of the goals that are typical of Tower Neighbourhood Renewal initiatives in European jurisdictions coincide closely with recent areas of provincial policy development. Increasing transit use, reducing poverty, reducing greenhouse gas emissions, and creating complete communities are central tenets of Tower Neighbourhood Renewal. They are also key areas of provincial interest. Through recent initiatives such as The Big Move - Metrolinx's Regional Transportation Plan, the Poverty Reduction Strategy, the Go Green Action Plan on Climate Change, and the Growth Plan for the Greater Golden Horseshoe, the Province is seeking to achieve a number of the same goals that Tower Neighbourhood Renewal has successfully achieved elsewhere.

In this section, we explore the links between Tower Neighbourhood Renewal and these areas of provincial policy interest, and suggest locations in the Greater Golden Horseshoe (GGH) where there may be particularly high potential for Tower Neighbourhood Renewal to help achieve these provincial priorities.

This analysis places focus on large apartment clusters, which are defined as groupings of five or more Apartment Towers.

4.1 Supporting Regional Transit Investment and Alternative Transportation Modes

Context

The Big Move - Metrolinx's 2008 Regional Transportation Plan (RTP) for the Greater Toronto and Hamilton Area (GTHA) - sets out a series of strategies, policy recommendations and infrastructure investment priorities that are intended to transform the region's transportation system into a truly multi-modal system that is seamless, coordinated, efficient, equitable and user-centred.

The 25-year vision of the RTP includes:

- reducing the distance that people drive every day by one-third;
- reducing reliance on private automobiles such that one-third of trips to work are taken by transit, and one in five are taken by walking or cycling; and
- reducing per person GHG emissions from passenger transportation by half.

Key strategies in the RTP include:

- building a comprehensive regional rapid transit network across the GTHA;
- implementing integrated walking and cycling networks for the GTHA;
- planning a system of connected mobility hubs at key intersections in the transit network; and
- planning, designing and building the transportation system to create pedestrian-, cycling-, and transit-friendly communities.

Tower Neighbourhood Renewal provides an opportunity to support these RTP strategies.

Discussion

As discussed earlier in this report, residents of Apartment Towers tend to have higher than average transit ridership. They also exhibit higher than average rates of walking and cycling, and lower than average rates of car ownership. These findings, as well as the tendency for Apartment Towers to be clustered in groupings of higher density, strongly suggest that Apartment Tower Neighbourhoods are important markets for alternative modes of transportation.

The challenge currently is the poor access that these towers have to fast, frequent regional rapid transit. While most of them have access to varying levels of local bus service, only 17 per cent of Apartment Towers are in close proximity (within 500 metres) to regional rapid transit. The RTP's 25-year regional rapid transit network would significantly improve this situation. The first phase of the RTP, the "Big Five" projects, will provide direct access to 28 per cent of Apartment Towers, and the full 25-year Metrolinx Plan will provide direct access to 64 per cent of towers.

Given the already strong tendencies of Apartment Tower residents to use transit, and their relative dependence on transit due to lower than average car ownership rates, Apartment Tower Neighbourhoods have significant potential to function as the ridership anchors of the RTP transit network. While the RTP network will bring transit to the doorsteps of many more residents in the region, Apartment Towers can generate the riders that will make that network viable.

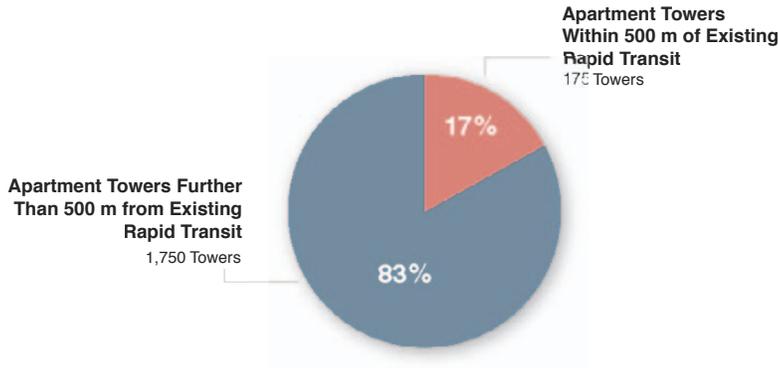


01

The Metrolinx "Big Five"

The RTP identifies 15 priority transportation projects to be implemented over the next 15 years. Of these, five projects were identified as the most immediate priorities. They are referred to as "the Big Five" and include light rail transit lines in the City of Toronto on Sheppard Avenue East, Eglinton Avenue and Finch Avenue, the upgrade and extension of the Scarborough RT, and the Viva bus rapid transit system in York Region.

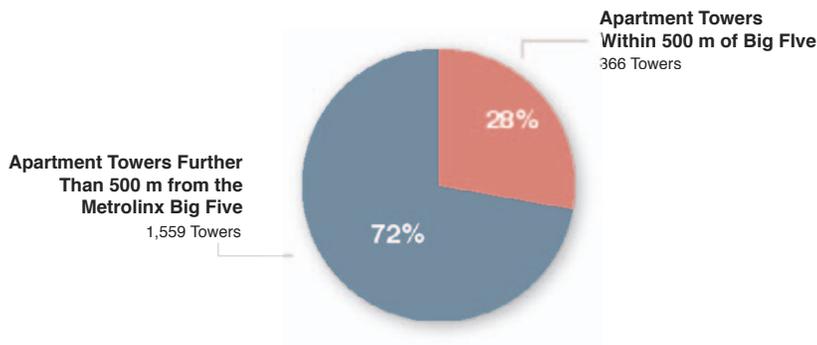
Apartment Towers Within 500 m of Existing Regional Rapid Transit



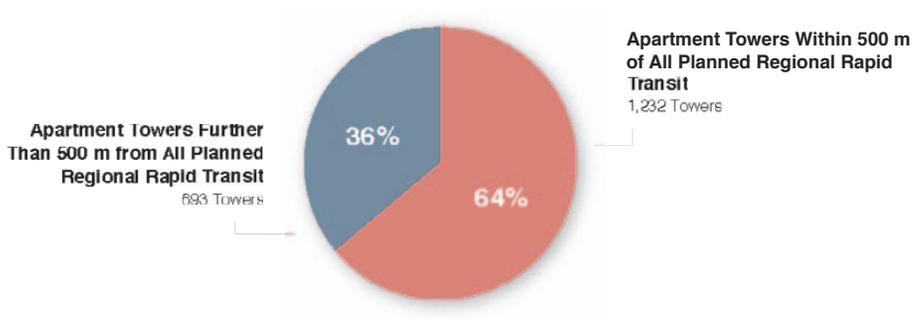
Images

- 01) Cover of Metrolinx Regional Transportation Plan, The Big Move: Transforming Transportation in the Greater Toronto and Hamilton Area
- 02) Metrolinx full system map, as planned

Apartment Towers Within 500 m of Metrolinx 'Big Five'



Apartment Towers Within 500 m of Metrolinx Plan 25-Year Regional Rapid Transit Network



Total Towers in GGH: 1,925

As detailed planning proceeds for the RTP transit network, an understanding of Apartment Towers can help to guide decisions on routing and station location. With 18 per cent of Apartment Towers in the GTHA within planned mobility hubs (measured as 800 metres from the station site), there is an opportunity to improve their integration as part of mobility hub master plans.

A key implementation mechanism for the RTP will be municipal Transportation Master Plans (TMPs). With 72 per cent of Apartment Towers still more than 500 metres from regional rapid transit after the completion of the initial Big Five projects, and 36 per cent more than 500 metres away after full RTP implementation, the role of local transit will be critical to providing service and access to the residents of these neighbourhoods. Likewise, the Active Transportation Master Plans that the RTP suggests be undertaken as part of municipal TMPs can explore ways to shift more of the short trips originating in these neighbourhoods onto walking or cycling.

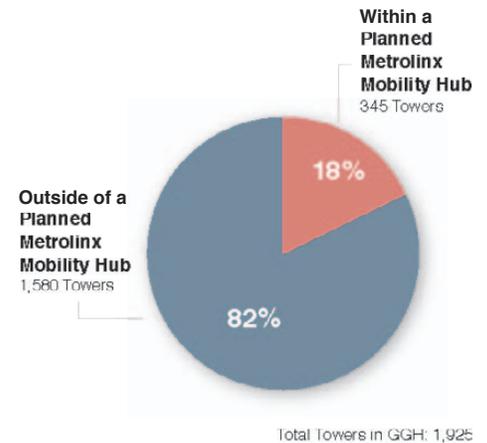
The Ministry of Transportation's Transit Supportive Land Use Planning Guidelines (TSLUG), which are currently being updated, are another opportunity to recognize the important role that Apartment Tower Neighbourhoods can play in fostering high levels of transit use. Land use guidelines tailored to the unique circumstances of Apartment Tower Neighbourhoods would be a valuable component of the new TSLUG. This would be facilitated by further analysis of individual tower neighbourhoods to identify the different neighbourhood typologies and the types of transit supportive land use changes that may be appropriate in different circumstances.

Taking A Closer Look - Large Cluster Analysis

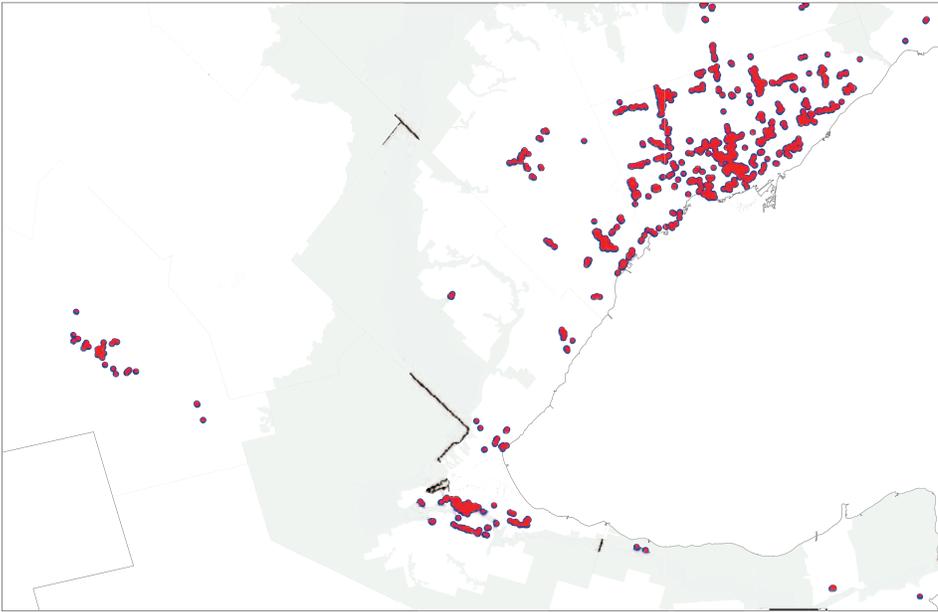
While all Apartment Towers are potentially important buildings blocks of the transit system, areas with large clusters of several buildings warrant a particularly strong emphasis.

The series of maps beginning on page 56 show locations within the GGH with clusters of five or more Apartment Towers that currently exhibit higher than average transit ridership. Collectively, these represent nearly half of all Apartment Towers in the GGH (43 per cent).

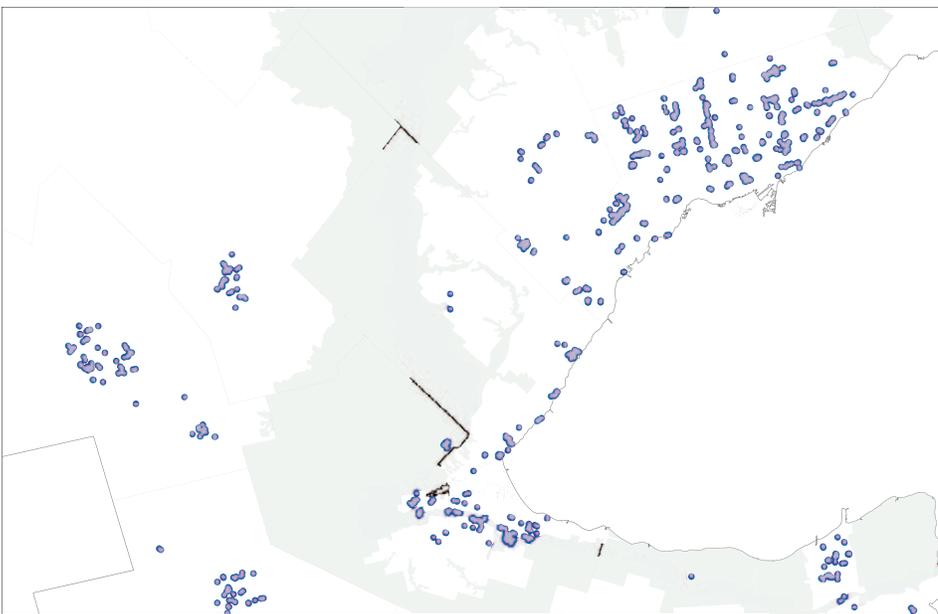
Apartment Towers Within Planned Metrolinx Mobility Hubs



Apartment Towers and Planned Rapid Transit



Location of Apartment Towers within 500 m of Metrolinx 25-year Regional Rapid Transit Network



Location of Apartment Towers further than 500 m of Metrolinx 25-year Regional Rapid Transit Network

150km

Legend

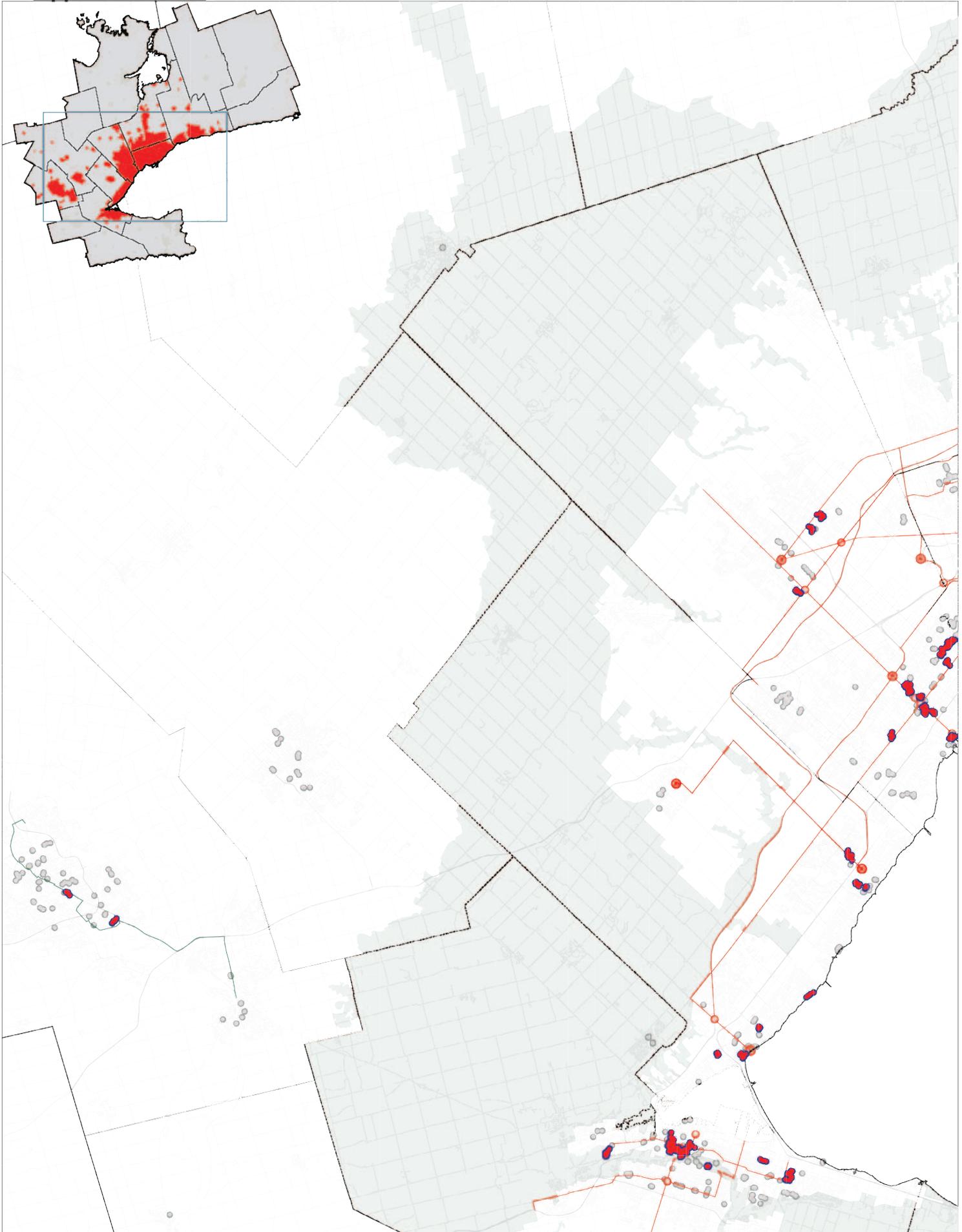
- Apartment Towers within 500 m of Metrolinx 25-year Regional Rapid Transit Network
- Apartment Towers further than 500 m of Metrolinx 25-year Regional Rapid Transit Network

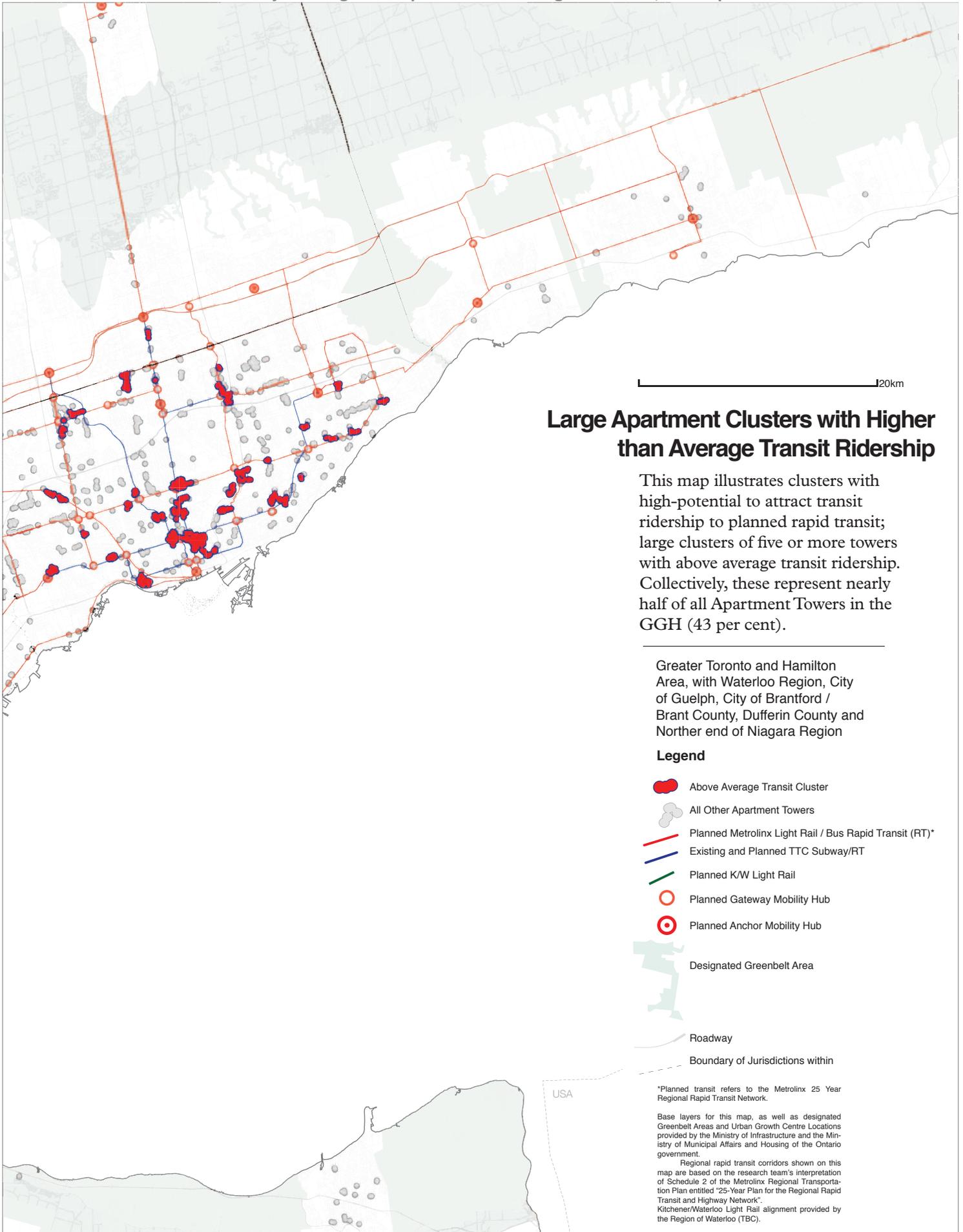
- Designated Greenbelt Area
- Roadway
- - - Boundary of Jurisdictions within GGH

Base layers for this map, as well as designated Greenbelt Areas and Urban Growth Centre Locations provided by the Ministry of Infrastructure and the Ministry of Municipal Affairs and Housing of the Ontario government.

