Intensifying Toronto

by

Jonathan Clarke

A thesis
presented to the University of Waterloo
in fulfilment of the
thesis requirement for the degree of
Master of Architecture

Waterloo, Ontario, Canada, 2016

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

How cities grow is set to change. In the Greater Toronto Area, both Ontario's Greenbelt Plan and Growth Plan for the Golden Greater Horseshoe are set to have a significant impact on how and where urban growth will occur in the near future. Since 2006 the Greenbelt Plan has protected the Greenbelt, a 1.8 million acre urban growth boundary of sensitive and agricultural land, from urban development. Forming a containment ring around the Greater Toronto Area, the Greenbelt leaves a finite amount of easily developable greenfield land within its inner ring: an area known as the Whitebelt. As the Whitebelt becomes depleted, change in the location and manner of accommodating urban growth will need to be adapted. In support of the Greenbelt Plan, Ontario's Growth Plan set a benchmark requiring that 40% of all future residential growth intensify existing urban areas advocating that development occur in a manner that creates self-sufficient and complete communities. Investigations by the Neptis Foundation reveal that consolidating intensification around high-order transit areas is a beneficial scenario to accommodate such growth. Aiding this, recent transit infrastructure investments by the Ontario Government will offer more opportunities for transit-orientated intensification.

The identification of potential intensification sites led to the selection of Scarborough's Golden Mile as a case study site. Redeveloping this district into a dense, activated, transit-supportive and pedestrian-orientated urban area that not only accommodates population and employment densities, but also one that accommodates a mix of dwelling types, jobs, stores, and institutions in the support of the daily life of a diverse and complete community required the analysis of the site's conditions, its applicable official policies, and an investigation into the potential treatment of its streets, blocks, and architecture. Together the policies, site conditions, and urban studies would develop the guiding principles for the case study site's reurbanization.

Transformation of the case study site depended upon the successful redevelopment of Eglinton Avenue: the area's social nerve. Acting as both street and place, the Avenue's redevelopment required an appropriate mix of different modes of transit, the ability to accommodate a variety of urban functions, the development of suitable architecture and urban spaces, and the promotion of an activated street life. The Avenue's blocks, currently large commercial and industrial superblocks, were reduced and repurposed to support a mix of land-uses and architectural types aiming to create a more attractive pedestrian-orientated district.

Using a consolidated intensification scenario, this thesis investigates how future intensification sites could be redeveloped into complete communities. By reurbanizing a case study site, it transforms policies into a potential urban form allowing for a more critical analysis of the opportunities, issues, and possibilities provided by this manner of growth.

Acknowledgements

To my supervisor, Val Rynnimeri, your continual guidance, critiques, and knowledge helped immensely throughout this thesis and has catapulted my knowledge of urbanism in general. I thoroughly enjoyed discussing and critiquing the work with you, and I look forward to future discussions. Thank you very much for all of your help.

Thank you Terri Meyer Boake for your continued support and dedication in helping shape and improve this thesis. Your drive, knowledge, and commitment help to inspire.

Thanks to Rick Andrighetti, your very insightful feedback and guidance in creating this thesis was immensely appreciated. Thanks for all of your advice.

I would also like to thank both the University of Waterloo and Ryerson University communities for their support and dedication singling out Mona El Khafif, George Kapelos, and Zaiyi Liao. Thanks to the students for their inspiration and the sense of community.

Thanks to my friends for their support, the humour and fun times, and their continual inspiration.

Thanks to my family for their support without whom I would not have been able to accomplish any of this.

Dedication

To my family and friends.

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126 4.3 aerial view of the Golden Mile
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128 4.4 axonometric view of proposed massing
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134 4.8 diagram of block measurment references
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134 4.9 diagram of northern Residential-Area Avenue block
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135 4.10 diagram of southern Residential-Area Avenue block
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source: drawn by author, based on Google Earth.

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source: Google Maps.

308 5.95 figure-ground of St. Clair district
source: drawn by author, based on City of Toronto. “Property Data Maps.” 2012. http://gis.ryerson.ca/pdm_toronto/pdmindex.htm.

308 5.96 street grid of St. Clair district
source: drawn by author.

309 5.97 street grid figure-ground of St. Clair district
source: drawn by author.

309 5.98 land-use of St. Clair district
source: drawn by author.

310 5.99 transit shed of St. Clair district
source: drawn by author, based on City of Toronto. “Property Data Maps.” 2012. http://gis.ryerson.ca/pdm_toronto/pdmindex.htm.

310 5.100 figure-ground of St. Clair district block areas
source: drawn by author, based on City of Toronto. “Property Data Maps.” 2012. http://gis.ryerson.ca/pdm_toronto/pdmindex.htm.

311 5.101 aerial image of St. Clair district block areas
source: drawn by author, based on Google Earth.

312 5.102 explanatory diagram of St. Clair district block area ‘A’
source: drawn by author, based on Google Earth.

314 5.103 explanatory diagram of St. Clair district block area ‘B’
source: drawn by author, based on Google Earth.

316 5.104 explanatory diagram of St. Clair district block area ‘C’
source: drawn by author, based on Google Earth.

318 5.105 aerial image of Golden Mile showing 1891 Eglinton Avenue
source: drawn by author, based on Google Earth.

318 5.106 diagram of Golden Mile zoning
source: City of Toronto. “1891 Eglinton Avenue East Official Plan Amendment Application.” 2012. http://www.toronto.ca/legdocs/mmis/2012/pg/bgrd/backgroundfile-46393.pdf.

318 5.107 aerial image of 1891 Egliton Avenue
source: drawn by author, based on Google Earth.

319 5.108 photographs of 1891 Egliton Avenue
source: photograhed by author.

320 5.109 application for Official Plan amendment for 1891 Eglinton
source: City of Toronto. “1891 Eglinton Avenue East Official Plan Amendment Application.” 2012. http://www.toronto.ca/legdocs/mmis/2012/pg/bgrd/backgroundfile-46393.pdf.

320 5.110 1891 Eglinton application building sizes
source: City of Toronto. “1891 Eglinton Avenue East Official Plan Amendment Application.” 2012. http://www.toronto.ca/legdocs/mmis/2012/pg/bgrd/backgroundfile-46393.pdf.

321 5.111 site plan of 1891 Eglinton application
source: City of Toronto. “1891 Eglinton Avenue East Official Plan Amendment Application.” 2012. http://www.toronto.ca/legdocs/mmis/2012/pg/bgrd/backgroundfile-46393.pdf.

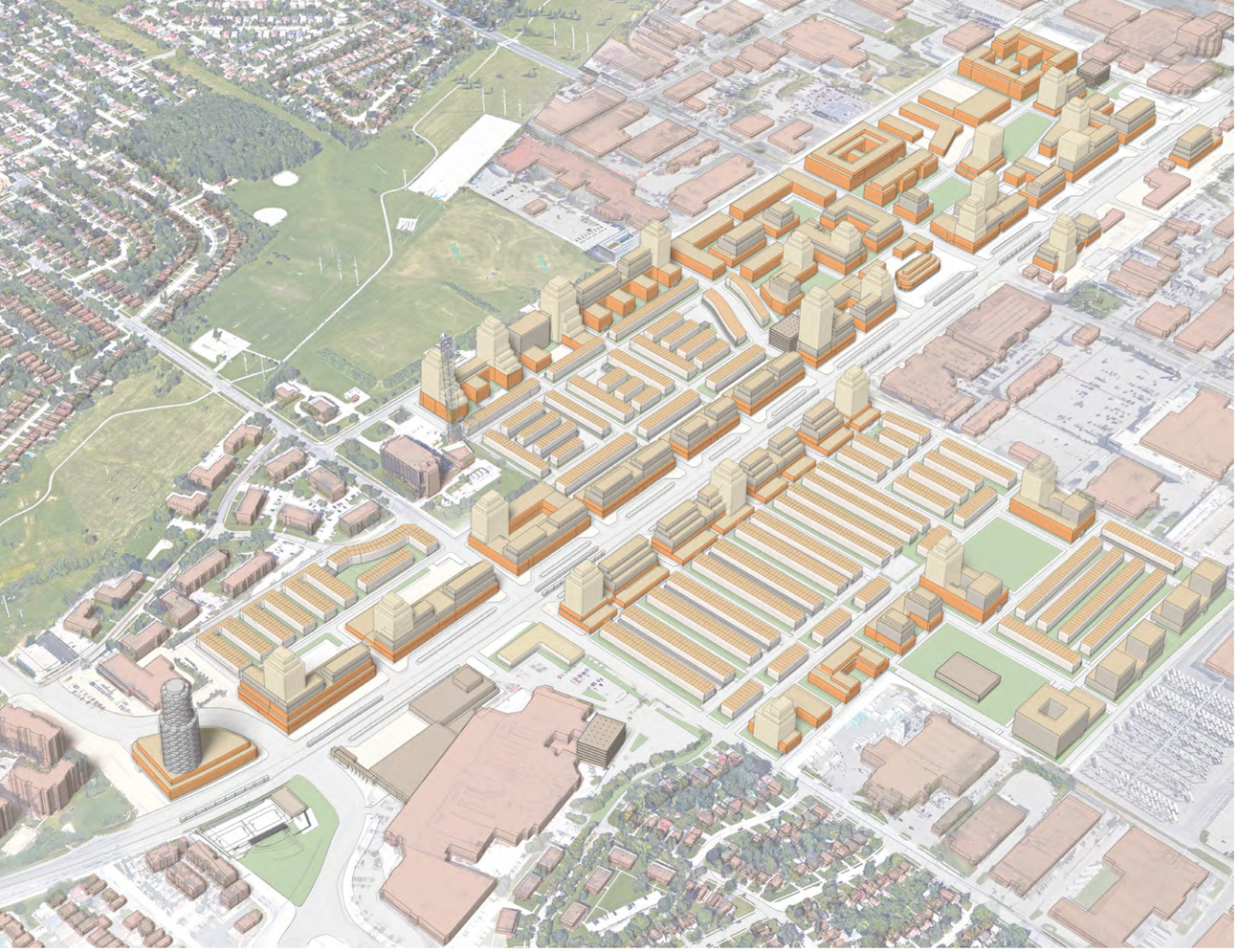
321 5.112 elevation of proposed building ‘A’ for 1891 Eglinton Avenue
source: City of Toronto. “1891 Eglinton Avenue East Official Plan Amendment Application.” 2012. http://www.toronto.ca/legdocs/mmis/2012/pg/bgrd/backgroundfile-46393.pdf.

321 5.113 elevation of proposed building ‘B’ for 1891 Eglinton Avenue
source: City of Toronto. “1891 Eglinton Avenue East Official Plan Amendment Application.” 2012. http://www.toronto.ca/legdocs/mmis/2012/pg/bgrd/backgroundfile-46393.pdf.

321 5.114 elevation of proposed building ‘C’ for 1891 Eglinton Avenue
source: City of Toronto. “1891 Eglinton Avenue East Official Plan Amendment Application.” 2012. http://www.toronto.ca/legdocs/mmis/2012/pg/bgrd/backgroundfile-46393.pdf.

322 5.115 data sheet for 1891 Eglinton Avenue application
source: City of Toronto. “1891 Eglinton Avenue East Official Plan Amendment Application.” 2012. http://www.toronto.ca/legdocs/mmis/2012/pg/bgrd/backgroundfile-46393.pdf.

323 5.116 data sheet for 1891 Eglinton Avenue application
source: City of Toronto. “435: 1891 Eglinton Avenue East.” Amendment 231 to the Offical Plan. 2013. http://www.toronto.ca/legdocs/mmis/2013/pg/bgrd/backgroundfile-63574.pdf, 77.



00
Introduction
context, approach, and outline

fig 1.1 *(opposite)* Axonometric diagram of the proposed Golden Mile Reurbanization.

Introduction

The intensification of Toronto is best suited to occur in revitalized transit-orientated areas that are well-designed, diverse, and self-sufficient. This thesis briefly examines the trends of Toronto's growth arguing that it should occur within built-up areas consolidated around high order transit. In Toronto, one of the most pressing catalysts against expansive growth is Ontario's Greenbelt. Acting as an urban growth boundary, the Greenbelt limits the amount of easily developable land in proximity to the Greater Toronto Area's (GTA) built-up area. As growth boundaries begin to be reached, future city growth appears likely to become more dependent on the intensification of existing urban areas.

Where within built-up areas this intensification occurs has a direct and significant impact on the functionality, attractiveness, and sustainability of Toronto. The thesis supports arguments for the effective intensification of the city directing growth to consolidate in transit-orientated areas. By consolidating intensification, reurbanized areas can achieve the largest number of benefits from its infrastructure, its increase in density, and its revitalization.

How identified consolidated intensification areas in Toronto are developed can promote their self-sufficiency, their ability to impact surrounding areas, and the amount of social and economic diversity within their communities. This thesis uses Scarborough's Golden Mile as a case study to exhibit the manner in which such intensification could occur.

The appropriate intensification and reurbanization of Toronto's transit-based areas will help accommodate future growth, utilize and support infrastructure, and can lead to improved, vibrant, and attractive urban areas. Using this methodology, Toronto can grow in a viable, beneficial, and more sustainable manner.

Context

One of the most significant problems in North American cities like Toronto is where and how to accommodate future growth. Suburban sprawl, a historical post-WW2 model of growth that is highly unsustainable, is not a viable option for future growth. Rooted in the success of the Don Mills community planning model, sprawl's manner of growth in the GTA has dominated urban development in the decades since WW2 relying on the continual expansion of the built fringes of Toronto. Sprawl's productive functionality, ease of replicability, and overall economic efficiency led to its dominance and geographic continuity. Sprawl's continual expansion, dominance, and repetitious application expedites the exhaustion of available greenfield land shortening the time frame in which urban growth boundaries are reached while also overextending infrastructure and rapidly increasing the size of built-up areas (see the appendix for further discussion and detail on the history and impacts of sprawl in Toronto). Changes are required.

Helping to incite change, two major catalysts are likely to alter this method of development in the GTA in the coming years: Ontario's Greenbelt and improvements to Ontario's transit infrastructure. The Ontario Greenbelt, the most immediate and clearly defined catalyst for altering the form of future development, is an artificial urban growth boundary intended to protect both environmentally sensitive areas and agricultural land from urban development. Today, as the urban edge begins to reach this growth boundary, the need for other methods of managing and shaping growth increases. This thesis argues that as this urban growth boundary is reached, and the sanctioned developable areas filled in, a majority of future growth will turn inward to intensify and reurbanize existing built-up areas within Toronto.

In conjunction with the Greenbelt's restriction to sprawl's expansive growth, the second major catalyst affecting urban growth is Ontario's planned mass transit projects throughout the GTA. Developed by Metrolinx, the governing regional transit authority, these planned high order transit improvements have the potential to drastically increase desirability and development within Toronto's built-up area. Concentrating intensification around high-order transit is argued to be the most appropriate option for accommodating Toronto's future growth.

Transit-orientated intensification areas that require large scale change represent some of Toronto's more significant opportunities that may also require district plans to not only ensure that intensification is appropriate to the existing conditions and opportunities, but also that the highest amount of benefits of consolidated intensification can be achieved.

A Re-Urbanization Approach to Accommodate Growth

Given that the GTA's urban growth limits will start to be reached by suburban development, it is argued that a large majority of future growth is likely to occur in existing urban areas.

The intensification and reurbanization of Toronto's existing urban areas will increase population and employment densities while helping create more compact communities, revitalize under-used, vacant, or misused areas, and support the existing or future expansion of public mass transit. Although, the opportunities for intensification can be found throughout Toronto, it appears that a majority of significant opportunities will be transit-orientated areas that were initially developed under sprawl's manner of urbanism: areas comprised of low densities, single uses, and areas in need of revitalization. Directing Toronto's future growth to these areas not only allows for intensification to occur in a manner that utilizes transit, but that also allows it to occur in a manner that revitalizes underachieving urban environments.

The policy, planning, and design goals of reurbanizing built-up areas aim to create vibrant, mixed-use, self-sufficient, compact, and diverse urban areas. Toronto, having already created specific guidelines and policies to direct and shape intensification, requires supplementary investigations and master plans for areas requiring large scale change.

Supplementing Toronto's existing polices and guidelines, this thesis developed a design methodology for a large scale reurbanization case study site based on typologies and precedents of existing street cross-sections, architecture, and blocks. This typological-based reurbanization methodology helped dissect samples of existing urban conditions and strategies of Toronto with the goal of reapplying the lessons learned to the conditions, issues, and opportunities of the thesis' case study site: Scarborough's Golden Mile. In other words, the design method attempts to incorporate tried, tested, and refined strategies of urbanism indigenous to Toronto into the reurbanization of an under performing future transit-orientated area within Toronto.

Chapter Summaries

Urban Growth: Urban Growth Boundaries, Projections, Policies, and Catalysts examines the GTA's finite land and urban growth boundaries, highlighting the necessity to shift growth to the intensification of built-up areas. This supports the province of Ontario's official policy that directs growth to intensify existing urban areas in a manner that achieves higher densities and a more integrated mixed-use urban form. Though these and other plans mark a commitment to intensify existing areas, further policies, investigations, and measures are required to ensure not only that it occurs, but that it occurs beneficially.

Golden Mile: History, Policies, and Studies examines the selection of the case study site, the selected site's history and current conditions, and the impact of applicable official policies on its reurbanization design. Site selection was undertaken using a Geographical Information System (GIS) methodology to help identify areas within Toronto that are capable of accommodating growth, are in proximity to desired amenities, and are potentially in need reurbanization. The outline of the area's history presents the conditions on which the thesis' reurbanization plan was built upon. Applicable official policies identify, analyze, and recommend appropriate strategies and future urban conditions of the selected site's street, its possible architecture types, and potential land-uses. Together the site's history, its existing conditions, and its applicable policies act as parameters that partially structure the future goals and shape of the thesis' case study reurbanization.

Design Methodology: A Typological, Precedent, and Morphological Reurbanization Strategy helps supplement existing conditions and the City of Toronto's policies by providing a method of urban design derived from typologies, precedents, and morphologies of streets, blocks, and architecture. To intensify the Golden Mile, a site requiring large scale change, the analysis of streets, blocks and architecture highlighted the underlying urban conditions, structures, and strategies that would help form the reurbanization plan's street proposals, develop suitable urban blocks, and incorporate suitable architectural typologies. Together, the combination of Toronto's official policies, the site's existing conditions, and this thesis' reurbanization methodology would help shape the Golden Mile's proposed reurbanization.

Consolidated Intensification: A Study in Urban Alchemy compares the current conditions to the thesis' proposed reurbanized plan. Initially, the chapter examines the overall shape and general reasoning of its guiding decisions then, in subsequent analyses, breaks down the design examining it in three individual precincts. The analysis of the district and its parts explains the thesis' reurbanization plan's design, its intended impacts, and the reasoning behind major decisions.

01
Urban Growth
urban growth boundaries, projections, policies, and catalysts

fig 1.2 *(opposite)* Aerial view of Greater Golden Horseshoe.

Growth Limits

The Greenbelt

The 2006 introduction of the *Ontario Greenbelt Plan* and the *Growth Plan* appear to be positioned to become a catalyst in shifting development from the extended and leapfrog manner of growth, typical to suburban sprawl, to the intensification of built-up urban areas. Ontario's *Greenbelt Plan*, shown in figure 1.3, was created to "protect about 1.8 million acres of environmentally sensitive and agricultural land in the Golden Horseshoe from urban development and sprawl."[1] The Greater Golden Horseshoe (GGH) represents an area that extends around Lake Ontario from Cobourg to Niagara. From a planning and development perspective this plan effectively functions as an urban growth boundary that restricts the location of future urban development.

The Whitebelt

The introduction of the Greenbelt has reduced the amount of developable greenfield land available within relative proximity to Toronto's existing built up areas, its central core, and its infrastructure. The area positioned between existing built-up urban areas and the Greenbelt, known as the Whitebelt, can continue to accommodate expansive growth for a time, but, because of the finite and exceedingly limited amount of land (as illustrated in figure 1.4), this trend cannot continue forever without changes. It is argued that this likelihood, along with official polices, will increasingly direct population and employment growth to occur within built-up areas.

The intensification of Toronto can happen in beneficial or unbeneficial locations and manners. Arguably, future growth is best suited to occur in proximity to high-order transit areas and in a manner that mixes land-uses: a type of intensification that is a sustainable and beneficial method to accommodate future growth.