Regional rapid transit corridors shown on this map are based on the research team's interpretation of Schedule 2 of the Metrolinx Regional Transportation Plan entitled "25-Year Plan for the Regional Rapid Transit and Highway Network". Kitchener/Waterloo Light Rail alignment provided by the Region of Waterloo (TBC).

Opportunities 4.1 Tower Neighbourhood Renewal in the Greater Golden Horseshoe





Large Apartment Clusters with Higher than Average Transit Ridership

This map illustrates clusters with high-potential to attract transit ridership to planned rapid transit; large clusters of five or more towers with above average transit ridership. Collectively, these represent nearly half of all Apartment Towers in the GGH (43 per cent).

Greater Toronto and Hamilton Area, with Waterloo Region, City of Guelph, City of Brantford / Brant County, Dufferin County and Northern end of Niagara Region

Legend

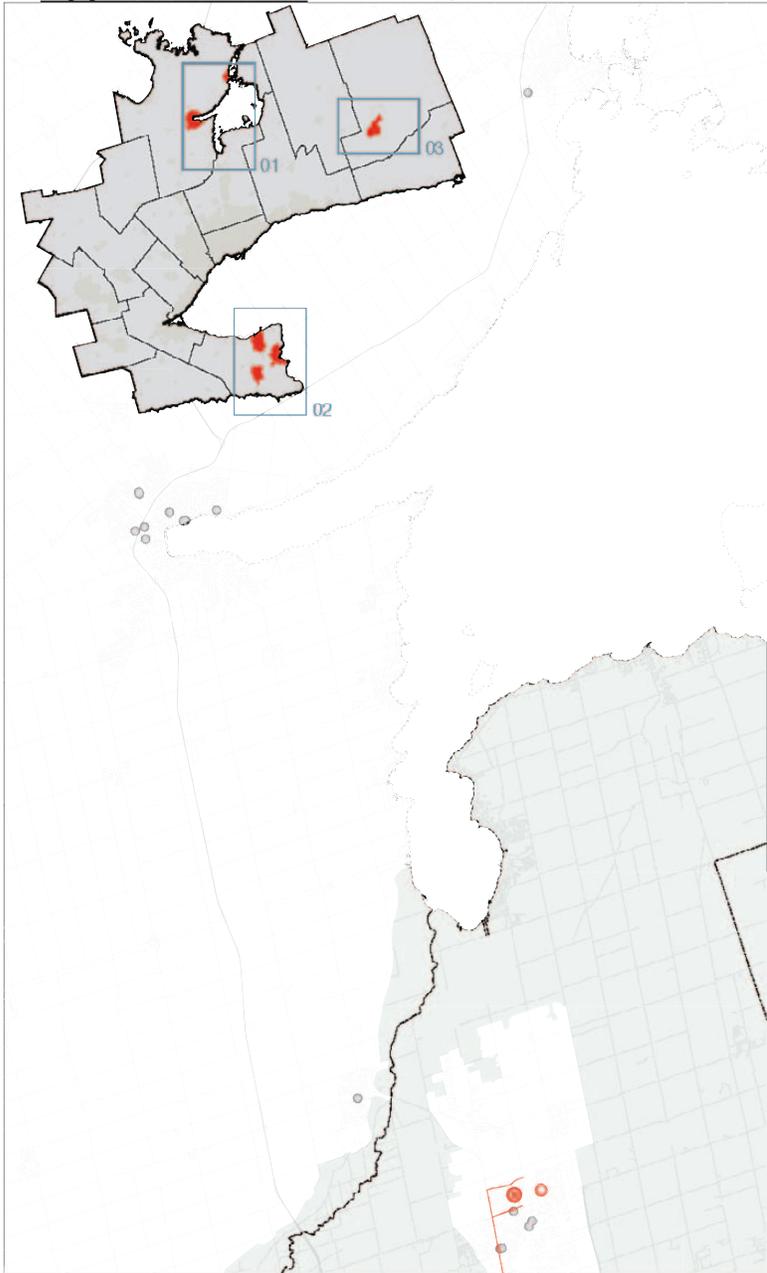
- Above Average Transit Cluster
- All Other Apartment Towers
- Planned Metrolinx Light Rail / Bus Rapid Transit (RT)*
- Existing and Planned TTC Subway/RT
- Planned K/W Light Rail
- Planned Gateway Mobility Hub
- Planned Anchor Mobility Hub
- Designated Greenbelt Area
- Roadway
- Boundary of Jurisdictions within

*Planned transit refers to the Metrolinx 25 Year Regional Rapid Transit Network.

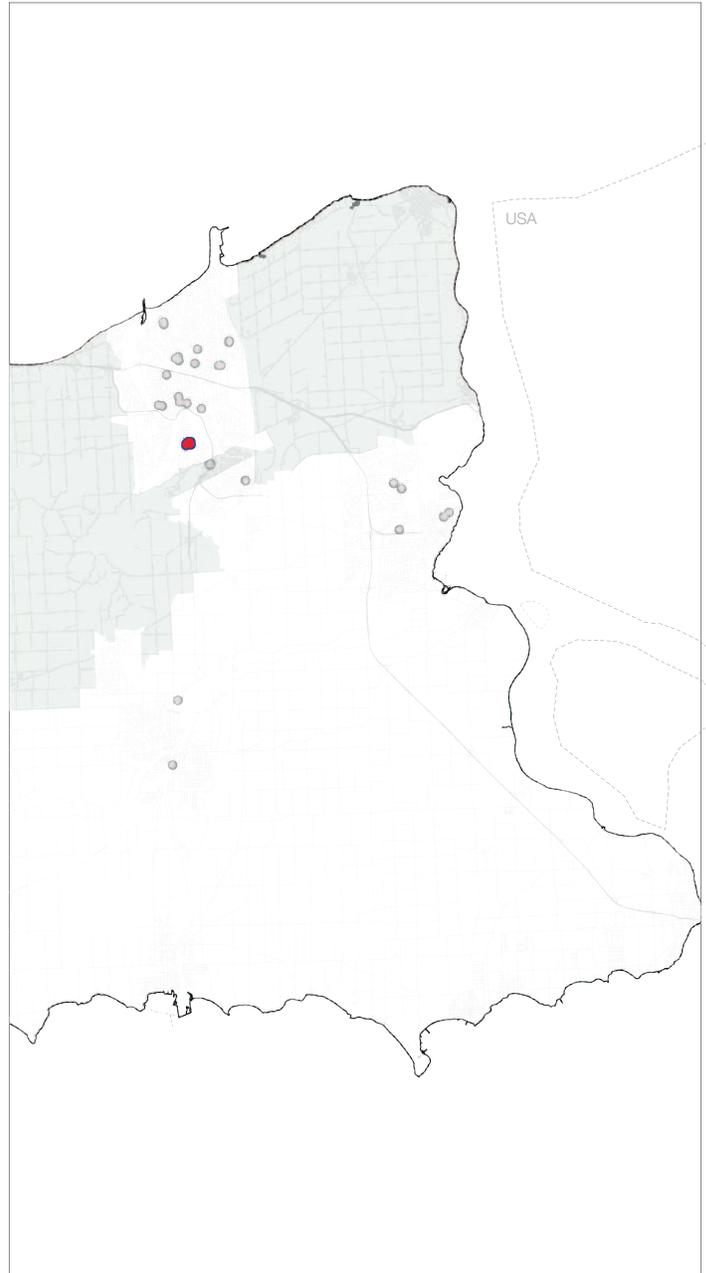
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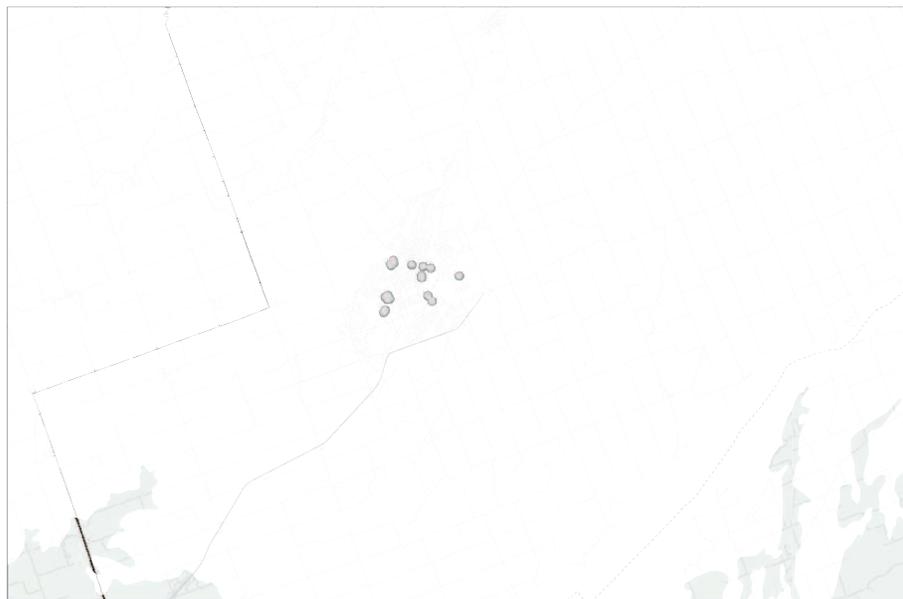
Opportunities 4.1 Tower Neighbourhood Renewal in the Greater Golden Horseshoe



01) Simcoe County



02) Niagara Region



03) City of Peterborough

20km

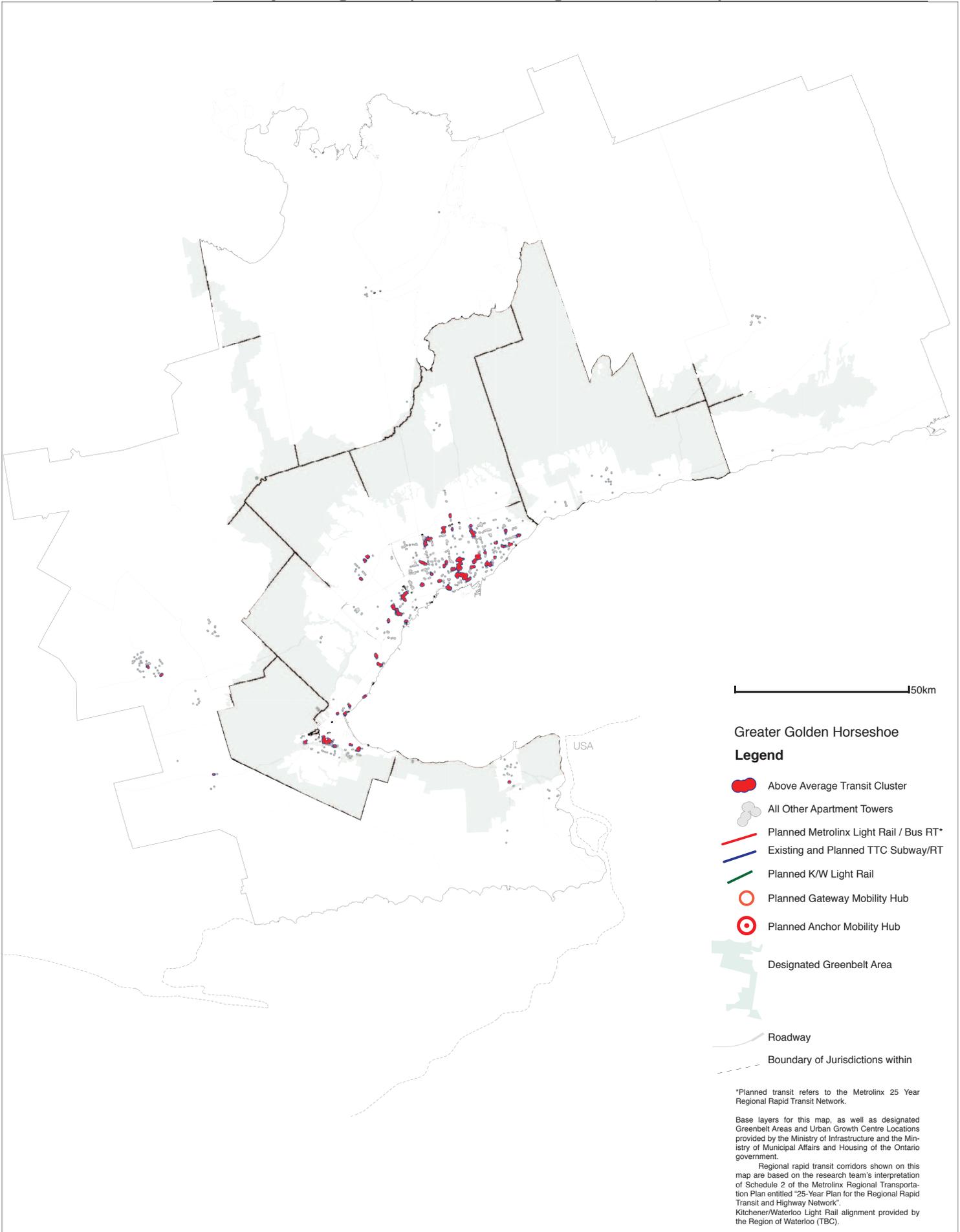
Legend

-  Above Average Transit Cluster
-  All Other Apartment Towers
-  Planned Metrolinx Light Rail / Bus RT*
-  Existing and Planned TTC Subway/RT
-  Planned K/W Light Rail
-  Planned Gateway Mobility Hub
-  Planned Anchor Mobility Hub
-  Designated Greenbelt Area
-  Roadway
-  Boundary of Jurisdictions within

*Planned transit refers to the Metrolinx 25 Year Regional Rapid Transit Network.

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European Best Practices in Integrating Transit Investment within Existing Apartment Neighbourhoods

Similar to the GGH, many modern Apartment Tower Neighbourhoods found in European cities were conceived as master-planned communities with a well-defined neighbourhood centre organized around a transit connection to the city centre. In other cases, new transportation hubs have been inserted into existing tower neighbourhoods as part of Tower Neighbourhood Renewal strategies, bringing rapid transit, as well as new investment, to these neighbourhoods.

The following are a series of strategies related to transit investment within Apartment Tower Neighbourhoods, and the pictures on the following page illustrate several examples.

Integrating Transit Stations with Apartment Towers

In Amsterdam's Bijlmermeer, renovated metro stations are situated along two lines that bound the edges of this Apartment Tower neighbourhood (07). Attractive and comfortable new transit stations are integrated into the street in Hammarby Sjostad, Stockholm (03), and a convenient and safe LRT, bicycle and pedestrian-only transit corridor winds through Rietlanden and the Eastern Docklands in Amsterdam (05).

Transit Investment as Tower Neighbourhood Renewal Catalyst

In Vällingby, a master-planned post-war neighbourhood on the outskirts of Stockholm (08), transit passengers emerge from the metro into a vibrant commercial plaza, at the centre of an Apartment Tower Neighbourhood that has recently undergone extensive restoration and redevelopment. In Halle Neustadt in Germany, a new metro station has facilitated commercial investment and a new public square at the centre of an existing tower community (04). In both of these cases, the station creates heavy pedestrian traffic that makes the centre of the neighbourhood an attractive and viable location for retail and commercial activity.

Improved Pedestrian Environment

Many Apartment Tower Neighbourhoods in Europe have been renewed to include safe, attractive and convenient streets, paths and sidewalks that encourage residents to walk or bike for many of their local trips (09 to 13). In the Bijlmermeer, bicycling and walking around the neighbourhood has been improved by the introduction of a vast network of paths, many of which tunnel through the base of the original tower blocks (01 & 02). These cycle and pedestrian networks connect Apartment Towers to rapid transit stations.

High Quality Bicycle Infrastructure

Part of what makes bicycling a viable option for high-rise living is finding secure and convenient ways to store your bicycle. Bicycle storage structures established as part of Swedish Tower Neighbourhood Renewal initiatives in Hammarby Sjostad, Stockholm (14), and Backa Rod, Göteborg (16), offer security and convenience, and help animate the shared outdoor spaces that surround them.

Image

Commercial Plaza Atop Metro Station in Vällingby Tower Neighbourhood, Stockholm, Sweden



European Best Practice
Transit strategies



01



02



03

01-02) Improved connectivity: bicycle paths through towers in Bijlmermeer, Amsterdam, NL
03) LRT station in Hammarby Sjostad, Stockholm, Sweden
04) New U-Bahn station and plaza as part of renewal in Halle Neustadt, Germany
05) LRT routing through neighbourhood in Rietlanden, Amsterdam, NL
06-07) New metro station(s) in Bijlmermeer, Amsterdam, NL



04



05



06



07



08



09



10

- 08) New metro connection catalyst to new commercial plaza, Halle Neustadt, Germany
- 09) Bicycle paths and pedestrian environment in Amsterdam, NL
- 10) Bicycle environment in suburban Amsterdam, NL
- 11) Pedestrian environment in Marzahn, Berlin, Germany
- 12) Pedestrian environment on new main street in Bijlmermeer, Amsterdam, NL
- 13) Lijnbaan Pedestrian shopping street, Rotterdam, NL
- 14) Bicycle storage facilities in Hammarby Sjostad, Stockholm, Sweden
- 15) Bicycle storage facilities at University of California Berkeley, California
- 16) Bicycle storage facilities in Backa Rod, Göteborg, Sweden



11



12



13



14



15



16

4.2 Supporting Poverty Reduction

Context

Ontario's Poverty Reduction Strategy, adopted in 2008, sets a target of reducing the number of children living in poverty by 25 per cent over the next five years. The strategy is intended to be comprehensive, addressing issues of income, through measures such as increases to the Ontario Child Benefit, but also other critical contributors to poverty such as school readiness, educational attainment, health care and housing. The strategy is also focused on expanding the success of New Canadians, through education and skills training, as well as streamlining entry into Ontario's professions.

Expanding the availability of affordable housing is an important part of the strategy. Since 2003, Ontario has funded approximately 35,000 housing allowances and provided funding for the development and/or refurbishment of 22,000 affordable housing units in Ontario. The 2008 Ontario Budget committed \$100 million for social housing providers to repair existing social housing, including energy efficiency upgrades.

As was demonstrated in Section 3.6, there is a strong correlation between Apartment Tower Neighbourhoods and areas of social need. This suggests that Tower Neighbourhood Renewal can be a key element of the Province's Poverty Reduction Strategy.

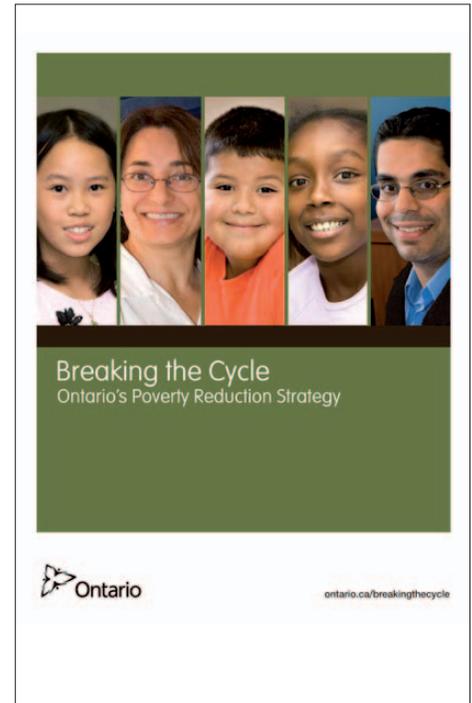
This correlation also suggests that Tower Neighbourhood Renewal can be an important part of achieving the Province's health equity goals. The Ministry of Health and Long-term Care has made health equity – addressing health disparities among difference groups in the province – as an explicit policy objective of Local Health Integration Networks. One of the most effective ways to reduce health inequities is by addressing the social determinants of health, such as housing, income, nutrition and social inclusion, all potential elements of Tower Neighbourhood Renewal.

Discussion

Several opportunities exist to integrate Tower Neighbourhood Renewal with the goals and programs of Ontario's Poverty Reduction Strategy. The large property areas within Apartment Clusters discussed in Section 4.4 and 4.6, which are often underused, provide potential sites for key services, housing options and programs.

A central tenet of the Poverty Reduction Strategy is to break the intergenerational cycle that makes poverty such an insidious problem. Consequently, the strategy focuses first on Ontario's children. Apartment Towers are home to a significant number of young Ontarians. Half of all Apartment Towers in the region have 20 per cent or more of the resident population under 19 years of age. In some Apartment Tower communities, over 40 per cent of residents are under the age of 19.*

As Apartment Tower Neighbourhoods are home to high concentrations of youth in areas of high social need, there is significant potential to integrate Tower Neighbourhood Renewal with Poverty Reduction Strategy programs, such as the expansion of Parenting and Family Literacy Centres, Ontario Early Years Centres and After School Programs. The Community Use of Schools Program and Com-



01

Images

- 01) Cover of Ontario's Poverty Reduction Strategy
- 02) East Scarborough Storefront
- 03) Open-air Market in Council Estate, Camden, London, UK
- 04) Community Garden in Council Estate, Regent Park, London, UK

Demographic Analysis

*The analysis of youths and New Canadians in Apartment Neighbourhoods was conducted using StatsCan 2006 data from dissemination areas containing Apartment Towers.

community Hub Program, through which the government provides funding to make school space available for community activities, can provide the central gathering places that many of these neighbourhoods so desperately need. Tower Neighbourhood Renewal presents an opportunity to introduce new amenities and activities for youth, such as active recreation areas, as well as youth specific programming in new infill buildings or within existing towers themselves. The physical process of retrofit and regeneration will also provide opportunities for apprenticeships and construction related jobs.

The Poverty Reduction Strategy is also focused on expanding opportunities for newcomers. Apartment Towers are among the first homes in Canada for newcomers. Half of the Apartment Towers in the region have more than half of residents that were born outside of Canada. In 60 per cent of Apartment Towers, over 10 per cent of residents arrived in Canada after 2001. In some cases, this can be as high as 50 per cent.*

The Poverty Reduction Strategy provides funding to community-based not-for-profit organizations across Ontario to support new immigrants in achieving their potential through the Newcomer Settlement Program. Apartment Tower Neighbourhoods could be integrated with skills training, employment services, newcomer information centres, and English as a Second Language courses to ease arrival and entry into the workforce.

Tower Neighbourhood Renewal can also bring new employment opportunities to what are currently isolated neighbourhoods through land-use diversification that will enable seasonal markets, ground floor commercial conversions, and mixed-use infill. Enhanced transit service and the introduction of new retail and service uses can significantly increase Apartment Tower residents' access to a wide range of employment and entrepreneurial opportunities.

In many European Apartment Tower Neighbourhoods, local citizens groups and not-for-profit organizations have played critical roles in developing and implementing grassroots initiatives. These initiatives are as much a part of Tower Neighbourhood Renewal as the larger-scale interventions discussed throughout this report and include community gardens, skills training, youth sports programs, child play programs, elder care programs, open space beautification and maintenance programs, the publication of community newspapers and websites, community associations, small business networks and incubators, as well as organizing community festivals. Recognizing the important role played by the not-for-profit sector and community agencies is an important theme of the Poverty Reduction Strategy, and it is supported through specific measures such as the Community Opportunities Fund, which provides funding to local community revitalization projects. A successful local example is the East Scarborough Storefront.**

The integration of Apartment Tower Neighbourhoods with a wide range of health services, social services, and local access to fresh food would help address health equity and the wide ranging needs of the resident population as a whole. With the expected doubling of people 65 years of age and older over the next 25 years, providing services for long-term care as well as ensuring full accessibility, as related to Ontario's Accessibility Plan, will enable Apartment Tower Neighbourhoods to provide key housing to meet the needs of this aging population.



02

East Scarborough Storefront

**The East Scarborough Storefront provides a venue for dozens of community agencies and services, and helps facilitate community organizing initiatives and opportunities for community voice, leadership and mobilization. Located in a former police station directly adjacent to a group of Apartment Towers, the Storefront provides community services where they are needed most. Currently fundraising for an expansion, the Storefront provides a unique model for Tower Neighbourhoods throughout the GGH. For more information, visit www.thestorefront.org.



03



04

Access to affordable housing is a key concern of the Poverty Reduction Strategy, the Long-Term Affordable Housing Strategy currently under development, and concurrent initiatives, such as the Ontario Human Rights Commission provincial consultation on human rights and housing. Apartment Towers are home to many individuals who have high social need. As a result, the majority of the region's 380,000 units offer housing at varying degrees of affordability. Only a fraction of this housing, some 15 per cent in the case of Toronto, is public affordable housing. The majority is private rental housing, rendered affordable through a low position within the housing market, often due to geographic isolation, lack of amenities, and poor state of repair. Furthermore, as discussed in Section 3.5, much of this housing stock is two or three bedroom apartments, providing a considerable legacy of affordable family housing. The volume of privately owned Apartment Towers and their function as affordable housing - and affordable family housing - is a unique characteristic of the GGH.

The ample open space within Apartment Tower Neighbourhoods provides an opportunity for thoughtful infill development to increase the region's affordable housing stock, through the inclusion of new housing options, such as affordable home ownership, cooperatives and not-for profit housing, as well as housing forms specific to the needs of seniors, young families and other demographics.

In addition to opportunities for community investment, a primary aspect of Tower Neighbourhood Renewal is to retain and modernize this important housing stock through physical upgrades, maintaining it as a key resource for future generations. An additional opportunity lies in ensuring energy security for low-income tenants through environmental refurbishment of Apartment Towers. Green upgrades will reduce energy usage and cost, preventing rent and utility spikes as the cost of energy rises. This will also aid in the reduction of greenhouse gases (GHGs). A full compliment of energy reduction measures will be discussed in Section 4.3.

Taking a Closer Look - Large Cluster Analysis

While a significant proportion of Apartment Towers are associated with areas of social need, large clusters of several towers demand particular attention. The series of maps beginning on page 68 show locations in the GGH where there are clusters of five or more Apartment Towers in areas of high or very high social need. Collectively, these represent about half of all Apartment Towers in the GGH (45 per cent).

These locations, containing large and dense populations, would be expected to benefit the most from the introduction of the programs and initiatives that comprise the Poverty Reduction Strategy.



01



02



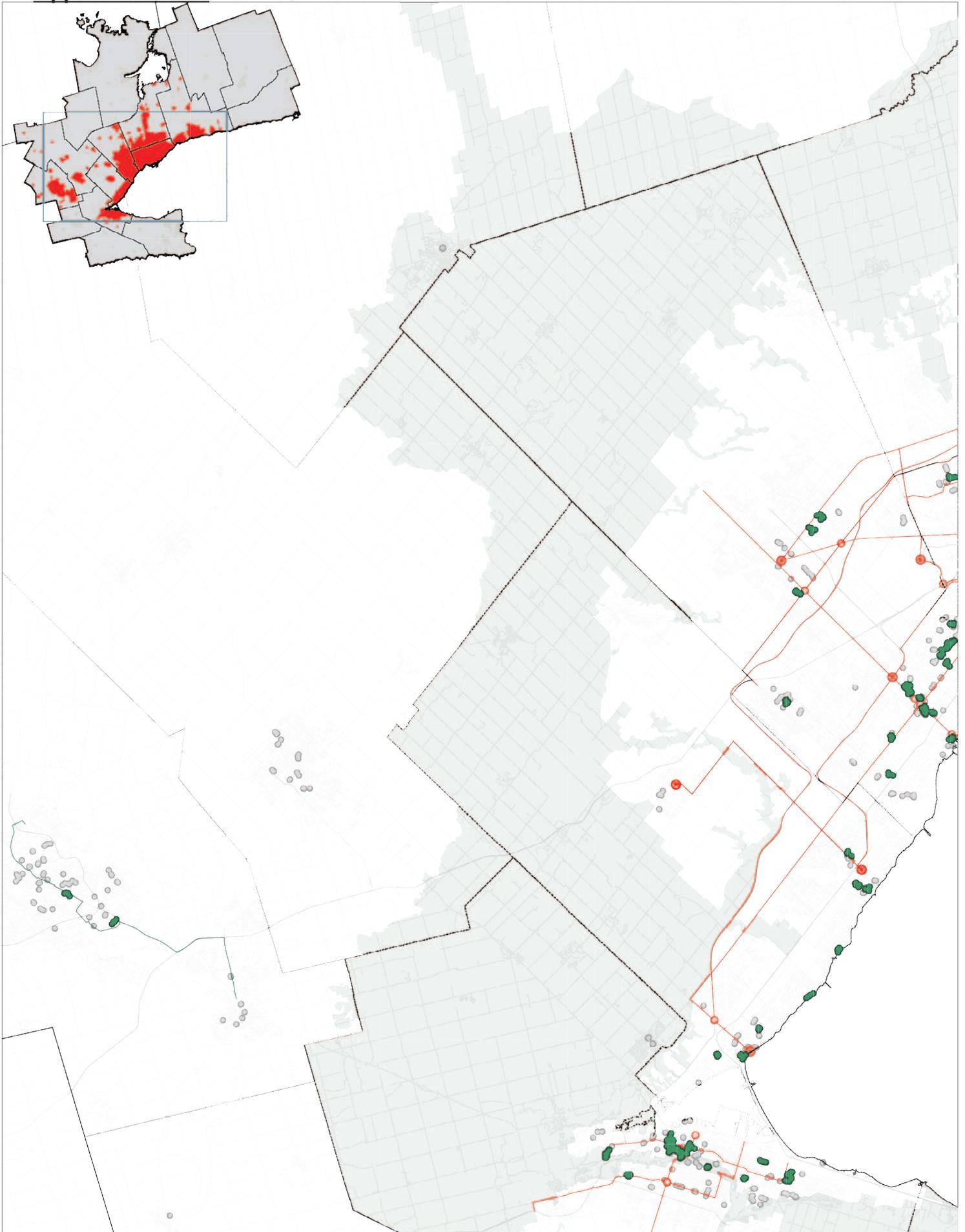
03

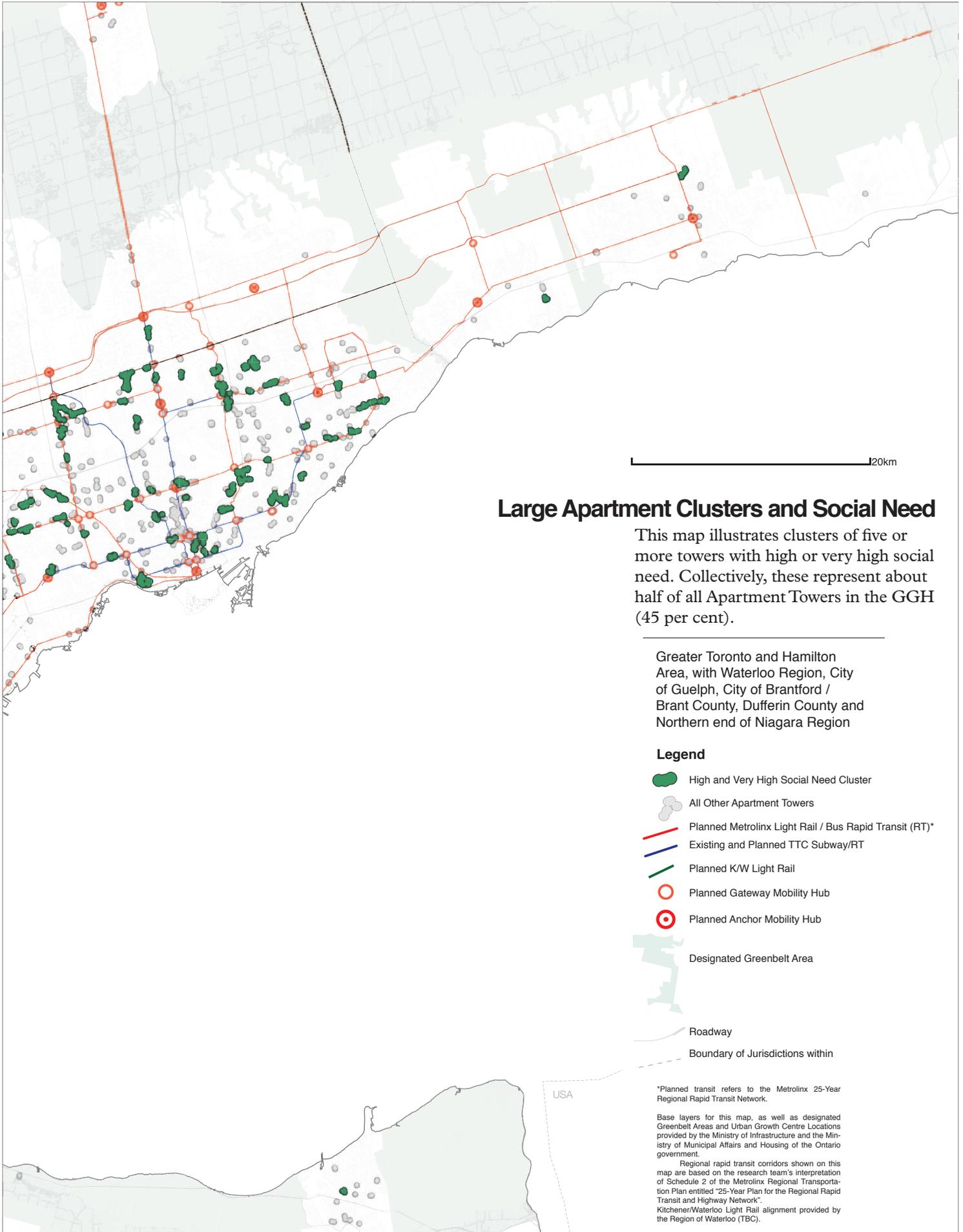
Images

- 01) Refurbished Apartment Block, Former East Berlin, Germany
- 02) New infill 'eco' family housing in Tower Hamlets, East London, UK
- 03) Conversion of ground floor of Apartment Tower to cafe, Moscow, Russia
- 04) Fresh Food Market in Apartment Neighbourhood in Halle Neustadt, Germany



Opportunities 4.2 Tower Neighbourhood Renewal in the Greater Golden Horseshoe





Large Apartment Clusters and Social Need

This map illustrates clusters of five or more towers with high or very high social need. Collectively, these represent about half of all Apartment Towers in the GGH (45 per cent).

Greater Toronto and Hamilton Area, with Waterloo Region, City of Guelph, City of Brantford / Brant County, Dufferin County and Northern end of Niagara Region

Legend

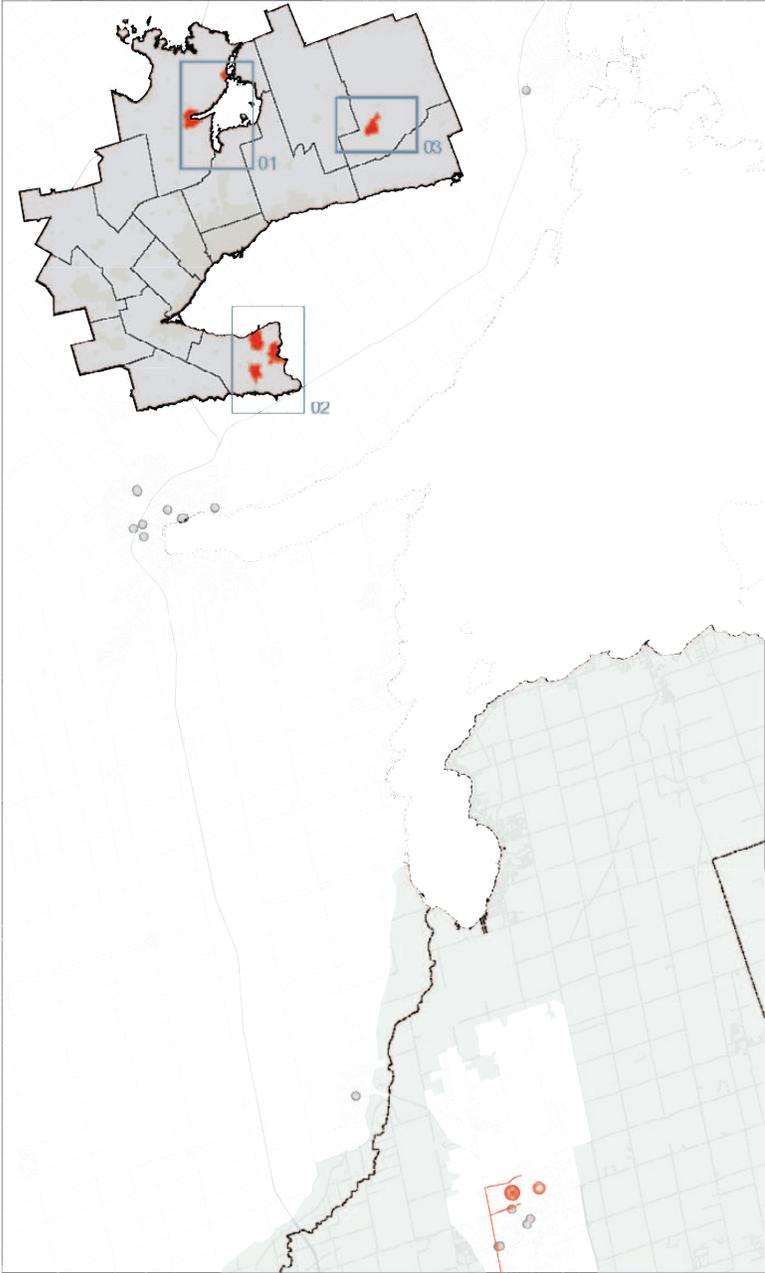
-  High and Very High Social Need Cluster
-  All Other Apartment Towers
-  Planned Metrolinx Light Rail / Bus Rapid Transit (RT)*
-  Existing and Planned TTC Subway/RT
-  Planned K/W Light Rail
-  Planned Gateway Mobility Hub
-  Planned Anchor Mobility Hub
-  Designated Greenbelt Area
-  Roadway
-  Boundary of Jurisdictions within

*Planned transit refers to the Metrolinx 25-Year Regional Rapid Transit Network.