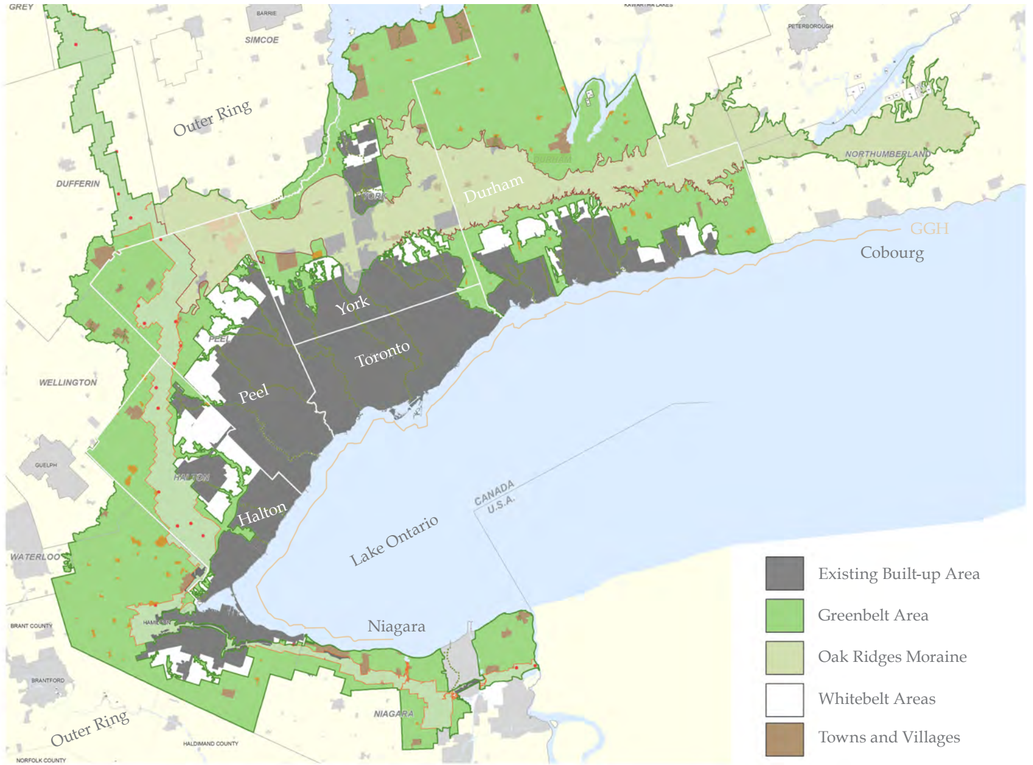


fig 1.3 *(opposite) M*ap of the 2006 Ontario Greenbelt showing the GGH's municipal regions, existing built-up areas, smaller settlements, and the remaining Whitebelt area. The size of the Whitebelt areas, located between the Greenbelt and the built-up areas, help illustrate the impending need for altering development methods and intensifying existing urban areas.

Each region around the GTA, with the exception of Toronto proper, contains a percentage of dedicated Whitebelt land. A study conducted by the Neptis Foundation outlines each region's amount of Whitebelt land as of 2006.[2] Another study, conducted by the Friends of the Greenbelt Foundation, projected each region's Whitebelt use by 2031 based on "municipalities' proposed Official Plans."[3] The amount of available Whitebelt land and its projected use shows not only its scarcity and its amount of use in the near future, but also gives a rough idea of the time frame to its exhaustion if similar growth trends continue.

The City of Toronto will continue to grow in population from 2.77 million in 2013 to 3.64 million by 2041.[4] The GTA and GGH predict comparable increases in population (figure 1.5).

A significant portion of future urban growth of the GTA will likely, for the near future, continue to occur in Whitebelt lands. The speed of development of these designated growth areas will depend on how the larger real estate market reacts to the scarcity of land inside the Greenbelt and the impact of official urban intensification policies in the GTA and the Greater Toronto and Hamilton Area (GTHA). Both regional and local policies have been initiated to promote denser and mixed use manners of growth that can support transit and Toronto's future growth in a more sustainable manner than the sprawl of the last six decades.

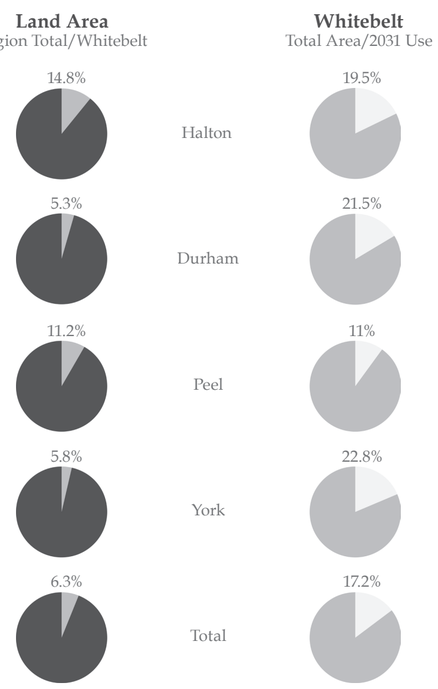


fig 1.4 Whitebelt land compared to total land area in the region and the percentage of its projected use by 2031.

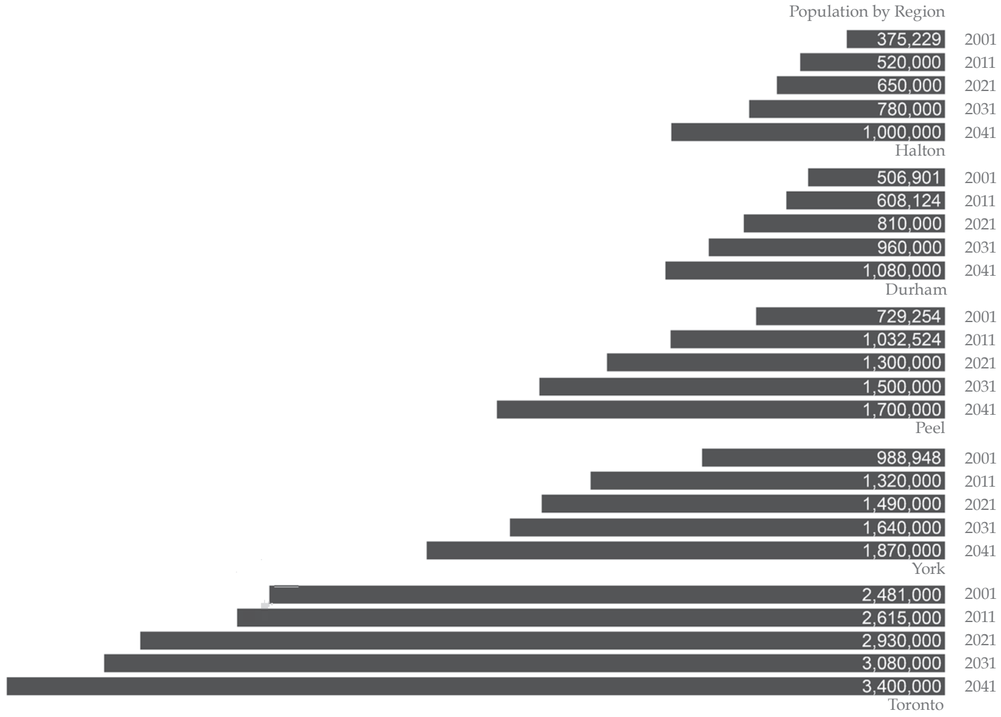


fig 1.5 Diagram showing projections of *population* for Toronto its surrounding municipalities highlighting each region's future need to accommodate growth (employment growth not included).

Growth Scenarios and Plans

Future Growth Scenarios

Though the Greenbelt and municipal plans have intentions to intensify existing urban areas, there are a number of future scenarios that could plausibly occur.

The first possible future outcome for urban growth is the failure of the *Greenbelt Plan*: either its complete repeal and renouncement or the introduction of amendments (in local politics). This set of outcomes would likely be at the behest of and accompanied with unchanged sprawl type development methods. According to the Neptis Foundation, amendments to the Greenbelt have already begun setting precedence for further revisions.[5]

A second scenario for future urban growth in the GTA is the leapfrogging of the Greenbelt and the continuance of an expansive method of development. Though such areas would be far away geographically, and, by transportation infrastructure, are far away from Toronto's urban centre, this growth outcome is a possibility that would require further investigation to accurately assess (e.g. the appetite of the housing market). A commuter in such a large regional GTHA metropolis could still live in Guelph, for example, and commute to a job in Milton or Mississauga. Obviously, the effects of such an occurrence, like renewed regional sprawl, would be increasingly detrimental. This thesis assumes that the detrimental effects and the distance from core urban areas would reduce the degree in which leapfrog development would occur.

The third growth scenario is the intensification and reurbanization of existing urban areas: a scenario supported by this thesis and advocated by Ontario's *Growth Plan for the Greater Golden Horseshoe*.

The Growth Plan for the Greater Golden Horseshoe

The thesis' general design strategy, though created by the Ontario Greenbelt's internalizing pressure, is really established by a second accompanying Ontario initiative.

Supplementary to the *Greenbelt Plan*, the Government of Ontario's *Growth Plan for the Greater Golden Horseshoe* (hereafter referred to as the *Growth Plan*) presents the regional framework for how and where Southwestern Ontario's future growth should occur. The *Growth Plan* policy, advocating for the urban intensification of the GTA, directs growth to urban areas "where the capacity exists to best accommodate the expected population and employment growth."[6]

The areas identified by the *Growth Plan* where urban intensification could occur includes several Growth Centres and, later to be specifically identified by municipalities or the Ministry of Infrastructure, Transit Intensification Corridors, Major Transit Station Areas, and other major opportunities (e.g. greyfields, brownfields, and infills).[7]

This policy intends to accommodate higher than average urban densities while simultaneously creating places that attract people by mixing land-uses, having high quality open spaces, accessible high-order transit, and encouraging design that supports walking and cycling.[8] The *Growth Plan* intends these places to be *complete communities:* areas that promote and accommodate diversity in the types of people, tenure, transportation, housing, employment, stores, and services.[9] Transforming a selected intensification area within Toronto into a complete community became this thesis' reurbanization plan's general underlying strategy.

Testing Growth Scenarios

A test of four types of future growth was conducted by the Neptis Foundation: Business-as-Usual, Consolidated, Multi-Centered, and Dispersed.[10] The Business-as-Usual scenario follows current growth trends, the Consolidated Growth scenario assumes growth to be accommodated at transit nodes and corridors intensifying existing urban areas within the inner ring of the Greenbelt, the Multi-Centered scenario allocates more growth to areas outside the Greenbelt, and the Dispersed scenario allocates more growth to occur in suburban and regional greenfields (in effect, the Whitebelt lands and areas beyond the Greenbelt).[11] As seen in figure 1.6, of these growth options only Consolidated growth, that is growth around transit nodes and corridors, reached the residential intensification target of 40% (exceeding it by +15%).[12] Moreover, Consolidated growth performed

	Scenario			
	Business-as-usual	Consolidated	Multi-Centred	Dispersed
% of population growth accommodated through intensification between 2000 and 2031	36%	55%	35%	29%
Built-up urban area — total size in 2031 — increase between 2000 and 2031	2,887 km^2 + 49%	2,672 km^2 + 37%	2,904 km^2 + 49%	2,957 km^2 + 52%
% of journeys to work made by local transit in 2031	11.2%	13.5%	12.3%	10.0%

Values for the Greater Golden Horseshoe, excluding Brant and Haldimand-Norfolk Counties, and the northwestern rural portion of Wellington County.

fig 1.6 Chart showing the projected impacts of four growth scenarios from the Neptis Foundation's "Testing the Impact of Different Growth Scenarios". Consolidated Growth performed the best decreasing expansion of the built-up area, increasing transit journeys to work, and was the only scenario to achieve (actually exceeding) the intensification target.

the best in reducing the overall size increase of the expanding urban area and was the only option that increased transit-to-work commutes from the year 2000 level (+0.9%).[13] Therefore, in accordance with the recommendations of the *Growth Plan*, and considering these four options, it appears that urban areas will be best served by implementing a Consolidated Intensification method of development.

Issues with the Present Growth Plan Policy and Strategy

In order to achieve the benefits of such intensified growth, significant changes in urban development patterns and conventional practices would be required. To accomplish the intensification of designated areas, the *Growth Plan* set a 2015 benchmark requiring that a minimum of 40% of all residential growth should occur in existing urban areas of the GTA.[14] The Neptis Foundation report recommends that more "direct and effective measures"[15] be introduced to significantly alter current developmental patterns in an effort to ensure intensification happens in strategic locations and in an effective manner.[16][17] Infilling the edges of urban areas and/or development in areas without sufficient transit access or other infrastructure, though currently counted towards the 40% residential intensification target, are actually ineffective in achieving the possible full benefits of intensification and, therefore, should not be considered as a valuable manner for future growth.[18]

In consideration of the creation of *Greenbelt Plan* and *Growth Plan*, it appears that Ontario's provincial government is committed to changing how and where such effective urban growth occurs. As policies are revised, improved, and strengthened, the intensification of existing urban areas help direct new development around transit nodes and corridors. Supporting these goals, this thesis proposes to use consolidated intensification to reurbanize a future transit corridor into a complete community.

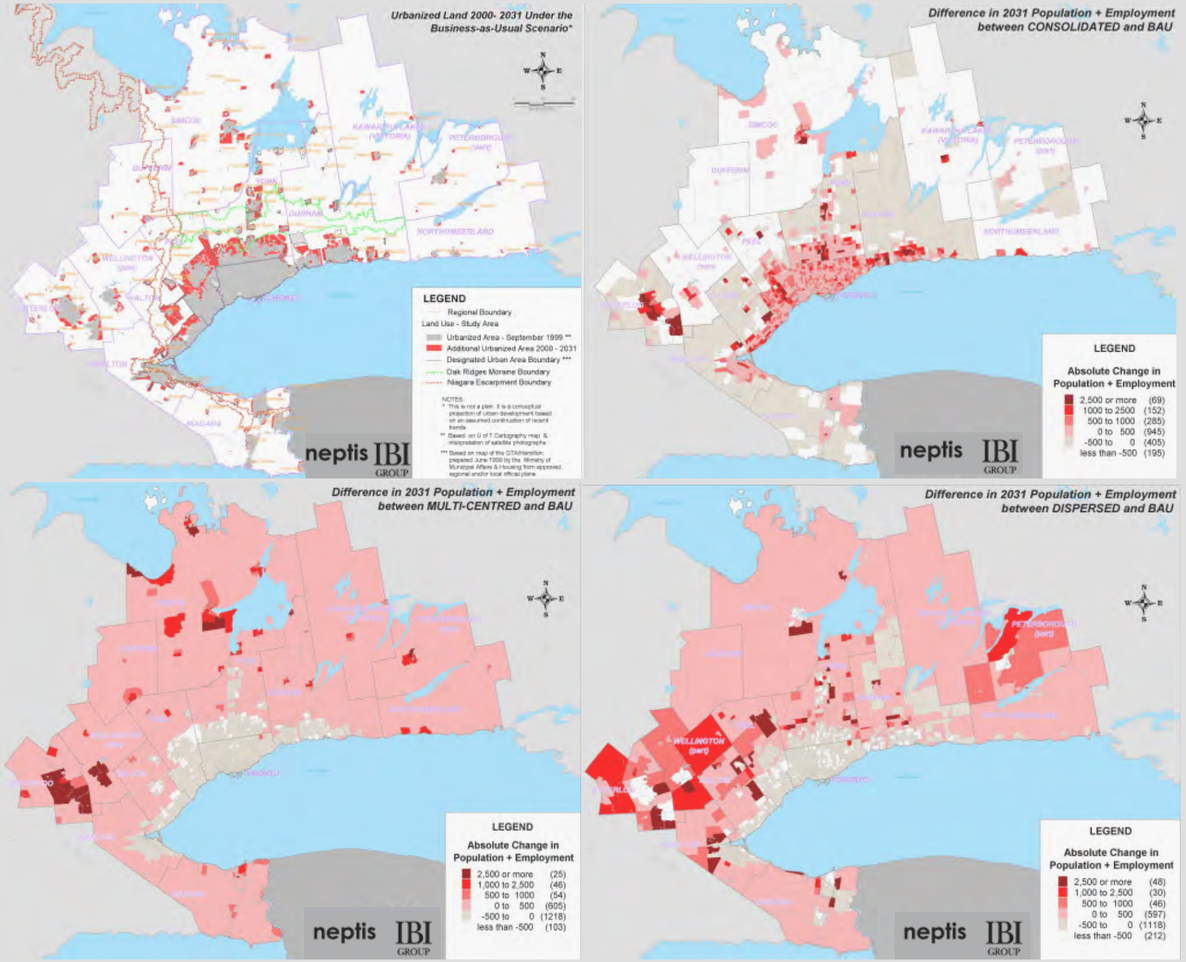


fig 1.7 *(opposite)* Diagram of four comparative maps by the Neptis Foundation entitled "Differences in 2000 - 2031 Population Plus Employment Growth between the Business-as-Usual (BAU) Concept and Each Alternative Concept". These maps project if and how growth would differ from conventional practices.

Intensification Opportunities

Greater Toronto and Hamilton Transit Project Plans

The Ontario Government's recent investments into transportation infrastructure will increase the province's high-order transit network that, in turn, will act as a catalyst for consolidated intensification of the GTA and, more specifically, the City of Toronto.

Metrolinx, an Ontario Government agency, was formed to provide oversight to the region's transportation network. Metrolinx's regional transportation plan, named *The Big Move: Transforming Transportation in the Greater Toronto and Hamilton Area* (formally accepted in 2008),[19] intends to increase the province's high-order transit network's capacity, connections, and convenience: a move that will not only help commence the *Growth Plan's* goal of "using transit infrastructure to shape growth,"[20] but will also attract intensification to key areas within Toronto.

Within Toronto's boundaries, the *Big Move* has planned several high-order transit projects including the Eglinton Crosstown LRT project. The Eglinton Crosstown, expected to be completed around 2020,[21] will create opportunities for the intensification of built-up areas developed in the 1960s and 1970s under sprawl's manner of urbanism: areas like Scarborough's Golden Mile.

Municipal policies appear to be beginning to emulate this and other *Growth Plan* goals further promoting consolidated growth in proximity to high-order transit.

The Golden Mile, and other existing urban areas in proximity to current or future transit nodes and corridors, requires higher than average employment and residential densities to support transit. Ideally, these areas would be frameworked in part by the *Growth Plan's* complete communities: areas having compatible mixes of residential, employment, institutional, and commercial land-uses.[22] Intensifying transit-orientated areas create supportive relationships between infrastructure, land-uses, and density helping to promote quality urban environments and self-supporting communities.

fig 1.8 Map of Metrolinx's Big Move's transit plan projects.

fig 1.9 Aerial image of a Waste Landscape of Transition Drosscape: Toronto's highway 401 at highway 404.

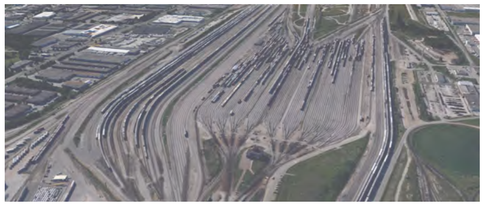


fig 1.10 Aerial image of a Waste Landscape of Infrastructure Drosscape: Vaughan's Macmillan Rail Yard.

fig 1.11 Aerial image of a Waste Landscape of Exchange Drosscape: Toronto's Golden Mile (Eglinton Avenue at Lebovic Avenue).

The Greater Toronto Area Drosscapes

Large areas in need of reurbanization increases the benefits of consolidated intensification of transit-oriented locations as these areas represent vacant, under used, or misused opportunities (e.g. brownfields, greyfields).

In his book *Drosscape*, Urbanism professor Alan Berger identifies several types of "wasted landscapes" typically found in North American cities.[23] Under the *Growth Plan's* policy for intensification, these wasted landscapes represent numerous large scale opportunities. By intensifying these types of sites not only can the city benefit by accommodating growth and utilizing existing infrastructure, but it can also benefit through the revitalization of poor or underachieving urban environments.

Areas that are or will be in proximity to high-order transit and are also in need of revitalization represent some of Toronto's more significant opportunities for intensification. To assist in identifying and selecting a case study site, a site selection methodology was developed that maps, evaluates, and compares areas of opportunity and desirability within Toronto's boundaries.

Urban Growth Synopsis

The imposed limitations of the Greenbelt and the subsequent finite land within the Whitebelt encourage the investigation and future implementation of other growth scenarios. Of the scenarios investigated by the *Neptis Foundation,* Consolidated Growth, that is growth concentrated around high-order transit, performed the best of four comparable models. Helping support a consolidated growth scenario, *Metrolinx's Big Move* is introducing a number of transit improvements throughout the GTA. Areas with existing or future transit nodes, particularly those that currently represent Drosscape environments, therefore represent significant opportunities for growth within the GTA.

02
Golden Mile
history, policies, and studies

fig 2.1 *(opposite)* Aerial view of Toronto's east borough: Scarborough.

Site Selection

Geographical Information System

A Geographical Information System (GIS) was used to assist in identifying potential intensification areas within the City of Toronto. Figure 2.2 shows the outcome of this methodology: a map that shows potentially valuable areas for intensification based on the attributes of existing conditions and the current availability of social amenities (e.g. high-order transit).

To identify potential intensification areas suitable to the *Growth Plan's* recommendations, this site selection methodology evaluated parameters based on their potential value.