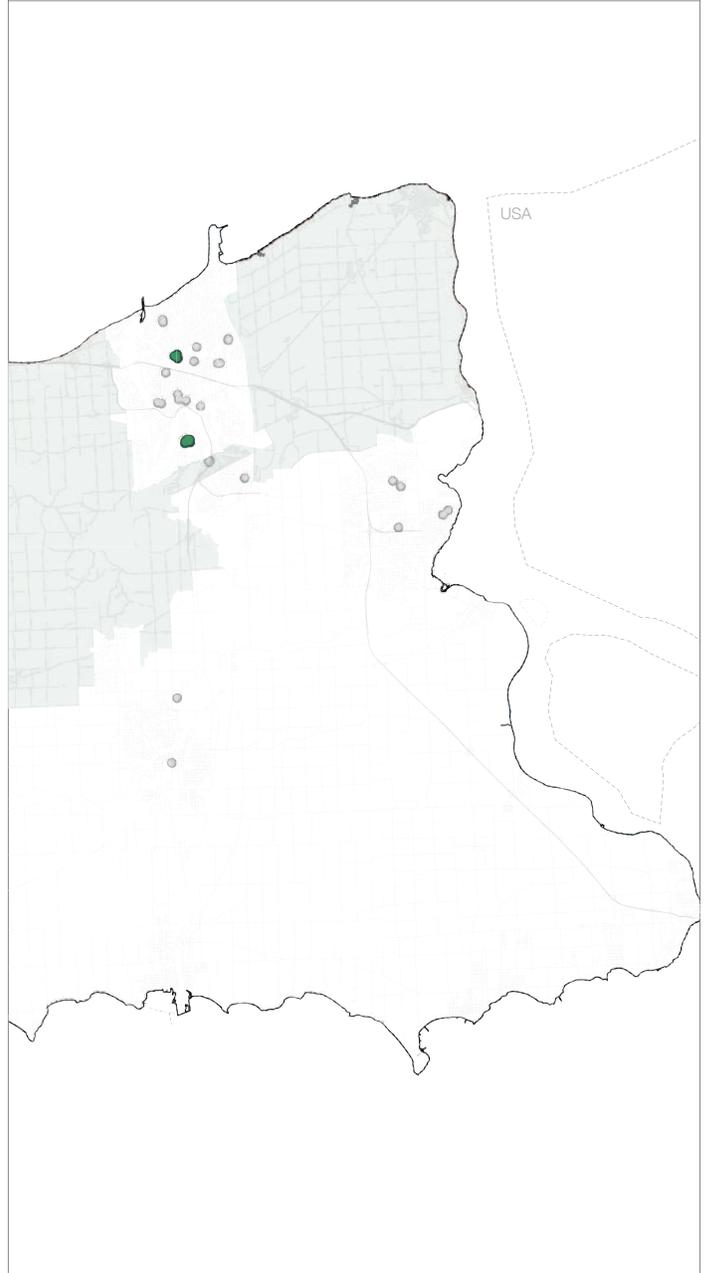
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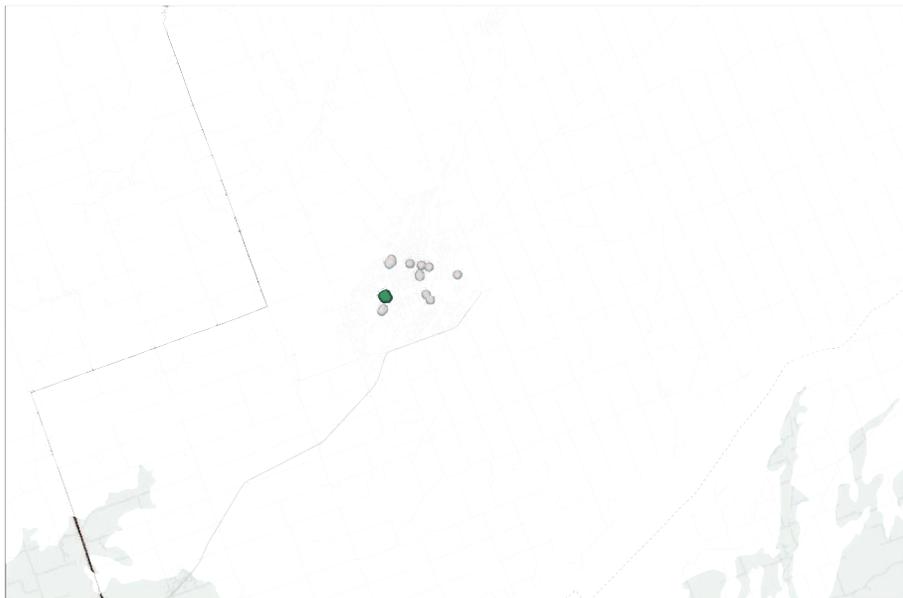
Opportunities 4.2 Tower Neighbourhood Renewal in the Greater Golden Horseshoe



01) Simcoe County



02) Niagara Region



03) City of Peterborough

120km

Legend

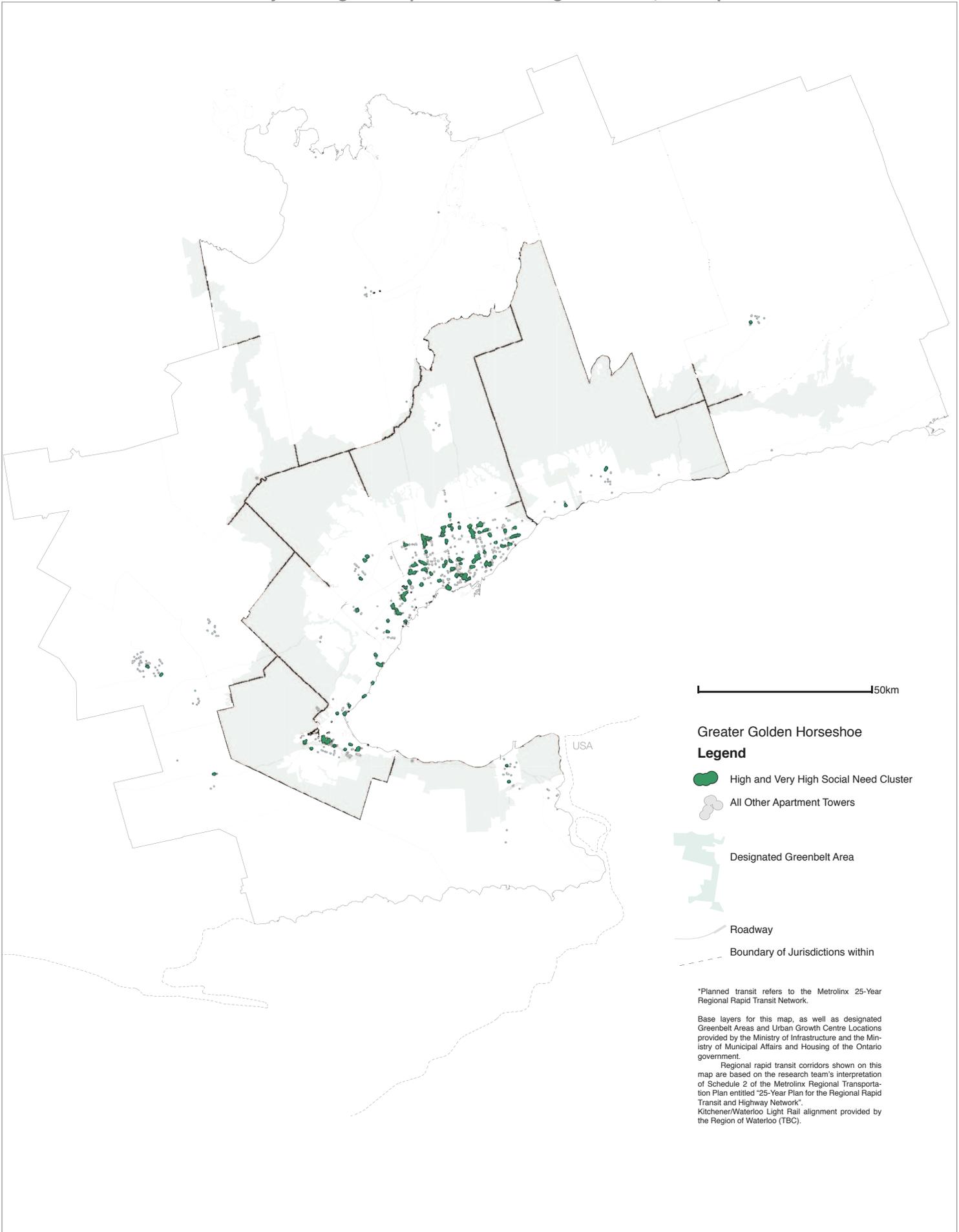
-  High and Very High Social Need Cluster
-  All Other Apartment Towers
-  Planned Metrolinx Light Rail / Busway
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Kitchener/Waterloo Light Rail alignment provided by the Region of Waterloo (TBC).



50km

Greater Golden Horseshoe

Legend

 High and Very High Social Need Cluster

 All Other Apartment Towers

 Designated Greenbelt Area

 Roadway

 Boundary of Jurisdictions within

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Base layers for this map, as well as designated Greenbelt Areas and Urban Growth Centre Locations provided by the Ministry of Infrastructure and the Ministry of Municipal Affairs and Housing of the Ontario government.

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European Best Practices in Social and Community Investment within Apartment Neighbourhoods

Apartment Tower Neighbourhoods across the European Union have experienced significant social investment as part of Tower Neighbourhood Renewal programs. Strategies include the provision of amenities and services responsive to residents' needs, support for grassroots community initiatives, and enabling entrepreneurial opportunities within tower neighbourhoods. This process has improved the access to job opportunities for residents, as well as contributed to community cohesion and neighbourhood pride.

The following are a series of strategies related to social and community investment within Apartment Neighbourhoods, and the pictures on the following page illustrate several examples.

Introducing New Social and Community Services

New community facilities in Apartment Tower Neighbourhoods in Poptahof, Delft (image 01 & 02) and Schulze-Boysen-Straße, Berlin (03), offer residents access to new recreational, educational and social programs as part of a strategy to combat inequality, and elevate the livability of the neighbourhood.

Establishing Community Gathering Places

New public spaces for passive and active recreation are a key component of Tower Neighbourhood Renewal. These sites can host farmers and vendor's markets, as well as community festivals as in the case of Swiss Cottage in London's Camden Borough (05).

Building Common Area Upgrades

The renewal of the Kruitberg Apartment Tower in the Bijlmermeer in Amsterdam consolidates mail boxes at each of the buildings' entrances (04) as a strategy to create space that encourages neighbourliness and a strong sense of community. In Gardsten Göteborg, greenhouses were added to building ground floors, to create year round gardening opportunities (07).

Improving Safety

Improvements to Apartment Towers such as new vestibules and the introduction of a concierge, such as in Berlin's Markisches Viertel, increase resident convenience and perceptions of safety

(08). Visually striking new light fixtures line a new path in Holmbladsgade, Copenhagen as part of a strategy to improve the safety and image of the neighbourhood (06). The path, called 'Prags Boulevard', includes a diverse set of recreational zones along its length, which attract a diversity of users, and injected the neighbourhood with a new vibrancy of which the local residents are extremely proud.

Youth Programming

Brøndby Strand is a neighbourhood in suburban Copenhagen with a large population of youth considered to be at risk. In 2002, at the outset of renewal in the neighbourhood, local boys expressed that they would like to create and run their own meeting place. This idea led to the creation of 'Tranens Dreng' (Crane Boys), a meeting place that offers a range of recreational (09), educational and social programs that has been credited with reducing crime and increasing youth employment rates in the neighbourhood. Much of the success of the project is attributed to the fact that the meeting place was created out of a process of mutual trust, and that the boys were given influence and responsibility.

Local Economic Development

Strategies to create local jobs in the Bijlmermeer operate at different scales. Still under construction, the ArenA district (10) immediately west of the neighbourhood will

bring 50,000 new jobs, and is intended to be a regionally significant employment centre. At a smaller scale, workshop space is incorporated into the base of some of the Apartment Towers in the neighbourhood (11). The organization of markets and the addition of permanent kiosks, can be a vehicle for local businesses, as well as providing needed services to residents.

Combatting Stigmatization

Many Apartment Tower Neighbourhoods in Europe have been stigmatized as undesirable neighbourhoods. Landmark art, public space and community events as part of the renewal process can change perceptions of neighbourhoods, as well as empower residents. An example are building mural walls in Amsterdam's Bijlmermeer (13).

Reception and Integration Resources for Newcomers

The Idea Stores in East London (15 & 16) provide ethnically and linguistically diverse communities with the resources that they need to ease entry into the community and the local economy. The Idea Stores include traditional library lending, a wide range of adult education classes, career support, training, community meeting areas, as well as cafes and facilities for arts and leisure pursuits. The facility also includes retail spaces to facilitate local economic development.

Image

'IdeaStore', Social Service and Community Hub integrated into 'Poplar' Tower Neighbourhood London, UK



European Best Practice
Social investment strategies



01



02



03

- 01) Open air market and new grocery store at base of tower block, Moscow, Russia
- 02) Meeting room in Community resource centre in Poptahof, Delft, NL
- 03) New community centre in Schulze-Boysen-Straße, Berlin, Germany
- 04) Place to meet neighbours, new mailboxes in Bijlmermeer, Amsterdam, NL
- 05) Farmers Market at Swiss Cottage, London, UK
- 06) New lights improve safety and image of Holmbladsgade, Prags Blvd., Copenhagen, DK
- 07) New greenhouse and laundry facility at tower base, Garsten, Göteborg, Sweden
- 08) New entrance improves safety in Markisches Viertel, Berlin, Germany
- 09) Sports programs engage local youth in Brondby Strand, Copenhagen, DK



04



05



06



07



08



09



10



11) The ArenA district brings 50,000 jobs at the edge of the Bijlmermeer, Amsterdam, NL



12

12) In Poptahof, a Kiosk stores play equipment which is rented out to local children in exchange for good deeds in Poptahof, Delft, NL

13) Public art on the side of a tower helps re-brand the Bijlmermeer, Amsterdam, NL

14) Signage in Poptahof publicizing the neighbourhoods transformation, Delft, NL

15) The Idea Stores in East London offer a library, meeting rooms, education and employment resources and other services to the ethnically diverse residents of the Chrisp Street Estate, London, UK

16) Library / Community Fitness centre, Swiss Cottage, London, UK



13



15



14



16

4.3 Reducing Greenhouse Gas Emissions

Context

The Province’s Go Green: Ontario’s Action Plan on Climate Change sets targets for GHG emission reductions. The Go Green Plan estimates that if Ontario were to continue with “business-as-usual”, emissions in 2020 would be 72 megatonnes (Mt) higher than 1990 levels. Instead, by 2014, the Go Green Plan seeks a reduction of Ontario’s GHG emissions to six per cent below 1990 levels (a reduction of 11 Mt of carbon dioxide equivalents (CO₂e) relative to 1990 levels). By 2020, Ontario’s target is to reduce GHG emissions to 15 per cent below 1990 levels (a reduction of 27 Mt of CO₂e relative to 1990 levels). By 2050 Ontario plans to reduce GHG emissions to 80 per cent below 1990 levels.

Energy used by existing buildings for space and water heating accounted for 17 per cent of Ontario’s emissions in 2007. The Go Green Plan indicates that energy use by homes will need to account for at least five per cent of the GHG reductions needed to achieve the 2020 target.

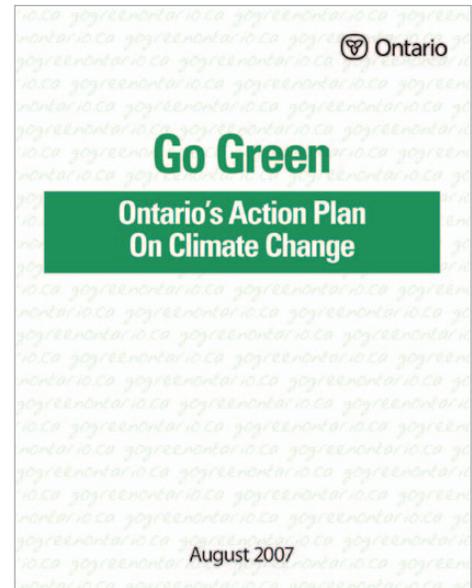
Since the adoption of Go Green in 2007, the Government of Ontario has introduced a number of initiatives to achieve these targets. These include the Green Energy Act, Building Code changes, the Energy Efficiency Act, and the introduction of Bill 185, proposed legislation that would allow for the development of a cap-and-trade system. The Ontario Power Authority and the Canadian Urban Institute are working with pilot communities in the GGH to develop and implement energy mapping processes into community energy planning.

The Province has also established ambitious goals for alternative energy sources. As one example, the Province is contributing to the Quality Urban Energy Systems of Tomorrow (QUEST) project which is looking to quantify the potential for integrated community energy systems. Such systems are a common feature of many Tower Renewal initiatives in Europe. Tower Neighbourhood Renewal has the potential to be another component of Ontario’s climate change strategy.

Discussion

As described in Section 3.8 of this report, Apartment Towers are among the most wasteful housing types, and collectively are responsible for upwards of two megatonnes of GHGs on an annual basis for building operation alone. However, Apartment Towers are well suited for refurbishment and, in other jurisdictions, they have been upgraded to become model green buildings, with GHG output reduced by more than 50 per cent. Furthermore, Tower Neighbourhoods provide the framework for low-carbon growth.

The high GHG output of Apartment Towers is generally linked to the poor performance of the building envelope, paired with aging mechanical systems. Built before the growing concern for energy conservation, or the widespread application of building science, current energy use for building operation is considerably higher than the requirements for new construction, let alone best practice green building. Refurbishment has the potential to significantly reduce natural gas, electricity and



01

Refurbish or Replace?

*The primary premise of Tower Neighbourhood Renewal is to view the region’s legacy of apartment towers as an asset. This view is reiterated by the successful approaches to renewal found internationally, as well as the local studies cited throughout this report.

Refurbishment is preferable to replacement from cost, environmental and social perspectives. From a cost perspective, refurbishment can be conducted at less than 1/2 to 1/5th the cost of demolition and reconstruction of the same number of units, depending on the scope of renewal work. This is based on per unit cost of refurbishment estimate found in Section 6.1, and a conservative estimate for the cost of demolition and new construction, at approximately \$250 per square foot. Furthermore, Apartment Towers are generally revenue generating assets for owners, making demolition even less attractive.

From an environmental perspective, Apartment Towers from this era contain significant embodied energy within their concrete slab construction. Demolition and replacement of the same number of units would be a significantly energy intensive process. From a social perspective, demolition and replacement threatens or completely removes social networks, and significantly disrupts members of the community during the process of reconstruction. Refurbishment can modernize existing housing with relatively minimal disruption and displacement, building upon existing communities, and maintaining the existing housing stock.

Though certain cases may require demolition due to poor state of repair, from the perspective of the research team renewal is the preferred option. However, as these buildings continue to age, the cost and complexity of refurbishment may increase.

water consumption within the region’s 1,925 Apartment Towers, as well as improve air quality through a reduction in GHGs.

Recent studies that have examined the local situation, including Tower Renewal Guidelines (John H. Daniels Faculty of Architecture, Landscape and Design, University of Toronto, CMHC, 2009) and Tower Renewal Pilot Community Energy Plans (Arup, City of Toronto, 2010), have determined refurbishment can achieve environmental best practices in building performance in Apartment Towers, and that refurbishment is preferable, from both a cost-benefit and social perspective, to demolition and reconstruction.*

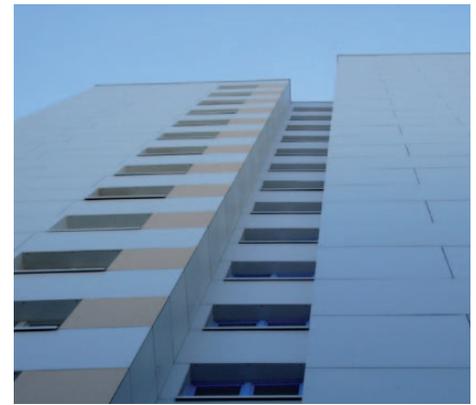
As large buildings housing several hundred households, the green refurbishment of Apartment Towers offers many efficiencies compared to the retrofit of the equivalent number of single family homes. In addition, the dense clusters of Apartment Towers that are common throughout the GGH provide opportunities for using distributed clean energy and district heating and cooling systems, as well as establishing local resource networks for composting, community gardening, or, as in the case of Scandinavia, using sewage for biomass heat generation. This comprehensive approach to retrofit may also result in additional carbon saving from reduced trucking to landfill, reduced municipal pumping of water, and reduced production of energy on a per capita basis.

Internationally, Apartment Tower refurbishment has become common practice as a means of extending the life of this important building stock, while at the same time significantly reducing GHG emissions. Moreover, integration of district systems and green construction practices has made several existing tower neighbourhoods centres of low-carbon growth.** In particular, Germany, The Netherlands, Scandinavia and the United Kingdom have established extensive programs that pair tower refurbishment with site diversification and sustainable new construction to accommodate growth, improve existing neighbourhoods and establish low-carbon communities.