Parameters included the amount of unused land area, amount of local employment, proximity to high-order transit nodes, and proximity to greenspace. During the investigation, it became apparent that further refinement of the parameters and their values was necessary to accurately identify potential intensification sites.

Although this type of methodology appears to have many beneficial outcomes, without refinement it will remain vague if not inaccurate in identifying sites. More traditional site selection methods were required to supplement this methodology and select a case study site.

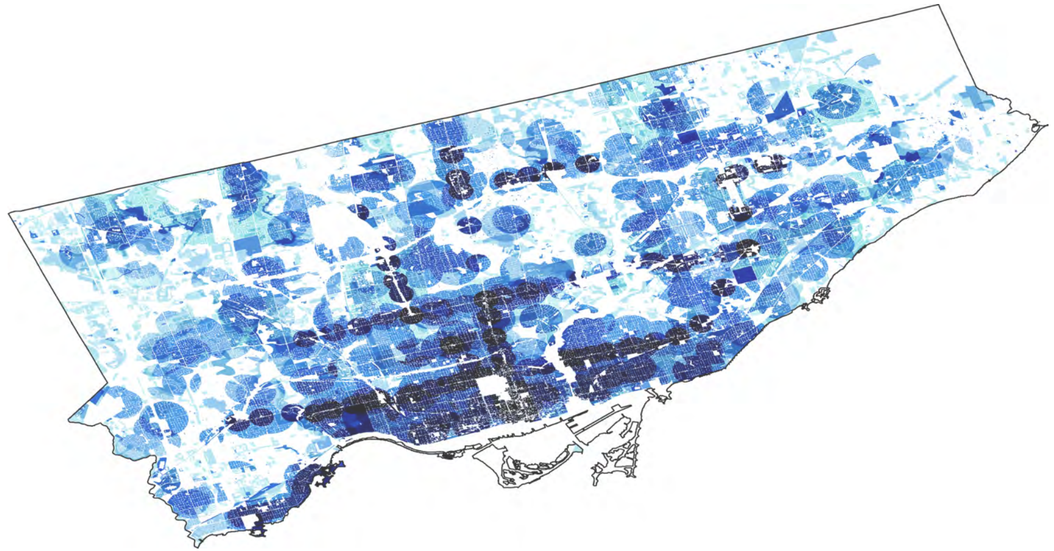


fig 2.2 Diagram of the Master Intensification Map that combines the intensification maps of several stakeholder types to show potential locations for future intensification.

Policy Consolidation

Identifying a case study site for this thesis was based on the *Growth Plan's* recommendation of creating mixed-use communities, the *Plan's* potential intensification areas (specifically around transit), and the Neptis Foundation's recommendation for consolidated intensification. Together, these directives led to the targeting of transit-orientated areas: especially areas near employment lands, along designated Avenues, and those that require revitalization.

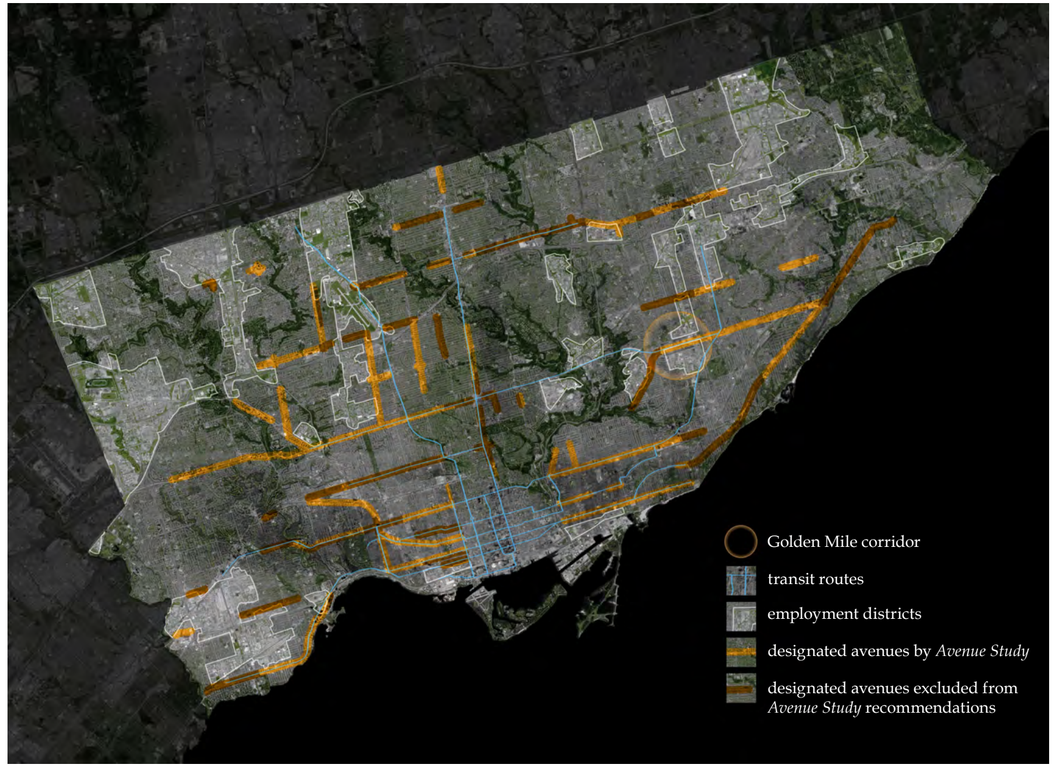
Although there are several existing and planned high-order transit corridors, this thesis decided to utilize an LRT currently under construction: the Eglinton Crosstown LRT.

Together, the LRT, employment area, Avenue, and need for revitalization led to the identification and selection of Scarborough's Golden Mile: an area with the need and capacity for large scale change. These attributes make the Golden Mile a significant opportunity to become a complete pedestrian-orientated community.

fig 2.3 Image of a typical Golden Mile site condition.

fig 2.4 Image of a street-edge condition in the Golden Mile.

fig 2.5 *(opposite)* Map of Toronto's transit routes, Avenues, and Employment Districts. The convergence of transit, Avenues, and employment lands mark potential locations for mixed-use employment areas, office development, and complete communities.



History of a Golden Mile

The Golden Mile of Industry

Before the Golden Mile became *golden* it was a fringe of Toronto's built-up area consisting of farmland and a small bedroom community: however this would forever change due to the Second World War.

In the 1940s the creation of a munitions plant for the war effort acted as the transitional catalyst for the area.[24] At the end of the war the land and buildings were sold to the Township of Scarborough who, in turn, used, leased, or sold them.[25] Soon thereafter, during the post-war economic boom, the area's large tracts of land, its relatively low cost, and its relatively low property taxes would transform the area into an industrial business park: the area would become known as the "Golden Mile of Industry."[26]

The area's increase in manufacturing base acted as a catalyst attracting people to live near their workplaces resulting in the creation of the post-war housing that now surrounds the Golden Mile. Soon thereafter, the influx of new residences would attract commerce to the area: a trend that resulted in the next significant phase of the Golden Mile.

The Golden Mile of Commerce

In the 1980s the dismantling and moving of a large amount of the Golden Mile's industrial base gave way to a rise in commercial uses: from then the area became known as the "Golden Mile of Commerce."[27]

fig 2.6 Picture of the Golden Mile circa 1949 along Eglinton Avenue at Victoria Park Avenue with a munitions plant in the distance.

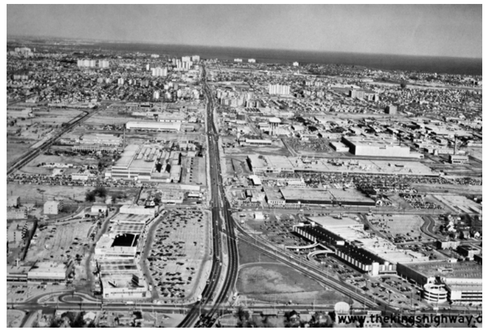


fig 2.7 Picture of the Golden Mile in 1969 (looking east).

fig 2.8 Picture of the Golden Mile in 1973.

fig 2.9 Image of the Golden Mile circa 2015.

Though remnants of the industrial Golden Mile continues to exist, this area of Eglinton Avenue is now heavily dominated by large commercial plazas, big-box stores, and vast parking lots.

Future Transitions

Once again the Golden Mile appears set to change: the introduction of an LRT, the Greenbelt's presumable future pressure, Toronto's scarcity of developable land, Toronto's policies aimed at revitalizing main streets, changing employment needs, and the need to accommodate population and employment growth all support this potential transition.

Policies, Guides, and Studies

The Golden Mile has a number of policies and studies that will shape how the area will change and accommodate growth. Of these policies, the *Avenues and Mid-Rise Buildings Study*, the *Planning for Employment Uses in Toronto Study*, and the *Eglinton Connects Study* were examined in following sections and used to help shape this thesis' proposed reurbanization plan.

The Avenues and Mid-Rise Buildings Study

Avenue Study Synopsis

Eglinton Avenue, the Golden Mile's main street, is considered a major street for the City of Toronto. In this thesis' proposed reurbanization plan, properties that address Eglinton will generally follow the recommendations set out by the *Avenues and Mid-Rise Buildings Study*. This study, hereafter referred to as the *Avenue Study*, was created in accordance with the recommendations of Toronto's *Official Plan* that directs growth to the city core, employment areas, designated Growth Centres, and designated Avenues.[28]

The designated Avenues are considered significant areas of Toronto as they are the most predominate public space that not only serve circulatory functions, but also functions as the "social nerve centre of [the community]."[29]

The study directs development to adhere to a number of performance standards using a strategy of form-based zoning. Performance standards dictate acceptable maximum heights and widths of buildings, angular planes of the envelope, and setbacks among other standards.[30] These standards present a well thought out and precise guide that explains the intended urban design outcomes substantiating them through the explanation of the reasoning behind such decisions.

R.O.W. Width	Mixed-Use		Commercial	
	storeys	height (m)	storeys	height (m)
20m	6	19.5	5	18.9
27m	8	25.5	7	26.1
30m	9	28.5	8	29.7
36m	11	34.5	9	33.3

fig 2.10 Maximum allowable heights initially based on right-of-way of adjacent streets.

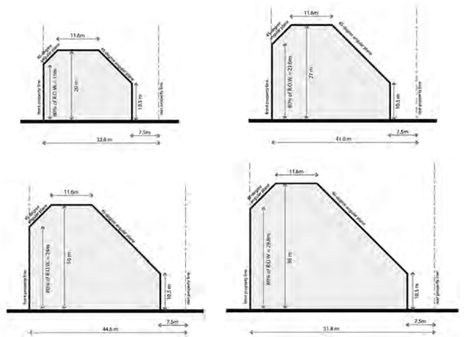


fig 2.11 Maximum massing based on ideal street right-of-ways.

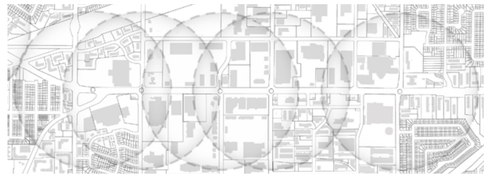


fig 2.12 Golden Mile's existing built forms and large parcel divisions with future LRT 500m walking sheds.

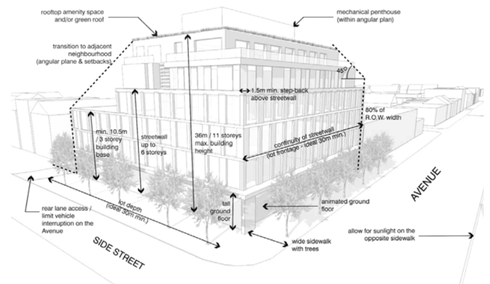


fig 2.13 *Avenue Study*'s diagram of select Performance Standards.

Supplementing the Avenue Study

In regards to the Golden Mile, two key areas of further investigation, as acknowledged by the study, are the treatment of "very large" or "very deep" sites and high-order transit nodes.[31]

Firstly, sites identified as being large or deep require individual pans as these areas need new streets and block types.[32] Though the *Avenue Study* is applicable to the Golden Mile, particularly in developing the Avenue edge of blocks, it requires supplementary investigations for its new street and block configurations.

Secondly, the study recognizes that transit nodes have the potential to have higher densities and buildings that requires further investigation and individual attention on a case-by-case basis.[33] In order to create more supportive, dense, and compact transit areas, further allowances to the performance standards, as suggested in the *Avenue Study*,[34] are recommended. These allowances should build upon the framework, recommendations, and reasoning of the *Avenue Study*.

Employment Uses in Toronto

Planning for Employment Uses in Toronto Study

To help create complete communities, the future intensification of the Golden Mile needs to incorporate employment densities. The Golden Mile, being partially comprised of a designated employment area, required investigations into trends, projections, and strategies concerning the future of employment land-uses in Toronto.

For the review of Toronto's 2006 Official Plan a study, named *Sustainable Competitive Advantage and Prosperity: Planning for Employment Uses in Toronto* (hereafter referred to as the *Employment Study*), was conducted to examine the current health and future directions of employment identifying and analyzing existing conditions, problems, and opportunities within Toronto.

Drawing parallels to the Greenbelt's urban growth boundary, the study states that the most evident and important problem Toronto's future employment must address is land scarcity[35] as Toronto's developable land is expected to be exhausted between 2031 and 2041, if not earlier.[36] Moreover, according to the *Employment Study* it is likely that, for various reasons, the perceived amount of vacant greenfield and brownfield lands are lower than anticipated[37] resulting in increased pressure on vacant land and the likelihood that under-used or misused lands will be intensified.

fig 2.14 Designated Employment Districts: the Golden Mile is located in the Southwest Scarborough District (denoted by the blue circle).

Land Needs by Function	2031		2041	
	Low	High	Low	High
Industrial	260	709	424	1,021
Office	28	58	41	94
Retail & Service	290	430	380	640
Institutional	300	520	480	850
Total	**878**	**1,717**	**1,325**	**2,605**

fig 2.15 Toronto's land needs by function between 2011-2031/41.

Locality	ha
Downtown & Central Waterfront	113
Downtown & Central Waterfront - Parking Lots	32
Centres	34
Employment District - "Industrial"	625
Employment District - "Business Park"	18
Employment Areas outside Districts	61
Avenues	69
Total	**951**

fig 2.16 Toronto's vacant land supply by location in 2011. Comparing the totals of the 'land needs by function' shows the possible high estimate of raw land available. This highlights the need for intensification within Toronto's boundaries.

Place/Functionality Types	Vacant Supply
A. Employment Districts - "Industrial", Employment Areas	686
B. Downtown & Central Waterfront, Centres, Business Parks	196
C. Avenues (+ Mixed Use Areas Outside of Avenues, and Other areas	69
Total	**951**

Land Needs vs. 'A' Lands Supply (hectares)		2031		2041	
		Low	High	Low	High
Supply		**686**	**686**	**686**	**686**
Needs					
Industrial @	98%	255	695	416	1,001
Office @	3%	1	2	1	3
Retail & Service @	35%	102	151	133	224
Institutional @	15%	45	78	72	128
Total		**403**	**926**	**622**	**1,356**
Surplus/(Deficit)		**283**	**(240)**	**64**	**(670)**

Land Needs vs. 'B' Lands Supply (hectares)		2031		2041	
		Low	High	Low	High
Supply		**196**	**196**	**196**	**196**
Needs					
Industrial @	2%	5	14	8	20
Office @	90%	25	52	37	85
Retail & Service @	35%	102	151	133	224
Institutional @	30%	90	156	144	255
Total		**222**	**373**	**322**	**584**
Surplus/(Deficit)		**(26)**	**(177)**	**(126)**	**(388)**

Land Needs vs. 'C' Lands Supply (hectares)		2031		2041	
		Low	High	Low	High
Supply		**69**	**69**	**69**	**69**
Needs					
Industrial @	0%	0	0	0	0
Office @	7%	2	4	3	7
Retail & Service @	30%	87	129	114	192
Institutional @	55%	165	286	264	468
Total		**254**	**419**	**381**	**667**
Surplus/(Deficit)		**(185)**	**(350)**	**(312)**	**(598)**

fig 2.17 Land needs and supply in 2031/41 by location and type show the impending land deficits in Toronto. The Golden Mile, being both an employment district ('A') and an Avenue ('C'), should likely incorporate high density as both areas are projecting deficits of land supply in comparison to its needs.

For employment to remain competitive, the study recommends that current employment areas generally be preserved (with exceptions), that growth be directed to intensifying existing suitable areas, and that employment areas should attract office development.[38]

Exceptions to Preserving Employment Areas

As a prerequisite for changing zoning from strictly employment use to include other land-uses, the *Employment Study* recommends that such a conversion increase employment space and directly benefit existing employment.[39] Therefore, the revitalization of existing employment areas like the Golden Mile and their transformation into mixed-use complete communities lies in the area's ability to sustain jobs, to generate wealth, and to locate other land-uses in proximity to employment uses. A key part in achieving these goals is the development of new office space.

Employment Growth and Decline

The *Employment Study* argues that attracting office employment into the city is necessary for the future success and competitiveness of the city's employment.[40] Office employment is able to generate quality employment opportunities, can have limited frictions with other uses, and, relative to industrial employment, has small built footprint requirements.

Current Trends of Office Growth

Currently, with exception to the downtown core and waterfront areas, Toronto has not been attractive to office development as the majority of increases to office growth, as seen in figure 2.18, has been happening in the outer municipalities of Toronto.[41] Growth of office space in *Centres and Avenues* and the *Employment Districts, Areas and Other Areas* have remained at the same levels since 1990 (see figure 2.18). For Toronto to remain competitive and continue increasing its wealth generation, it is beneficial that it's employment districts, Avenues, and Growth Centres attract office development and employers.

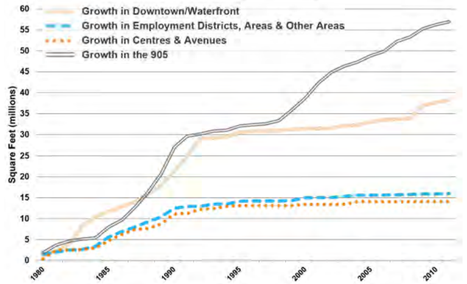


fig 2.18 Office space growth by location from 1980 to 2012. Though the size of each area in relation to its growth requires consideration, the graph is useful in illustrating the stagnation of office growth in *Centres and Avenues* and the *Employment Districts, Areas and Other Areas* while highlighting the substantial increase in suburban '905' municipalities.

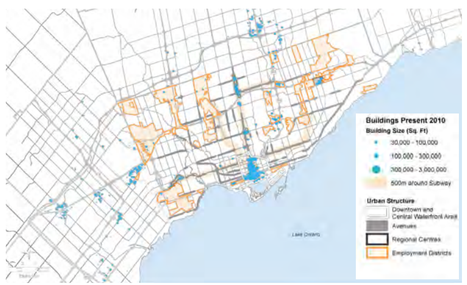


fig 2.19 Map of office space in 2010 for the '905' area and the City of Toronto. This diagram highlights designated employment areas and Avenues in relation to clusters of office buildings.

Attractive Amenitization and Mixed-Use Areas

The stagnation of office growth in Toronto's employment lands, Growth Centres, and Avenues advocates for the City's need to increase its attractiveness to office employers and office development. To attract office development the *Employment Study* suggests that suitable employment areas should incorporate amenities to help attract office employers and their employees to designated areas.[42]

According to the *Employment Study*, creating mixed-use areas with compact forms and access to high-order transit appear to be the "only reasonable approach" to intensify employment lands.[43] In addition to the revitalization of employment lands and the attraction of employers, mixing of land-uses compactly in an amenitized environment can increase "rents, returns on capital, and, re-investment"[44] thereby strengthening the wealth generation of existing employment areas.

Locating Mixed-Use Office Employment Areas

These mixed-use areas should be located strategically to mutually benefit employment, transit, and key urban areas. Locations identified by the *Employment Study* as having the highest potential are areas, like the Golden Mile, that are able to support mixed-use development, that currently have office densities, that need and can accommodate large scale change, and/or are in proximity to high-order transit nodes.[45]

To further benefit the city, employment lands located adjacent to designated Avenues represent significant opportunities to mix land-uses, attract offices, and create complete communities. These strategic and effective locations are appropriate for employment and population growth to be accommodated simultaneously.

Attracting office employment to specific areas within Toronto can create conditions that benefit employers, the public, and the urban environment simultaneously.

Eglinton Connects Planning Study

The City of Toronto commissioned an urban design study of Eglinton Avenue, the potential impact of its future LRT, and the opportunities that are or will become available. The study, named *Eglinton Connects*, is comprised of numerous reports and diagrams that present directions for the treatment of circulation, open spaces, and built forms of the future Eglinton Avenue.

Discussed in more detail in the following pages, a key part of the study was its identification of priority sites for intensification and reurbanization.

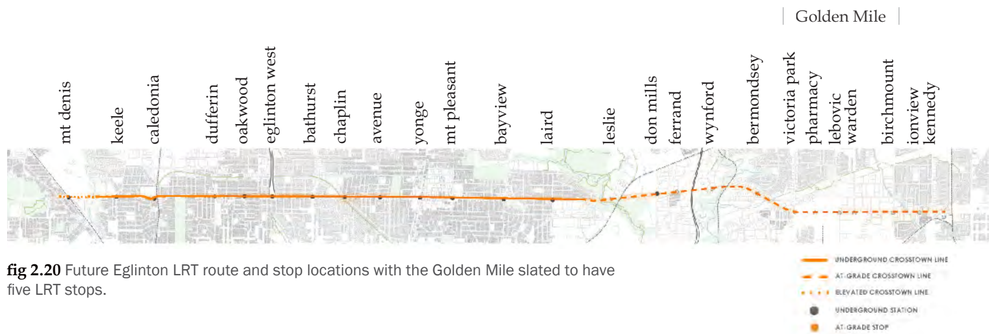


fig 2.20 Future Eglinton LRT route and stop locations with the Golden Mile slated to have five LRT stops.

Focus Areas

Similar to the *Growth Plan's* identification of intensification areas, the *Eglinton Connects Study* selects several designated areas for future growth. The study identifies six key "focus areas" (see figure 2.21) along Eglinton Avenue that have the ability and need to be redeveloped.[46] These identified areas require a finer grain of streets and blocks, represent vacant or underdeveloped sites, and/or are areas that include designated employment zones.[47] With the future introduction of high-order transit the identified locations will have the potential to become more vibrant and attractive urban areas.

Scarborough's Golden Mile, being the largest of the focus areas, being composed of large blocks with underdeveloped sites. and being partially composed of a designated employment area, currently requires large scale change. The area's general underdevelopment and future introduction of the LRT not only makes it suitable for such reurbanization, but also makes it a highly significant opportunity for growth within Toronto.

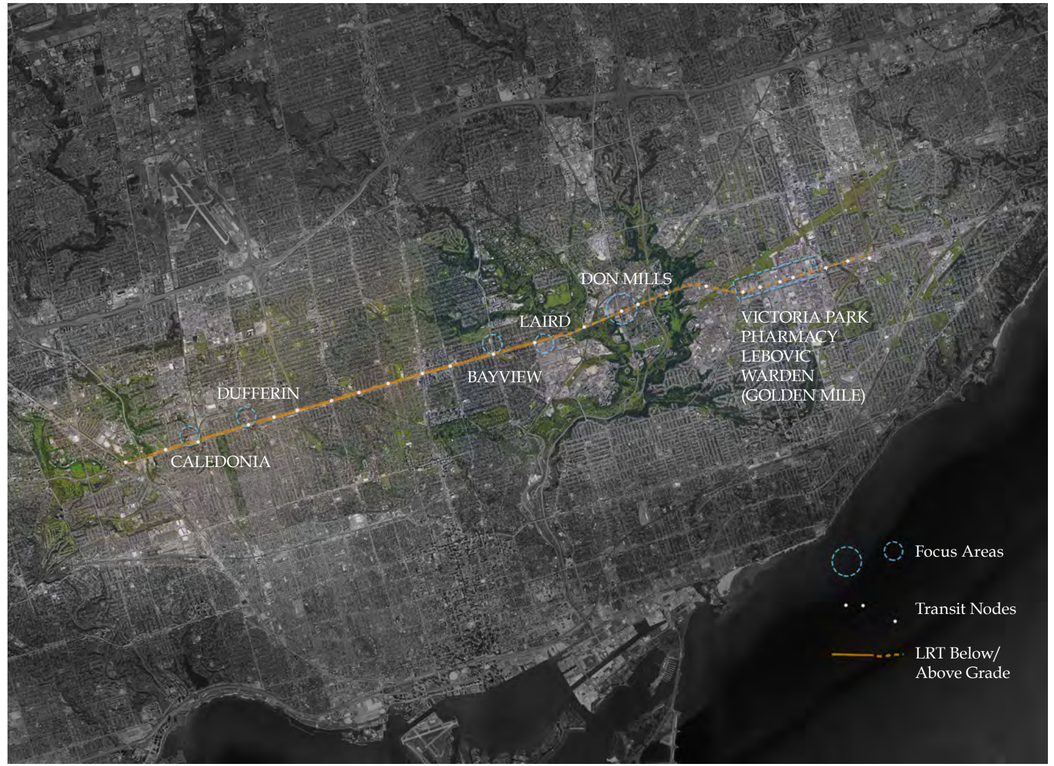


fig 2.21 *(opposite)* Map of the Eglinton Connects identified focus areas. Note the Golden Mile's location, size, and amount of LRT stops in comparison to other focus areas.

Building, Greening, and Traveling Eglinton

Common to all the focus areas is the need for connections, open spaces, mixed architectural types and land-uses, and the activation of the street.[48] For the Golden Mile these needs will require immense changes that, because of its current conditions, likely can be accommodated relatively easily.

Currently the Golden Mile is dominated by large format retail and automobile infrastructure resulting in a large, open, and under-defined urban environment. To improve these conditions the *Eglinton Connects Study* outlines how Eglinton Avenue should be travelled, how its open spaces should be articulated, and, in conjunction with the *Avenue Study*, how it should be built.

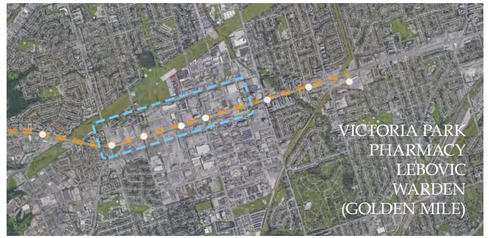
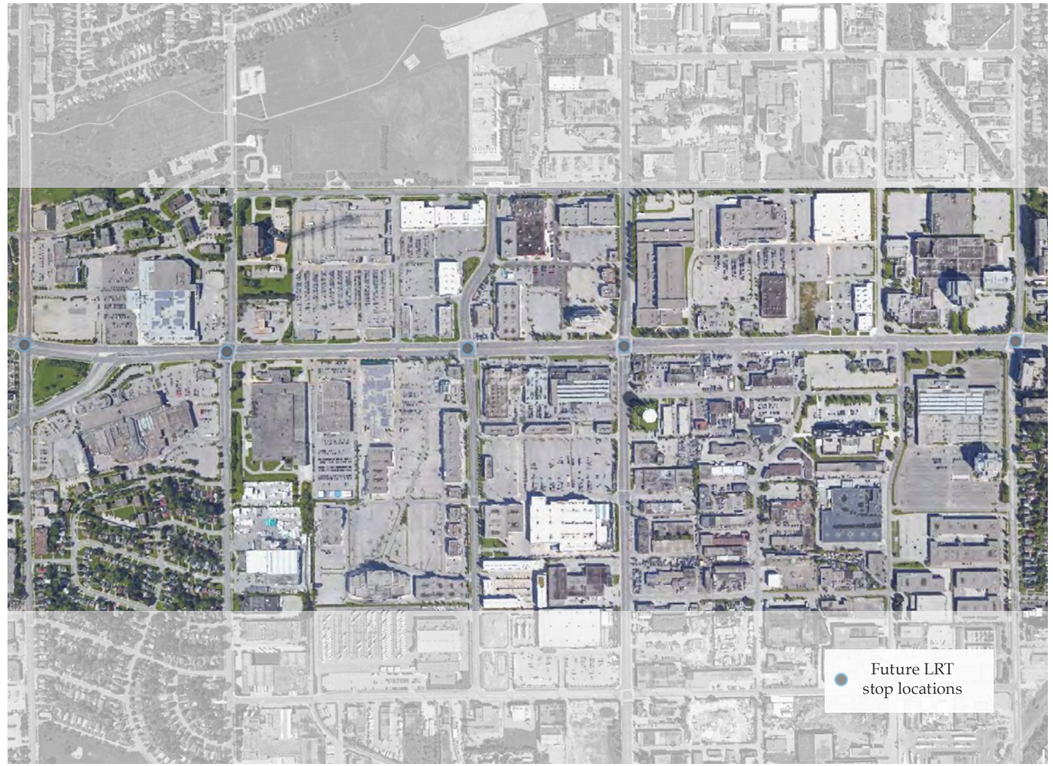


fig 2.22 The Golden Mile Focus Area includes four LRT stops, several commercial plazas, and is suited to the automobile.

fig 2.23 *(opposite)* Aerial view of Eglinton Avenue's Golden Mile between Victoria Park Avenue and Birchmount Road. The area is approximately 2.0 km long by 0.5 km wide.



Circulation: Traveling Eglinton

In *Travelling Eglinton* the study points out that one of the fundamental goals of the street is to promote efficient circulation to a range of users. To accomplish this the study requests a provision of wide sidewalks, bicycle lanes, street parking, and rear lanes.[49] By appealing to other modes of transit, such as walking and cycling, the street has the potential of becoming a more activated place.

Open Space, Greenspace and Art: Greening Eglinton

The *Greening Eglinton* section of the study provides recommendations for the increased connectivity of green and open spaces, the treatment of vegetation, and the inclusion of public art.[50]

Shown in the accompanying figures, the Golden Mile's current open private and public spaces are in need of significant improvement.

Built Form: Building Eglinton

The *Building Eglinton* section directs growth to take advantage of the street and transit nodes by encouraging retail at grade and increasing density.[51] As discussed in greater detail in the *Avenue Study* (see page 30), to increase the density of employment and residential land-uses along Eglinton Avenue, there is encouragement for mid-rise and, in key locations, high-rise developments.[52] [53] Likely, it is suitable that these developments are intended to be made up of varieties of tenure types, unit sizes, and land-uses.

fig 2.24 Photograph of a ill-defined and inactivated car-centric Eglinton Avenue near Birchmount Road (looking west).

fig 2.25 Photograph of leftover greenspace at Eglinton Avenue and Victoria Park Avenue.

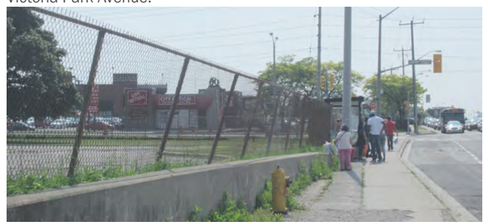


fig 2.26 Photograph of poor pedestrian conditions at Eglinton Avenue and Pharmacy Avenue.

fig 2.27 Photograph of the edge-condition Eglinton near Hakim Avenue (north side).

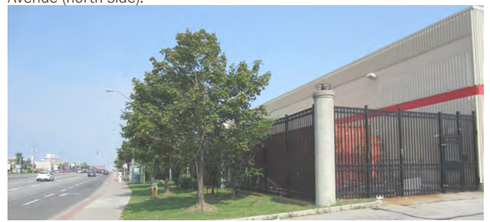


fig 2.28 Photograph of the edge-condition Eglinton near Hakim Avenue (south side).

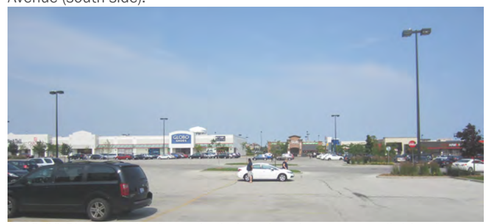


fig 2.29 Photograph of a typical plaza hosting vast greyfields of parking.

Eglinton Connects Conclusion

Overall, *Eglinton Connects* intends to direct urban design of the reurbanization of the Golden Mile to meet or, at least, explore the following criteria: create complete streets, increase density around transit nodes, create precinct plans that can replace or supplement the area's existing built form, create public space destinations (e.g. public plazas), incorporate a range of building types, introduce new blocks and streets, introduce on-street parking, attract other employment industries, and incorporate civic buildings and services.[54]

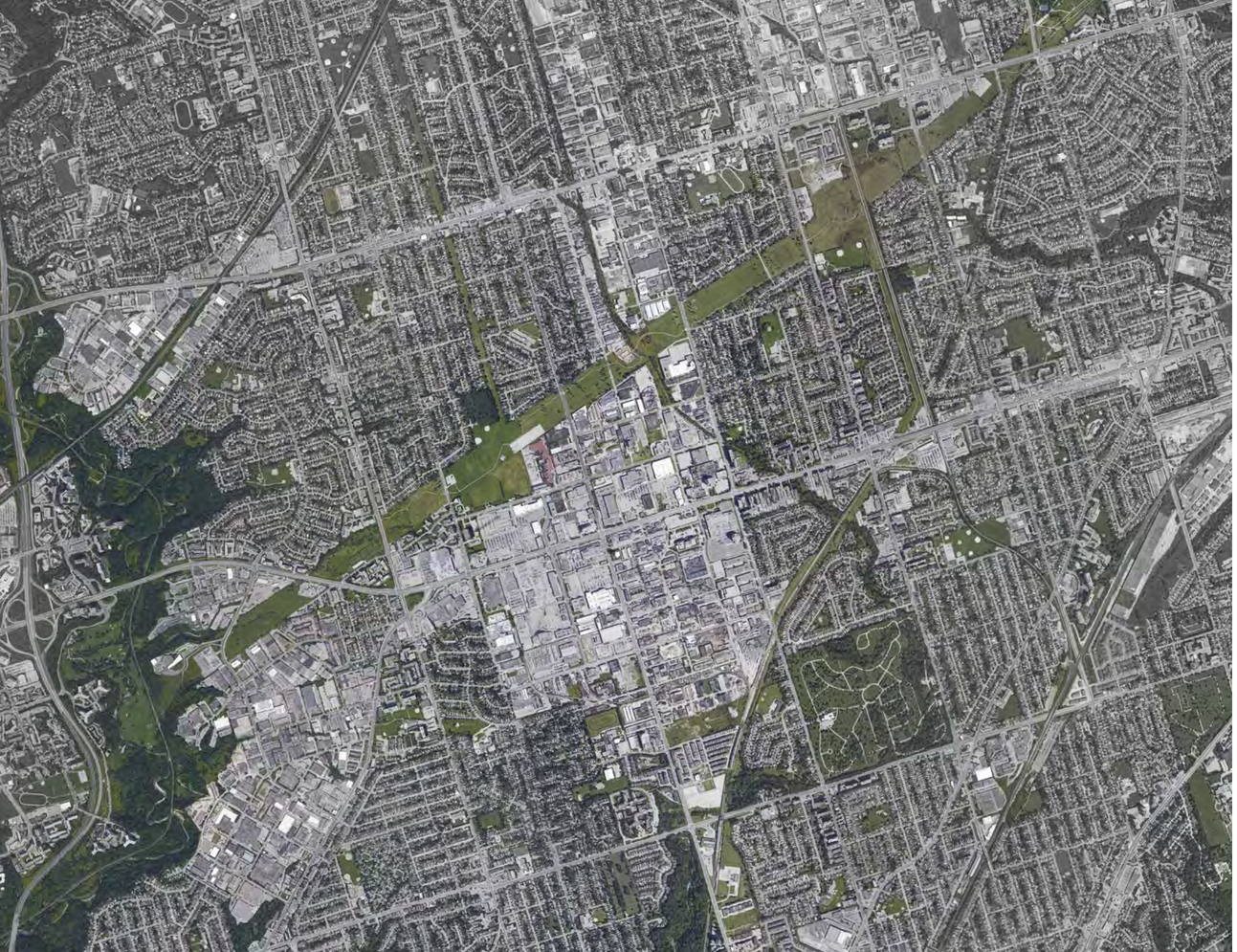
This thesis' case study design attempts to incorporate these recommendations intending to make the Golden Mile a more diverse and dense area that supports transit and accommodates population and employment growth.

History, Policies, and Studies Synopsis

The Golden Mile's history, future employment needs, adjacency to a designated Avenue, and the introduction of the Eglinton Crosstown LRT served as the foundational components upon which the thesis' reurbanization plan could be built.

Each aspect presented parameters, guidelines, and recommendations that helped initialize the thesis proposed urban transformation though, to develop the Golden Mile into a complete community, further supplementary urban investigations, recommendations, and design strategies would be required to help resolve site specific conditions, develop new streets and blocks, and to utilize appropriate architectural typologies. Together, the site's conditions, policies, studies, and this thesis' supplementary investigations (discussed in the following chapter) would shape the proposed intensification of the Golden Mile.

fig 2.30 *(opposite)* Plan view of massing of the existing Golden Mile.



03
Design Methodology
a typological, precedent, and morphological reurbanization strategy

fig 3.1 *(opposite)* Aerial image of the Golden Mile and surrounding area.

A Typological and Morphological Strategy

Overview and Applicability of the Design Strategy

Although the Golden Mile's applicable guidelines, studies, and policies partially direct its future shape, further investigations and design strategies are required to mediate and supplement these directives. The following investigation formulates a design strategy that uses and adapts existing precedents, typologies, and their underlying strategies of streets, architecture, and blocks in order to create a reurbanization proposal that is functional, attractive, dense, diverse and activated.

It should be noted that the design methodology is tailored to suit the size, needs and opportunities of the Golden Mile and its large tracts of land.

fig 3.2 Image of a Golden Mile street edge condition mid-block east of Pharmacy Avenue.

fig 3.3 Image of Eglinton Avenue's existing street condition near Victoria Avenue.

Street Conditions

Value of the Street

Toronto's streets provide a prolonged, almost intangible, collection of experiences that together help to articulate the quality of the city's urban environment. The street, being the community's *social nerve,* should simultaneously serve several purposes including acting as the city's circulatory network, as the molder of blocks and the urban form, and also as the city's predominant social space. The importance of creating a quality street for the urban environment and, specifically, the Golden Mile cannot be understated.

The Golden Mile's Main Street: Eglinton Avenue

Eglinton Avenue acts as a major east-west artery for the city. In the Golden Mile this artery, though functioning relatively well for automobiles, is a kind of urban abyss for the pedestrian caused in part by the built forms' poor relationship with the street, the large block lengths, and, in general, a failure to relate to the pedestrian. This deactivated, ill-defined, and vast streetscape requires upgrading to be able to serve a greater range of people and functions.

Existing Proposals for the Eglinton Cross-Section

The *Eglinton Connects Study* proposes a street cross-section for the Golden Mile that increases the right-of-way (ROW) from 36m to approximately 40m reducing traffic from seven to four lanes,[55] adding two bicycle lanes, LRT tracks, street vegetation, and increasing the sidewalk to a width of six metres.[56] The *Avenue Study* recommends that Eglinton Avenue's architecture be built to plane,[57] that the built height relate to the street's size, and that it addresses the pedestrian well (in scale, articulation, and orientation).[58] Although this street cross-section proposal and recommendations will positively impact the existing street, further improvements, such as on-street parking, protected bicycle lanes, and/or mandatory edge conditions, could be integrated (if not justified) to further improve the street environment.

fig 3.4 Diagram of *Eglinton Connects* typical cross-section street proposal for the above ground LRT.

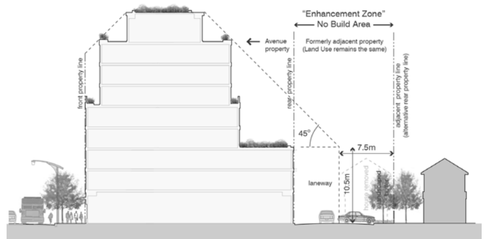


fig 3.5 Diagram of the *Avenue Study*'s enhancement area located to the rear of the building (right side of the image) for loading, buffering scale and uses, parking, and access to underground parking.

fig 3.6 Image of a congested on-street parallel parking on St. Clair Avenue West in Toronto.

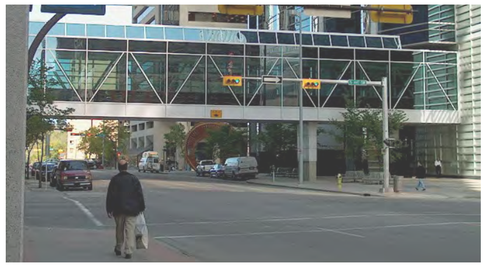


fig 3.7 Image of Calgary Plus 15's continuous pedestrian skywalk: an example of an option for street-crossings and pedestrian shelter.

Parking

The treatment of parking is an important issue for the future shape of the street and the land-use of other urban strategies. Both the *Avenue Study* and *Eglinton Connects Study* advocate that parking be located in underground lots or in rear parking lots.[59] [60] These measures were considered necessary and were carried forward in this thesis' final design case study. Parking requirements will follow the City of Toronto's Zoning By-law 569-2013.

In addition to rear and underground parking, the inclusion of on-street parking could be beneficial to the Golden Mile as it provides quick, convenient, and direct access for car-based pedestrians. The primary drawbacks of this solution are its use of valuable street cross-sectional space and the potentially negative impact on traffic congestion. For a street as travelled as Eglinton Avenue, parallel parking appears to be an unviable option; especially if the current street is reduced from six traffic lanes down to four. For on-street parking to be feasible other options need to be considered. If incorporated, the most appropriate on-street parking solution for Eglinton Avenue will likely be one that allows for the maximum amount of convenient access to buildings, will require the minimal amount of space, and will limit its negative impact on traffic.