Additional opportunities for GHG reduction can be found in transportation. Currently, 31 per cent of GHGs in Ontario are produced by transportation – 75 per cent of which is a result of gas powered vehicles. Apartment Tower clusters provide the opportunity to reduce auto-dependence through the introduction of rapid transit, as well as the introduction of diversified uses that provide daily conveniences currently only accessible by vehicle.

The environmental refurbishment and green construction associated with Tower Neighbourhood Renewal represents a significant opportunity for growing the green economy, including trade, manufacturing and innovations jobs. With nearly 2,000 Apartment Towers throughout the GGH, in addition to large clusters in Ottawa, London and other Ontario municipalities, Tower Neighbourhood Renewal represents a potentially significant market for the green economy and related industries.

While products and processes related to Tower Neighbourhood Renewal exist internationally, specifically in the European Union, there currently are several capacity gaps in the Ontario marketplace related to home-grown solutions. There is an opportunity to address these gaps by developing processes appropriate to the Canadian context and fostering locally-produced products and expertise that could make Ontario a laboratory for sustainable innovation, and create significant new employment.



02

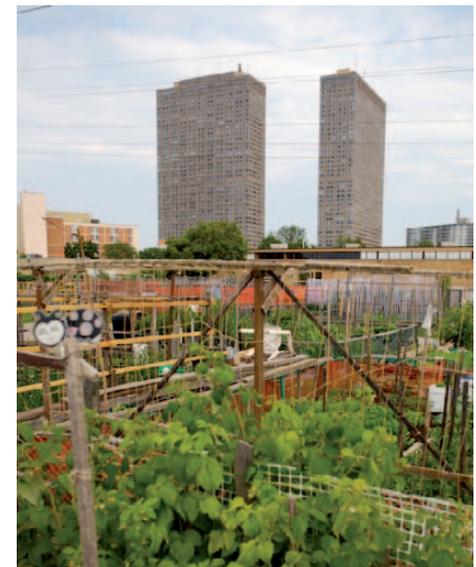
Images

- 01) Cover of Go Green, Ontario’s Action Plan on Climate Change
- 02) Refurbished Apartment Building with new Thermal Over-Cladding, Berlin
- 03) Allotment Gardens, Thorncliffe Park, Toronto

Lower Carbon Growth

**Growth can be a key aspect of the sustainable retrofit and regeneration of Apartment Neighbourhoods. Increased density can aid in the viability of rapid transit, district energy systems, as well as local retail and services, such as grocery stores that also contribute to achieving complete communities.

Though an increased population results in increased GHG production – more people, more carbon – Tower Neighbourhood Renewal provides a potential framework for lower carbon living as compared to traditional suburban alternatives, reducing per capita consumption. From a total carbon emissions standpoint, Tower Neighbourhood Renewal can reduce GHG’s from existing buildings, as well as offer more sustainable options for regional growth.



03

Taking A Closer Look - Large Cluster Analysis

While environmental retrofit and refurbishment is likely to result in significant energy efficiency improvements in any of the Apartment Towers, some Apartment Tower Neighbourhoods may contain characteristics particularly well suited for carbon reduction.

In determining these areas, two initial investigations were conducted. The first identified Apartment Towers within 500 metres of large energy producers, which may provide the potential for the establishment of district energy.

The map on page 79 (opposite) identifies the relationship of Apartment Towers and large energy producers. Forty per cent of Apartment Towers are within 500 metres of large energy users such as hospitals, shopping centres, or industrial areas. Fifteen per cent of these are within 500 metres of two or more large energy users. Large energy users such as these are essential partners for supporting the viability of district energy projects that service nearby residential users. Further study is required to determine true district energy viability.

The second investigation identified specific towers that contained characteristics that would suggest a particularly high potential for GHG reduction. Areas with clusters of Apartment Towers have higher potential because of the economies of scale that can be achieved in retrofitting multiple buildings. Similarly, taller Apartment Towers would be expected to have higher potential for cost-effective improvement.

The time of construction also may be a factor. Recent studies suggest that buildings developed prior to the 1973 energy crisis may be better candidates for refurbishment due to the more robust construction methods that were used after 1973, in response to the crisis.*

The series of maps beginning on page 80 show locations in the GGH where these factors all come together: clusters of five or more Apartment Towers that collectively contain 1,000 or more units, contain at least one larger building (18 storeys or more) and have a majority of towers that were constructed prior to 1973. Together, these represent about half of all towers in the GGH (47 per cent).

Determining the specific opportunities for GHG reduction within individual Apartment Tower Neighbourhoods will require site by site investigation.



Variations in Construction

*Throughout the post-war era, no actual building regulations were implemented to mandate minimum energy performance for multiple residential buildings. Rather, variation in building construction and performance were a result of the specific intentions of building developers. Recent studies, including Arup's Community Energy Plans for the Toronto Tower Renewal Office, have indicated that building construction trends towards higher insulation values and better performance towards the close of the housing boom in the mid-1970s, roughly aligning with the 1973 energy crisis. These findings are based on a limited data set, and further study is required to better understand variations in construction method and performance.



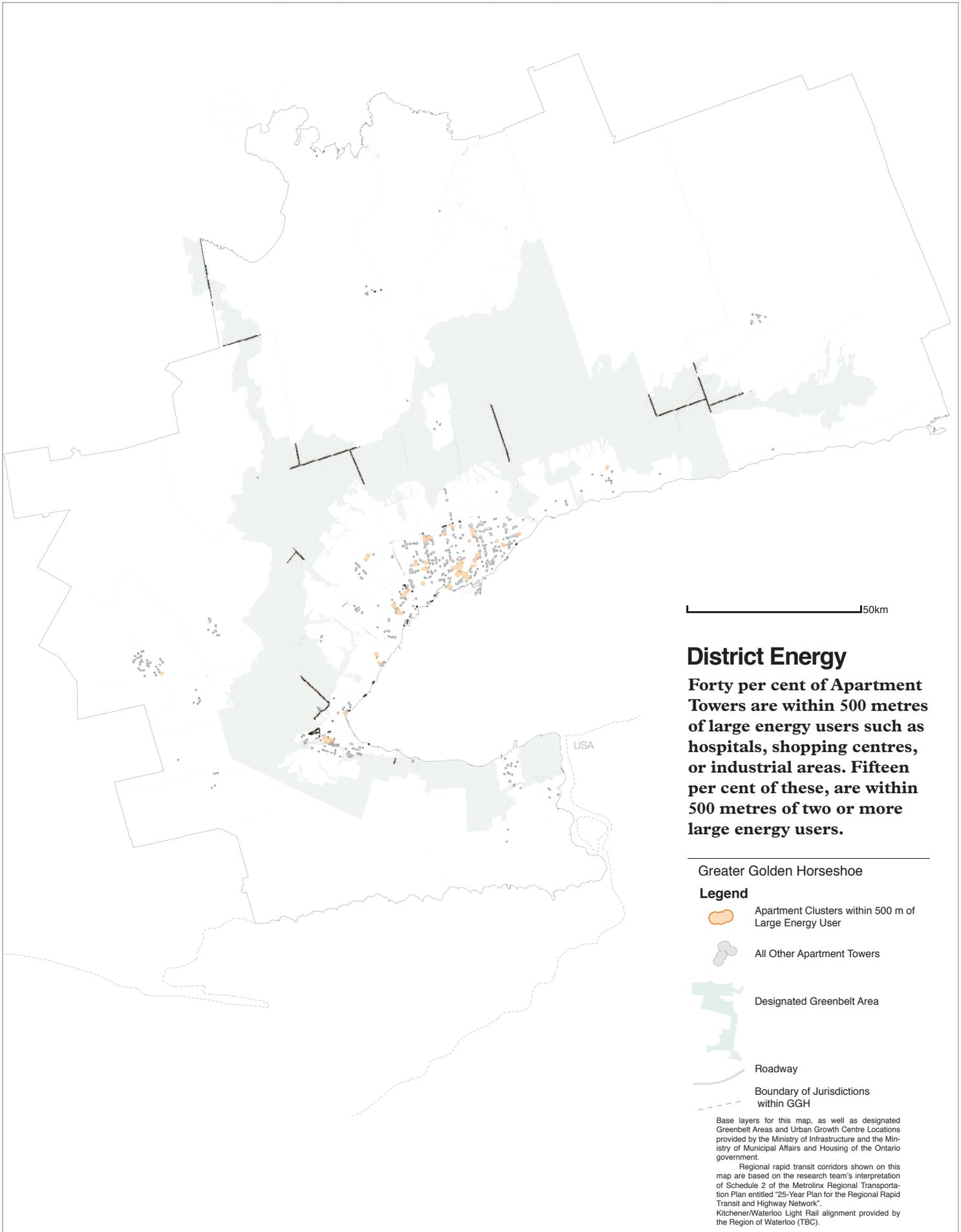
01

Modern Heritage

The Apartment Towers under study share a consistent architectural style, and are clear expressions of the post-war modernism and mass housing that shaped cities around the world. New technologies at the time in concrete construction allowed for buildings that were structurally expressive, with clearly defined materials. As a result, one of the current liabilities of these buildings are also one of their aesthetic strengths – exposed slab and sheer walls. Although seemingly homogeneous, they contain subtle noteworthy variations, and some, such as the towers of Uno Prie, are local landmarks listed on the inventory of Toronto's heritage properties. As a result, careful consideration will need to be put into their refurbishment.

Images

- 01) Uno Prie's Jane-Exbury Towers in the former Borough of North York are listed Heritage Buildings
- 02) Diagram, Intersection of Apartment Cluster and Natural Systems in the GGH, Creating Opportunities for Integrated Sustainable Systems



District Energy

Forty per cent of Apartment Towers are within 500 metres of large energy users such as hospitals, shopping centres, or industrial areas. Fifteen per cent of these, are within 500 metres of two or more large energy users.

Greater Golden Horseshoe

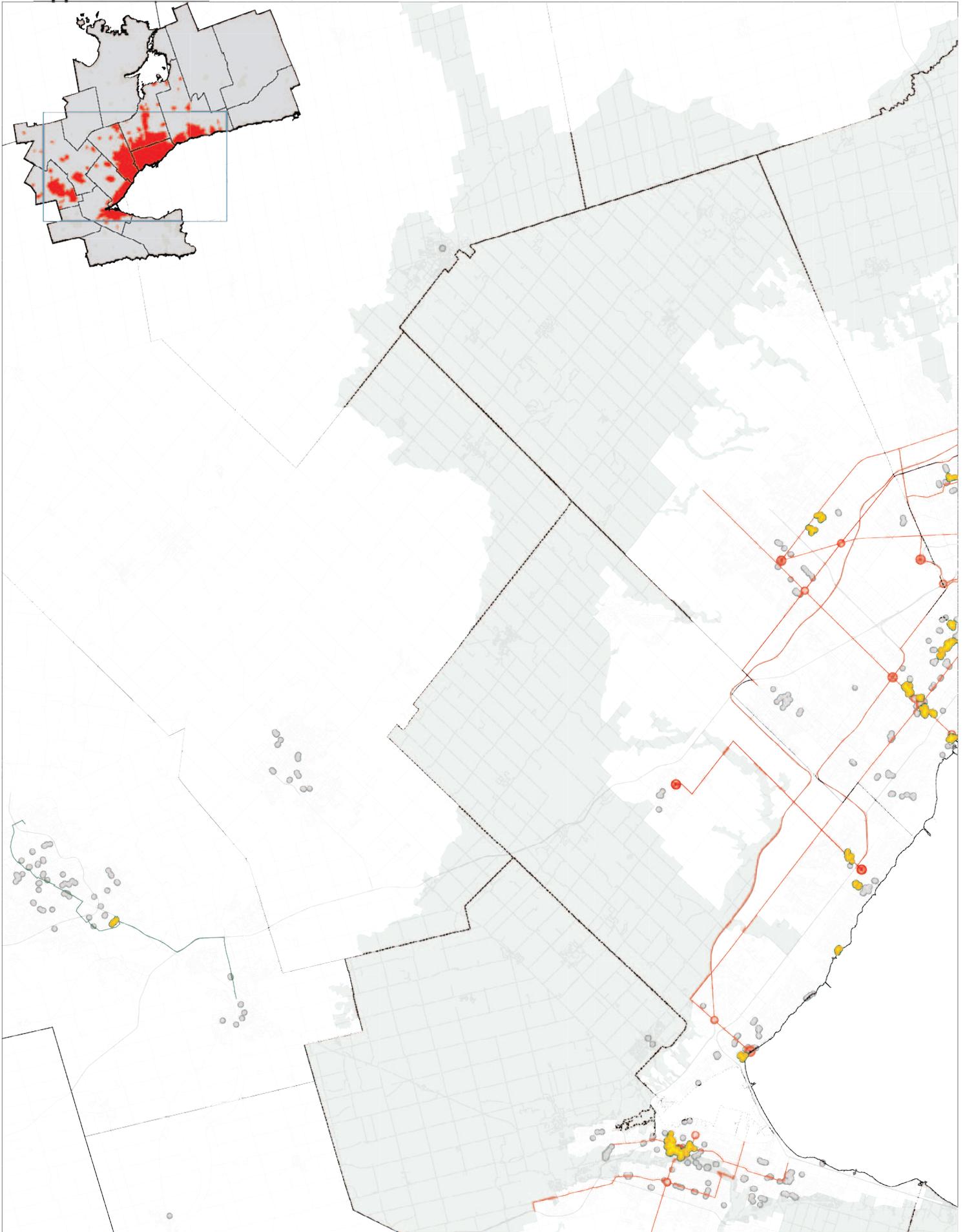
Legend

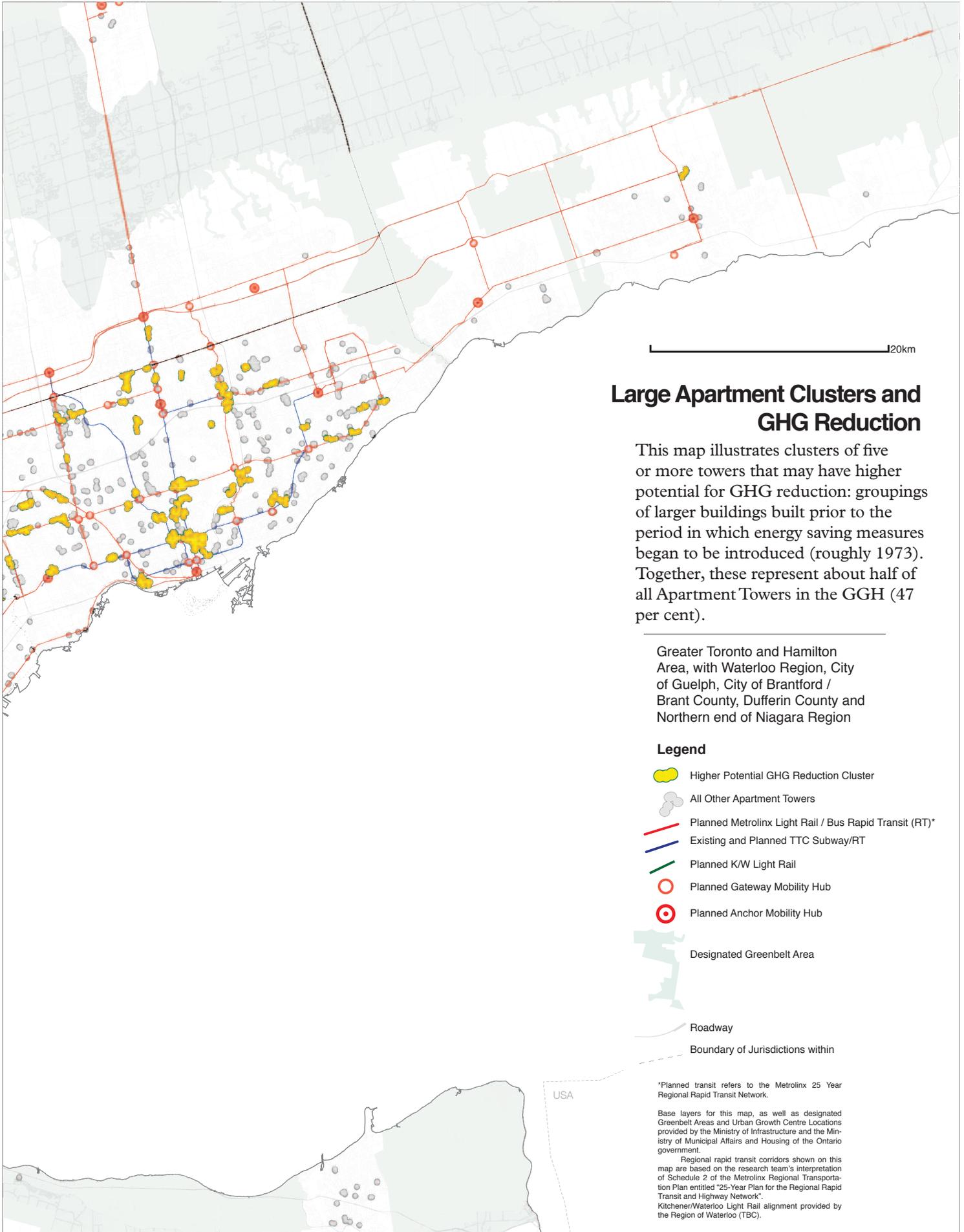
-  Apartment Clusters within 500 m of Large Energy User
-  All Other Apartment Towers
-  Designated Greenbelt Area
-  Roadway
-  Boundary of Jurisdictions within GGH

Base layers for this map, as well as designated Greenbelt Areas and Urban Growth Centre Locations provided by the Ministry of Infrastructure and the Ministry of Municipal Affairs and Housing of the Ontario government.

Regional rapid transit corridors shown on this map are based on the research team's interpretation of Schedule 2 of the Metrolinx Regional Transportation Plan entitled "25-Year Plan for the Regional Rapid Transit and Highway Network". Kitchener/Waterloo Light Rail alignment provided by the Region of Waterloo (TBC).

Opportunities 4.3 Tower Neighbourhood Renewal in the Greater Golden Horseshoe





Large Apartment Clusters and GHG Reduction

This map illustrates clusters of five or more towers that may have higher potential for GHG reduction: groupings of larger buildings built prior to the period in which energy saving measures began to be introduced (roughly 1973). Together, these represent about half of all Apartment Towers in the GGH (47 per cent).

Greater Toronto and Hamilton Area, with Waterloo Region, City of Guelph, City of Brantford / Brant County, Dufferin County and Northern end of Niagara Region

Legend

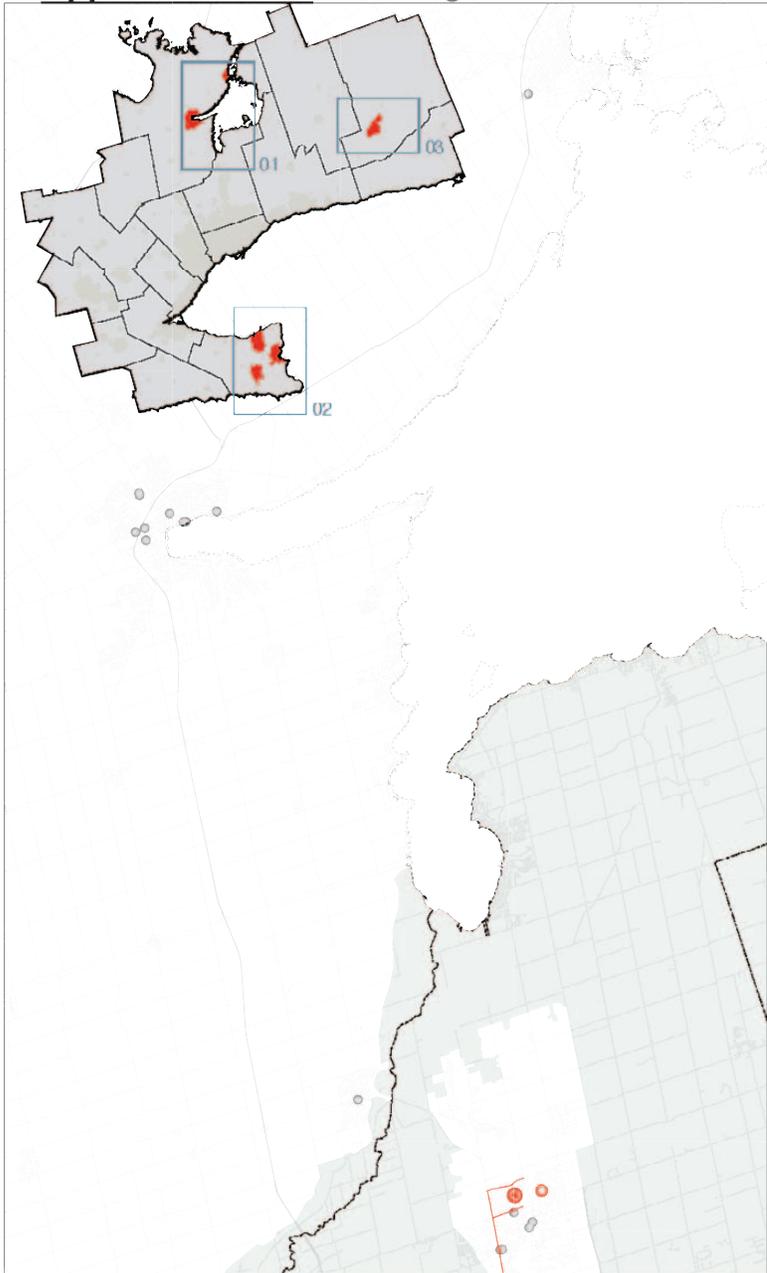
-  Higher Potential GHG Reduction Cluster
-  All Other Apartment Towers
-  Planned Metrolinx Light Rail / Bus Rapid Transit (RT)*
-  Existing and Planned TTC Subway/RT
-  Planned K/W Light Rail
-  Planned Gateway Mobility Hub
-  Planned Anchor Mobility Hub
-  Designated Greenbelt Area
-  Roadway
-  Boundary of Jurisdictions within

*Planned transit refers to the Metrolinx 25 Year Regional Rapid Transit Network.

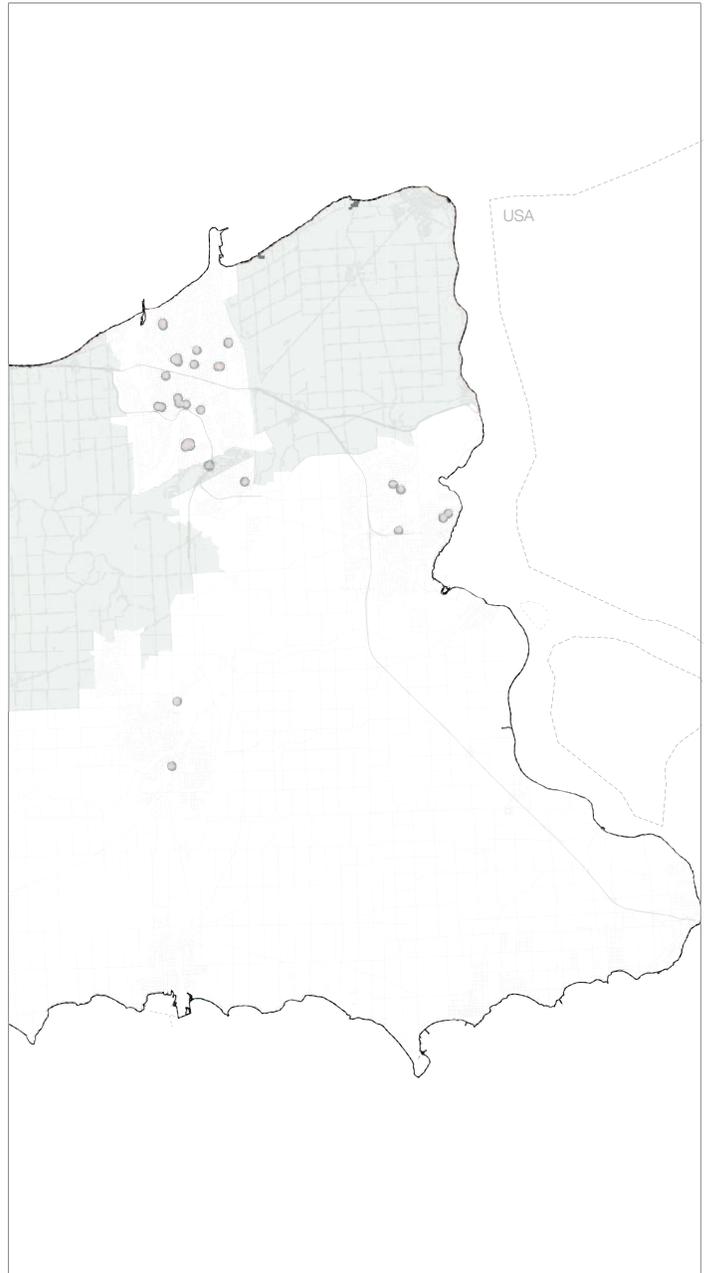
Base layers for this map, as well as designated Greenbelt Areas and Urban Growth Centre Locations provided by the Ministry of Infrastructure and the Ministry of Municipal Affairs and Housing of the Ontario government.

Regional rapid transit corridors shown on this map are based on the research team's interpretation of Schedule 2 of the Metrolinx Regional Transportation Plan entitled "25-Year Plan for the Regional Rapid Transit and Highway Network".
Kitchener/Waterloo Light Rail alignment provided by the Region of Waterloo (TBC).

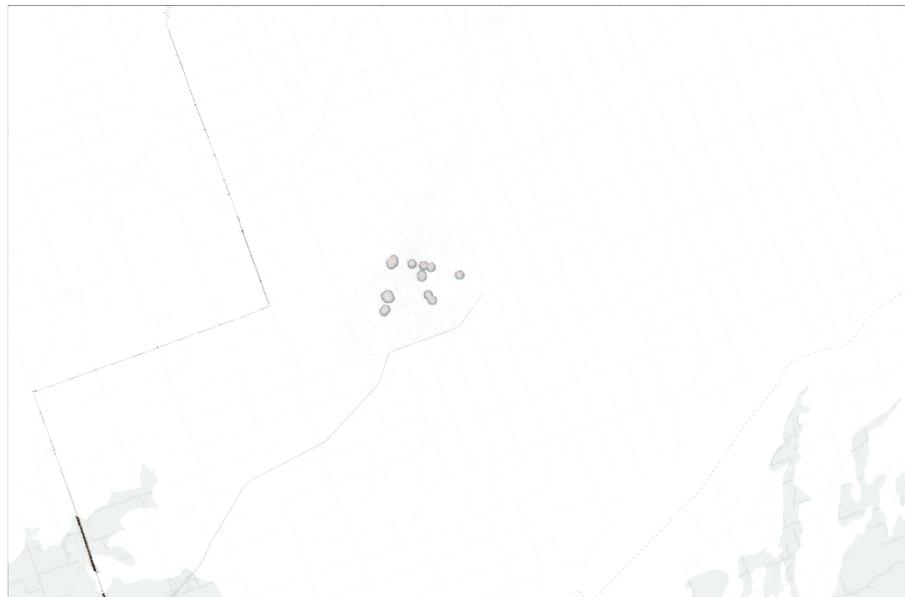
Opportunities 4.3 Tower Neighbourhood Renewal in the Greater Golden Horseshoe



01) Simcoe County



02) Niagara Region



03) City of Peterborough

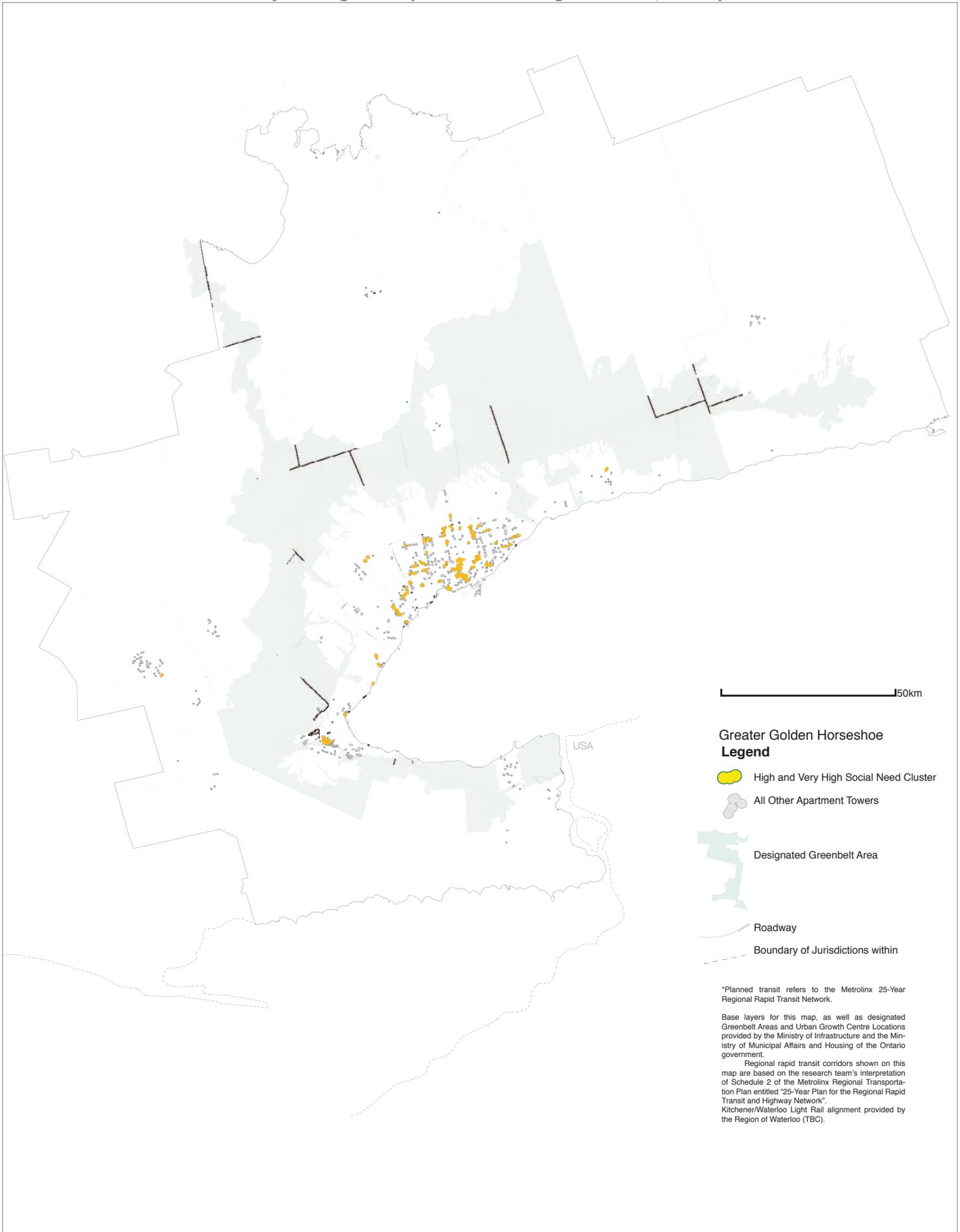
Legend

- Higher Potential GHG Reduction Cluster
- All Other Apartment Towers
- Planned Metrolinx Light Rail / Bus RT*
- Existing and Planned TTC Subway/RT
- Planned K/W Light Rail
- Planned Gateway Mobility Hub
- Planned Anchor Mobility Hub
- Designated Greenbelt Area
- Roadway
- Boundary of Jurisdictions within

*Planned transit refers to the Metrolinx 25 Year Regional Rapid Transit Network.

Base layers for this map, as well as designated Greenbelt Areas and Urban Growth Centre Locations provided by the Ministry of Infrastructure and the Ministry of Municipal Affairs and Housing of the Ontario government.

Regional rapid transit corridors shown on this map are based on the research team's interpretation of Schedule 2 of the Metrolinx Regional Transportation Plan entitled "25-Year Plan for the Regional Rapid Transit and Highway Network".
Kitchener/Waterloo Light Rail alignment provided by the Region of Waterloo (TBC).



European Best Practices in Supporting Greenhouse Gas Reduction

A range of strategies have been implemented in European Apartment Tower Neighbourhoods to significantly cut GHGs through lowered building energy use and the use of renewables. Additionally, European examples of infill development and the associated improvement of open spaces, walking and bicycling networks and transit connections also have an impact on the reduction of transportation-related GHG emissions.

The following are a series of strategies related to achieving carbon reductions within Apartment Tower Neighbourhoods, and the pictures on the following page illustrate several examples.

Introducing Renewable Energy Sources

The application of renewable energy sources is a key strategy for GHG reduction. In Marzahn Berlin, photovoltaic arrays have been added to Apartment Tower facades (image 02), and onto the roofs of buildings in the Bijlmermeer in Amsterdam. Solar water pre-heating systems are part of the renewal of towers in Gardsten in Göteborg, Sweden (06). The Gardsten project was part of a solar house initiative, where significant GHG reduction was achieved through passive heating and solar renewables. Additional energy is supplied to the Gardsten project via a local wind turbine.

District Heating

District systems are commonly applied to produce heat and energy for Apartment Tower clusters in the European Union. The energy sources for district systems range from residual heat from adjacent industrial processes, to power stations, biomass and waste incineration for co-generation. In many tower neighbourhoods, such as Amsterdam's Bijlmermeer, all space and water heating needs are provided through district systems fuelled through renewable processes. A similar system is used in Berlin's Schulze-Boysen-Straße neighbourhood (07).

Re-cladding

New over-cladding systems are applied onto existing towers throughout Europe to improve envelope performance and heating and cooling efficiency (01, 05). An Apartment Tower in Manchester, known as the Three Sister's Project (04), illustrates how re-cladding for insulation purposes is often part of a broader façade renewal that improves the look of the building, while also installing new windows to improve interior environments. A wide range of over-cladding options exist that can dramatically affect building appearance as well.

PassivHaus

Apartment Towers in northern Europe have been retrofitted to the Passivhaus standard, creating carbon neutral buildings, requiring little to no heating systems due to robust envelope and heat recovery systems. Image 10 is a sample wall section of a heavily insulated wall in Alingsås, Sweden.

Enclosed Balconies

Balcony treatments in renewal projects remove thermal bridging through improvements to the building envelope. These vary from open to enclosed. In Berlin's Markisches Viertel, balconies have remained open, with insulation wrapped around slab edges (03). In Gardsten Göteborg, south-facing balconies have been enclosed to enable passive solar gain, while providing new solariums that are inhabitable year round (06). Through operable windows, the solariums have access to the outdoors in warmer months.

Waste Management

Numerous innovative waste management strategies are being introduced in Apartment Tower Neighbourhoods throughout Europe, with the aim of improving diversion rates, as well as using waste as a resource such as bio-fuel (14), compost and heat used in district systems.

Waste collection has been a challenge in many Apartment Tower sites. In the Backa Rod neighbourhood in Göteborg, the Miljo Hus (Environment House) is a new community building where waste sorting and composting facilities are provided in a comfortable social setting (08, 13). Another alternative is the Optibag system used in many Apartment Tower Neighbourhoods in Sweden, in which waste streams are divided into coloured bags for use in traditional building shoots. In Stockholm, an underground vacuum system of tubes known as Envac (09, 10 & 11), sorts and transports waste to collection points on the

perimeter of the neighbourhood where it is taken to processing facilities. This system makes waste sorting convenient for residents, and by keeping garbage trucks at the perimeter of neighbourhoods, and eliminating the need for garbage bins, more space is made available for community use within neighbourhoods. This system is currently used in the new city district of Hammarby Sjostad, and is under consideration for use in modern tower districts.

General Refurbishment

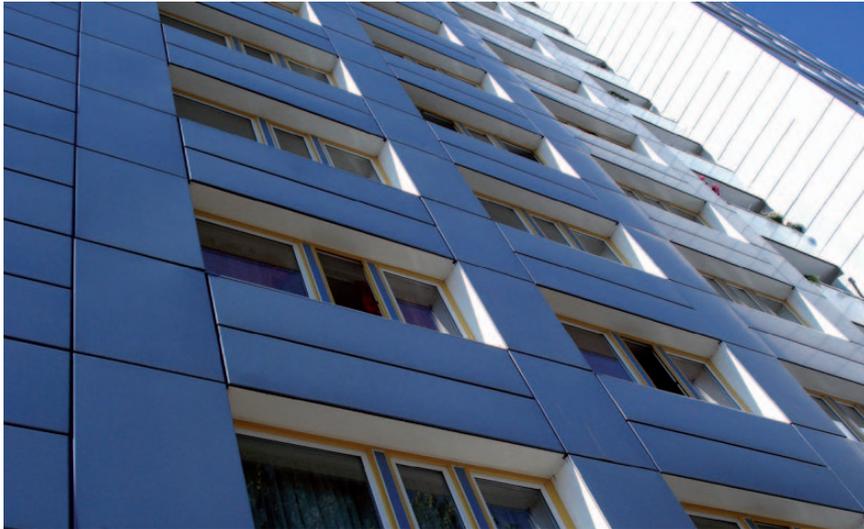
In Berlin, an aggressive program of Apartment Tower refurbishment has been underway since German unification in the 1990s. Four main strategies have been used to achieve low-carbon buildings, such as the Schulze-Boysen-Straße tower (see section 6.1 and image 07). These include:

- providing well-insulated and continuous barriers between interior and exterior environments;
- recovering waste heat from ventilation and hot water;
- providing heating, cooling and energy from a district system, preferably one powered by renewables; and
- educating and empowering tenants with the knowledge they need to optimally live in their unit, and the means to track their individual energy use.

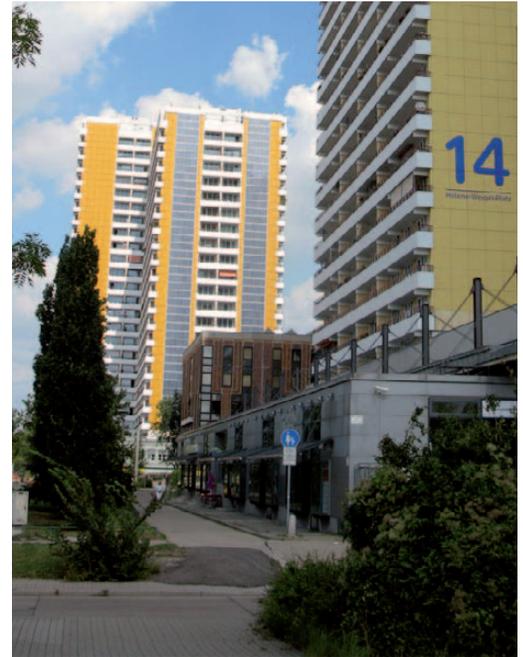
Image
Green Tower Refurbishment,
(Manchester, UK)



European Best Practice
Greenhouse Gas reduction strategies



01



02



03

- 01) Thermal Recladding, Gropiusstad, Berlin, Germany
- 02) PV Solar energy in Marzahn, Berlin, Germany
- 03) Balcony upgrade and high efficiency appliances, Markisches Viertel, Berlin, Germany
- 04) Facade re-cladding, Manchester, UK
- 05) Balcony re-cladding - Marzahn, Berlin, Germany
- 06) Solar Thermal heating and enclosed balconies in Gardsten, Göteborg, Sweden



05



04



06



07



08

- 07) Low-energy towers, Schulze-Boysen-Straße, Berlin, Germany
- 08) Community waste sorting facility, Backa Rod, Göteborg, Sweden
- 09) Refurbished Towers in Marzahn, Berlin, Germany
- 10) Wall insulation sample for PassivHaus conversion of Apartment building, Alingsås, Sweden
- 11-12) Underground vacuum waste management system in Hammarby Sjöstad, Stockholm, Sweden
- 13) Organic waste composting (inside community waste sorting facility shown in 08)
- 14) Bio-gas fuel pumping station, Trollhättan, Sweden



09



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11



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13



14

4.4 Supporting the Creation of Complete Communities Through Mixed-Use Infill and Intensification

Context

Ontario adopted the Growth Plan for the Greater Golden Horseshoe in June 2006. The Growth Plan calls for the creation of more compact and complete communities with an emphasis on infill and intensification within existing urban areas. It is part of a suite of new provincial policies adopted in the past five years – including the 2005 Provincial Policy Statement and the Greenbelt Plan – that collectively seek to better manage growth and development in the region.