Pedestrians and Cyclists

Another significant factor that will influence the shape and activation of the street is the protection and sheltering of pedestrians and cyclists. To help improve the street this thesis examined the possible treatment of cycling lanes, street crosswalks, and the built form's edge condition.

Protected cycling lanes can help activate the urban realm, benefit health, and increase the use sustainable modes of transit. Although other sections of Eglinton Avenue are planned to have protected bicycle lanes, the Golden Mile is planned to have less protected side bicycle lanes.[61] Increasing the safety and comfort for both cyclists and drivers would help promote cyclist ridership.

This thesis' *Street-Crosswalk Study* examined potential street crosswalk interventions for the Golden Mile. Due its planned reduction of traffic lanes, introduction of the LRT, and its proposed increase in density, it was determined that crosswalk locations, walking distances, and alternate crosswalk types be investigated and analyzed (as shown in figure 3.9).

fig 3.8 Images of cyclists and pedestrians on Eglinton Avenue: some cyclists opt to ride on sidewalks while pedestrians, stuck in the middle of the large areas without crossings, opt to cross six traffic lanes (28m) to reach a bus stop on the other side of the street rather than walk to a marked crossing and back to the bus stop (400m).

Street-Crosswalk Study Golden Mile Existing Pedestrian Street-Crosswalks

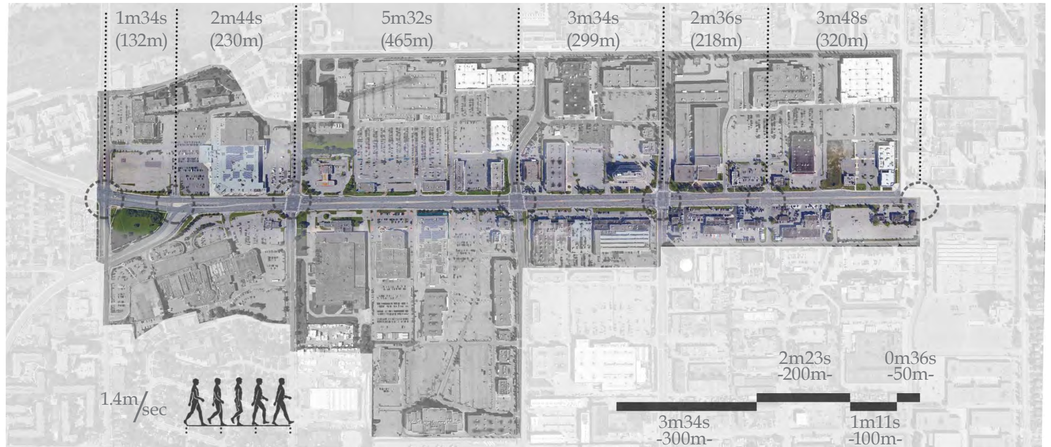


fig 3.9 Aerial image of 300m walking sheds on Eglinton Avenue (Golden Mile) at existing street crosswalks showing the Golden Mile's existing. Sidewalk to sidewalk averages approximately 28m.

fig 3.10 Panorama of Eglinton Avenue between Pharmacy Ave and Hakim Ave: a 470m area without designated pedestrian crossings.

Figure 3.11 and 3.12 show two potential options examined in the *Street-Crosswalk Study* (for the full study, including additional options and precedents, see the appendix). The value of incorporating alternative street options such as these depends on a further analysis of the associated costs and benefits, the area's potential traffic and density, and the requirements and significance associated to the flow of traffic. Measures to protect or add comfort for pedestrians, particularly those that go beyond contemporary mandatory obligations, could improve the street's vibrancy throughout the year (and in the changing types of weather).

Although there are a number of non-traditional crosswalk options that have the potential to be incorporated into the future design of Eglinton Avenue, it was deemed that the traditional at-grade crosswalks would be the most suitable choice to the street's location within the city, the area's density, the relatively cheap implementation and maintenance costs, and the projected amount of pedestrian and vehicular traffic through the area. Potentially in the future, scrambled crossings could be implemented as required if the increase of pedestrian traffic increases to a degree that justifies such crossings.

Examples of Pedestrian Street-Crossing Options *(for full study see appendix)*

Freestanding Pedestrian Bridge (enclosed)
Req. Infrastructure: exterior elevators/stairs
Location: public above grade
Impact on Street: briefly separates/maintains visual connection
Climatic Conditions: climate controllable
Add. Program: none/minimal (e.g. street vendors)
Types: straight/circular/angled
Precedent: Las Vegas Blvd at W Flamingo Rd (Las Vegas, USA)

The pedestrian bridge option uses freestanding stairs and elevators along the street edge. Pedestrians are briefly separated from the street, but are maintain visual connection. Relatively easy to implement as the thesis street's parking lane provides various locations.

fig 3.11 Freestanding pedestrian bridge street crossing option.

Underground Traffic/Pedestrian at Grade
Req. Infrastructure: traffic tunnel infrastructure
Location: public at grade
Impact on Street: briefly separates pedestrians from street
Climatic Conditions: exposed
Add. Program: minimal-extensive (e.g. landscaping)
Types: brief/long distance
Precedent: St. Clair Ave at Wells Hill Ave (Toronto, Canada)

This option drops traffic below grade (approximately 280m in the St. Clair precedent) allowing not only pedestrians, but program to seamlessly cross between street edges. Briefly dropping traffic below grade would open up the street to extensive amount of unused space (space for additional programs).

fig 3.12 Underground traffic/Pedestrian at grade street crossing option.

Edge Conditions

The street edge condition marks the interface between the private built form and the public street. This area shapes the edges of the street rooms dictating the relationship of their meeting while significantly impacting the privacy, uses, and atmosphere of the architecture and the public realm.

In *Between the Edges* Milos Bobic, an architecture professor, lecturer, and urban planner, addresses the importance of the transition between public and private property, the different types of interfaces, examples of each type, and an analysis of their impacts on the environment. Bobic contends that a building's edge condition acts as an area of adaptive transition that is based on conflicting or complimentary values between private property and the public domain.[62]

According to Bobic, as shown in figure 3.13, the different types of edge conditions can be categorized into seven categories: integrated, overlapped, confronted, associated, inserted, extended, and suspended.[63] Each condition has specific territorial, visual, and psychological aspects that claim space and territory, articulates the edge of the urban realm, and addresses the needs and values between the private and public domains.

The categories and specific types identified by Bobic were applied to the conditions of two precincts in the thesis' case study (see page 188 and 200). The selected precincts are comprised of different architectural typologies, street types, and urban conditions allowing for the analyses to be based on two separate types of urban conditions.

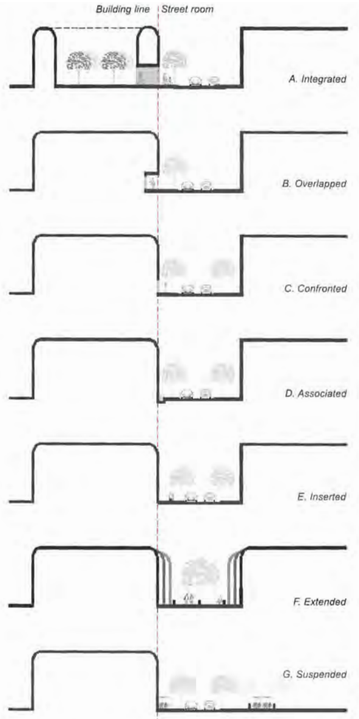


fig 3.13 Adapted section diagram of Milos Bobic's edge conditions categories.

The following briefly describes the categories of edge conditions:

Integrated: Public space is continued into the block through a gate, marked threshold, or other similar condition.[64]

Overlapped: Public realm is continued past the property line carving space out of the building.[65]

Confronted: The building edge precisely and bluntly reflects the property edge.[66]

Associated: The private building marks an area in the public domain.[67]

Inserted: Private area acts as a buffer between the private and the public domain.[68]

Extended: A unified claim of public territory from one or several buildings.[69]

Suspended: A spatially disconnected connection to territory on the opposing side of the street.[70]

fig 3.14 *(opposite)* Image of the Golden Mile's streetscape mid-block east of Pharmacy Avenue: possible location of a future great street.

Street and Avenue Precedents

To further protect cyclists, improve the pedestrian experience, and supplement parking, this thesis has considered several street options. A number of existing street precedents were examined to assist in generating ideas to address these issues and suit the conditions and needs of Eglinton Avenue.

In *Great Streets* Allan B. Jacobs, a professor emeritus of City and Regional Planning, selected and analyzed the following precedents that, for the purposes of this thesis, were analyzed further based on the approximate overall width of the street, the number of lanes dedicated to traffic, and the approximate added width dedicated to parking. These elements help to form their street's atmosphere, public-private relationships, and the spatial definition of their street rooms.

Examination of the following North American and European street precedents helped illustrate the attributes of prominent streets that, in turn, were used to develop the Golden Mile's section of Eglinton Avenue.

No Street Parking

Street Name: Cours Mirabeau (France)
Street Width: 46m
Number of Traffic Lanes: 2
Added Width for Parking: n/a
Sidewalk Width: 17m
Parking Type: n/a
Vegetation: dual rows staggered trees
Edge Condition: confronted
Built Form Relationship: non-sheltered
Architecture to Street Ratio: 1:3

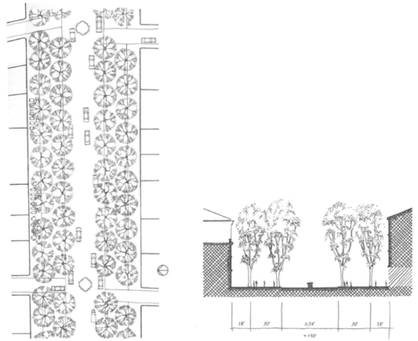


fig 3.15 Cours Mirabeau street section and plan.

On-Street Parking

Street Name: Market Street (United States)
Street Width: 36m
Number of Traffic Lanes: 2 + transit lanes
Added Width for Parking: 3m
Sidewalk Width: 8m
Parking Type: indented recesses
Vegetation: dual rows aligned
Edge Condition: overlapped
Built Form Relationship: punched alcoves
Architecture to Street Ratio: 1:1 and 3:1

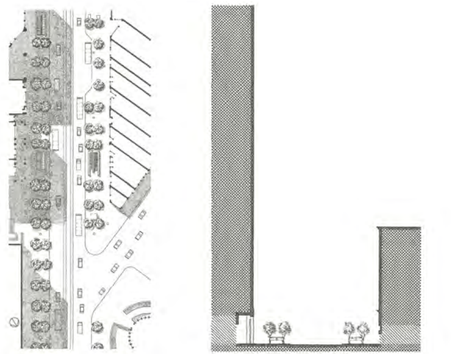


fig 3.16 Market Street street section and plan.

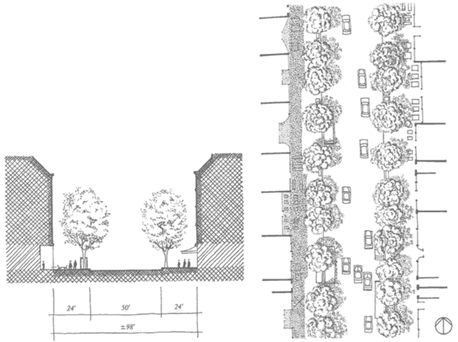


fig 3.17 Boulevard Saint-Michel street section and plan.

On-Street Parking

Street Name: Boulevard Saint-Michel (France)
Street Width: 30m
Number of Traffic Lanes: 3
Added Width for Parking: 3m
Sidewalk Width: 7m
Parking Type: parallel
Vegetation: single row
Edge Condition: associated and overlapped
Built Form Relationship: overhangs and recesses
Architecture to Street Ratio: 1:1

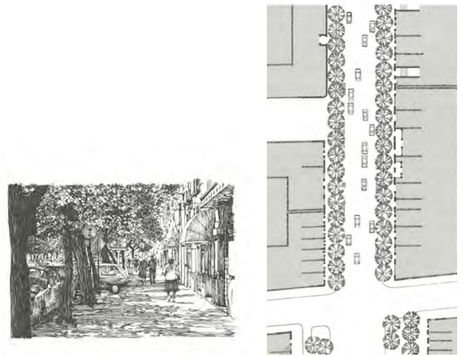


fig 3.18 Via Cola di Rienzo street view and plan.

On-Street Parking

Street Name: Via Cola di Rienzo (Italy)
Street Width: 49m
Number of Traffic Lanes: 4
Added Width for Parking: varies 2-4m
Sidewalk Width: varies 6-12m
Parking Type: varies parallel + angled
Vegetation: single row
Edge Condition: associated and confronted
Built Form Relationship: non-sheltered
Architecture to Street Ratio: 1:1.5

On-Street Parking

Street Name: Castro Street (United States)
Street Width: 25m
Number of Traffic Lanes: 3
Added Width for Parking: 4m
Sidewalk Width: 3m
Parking Type: angled b/w trees (x2)
Vegetation: single row
Edge Condition: associated and confronted
Built Form Relationship: partial shelter
Architecture to Street Ratio: 1:4

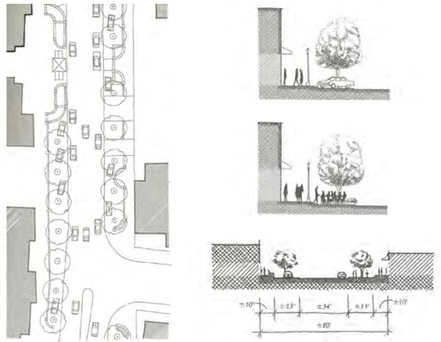


fig 3.19 Castro Street street section and plan.

Side Lanes

Street Name: Avenue Montaigne (France)
Street Width: 38m
Number of Traffic Lanes: 3
Added Width for Parking: 9m
Sidewalk Width: 4m
Parking Type: parallel on street(x2) and lane(x2)
Vegetation: single row
Edge Condition: confronted
Built Form Relationship: non-sheltered
Architecture to Street Ratio: 1:1

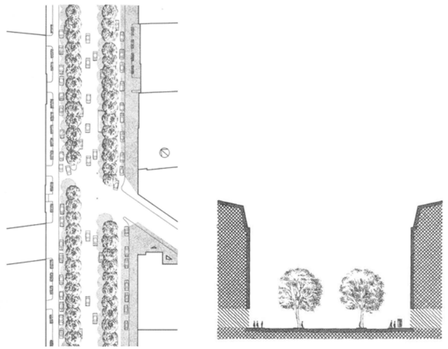


fig 3.20 Avenue Montaigne street section and plan.

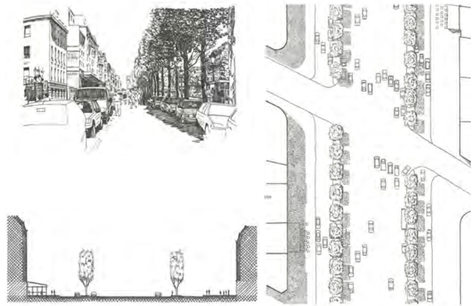


fig 3.21 Champs-Elysées street section, view, and plan.

Side Lanes

Street Name: Champs-Elysées (France)
Street Width: 68m
Number of Traffic Lanes: 10
Added Width for Parking: 10m
Sidewalk Width: 10m
Parking Type: parallel on street(x2) and lanes (x4)
Vegetation: single row
Edge Condition: extended and confronted
Built Form Relationship: intermittent shelter
Architecture to Street Ratio: 1:2.5

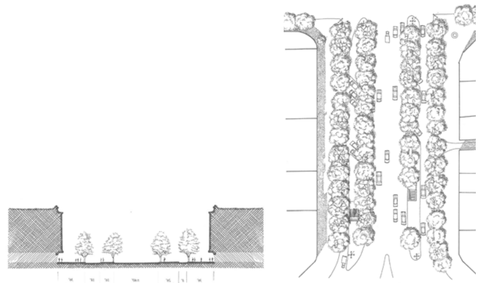


fig 3.22 Paseo de Gracia street section and plan.

Side Lanes

Street Name: Paseo de Gracia (Spain)
Street Width: 61m
Number of Traffic Lanes: 6 (2 transit dedicated)
Added Width for Parking: 11m
Sidewalk Width: 10m
Parking Type: parallel (x2)
Vegetation: Dual
Edge Condition: overlapped
Built Form Relationship: intermittent shelter
Architecture to Street Ratio: 1:3

fig 3.23 Typical cross-section of the Golden Mile's existing street having a 36m right-of-way.

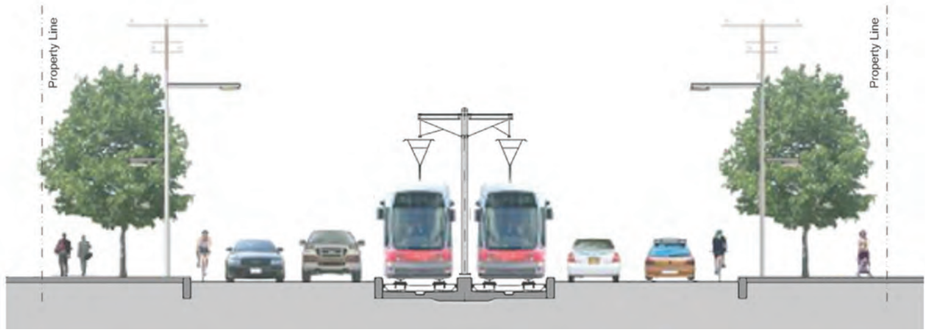


fig 3.24 Officially proposed typical cross-section of the Golden Mile's street by the *Eglinton Connects Study* having approximately a 40m right-of-way.

Golden Mile Street Cross-Section Options

Currently, the Golden Mile's section of Eglinton Avenue has a typical right-of-way width of thirty-six metres. The proposed street section by the *Eglinton Connects Study* has an approximate width of 40m widening the ROW by 4m. As shown in figure 3.24, this street section does little to protect cyclists, does not provide on-street parking, and though efficient, provides a cramped street section.

Using this thesis' examined street precedents, the Golden Mile's official street proposals and recommendations, and Eglinton Avenue's existing conditions, five options were created to provide options in transforming Eglinton Avenue into a complete, functional, and great street. These options, partially derived from a more European style of boulevard, layer different modes of transit while providing urban space for other uses. In doing so, the future Eglinton Avenue street cross-section will help suit the needs of both circulation *and* place allowing the street to fully function as a social nerve for Scarborough.

It should be noted that the following street option's cross-section cuts are taken through dual LRT stations and therefore represent the largest potential cross-section width for each option. If implemented, staggering stations, incrementally reducing sidewalk widths, and/or suspending the parking lane (if applicable) would help reduce the overall cross-sectional width.

Street Section A - Splitting the LRT

Street Width: 37m
Number of Traffic Lanes: 4
Added Width for Parking: n/a
Sidewalk Width: 6m (3m at stations as shown)
Parking Type: rear lots and underground
Cycling: dedicated lane adjoined to traffic
Vegetation: single row
Edge Condition: overlapped and sheltered
Architecture to Street Ratio: 1:1 (*Avenue Study*)

Proposal A places the LRT at the edges of the sidewalk allowing the pedestrian realm to be connected to transit. The width of the street section adds 1m to the current ROW. Further investigation into the residual effects of such a maneuver is required to accurately understand its benefits, drawbacks, and ability to be implemented.

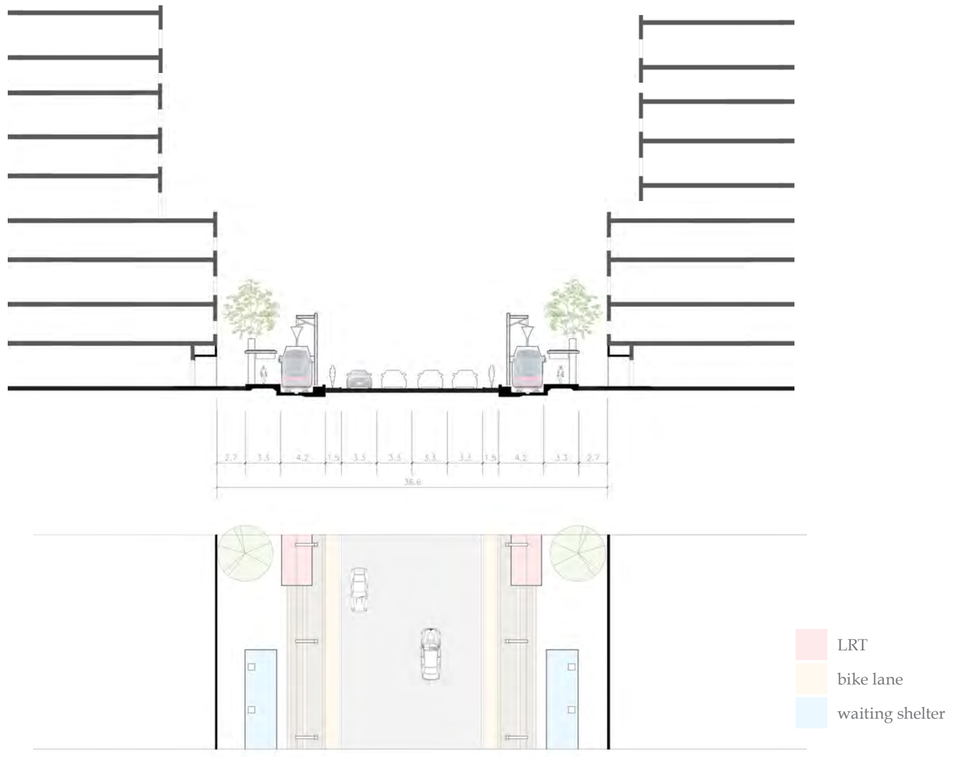


fig 3.25 *(opposite)* Street section 'Proposal A' reconnects transit to the public realm.