Among the Growth Plan’s key policy directions are the following:

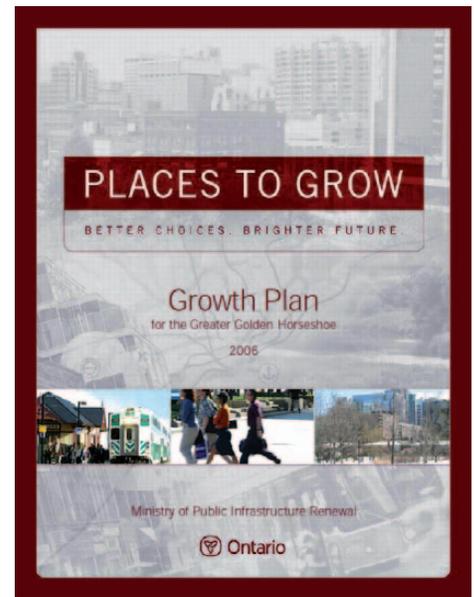
- accommodating at least 40 per cent of future residential development through intensification;
- reducing dependence on the automobile through the development of mixed-use, transit-supportive, pedestrian-friendly urban environments;
- encouraging the development of complete communities; and
- planning urban growth centres as focal areas for investment and for population and employment growth.

Municipalities across the region are currently in the process of developing and implementing Official Plan policies and strategies to implement the Growth Plan. This includes developing local intensification strategies that identify appropriate forms and locations for intensification. Tower Neighbourhood Renewal, through the thoughtful intensification of apartment clusters, can provide an important opportunity to support these local Growth Plan implementation efforts.

Discussion

For the most part, municipal intensification strategies being developed pursuant to the Growth Plan have focussed on identifying intensification opportunities such as brownfields, greyfields, vacant lands, and underused commercial areas along major arterial roads. Apartment Tower Neighbourhoods are generally not being examined as potential areas for intensification. Yet, as was discussed earlier, these sites often sit on large, underused parcels of land. Forty-seven per cent of Apartment Tower parcels in the GGH are greater than one hectare, and many of these parcels are clustered. The total land resource in the GGH on which Apartment Towers are situated is 2,197.5 hectares. If the Growth Plan’s minimum greenfield density target of 50 people and jobs combined per gross hectare were applied to this land area, it would accommodate more than 100,000 people and jobs (detailed study is required on a site specific basis to determine realistic scenarios that take into account local conditions).

Not only is there significant land associated with Apartment Towers, but many of them are located in parts of municipalities that have high potential for intensification. Fourteen per cent of Apartment Towers are located within urban growth centres, which are identified in the Growth Plan as key locations for intensification. Fifty-five per cent are located along arterial roads, which the Growth Plan identifies as potential intensification corridors. There is also a strong correlation between Apartment Towers and shopping centres. Forty-three per cent of Apartment Tow-



01



02



03

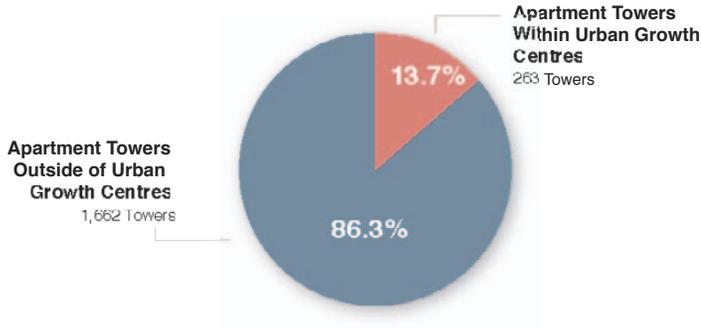
Images

01) Cover of the Growth Plan for the Greater Golden Horseshoe

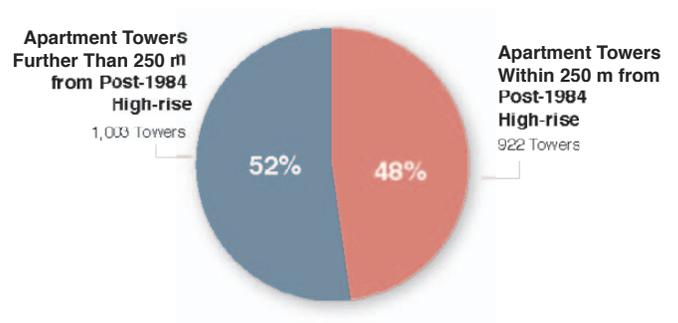
02) Infill housing among Tower Blocks in Berlin’s Marzahn Neighbourhood, Germany

03) Commercial infill between tower blocks in Berlin’s Markisches Viertel, Germany

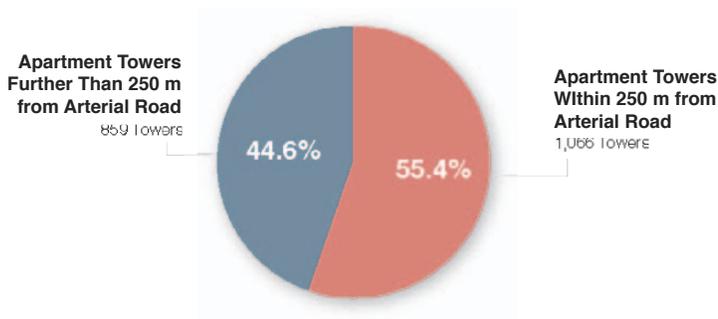
Apartment Towers Within Urban Growth Centres



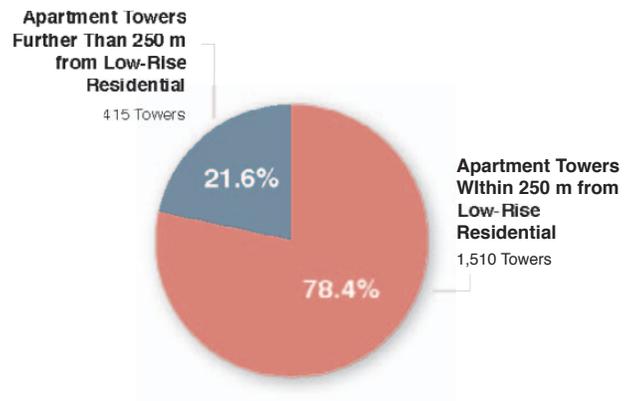
Apartment Towers Adjacent to Newer High-Rise Residential



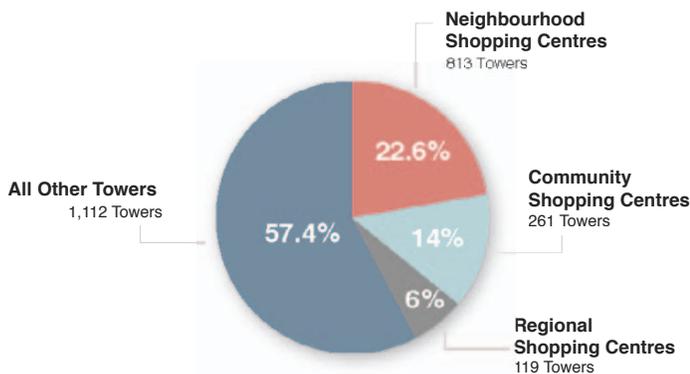
Apartment Towers Within 250 m of Arterial Road



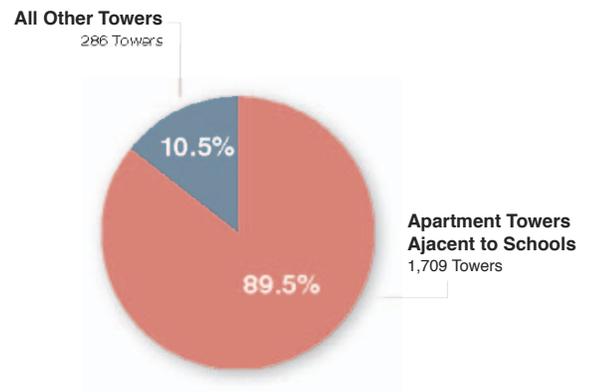
Apartment Towers Adjacent to Low-Rise Residential



Apartment Towers within 500 m of Shopping Centre



Apartment Towers within 500 m of Elementary or High School



Total Towers in GGH: 1,925

ers are located within 500 metres of shopping centres. Most shopping centres have large tracts of surface parking which are frequently identified in municipal intensification strategies as potential areas for infill or redevelopment.

The combination of large, underused parcels located in areas that are prime for intensification suggests that Apartment Towers could be considered as potential intensification areas, particularly after the “low hanging fruit” of brownfields, greyfields and vacant sites begin to redevelop.

Thoughtful and appropriate mixed-use growth within these sites can also contribute to the complete community and placemaking goals of the Growth Plan. Apartment Tower Neighbourhoods are often isolated, with relatively poor access to key community services, employment, cultural facilities and shopping opportunities. Mixed-use growth, as well as the community development strategies discussed in Section 4.2, provide an opportunity to introduce these types of amenities, particularly in areas identified for future regional rapid transit, as outlined in Section 4.1.

However, it is important to note that the surrounding urban context of Apartment Tower Neighbourhoods is highly varied, and would suggest caution in determining which Apartment Tower Neighbourhoods are appropriate for intensification, and what form of intensification would be appropriate. Many Apartment Tower Neighbourhoods were originally developed as part of master planned communities with a mix of housing types. Seventy eight per cent of towers are within 150 metres of existing single-detached housing and 48 per cent are within 250 metres of newer high-rise buildings (developed since 1985). Clearly, the context of each Apartment Tower Neighbourhood would need to be considered on a case-by-case basis, but the observations from this report suggest that Apartment Tower Neighbourhoods could be looked upon as potential intensification areas that help to achieve the growth and complete community objectives of the Growth Plan.

A better understanding of how these sites could intensify, including visualizations, best practices and model official plan and zoning policies, would be a useful tool to assist municipalities to integrate Apartment Tower Neighbourhoods into local intensification strategies.

Taking A Closer Look - Large Cluster Analysis

Determining which Apartment Tower Neighbourhoods have intensification potential would need to be done at the site specific level, but there are a number of characteristics that could suggest a particularly high potential for intensification. Clusters of towers that sit on larger parcels would be expected to have the highest amount of land potentially available, and could allow for land assembly that would facilitate larger scale infill developments. Similarly, clusters located in urban growth centres or along key arterial corridors would also be strong candidates, given the Growth Plan’s emphasis on increasing density and mix of uses in these locations. Where such clusters are near existing or proposed regional rapid transit would also be expected to have a stronger market for redevelopment.

The series of maps beginning on page 92 show locations within the GGH with clusters of five or more Apartment Towers that are either on parcels greater than one hectare in size, or are located in an urban growth centre. Together, these represent 60 per cent of Apartment Towers in the GGH.



01



02



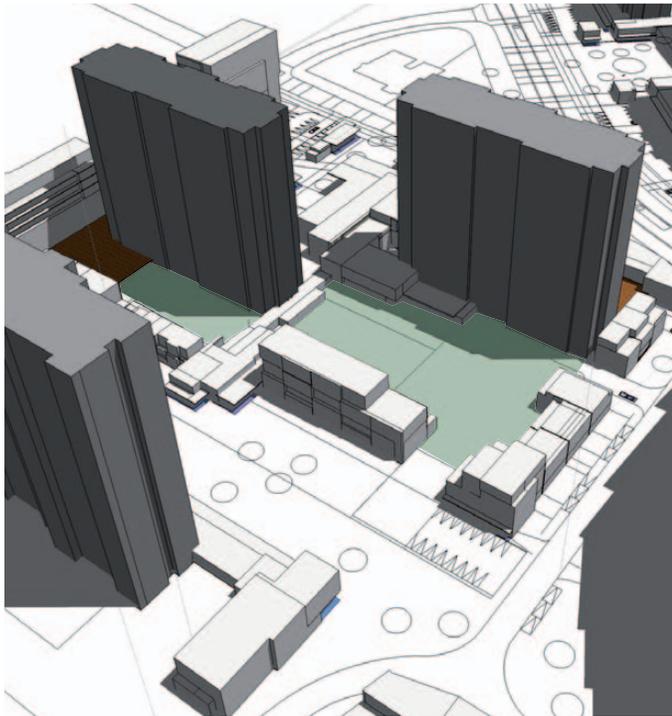
03

Proximity of Towers to Schools

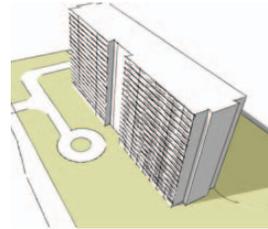
Almost ninety per cent of Apartment Towers in the GGH are located within 500 metres of a public school. This relatively high percentage is a result of the post-war community planning that was based on the neighbourhood unit, in which low and high density housing was arranged around centrally located schools and community parks. Schools have the potential to support typical Tower Renewal initiatives such as community gardens, youth initiatives, community recreation activities and so on. The large land areas of schools also offer potential for geothermal and other district energy installations.

In Toronto, the Toronto District School Board (TDSB) has shown leadership through the establishment of the TDSB Environmental Advisory Committee. This committee is looking at opportunities for TDSB properties, such as geothermal and photo-voltaic installation, and community gardens, as well as investigating the potential role it can play in Tower Neighbourhood Renewal.

Schematic Analysis of Infill Potential for Family Housing on Apartment Tower Sites



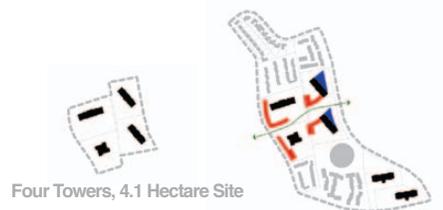
04



Typical Apartment Tower Site 05



Potential Infill Scenario 06



Four Towers, 4.1 Hectare Site



07



08

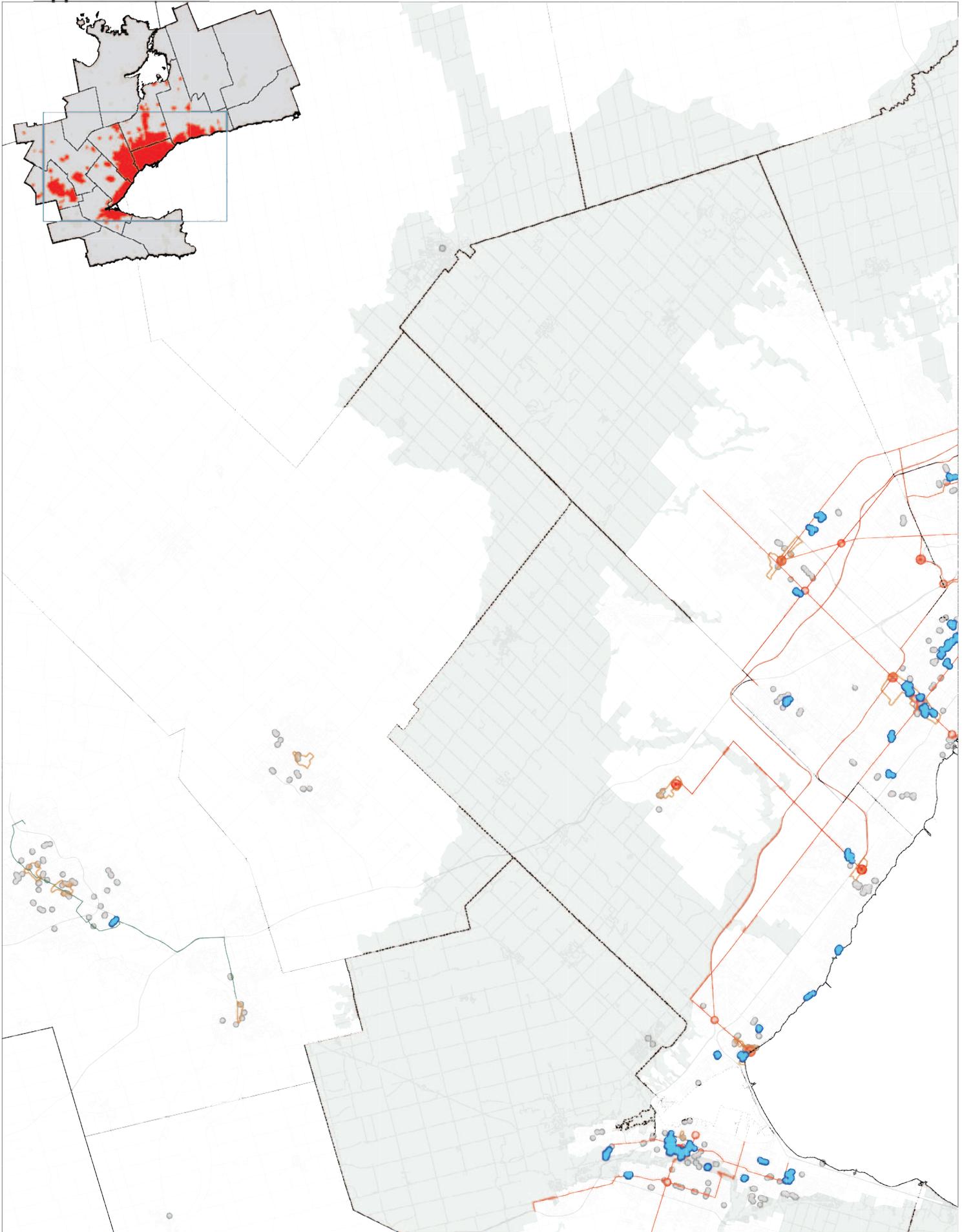


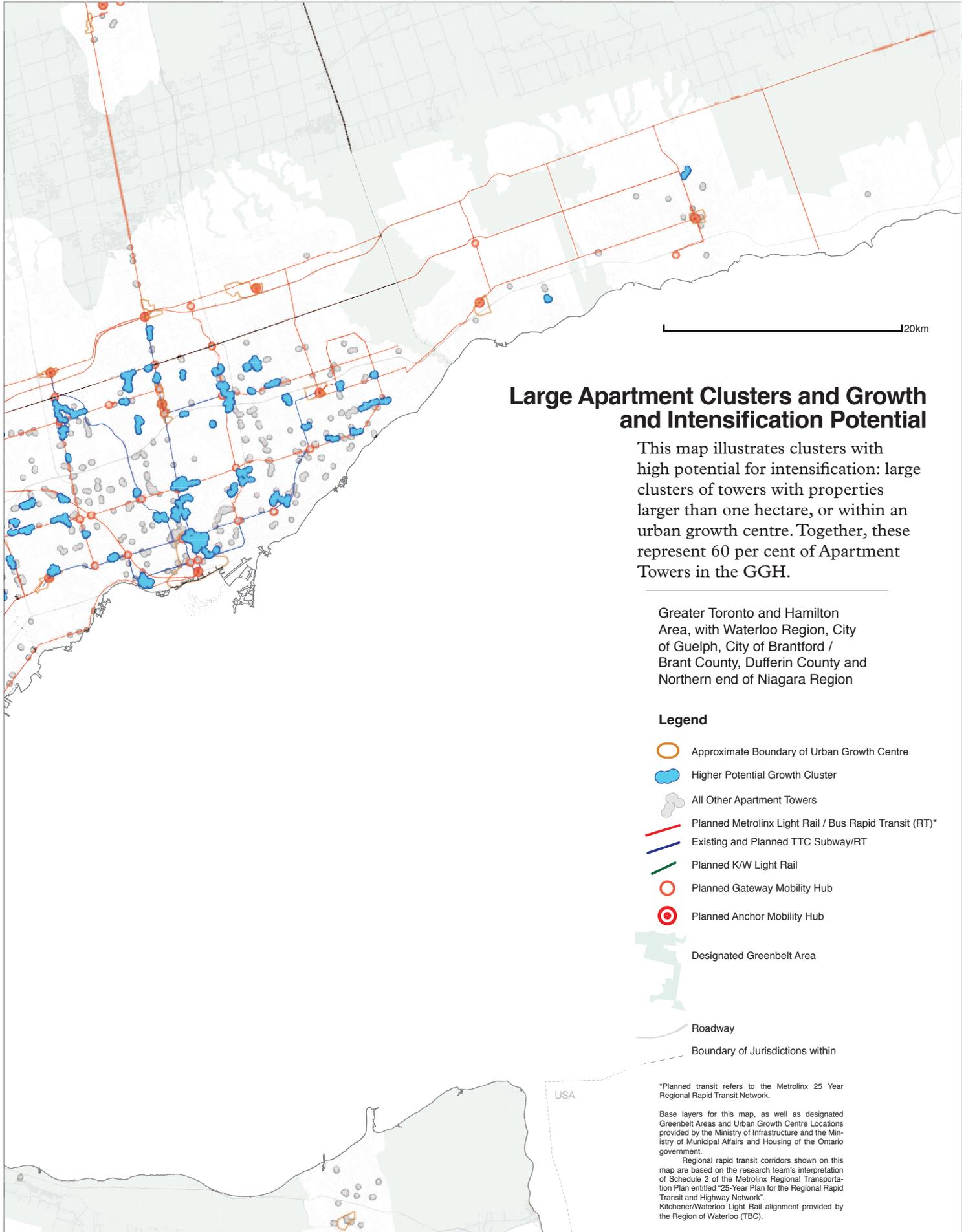
09

Images

- 01) Typical Apartment Tower and site, with large, underused property, Etobicoke
- 02) Apartment Neighbourhood adjacent to community shopping centre, Ajax
- 03) New condominiums developed adjacent to existing Apartment Towers, Mississauga
- 04 - 06) Schematic introduction of townhouse and mid-rise housing on typical Apartment Tower site
- 07) Schematic introduction of townhouse and mid-rise housing in cluster of four apartment towers, introducing new pedestrian and cycling connections
- 08) New mixed-use development and public space adjacent to Apartment Tower, Port Credit
- 09) Visualization of infill potential, creating cohesive public space within currently fragmented Apartment Neighbourhood

Opportunities 4.4 Tower Neighbourhood Renewal in the Greater Golden Horseshoe





Large Apartment Clusters and Growth and Intensification Potential

This map illustrates clusters with high potential for intensification: large clusters of towers with properties larger than one hectare, or within an urban growth centre. Together, these represent 60 per cent of Apartment Towers in the GGH.