Street Section B - Sheltered Existing Proposal

Street Width: 40m
Number of Traffic Lanes: 4
Added Width for Parking: n/a
Sidewalk Width: 6m
Parking Type: n/a
Cycling: dedicated lane adjoined to traffic
Vegetation: single row
Edge Condition: overlapped and sheltered
Architecture to Street Ratio: 1:1 (*Avenue Study*)

Proposal B mimics the street proposal of the *Eglinton Connects Study* with the added stipulation that new built forms incorporate a continuous colonnade or other sheltering device. The proposal adds 5m to the Eglinton's existing street right-of-way. Other improvements, such as elevating the bike lane, adding rumble strips between vehicular and cyclist traffic, or creating visual differentiation of the bike lane can further increase cycling safety. Of this thesis' presented options, this proposal is the most conservative and likely the easiest to implement.

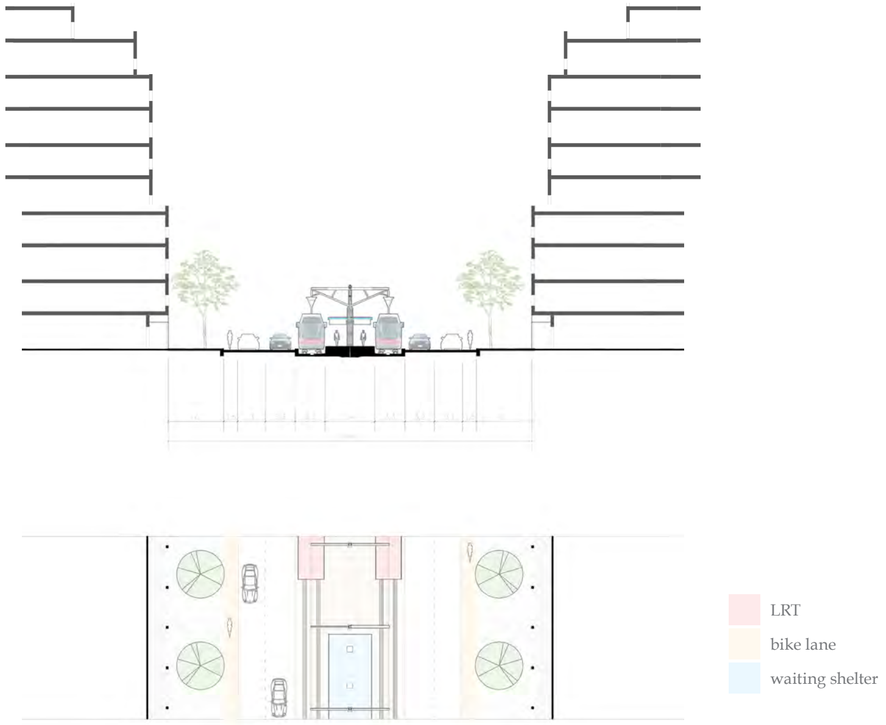


fig 3.26 *(opposite)* Street section 'Proposal B' provides pedestrian comfort through mandated edge conditions. This option represents the most conservative of the street proposals presented here.

Street Section C - Split LRT Angled Parking Lanes

Street Width: 54m
Number of Traffic Lanes: 4
Added Width for Parking: 8.3m
Sidewalk Width: 4.5m
Parking Type: angled in lane
Cycling: side lane shared with traffic
Vegetation: dual row
Edge Condition: confronted and unsheltered
Architecture to Street Ratio: 1:1 (right-of-way height exceeds *Avenue Study*'s 11 storey maximum Mid-Rise height)

Proposal C introduces the separated secondary lane that allows for angled "on-street" parking. The option's obvious drawback is its added width to the current street's ROW. The increase in street section width from the *Eglinton Connects'* proposal is approximately 18m (at stations). This added width could be accounted for by making the separated parking lane mandatory for all new buildings along Eglinton Avenue though, likely, such a move would be difficult to implement incrementally. Issues of ownership and maintenance of the parking lane requires further investigation.

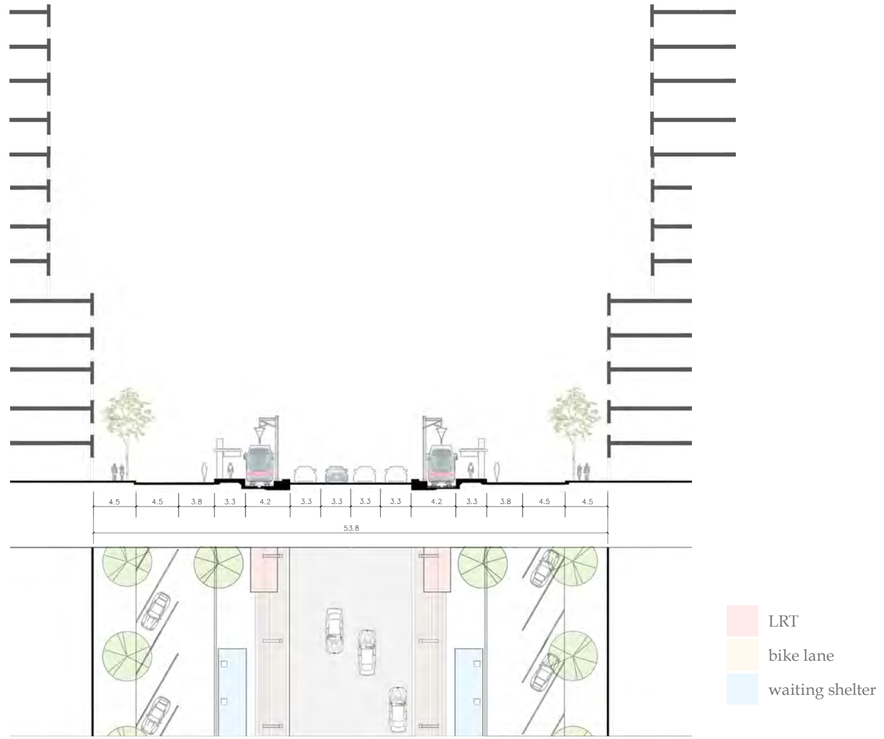


fig 3.27 *(opposite)* Street section 'Proposal C' splits the LRT and provides limited convenient on-street parking.

Street Section D - Angled Parking Lanes

Street Width: 63m
Number of Traffic Lanes: 4
Added Width for Parking: 8.3m
Sidewalk Width: 6m
Parking Type: angled
Cycling: dedicated median lane
Vegetation: dual row
Edge Condition: associated and partially sheltered
Architecture to Street Ratio: 1:1 (right-of-way height exceeds *Avenue Study*'s 11 storey maximum Mid-Rise height)

Proposal D carries forward the secondary lane while reuniting the LRT in the centre of the street. Here, the tree lined median that separates the parking lane from traffic lanes has the potential to be outfitted with a bicycle lane further increasing cyclist safety at the expense of an increased median width. This proposal is the largest street width of all proposals increasing the existing street ROW to a maximum (at stations) of 63m making this an option that would require expropriation, reductions in sidewalk widths, and/or direct (and effective) regulations.

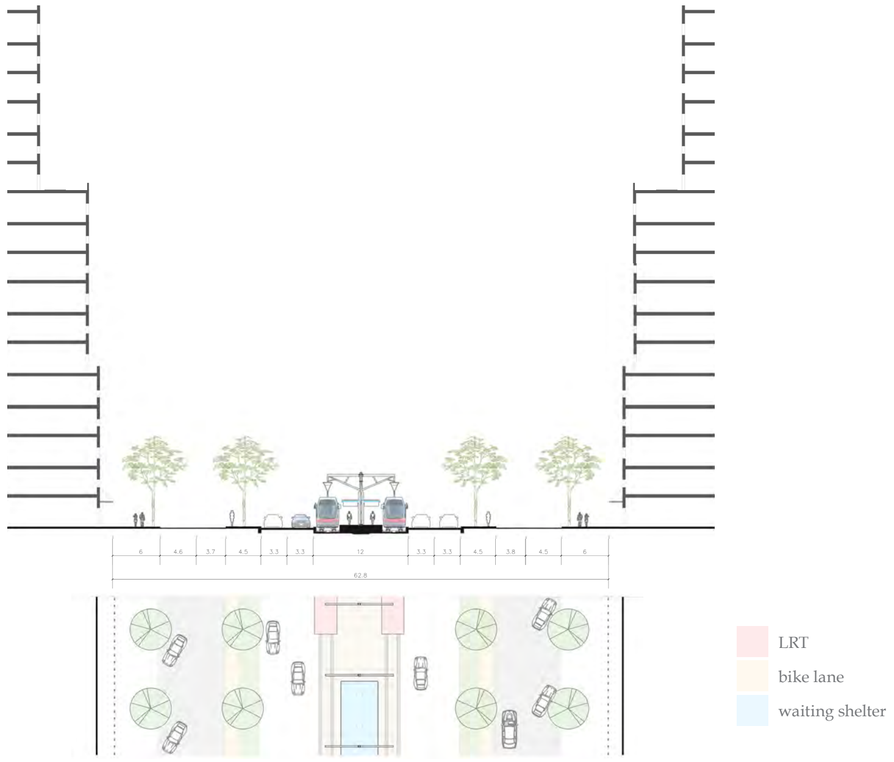


fig 3.28 *(opposite)* Street section 'Proposal D' adds a protected bike lane and street trees to the parking lane median providing designated areas of the street for each function.

Street Section E - Parallel Parking Lanes

Street Width: 58m
Number of Traffic Lanes: 4
Added Width for Parking: 8.7m
Sidewalk Width: 6m
Parking Type: parallel
Cycling: dedicated lane adjoined to sidewalk
Vegetation: dual row
Edge Condition: overlapped and partial shelter
Architecture to Street Ratio: 1:1 (right-of-way height exceeds *Avenue Study's* 11 storey maximum Mid-Rise height)

Proposal E moves the bicycle lanes from the from the median to the sidewalk edge allowing it to be intermittently protected by parked cars. The parking lane width is reduced by changing the parking type from angled to parallel parking: a reduction in street width of 3.4m. The change from angled to parallel parking also results in a loss of parking spots: approximately three cars for every 35m length of parking lane. The 58m cross-sectional width adds 18m to the street to the existing ROW.

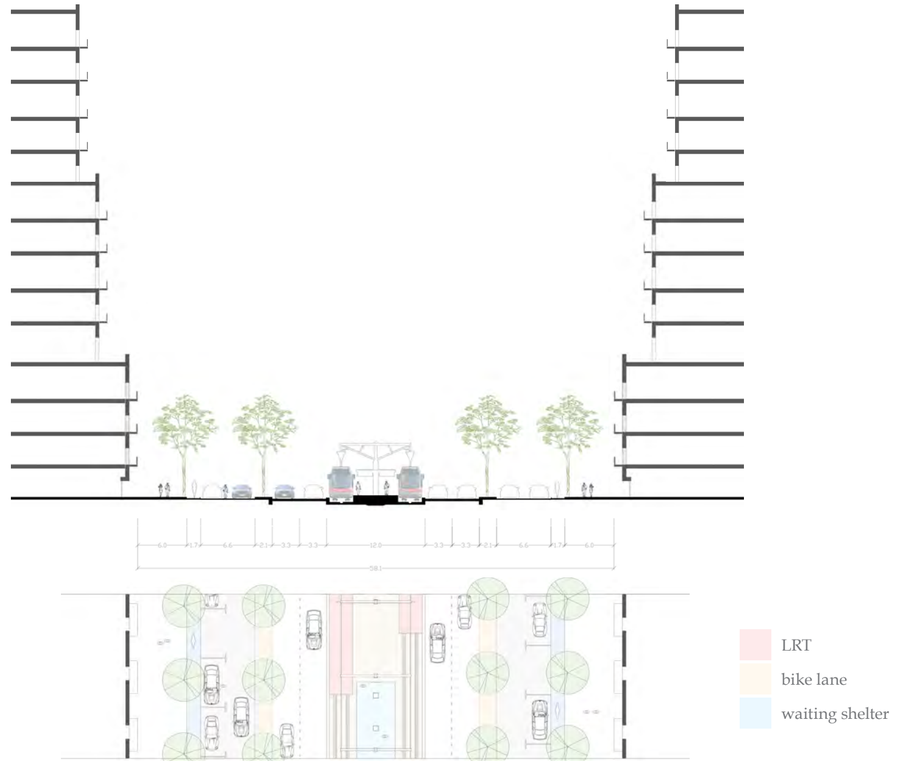


fig 3.29 *(opposite)* Street section 'Proposal E' replaces angled parking in lanes for parallel parking reducing the overall street width reducing the number of on-street parking spots.

Street Option Selection

Street Section D was chosen for this thesis' case study plan as it represents a complete (and potentially *great*) street supporting a mix functions while potentially improving the street's quality to a level befitting the function of society's *social nerve*.

The cross-section's parking lane is useful to supplement parking requirements, locate or bury infrastructure, and act as spillover space for events. Street tree planting would follow Toronto's *Tree Planting Solutions in Hard Boulevard Surfaces: Best Practices Manual*.[71]

By regulating edge conditions, reurbanization plans can promote pedestrian comfort offering partial protection from weather using continuous projections and recesses.

The fundamental drawback of this proposal is its large width adding a maximum of 23m to the officially proposed ROW. In conjunction with strategically staggering the street's components, decisive regulation would be required to implement this option. Although this width is large, the existing edge conditions of the current street (as shown in figure 3.31) appears to be able to accommodate a larger street width. Moreover, aside from allowing for on-street parking and car-based access, this street option could also allow for increased as-of-right building heights: an outcome that would help mitigate some of the disincentives of a widened ROW.

The Golden Mile's portion of Eglinton Avenue represents a significant opportunity to create a great street within Toronto.

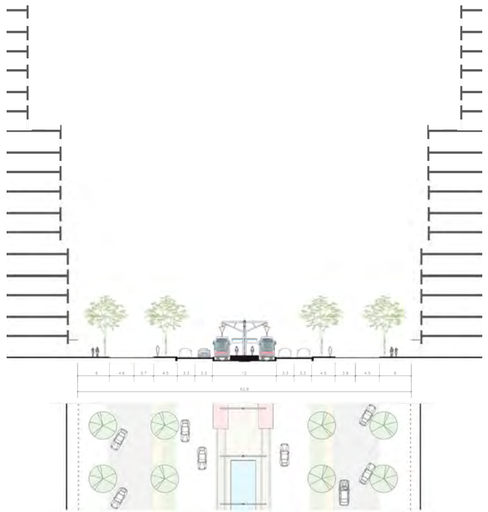


fig 3.30 Diagram of option D's street cross-section and matching plan view.

fig 3.31 Photo's of the Golden Mile's existing street edge conditions highlighting the current opportunity for a ROW expansion.

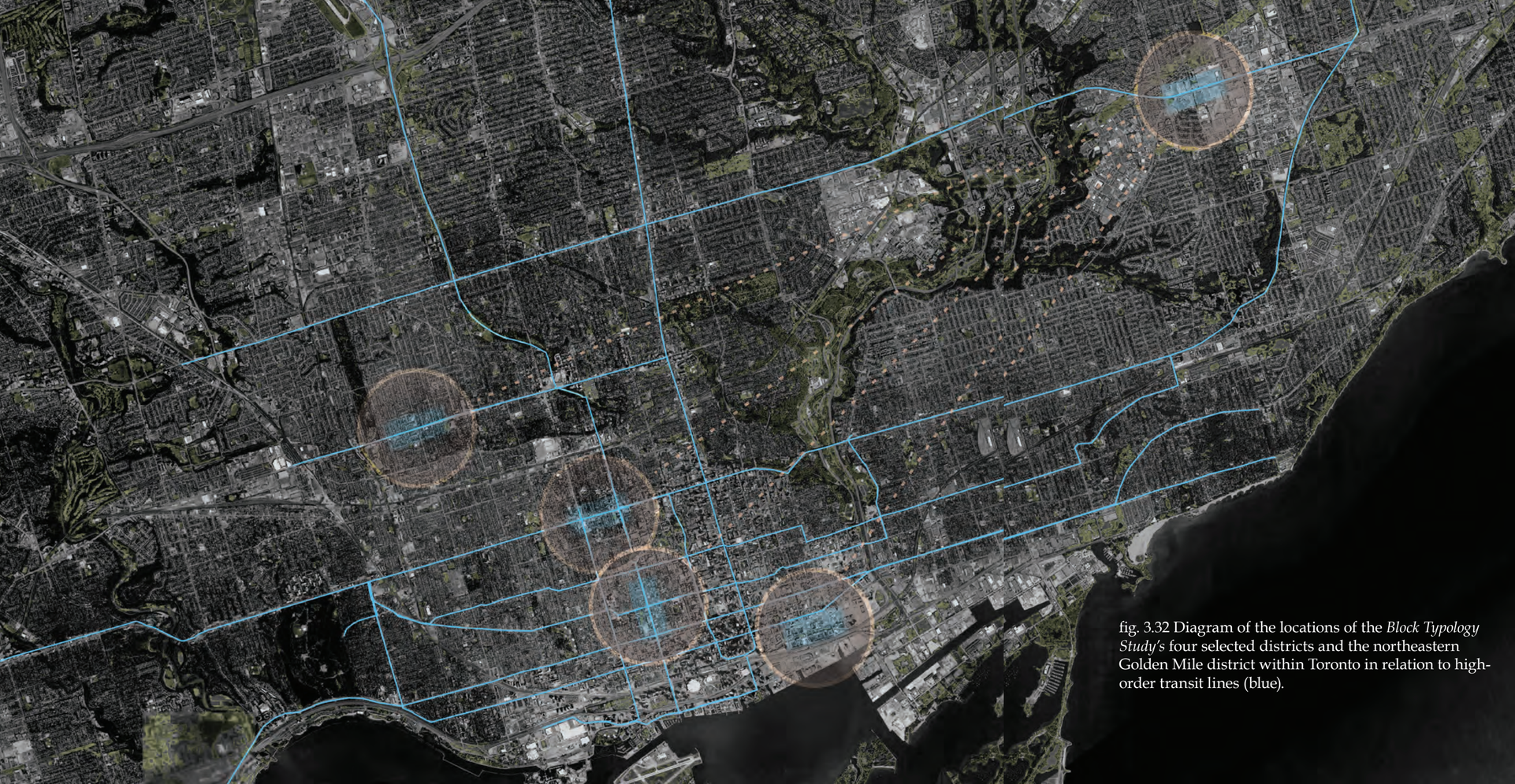


fig. 3.32 Diagram of the locations of the *Block Typology Study's* four selected districts and the northeastern Golden Mile district within Toronto in relation to high-order transit lines (blue).

Block Typology Study

The *Block Typology Study* was conducted to help develop morphological strategy guidelines for very large or deep parcels. The Golden Mile, representing an area having this type of parcel, requires new streets and blocks that can accommodate transit-supportive residential and employment densities.

To accomplish this, the study selected four existing districts of the city based on their proximity to transit, land-uses, architectural types, and built intensity. Analyzing these areas led to the discovery of their urban strategies, treatments, and underlying structures. Each district was analyzed as a whole then, in subsequent analyses, three block areas of each district were extracted and analyzed individually. Together these analyses generated the Study's *Lessons Learned* found in the following section (see appendix for the full study). The districts chosen, starting from the southeast and continuing clockwise, were the Saint Lawrence district, Spadina district, Bloor-Bathurst district, and the Saint Clair district. Adapting the urban lessons to the Golden Mile's requirements helped in forming the proposed reurbanization plan's morphology and block types.

St. Lawrence District

Ward	Toronto Centre-Rosedale (28)
Ward #20 Population/km^2	7,210/km^2
Neighbourhood	Waterfront Communities (77)
Neighbourhood Structure Types (2011)	
Single Detached	275 1%
Semi-Detached	45 0.2%
Townhouse	560 2%
Detached Duplex	20 0.1%
Apartment -5 Storeys	950 4%
Apartment +5 Storeys	25150 93%
Transit Type(s)	Streetcar (x1)

Bloor-Bathurst District

Ward	Trinity Spadina (20)
Ward #20 Population/km^2	10,270/km^2
Neighbourhood	Annex (95)
Neighbourhood Structure Types (2011)	
Single Detached	670 4%
Semi-Detached	1215 8%
Townhouse	635 4%
Detached Duplex	450 3%
Apartment -5 Storeys	4960 32%
Apartment +5 Storeys	7550 49%
Transit Type(s)	Subway (x2) + Streetcar (x2)

Spadina District

Ward	Trinity Spadina (20)
Ward #20 Population/km^2	10,270/km^2
Neighbourhood	Kensington-Chinatown (78)
Neighbourhood Structure Types (2011)	
Single Detached	95 1%
Semi-Detached	235 3%
Townhouse	735 9%
Detached Duplex	170 2%
Apartment -5 Storeys	4115 48%
Apartment +5 Storeys	3285 38%
Transit Type(s)	Streetcar (x3)

St. Clair District

Ward	Davenport (17)
Ward #20 Population/km^2	7,670/km^2
Neighbourhood	Kensington-Chinatown (92)
Neighbourhood Structure Types (2011)	
Single Detached	1325 26%
Semi-Detached	1315 26%
Townhouse	105 2%
Detached Duplex	435 9%
Apartment -5 Storeys	1915 38%
Apartment +5 Storeys	0 0%
Transit Type(s)	Streetcar (x1)

fig 3.33 Aerial views of the four block district typologies examined and the statistics of the Ward or Neighbourhood they are located in.

Block Typology Study Diagram Types

• The Street Grid Diagram highlights the district's streets in three tiers: primary (arterial) streets, secondary (collector) streets, and tertiary (local) streets.

• The Aerial View gives the surrounding context and imagery of the district or block areas.

• The Land-Use Diagram is in the tradition of the City of Toronto's zoning practices in both categories and colour schemes. It should be noted that this diagram represents what the area is zoned for and not necessarily what land-uses currently occupying the site are.

• The Figure-Ground Diagram highlights the solid to void relationships of the districts. The sizes, shapes, scales, positioning, alignments, and permeability of solids and voids illustrates the relationships of space and architecture alluding to their impact on the urban environment.

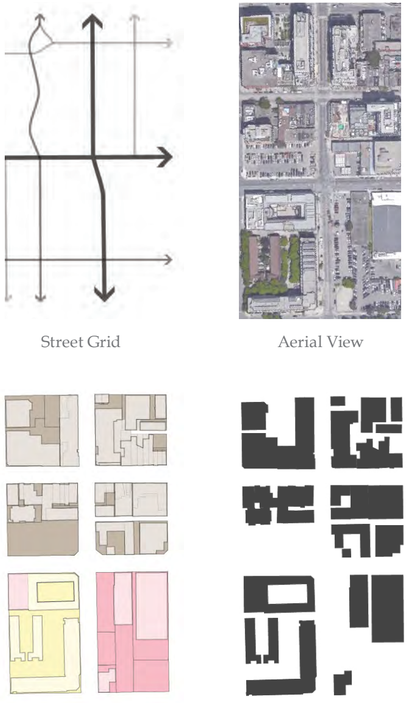
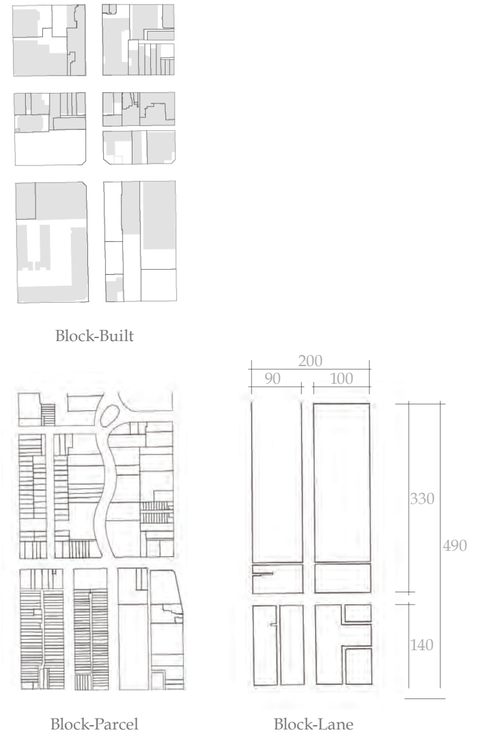


fig 3.34 Example diagrams of those used in the dissecting existing blocks for the Block Typology Study.



• The Block-Built Diagram shows the relationship of the built forms to their parcel divisions, how streets are addressed, and the lot coverages.

• The Block-Parcel Diagram articulates the number of property owners in the district, implicates the types of ownership, and the size of properties while also alluding to its future adaptability and potential land-uses.

• The Block Lane Diagram shows the shape and dimensions of the blocks and the streets that divide them. This diagram highlights the underlying structure of the examined urban blocks.

Together these diagrams provided the necessary tools to deconstruct, examine, and compare the inner-workings of Toronto's block types.

Block Typology Study Lessons Learned

The analysis of established urban districts and their blocks led to a number of generalizations about typical block morphologies, strategies, and structures for both the public and the semi-public/private areas of the block. In the following pages, these areas are discussed in terms of their block dimensions, land-uses, solid and void treatments, streets, laneways, lot coverages, densities, parcel divisions, parking, and architectural types.

The Public Edge

The area of the block that adjoins any main street is regarded in this thesis as the Public Edge of the block. This area plays a vital role in the shape and atmosphere of the public realm impacting the social setting of civic life.

The large grain of built forms associated with these areas are generally built to plane allowing built forms to maximize their floor space, spatially define the street room, and, by providing direct access points for pedestrians, activate their frontages. Moreover, building to plane and maximizing floor space has the added benefit of increasing rental revenues, room for merchandise, and space to accommodate larger population and/or employment densities.

Although on-street parking is sometimes allocated adjoined to public edges, building to plane requires the majority of parking be accommodated underground or behind buildings in a parking structure, a surface lot, or a rear laneway. Laneways, a typical if not necessary companion to the built to plane strategy, support buildings along the Public Edge providing rear access for delivery, loading, sanitation, and parking. Typically, these laneways are parallel to the main street providing rear access to *all* main street properties while simultaneously buffering them from smaller more privatized neighbourhoods that are typically found to their rear.

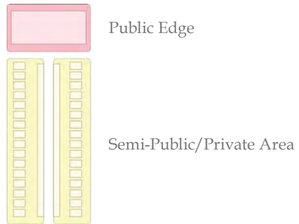


fig 3.35 Diagram of the basic structure of a typical block differentiating the Public Edge from the Semi-Public/Private Area.

fig 3.36 Aerial image of St. Clair Block Area B compared to its Land-Use diagram showing maximized commercial floor space, laneway types, and how parking is accommodated (on-street and on rear parcel lots).

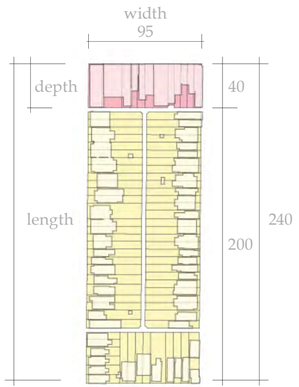


fig 3.37 Land-Use diagram showing the dimensions, land-use, lot coverage, and laneways of a prototypical Toronto block (St. Clair Block Area A).

Appropriately, land-uses of the Public Edge of the block are generally public in nature typically including commercial, employment, and apartment-residential land-uses.

The size and shape of both the public block edge and its parcel divisions impacts the urban built form, the environmental conditions, and the future adaptability of blocks. Overall, the block *width*s ranged between 50-140m dependent upon the block's shape, use, order, orientation, external conditions, and strategies. On average the typical block *width* was between 75-95m.

The *depth* of the Public Edge was typically between 40-45m (including a 6m wide rear laneway). These typical depths fit the *Avenue Study*'s Optimal Site Conditions guidelines that recommend 32.6-51.8m depths dependent upon the adjoining right-of-ways.[72]

It is therefore recommended that a block addressing a main street should be between 75-95m by 140-240m. The depth of the public edge should coincide with the right-of-way length (as recommended by the *Avenue Study*), the type of land-use(s), and the location of the block within the district.

For blocks that address more than one main street, it is likely beneficial that they have larger widths and public edge depths than those addressing one main street to reduce public spillover onto secondary streets (if spillover is deemed as undesirable). A useful starting point in determining the block width can be found in 'Block Area C' (figure 3.39) of the Bloor-Bathurst District (figure 3.38) where overall block lengths of 130 metres appear to have limited public-commercial spillover to its secondary streets.

Property divisions need to be investigated further for more precise conclusions and strategies to be developed. That stated, the division of parcels help shape future urban environments adaptability to architectural types, land-uses, ownership amounts and tenure types, and partially the degree of activation of the street.

Generally and obviously, the two types of block property divisions examined were those with numerous amounts of small parcels and those with a low amount of large parcels. The public block areas that were heavily divided allowed for many owners promoting a compact, diverse, and, accentuated by the rapid sequencing of facades and its increased number of access points, an activated street. This strategy of division greatly influences the use, density, and

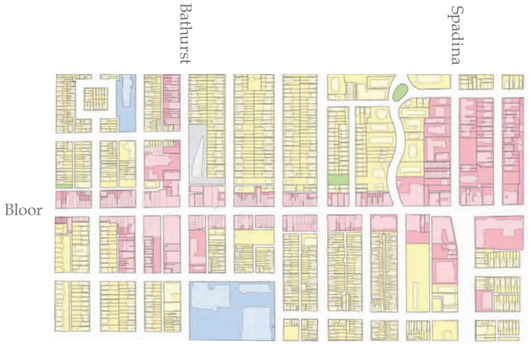


fig 3.38 Land-Use diagram of Bloor-Bathurst District showing commercial-residential use spillover onto secondary streets where two main streets converge with the exception of western blocks at Spadina and Bloor (Block Area C).

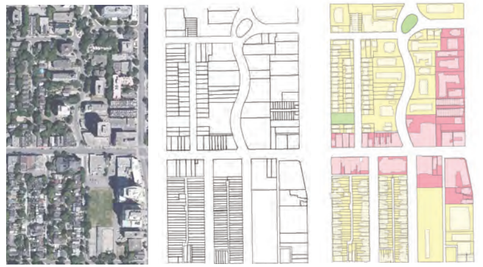


fig 3.39 Aerial image, Land-Use and Block-Parcel diagram of Bloor-Bathurst District's Block Area C highlighting its mixed parcel sizes, mixed architectural types and densities, and avoidance of commercial spillover onto secondary streets.

architectural form of the parcels allowing for ordered diversity at the expense of density.

The block's containing a small amount of large parcels suit the public realm providing larger densities, more appropriately scaled architecture, and a greater degree of adaptability in the future. Larger parcels allow for different types of tenure, land-uses, and architecture at the possible expense of a more activated street and a reduction in the continuity of the street wall.

It is recommended that property division and similar conditions be explored more thoroughly in future reurbanization plans. The recommendations of mid and high-rise buildings on designated Avenues by the *Avenue Study* will require relatively large parcels which, in turn, dictates a certain kind of property division strategy for the public edge and, hence, a certain kind of urban environment. Though the strategy of numerous property divisions along main streets is not suitable to contemporary densities and methods of development, the replication of its benefits would likely be advantageous to the urban environment. If possible, the union or intermittent use of both strategies for the ground floor of buildings appears to be the most appropriate scenario for new urban areas. It is for these reasons that future investigations are recommended. In lieu of these investigations a large parcel division strategy was determined to be the most suitable strategy for the Public Edge of blocks.

Blocks Without Public Edges

Blocks without Public Edges, hereafter referred to as the semi-public/private area of the block, is the portion of the block that is adjoined to secondary and/or tertiary streets hosting more privatized uses.

These areas, protected and buffered from the public realm by their Public Edge counterpart, typically have a finer grain of built forms and, hence, lower densities. These fine grain buildings are positioned along similar planes near property lines. Together they shape the street room, define boundaries, and capture private void spaces within block interiors.

Similar to the Public Edge of the block, residential rear lanes support units providing parking access and other services. Three types of laneways used in residential areas are the cul-de-sac laneway, the perpendicular lengthwise strip, and the 'T' shaped laneway (each with its own drawbacks and benefits). The most fundamental impact of incorporating laneways are its land requirements: allocated by increasing block widths, decreasing captured void spaces, or a combination of both.

The land-uses of these areas are typically low density residential and, to a much smaller extent, institutional, mid to high density residential, or commercial. Commercial and higher density residential uses were typically found in dense urban areas, along transit corridors, or in proximity to converging major intersections.

fig 3.40 Figure-Ground of the St. Clair District showing how the built form shapes the street room and captures interior void spaces of blocks.

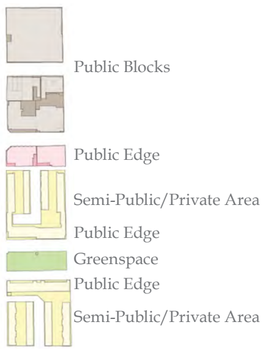


fig 3.41 Land-Use diagram of St. Lawrence Block Area A's general public and private conditions of blocks.

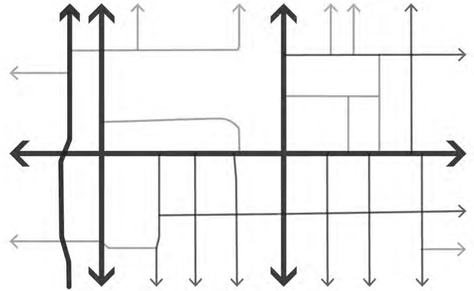


fig 3.42 Spadina District Street Grid diagram's hierarchy divides blocks articulating suitable land-uses and architectural typologies.

fig 3.43 Spadina District's Land-Use diagram showing the area's use of 'ad-hoc blocks'.

Public greenspaces are used as recreational spaces (necessary for larger density buildings or highly compact neighbourhoods), buffer spaces, and, in the Saint Lawrence District, as an organizing element. The majority of blocks examined, particularly those located away from the central core of the city, hosted compact low density detached or semi-detached houses with private greenspaces.

The function and treatment of the street plays a significant and intricate role for the semi-public/private area of the block. In the street grid hierarchy, secondary and tertiary streets direct how areas are circulated and who circulates there. The allowance or restriction of circulation (e.g. termination of streets, traffic rules, ease of access, length of street, and street parking) helps filter the purposes and amount of circulation that, in turn, helps denote the suitability of a block's land-uses.

The shape and dimensions of these blocks allow or restrict architectural typologies, the scale and position of built forms, the ability to incorporate laneways, and the area's land-uses. Blocks that do not relate to the size and scale of architectural typologies allow for ad-hoc solutions resulting in both desirable and undesirable outcomes as discussed in the Spadina District's analysis (see appendix).

As mentioned in the Public Block Edge summation, the average typical widths of the blocks examined were between 75-95 metres in width; this width appears to be the result of residential architectural types, their setbacks, the exclusion or inclusion of laneways, driveway lengths, and the need for open space.

The smallest residential blocks examined, found in the Saint Lawrence District, were 46m wide by 110m long. These small blocks were able to reduce the block width by compacting the architecture and accommodating parking underground or in laneways running perpendicular to the block. To increase compactness, detached and semi-detached housing were exchanged for townhouses: a gesture that continued to allow for diversity in dwelling options in the district while reducing the overall loss in density (that would be caused by incorporating low density housing types).

The semi-public/private area's parcel divisions allow and restrict future land-uses and architectural forms depending on their sizes and shapes. Moreover, the size and shape of parcels can directly impact the architecture's degree of predictability and its future adaptability. In particular smaller parcels, typical to low density residential blocks, are likely to be built near or at the limitations of the parcel and its imposed regulations. This promotes order, compactness, and homogeneity of the urban form while allowing for differentiation in the details (comparable to MVRDV's Borneo Sporenburg project). Small parcels can therefore ensure a block will continue to have predictable low-scale compact buildings (see the Bloor-

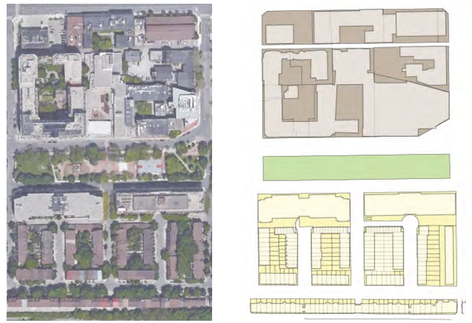


fig 3.44 Aerial image and Land-Use diagram of St. Lawrence Block Area C's compact low-density housing within a dense urban area.

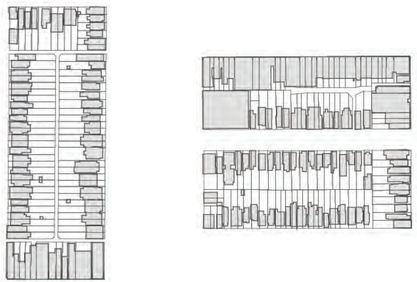


fig 3.45 St. Clair Block Area A and B's Block-Built diagram shows a high division of small parcels that, in conjunction with regulations, produce predictable compact residential areas.

fig 3.46 Aerial image and Block-Built diagram of Bloor-Bathurst Block Area C showing larger parcels and higher density buildings at a major intersection and transit corridor. The higher density buildings increases the permeability of the street wall and dilute the spatial definition of the street.

Bathurst and St. Clair District's in the appendix for examples).

The expense of this predictability is a reduction in its ability to adapt in the future. Larger architectural projects, for example, would require parcel assembly significantly affecting the viability of increasing an area's density (thereby circumscribing the parcel to remain in its current state).

Larger parcels, like those seen in Bloor-Bathurst's Block Area C, typically carry larger densities appropriate for locations in proximity to major intersections, growth centres, and transit corridors. Similar to the public edge, these larger parcels typically host buildings that are collective and semi-public. Larger parcel's space requirements for limiting distances, greenspaces, parking, and their higher density buildings greatly impact the shape and scale of the street room, the continuity of the street wall, and the look and feel of the urban environment.

Future semi-public/private area blocks need to balance diversity of architectural types and dwelling options with the need to accommodate employment and population growth. To assist in Toronto's intensification, it is argued that future semi-public/private area blocks should increase density from neighbourhoods with detached and semi-detached architecture to neighbourhoods that incorporate ranges of more collective and dense buildings: stacked townhouses, mid-rises, lofts, and high rises. Increasing density, incorporating (if not increasing) greenspace, and utilizing laneways should be some of the key components of future blocks.

Lessons Learned Synopsis

The following is a point form synopsis of the *Block Typology Study's Lessons Learned*.

Typical Block Shape:	• Oblong rectangles or, in more dense areas, square blocks.
Typical Block Sizes:	• Public Blocks (Blocks with a Public Edge): 75-95m by 140-240m. • Semi-Public/Private Blocks (area behind the Public Edge): 40-95m by 110-240m.
Laneway Types:	• Public Block Areas: parallel laneway. • Semi-Public/Private Areas: 'T', lengthwise strip, or perpendicular side lane.
Typical Parcel Sizes/Depths:	• Public Edge: large parcels with depths of 32.6-51.8m (depending on the adjoining right-of-ways) (typical width identified was 40-45m). • Semi-Public/Private: small to large parcels. Sample depths for low density 5m by 20-40m. Sample depths for high density 40-60m by 90-120m.
Architectural Types/Treatment:	• Public Block Areas: mid-rise to high-rise buildings. • Semi-Public/Private Areas: mix of mid to high density architecture incorporating diversity in scales and types both within neighbourhoods and on individual sites.
Typical Land-Uses	• Public Block Areas: high-degree of mixed-use both in buildings and on sites. Typical uses include commercial, residential, service and light employment, institutional, and open space uses. • Semi-Public/Private Areas: comprise of residential, open space, and, as required, certain types of employment, commercial, and institutional uses.
Typical Treatment of Streets	• Public Block Areas: streets should aim to become complete streets. • Semi-Public/Private Areas: streets should correlate with uses of the area, connect into the existing grid, feed the main street, and allow/restrict circulation.
General Density Strategy	• Public Areas: incorporate high and mid densities altering to suit transit accessibility, amenities, and other local conditions. • Semi-Public/Private Areas: strive to mix of mid to high density in appropriate manners and locations. Small scale residences (especially those located in proximity to high order transit) should be compact if not associated with larger density buildings (ground floor units of mid or high rise buildings).
Recommended Parking Strategies	• Public Block Area: parking should be located underground, on street, or to the rear of buildings in laneways, surface parking lots, or structures. • Semi-Public/Private Area: parking is best to be located in rear laneway garages, on-streets, tucked within structures, or along perpendicular side lanes.