Greater Toronto and Hamilton Area, with Waterloo Region, City of Guelph, City of Brantford / Brant County, Dufferin County and Northern end of Niagara Region

Legend

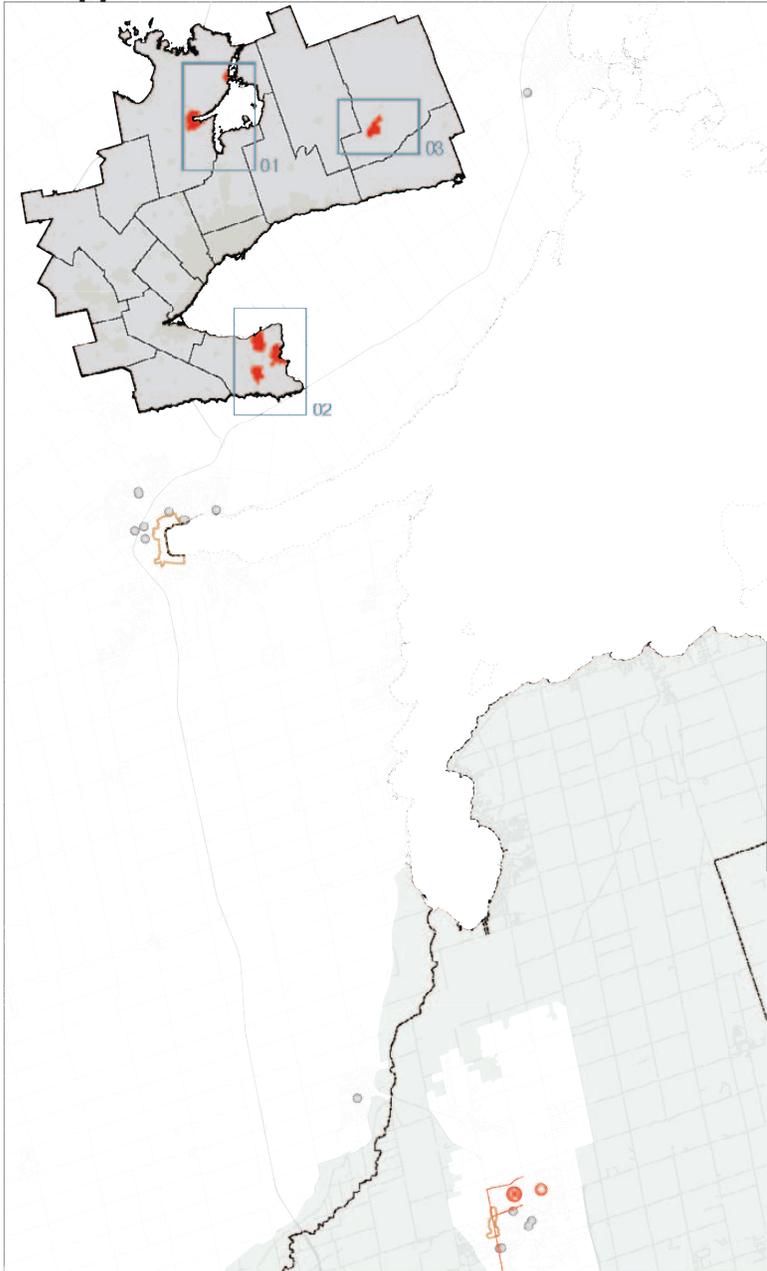
-  Approximate Boundary of Urban Growth Centre
-  Higher Potential Growth Cluster
-  All Other Apartment Towers
-  Planned Metrolinx Light Rail / Bus Rapid Transit (RT)*
-  Existing and Planned TTC Subway/RT
-  Planned KW Light Rail
-  Planned Gateway Mobility Hub
-  Planned Anchor Mobility Hub
-  Designated Greenbelt Area
-  Roadway
-  Boundary of Jurisdictions within

*Planned transit refers to the Metrolinx 25 Year Regional Rapid Transit Network.

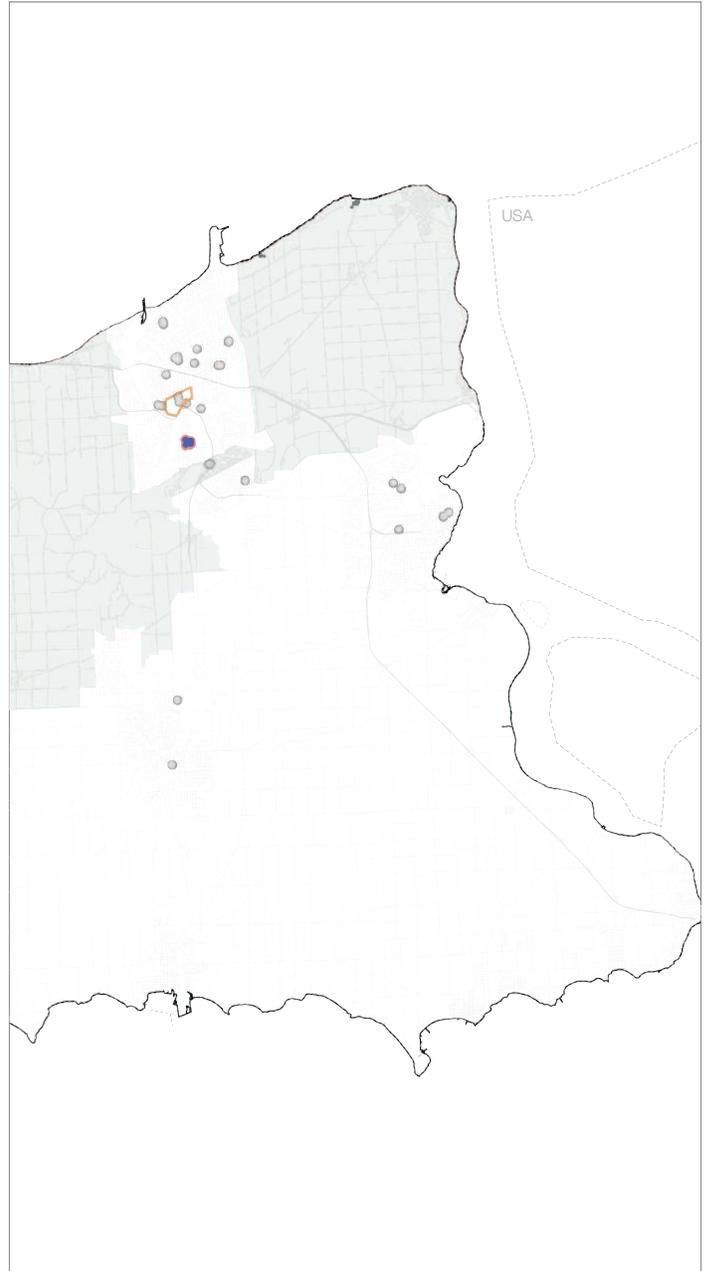
Base layers for this map, as well as designated Greenbelt Areas and Urban Growth Centre Locations provided by the Ministry of Infrastructure and the Ministry of Municipal Affairs and Housing of the Ontario government.

Regional rapid transit corridors shown on this map are based on the research team's interpretation of Schedule 2 of the Metrolinx Regional Transportation Plan entitled "25-Year Plan for the Regional Rapid Transit and Highway Network".
Kitchener/Waterloo Light Rail alignment provided by the Region of Waterloo (TBC).

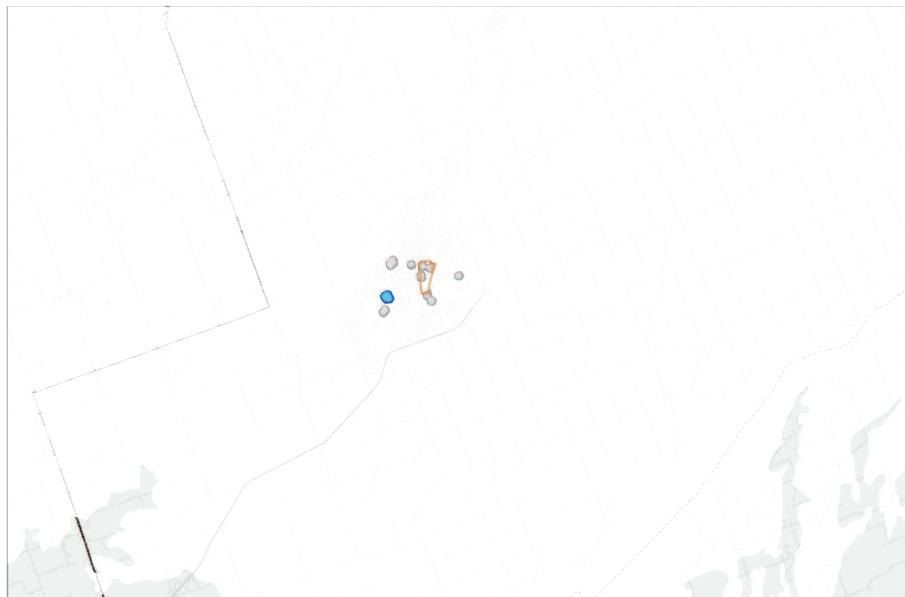
Opportunities 4.4 Tower Neighbourhood Renewal in the Greater Golden Horseshoe



01) Simcoe County



02) Niagara Region



03) City of Peterborough

- 01) Simcoe County
- 02) Niagara Region
- 03) City of Peterborough

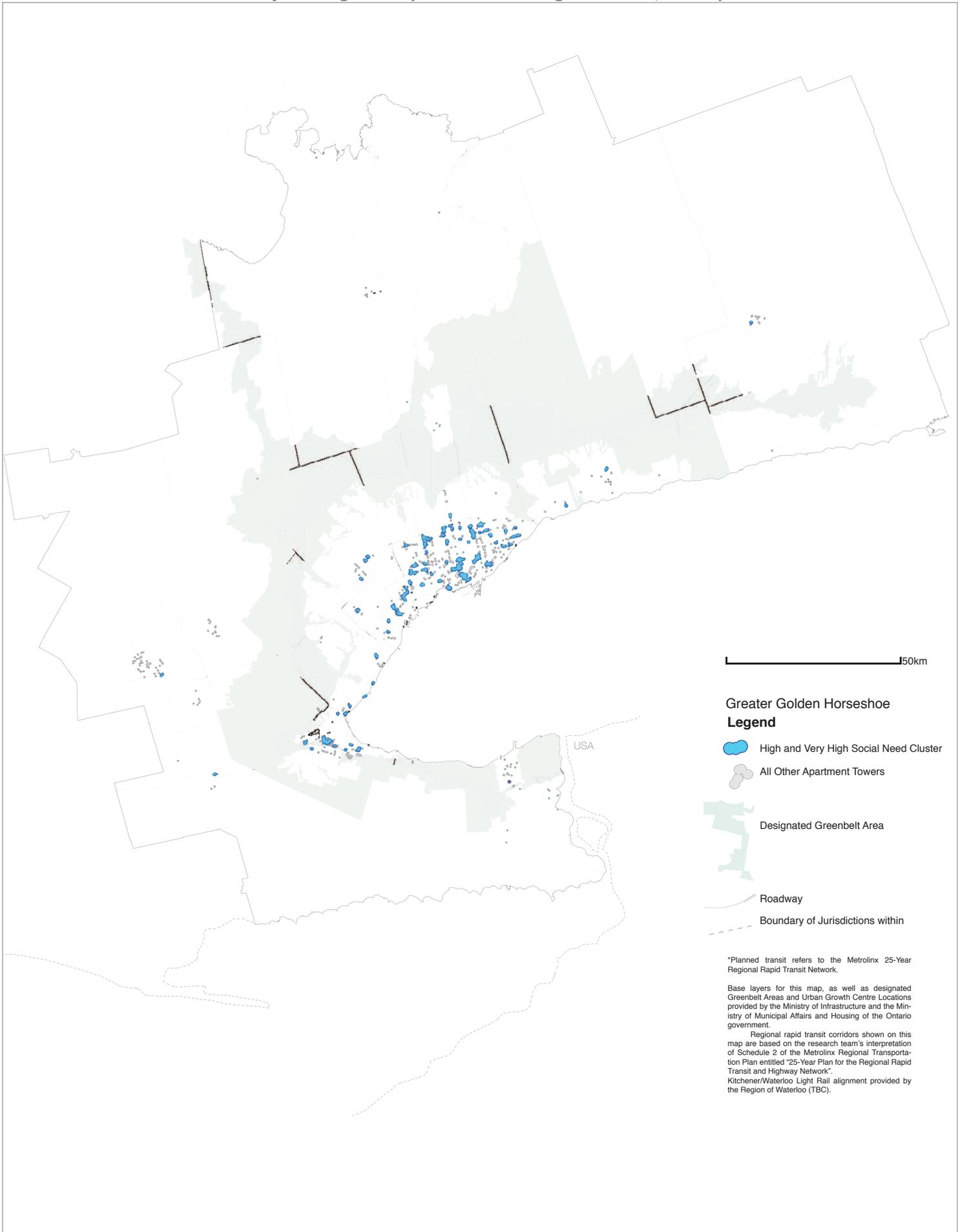
Legend

- Approximate Boundary of Urban Growth Centre
- Higher Potential Growth Cluster
- All Other Apartment Towers
- Planned Metrolinx Light Rail / Bus RT*
- Existing and Planned TTC Subway/RT
- Planned K/W Light Rail
- Planned Gateway Mobility Hub
- Planned Anchor Mobility Hub
- Designated Greenbelt Area
- Roadway
- Boundary of Jurisdictions within

*Planned transit refers to the Metrolinx 25 Year Regional Rapid Transit Network.

Base layers for this map, as well as designated Greenbelt Areas and Urban Growth Centre Locations provided by the Ministry of Infrastructure and the Ministry of Municipal Affairs and Housing of the Ontario government.

Regional rapid transit corridors shown on this map are based on the research team's interpretation of Schedule 2 of the Metrolinx Regional Transportation Plan entitled "25-Year Plan for the Regional Rapid Transit and Highway Network", Kitchener/Waterloo Light Rail alignment provided by the Region of Waterloo (TBC).



50km

Greater Golden Horseshoe Legend

-  High and Very High Social Need Cluster
-  All Other Apartment Towers
-  Designated Greenbelt Area
-  Roadway
-  Boundary of Jurisdictions within

*Planned transit refers to the Metrolinx 25-Year Regional Rapid Transit Network.

Base layers for this map, as well as designated Greenbelt Areas and Urban Growth Centre Locations provided by the Ministry of Infrastructure and the Ministry of Municipal Affairs and Housing of the Ontario government.

Regional rapid transit corridors shown on this map are based on the research team's interpretation of Schedule 2 of the Metrolinx Regional Transportation Plan entitled "25-Year Plan for the Regional Rapid Transit and Highway Network".
Kitchener/Waterloo Light Rail alignment provided by the Region of Waterloo (TBC).

European Best Practices in Supporting Mixed-use Growth to Foster Dynamic and Complete Communities within Apartment Tower Neighbourhoods

Across the European Union, older Apartment Tower Neighbourhoods have evolved into dynamic communities, though new residential and commercial infill developments as part of comprehensive renewal projects. Infill and intensification in tower neighbourhoods can provide a variety of housing types and tenures, new commercial amenities, community services, vibrant public spaces and employment opportunities.

The following are a series of strategies related to achieving well designed mixed-use growth within Apartment Tower Neighbourhoods, and the pictures on the following page illustrate several examples.

Introducing Shops, Service and Amenities

Numerous Apartment Tower Neighbourhoods in Europe have improved conveniences for local residents through the introduction of shops, services and amenities.

Among many examples, the Chrisp Street Estate in East London integrates retail at the base of towers (01), as does a tower in Avedore, Copenhagen (04). Local vendors and farmers markets, such as the one in Marzahn, Berlin (07) are another common strategy that create local economic development opportunities, activate the public realm, and bring culturally appropriate offerings to local residents.

New Housing Types and Tenures

In Amsterdam's Bijlmermeer neighbourhood, new market (owner and rental) and subsidized housing has been created throughout the neighbourhood in a range of building types to help encourage a healthier socio-economic mix (09 & 10). Additionally, part of the refurbishment of some Apartment Towers in the Bijlmermeer has included unit restructuring, such as the introduction of two storey family units at grade (06). New housing in low-rise, mid-rise and high-rise forms are introduced in many tower neighbourhoods in London as a means of intensifying neighbourhoods, providing greater housing choice, as well as generating revenue for wide scale neighbourhood renewal (08, 11,12).

High Quality Open Space and Public Realm

Infill development in tower neighbourhoods helps to transform large, underused and often anonymous open spaces into human-scaled, legible and vital new parks (13, 15), plazas (03, 07) and streets (09), that include space for passive and active recreation, transportation, play, markets, as well as festivals and events (04, 05).

Image

Refurbished Apartment Towers, Mid-rise infill housing and upgraded open space and in Swiss Cottage (London, UK)



European Best Practice

Mixed-use infill and intensification strategies



01



02

- 01) Retail amenities in the Crisp street estate, London, UK
- 02- 03) Retail amenities at Markisches Viertel, Berlin, Germany
- 04) Retail amenities in Avedore, Copenhagen, Denmark
- 05) Neighbourhood square in Amsterdam, NL
- 06) Commercial infill, Brunswick Centre, London, UK
- 07) Neighbourhood square and market in Marzahn, Berlin, Germany



03



06



04



07



05



08



10



09

- 08) Low-rise infill housing in Tower Hamlets, London, UK
- 09) Infill family rowhousing in Bijlmermeer, Amsterdam, NL
- 10) Infill midrise housing in Bijlmermeer, Amsterdam, NL
- 11) Infill family rowhousing in Camden, London, UK
- 12) Infill high-rise housing in Tower Hamlets, London, UK
- 13) Mid-Rise Infill, Tower Hamlets Community Housing, London, UK
- 14) Private gardens and shared outdoor space in Java Eiland, Amsterdam, NL
- 15) Upgraded open space in Poptahof, Delft, NL



11



13



12



14



15