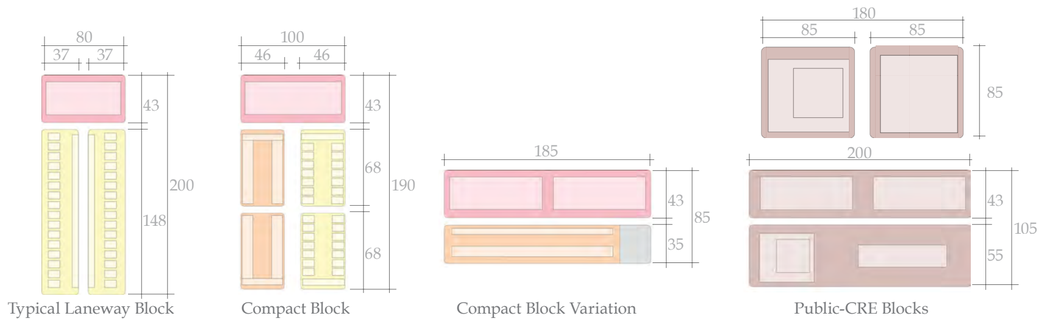


fig 3.47 Dimensioned Land-Use diagrams of the general structure of five block types.

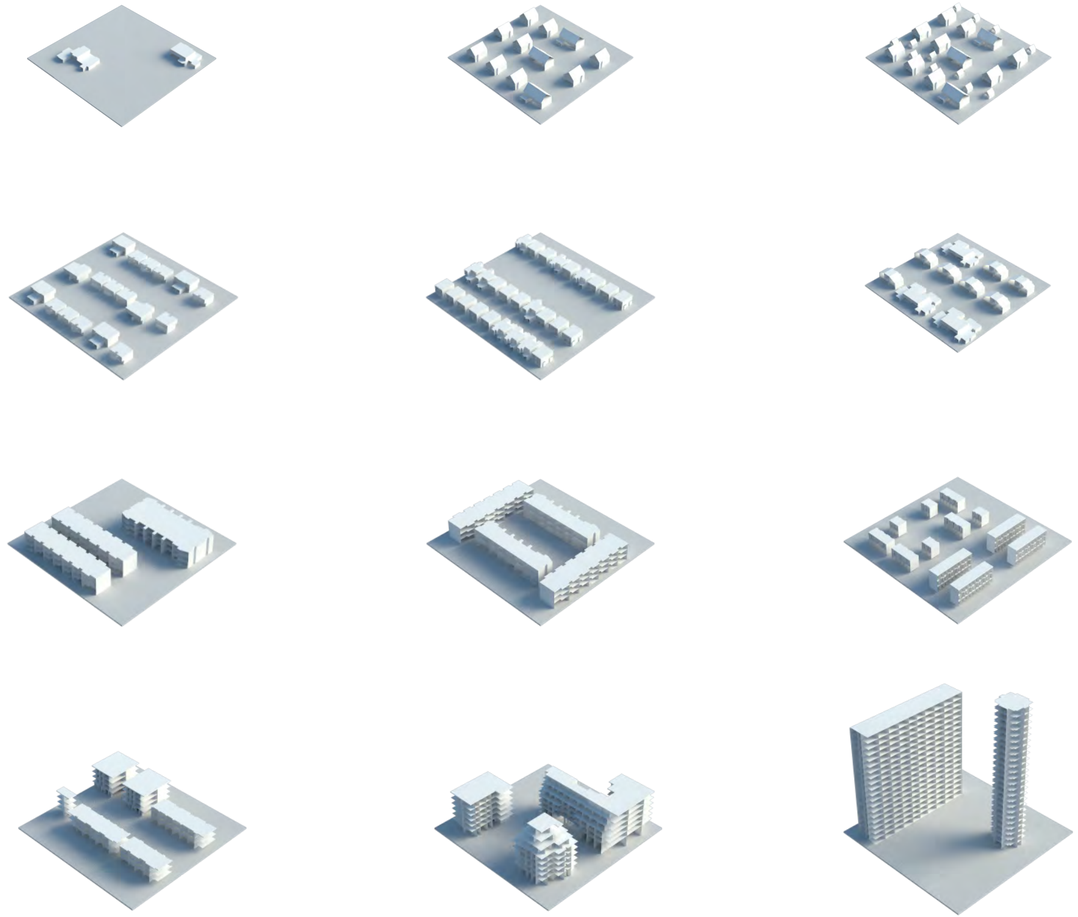


fig 3.48 *(opposite)* Axonometrics of the twelve residential typologies examined (see appendix for full study).

Architectural Typology and Precedent Study

The *Architectural Typology Study* examined twelve different residential types identifying their individual statistics, built form, and general urban impact. From these, several types were selected and used in the reurbanization plan of the Golden Mile predominately chosen based on their densities and architectural mix (for the full study see the appendix). Organized according to each type's number of dwelling units per hectare (using the acronym UPH), each type was examined based on their qualities and statistics approximating the type's location, density, subtype, number of storeys, average parcel size, built footprint size, unit size, and additional programs.

The study's examination of a range of residential architectural typologies helps highlight each type's density, compactness, and fundamental impacts on the urban environment.

The *Architectural Precedent Study* examines existing architectural projects found in the City of Toronto that incorporate mixes of residential, commercial, and employment land-uses.

Organized based on each project's scale, the precedent study examines each project's attributes as it relates to the building's mass, density, parking, and land-use(s).

Together this thesis' architectural typology and precedent studies helped identify appropriately scaled architecture examples that have the capability of mixing transit-supportive employment and residential densities.

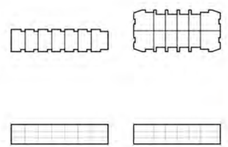
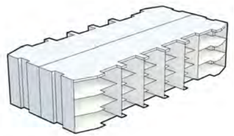
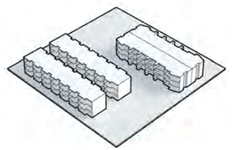
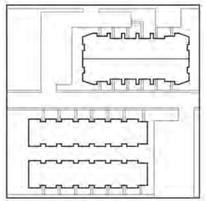
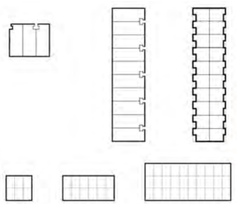
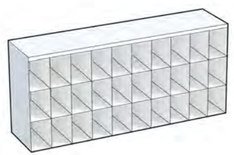
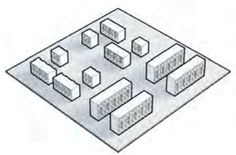
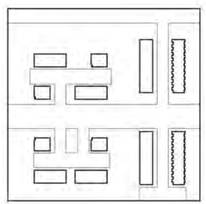
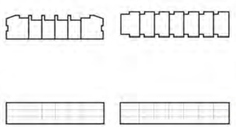
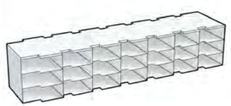
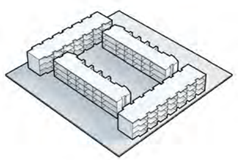
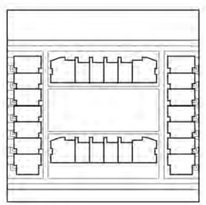
Architectural Factors	Plan/Elevation Example	Unit/Floor Separation	Hectare Axonometric	Hectare Site Plan	Urban Factors
30-75 uph **Townhouse/Rowhouse** Location: suburban/urban/neighbourhood Density: medium (1-3 storeys) Types: side-side/back-back Avg. Parcel Size: 1500 sqm (8 units) Built Footprint: 300 -500 sqm Unit Size: 75-90 sqm Add. Program: n/a					Median Hectare FSI: 0.75 Ave. structures per hectare: 7 Greenspace: private/semi-private Parking: street/on-site/within Street type: cul de sac/secondary/main No. of parcels/hectare: low-high Tenure Type(s): own/rent/condominium Typ. lot coverage (%): 27%
50-65 uph **Stacked Townhouse** Location: urban/corridor/neighbourhood Density: medium-high (2-4 storeys) Types: bar/back-to-back Avg. Parcel Size: 1,500-3,000 sqm Built Footprint: 1200-2000 sqm Unit Size: 60-80 sqm Add. Program: commercial					Median Hectare FSI: 0.84 Ave. structures per hectare: 6 Greenspace: private/semi-private/shared Parking: on-site/underground Street type: cul de sac/secondary/main No. of parcels/hectare: low-high Tenure Type(s): own/rent/condominium Typ. lot coverage (%): 67%
35-75 uph **Courtyard Townhouse** Location: suburban/urban/neighbourhood Density: medium (1-3 storeys) Types: cottage/duplex/townhouse Avg. Parcel Size: 6000 sqm (185 sqm/unit) Built Footprint: 1200 -2000 sqm Unit Size: 75-90 sqm Add. Program: n/a					Median Hectare FSI: 0.64 Ave. structures per hectare: 6 Greenspace: semi-private/shared Parking: street/on-site/within Street type: cul de sac/secondary/main No. of parcels/hectare: low-high Tenure Type(s): own/rent/condominium Typ. lot coverage (%): 27%

fig 3.49 Diagram illustrating the architectural and urban conditions of housing types within a specified area (independent of other functions and conditions). These three residential types allow for 30-75 units per hectare. The typologies can be categorized as being amalgamated individual units (suitable for intensifying urban areas).

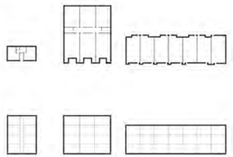
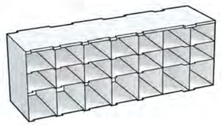
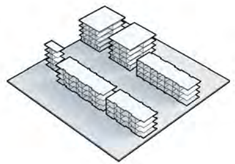
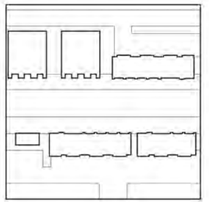
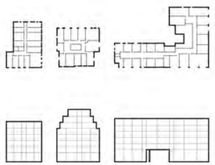
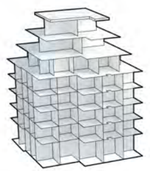
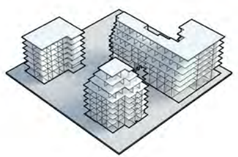
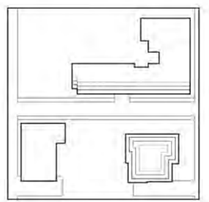
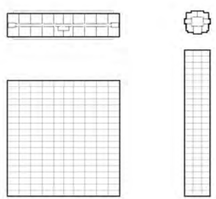
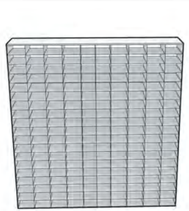
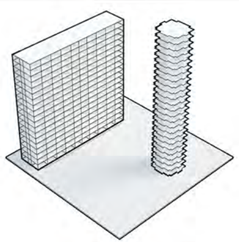
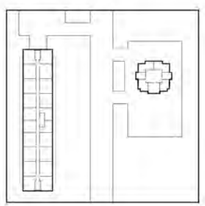
Architectural Factors	Plan/Elevation Example	Unit/Floor Separation	Hectare Axonometric	Hectare Site Plan	Urban Factors
60-90 uph **Live-Work Apartments/Lofts** Location: urban/neighbourhood Density: medium-high (2-6 storeys) Types: street aligned/bar/square Avg. Parcel Size: 500-1,000 sqm Built Footprint: 250-400 sqm Unit Size: 70-100 sqm Add. Program: commercial/service					Median Hectare FSI: 1.12 Ave. structures per hectare: 10 Greenspace: public/semi-private/shared Parking: street/on-site/underground Street type: secondary/main No. of parcels/hectare: low Tenure Type(s): own/rent Typ. lot coverage (%): 40%
100-200 uph **Mid-Rise Apartment** Location: urban/major corridor Density: high (5-11 storeys) Types: bar/box/letter shaped/courtyard Avg. Parcel Size: 1,500-3,000 sqm Built Footprint: 1,200-1,700 sqm Unit Size: 70-150 sqm Add. Program: commercial/service					Median Hectare FSI: 4.64 Ave. structures per hectare: 3 Greenspace: public/shared Parking: on-site/underground Street type: secondary/main No. of parcels/hectare: very low Tenure Type(s): rent/condominium/co-op Typ. lot coverage (%): 57%
240-800 uph **High-Rise Apartment** Location: urban/major corridor Density: very high (12-39+ storeys) Types: bar/point/Y-shaped/podium Avg. Parcel Size: 5,500-13,000 sqm Built Footprint: 700-2,000 sqm Unit Size: 75-85 sqm Add. Program: commercial/service					Median Hectare FSI: 6 Ave. structures per hectare: 1-2 Greenspace: public/shared Parking: on-site/underground Street type: secondary/main No. of parcels/hectare: very low Tenure Type(s): rent/condominium/co-op Typ. lot coverage (%): 20%

fig 3.50 Diagram of the 60-800 units per hectare typologies representing the most urban and collective of the residential options. These typologies typically have ground floor commercial or employment uses that fit into the urban setting they are normally found in.

High Rise // Mid Rise - Tower Canyon + Tower-Base + Mid Rise

Yonge Eglinton Centre - 2300 Yonge Street. Toronto, Ontario

fig 3.51 Image of proposed renovation to the Yonge-Eglinton Centre.

fig 3.52 Aerial photo of the project's block. Note the lot coverage and potential impact (e.g. urban heat island effect, wind, and shadow).

Project Attributes

Status	Under Renovation
Height (m)	149 (tallest tower addition)
Storeys	37 (tallest tower addition)
Floor Space Index	8.7
Lot Coverage Ratio (%)	87
Ground Floor Area (sq.m)	169,904
Ave. GFA Unit Area (sq.m)	-
Typ. Floorplate Area (sq.m)	2,189 (office) 216 (residential)
Parking Type(s)	Underground
Parking Spaces	761
Dwelling Units	782
Land Use(s)	Mixed - CRE
Residential GFA (sq.m)	51633
Retail GFA (sq.m)	30260
Employment GFA (sq.m)	88173

fig 3.53 Axonometric photo looking northwest at the office towers (soon to add storeys) and a residential apartment building.

fig 3.54 Site plan land-use diagram.

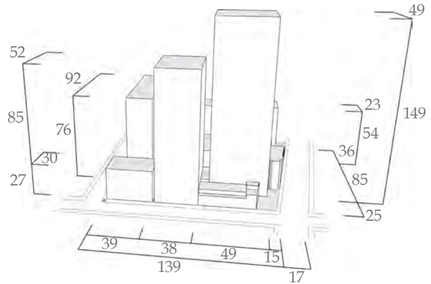


fig 3.55 Dimensioned massing diagram (metres). Average office floorplate 1850 sq.m. Average residential floorplate 1950 sq.m.

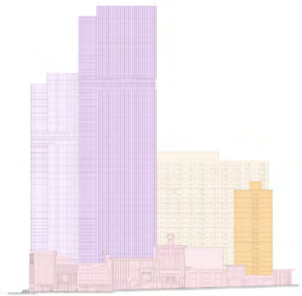


fig 3.56 East elevation land-use diagram showing the added stories on both employment towers.

This precedent serves as an example of mixing land-uses densely within a block. The site's buildings, originally built in the 1970s, mixed land-uses on site (vertically) as opposed to stacking uses horizontally within single structures with the exception of the ground floor (predominately dedicated to commercial uses).

fig 3.57 Photo the main street's frontage and mid-rise tower looking south.

fig 3.58 Aerial photo of the project showing how it addresses its surrounding urban conditions (e.g. main street and residential uses).

Project Attributes

Status	Complete (2013)
Height (m)	41.7
Storeys	12 (tower)
Floor Space Index	2.38
Lot Coverage Ratio (%)	45
Ground Floor Area (sq.m)	9406
Ave. GFA Unit Area (sq.m)	60.4
Typ. Floorplate Area (sq.m)	1320 (tower)
Parking Type(s)	Underground//Surface
Parking Spaces	-
Dwelling Units	505 (1, 2, and 3 BDRM)
Land Use(s)	Mixed - CRE
Residential GFA (sq.m)	30513.6
Retail GFA (sq.m)	12147.1
Employment GFA (sq.m)	7503.7

fig 3.59 Axonometric photo looking south showing the corner grocery store, mid-rise tower, and surface parking in the centre of the block.

fig 3.60 Site plan land-use diagram showing apartment residential, commercial, employment, and low density residential uses.

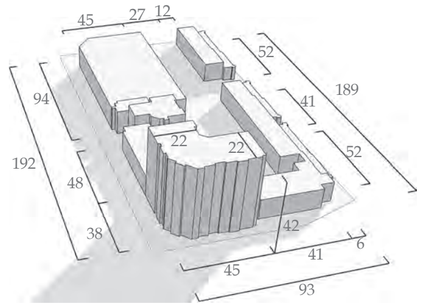


fig 3.61 Dimensioned massing diagram (metres).

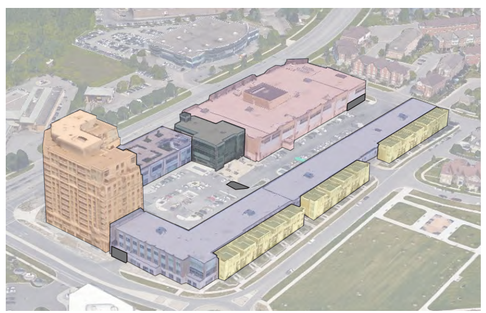


fig 3.62 Axonometric land-use diagram. Note the low density residential back-to-back with employment and commercial uses.

South Unionville Centre's significance is its mixing of employment, commercial, and different residential land-uses on a single (suburban) site. Parking is split between an interior surface parking courtyard and an underground garage. Land-uses are positioned back-to-back addressing surrounding streets, interiorized surface parking, or residential neighbourhoods.

High Rise - Canyon-Tower

Foresters House Olympia Square - 789 Don Mills Road. North York, Ontario

fig 3.63 Photo of project's street view on Don Mills Road looking east.

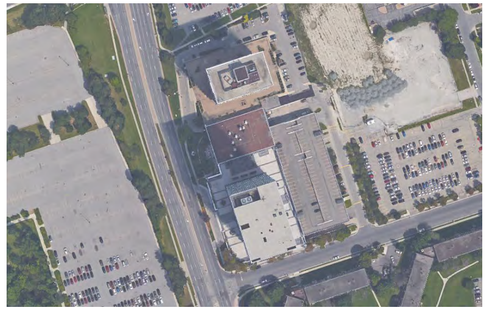


fig 3.64 Aerial photo of the 1970's suburban office tower development and its surrounding context.

Project Attributes

Status	Complete (1967)
Height (m)	91
Storeys	23
Floor Space Index	1.88
Lot Coverage Ratio (%)	19.2
Ground Floor Area (sq.m)	3884
Ave. GFA Unit Area (sq.m)	-
Typ. Floorplate Area (sq.m)	1536 (tower 1) + 1040 (tower 2)
Parking Type(s)	Underground//Structure
Parking Spaces	-
Dwelling Units	0
Land Use(s)	Mixed - CE
Residential GFA (sq.m)	0
Retail GFA (sq.m)	2219
Employment GFA (sq.m)	63035

fig 3.65 Axonometric photo looking northeast at the office towers.

fig 3.66 Site plan land-use diagram.

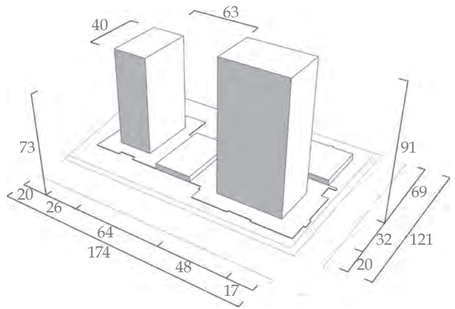


fig 3.67 Dimensioned massing diagram (metres). Average office floorplate 1300 sq.m.

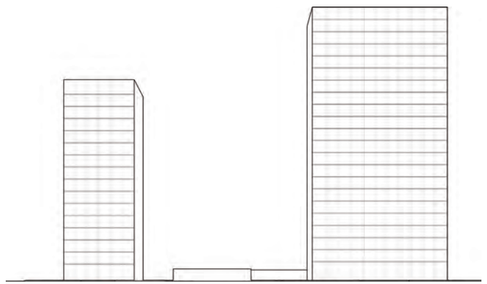


fig 3.68 West elevation diagram.

This office tower project was chosen for its proximity to the thesis' selected case study site and its employment land-use. The suburban office project features surface parking, underground parking, and a three storey parking structure.

fig 3.69 Photo of project street view looking northeast.

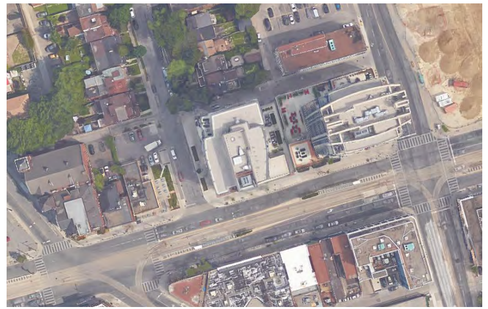


fig 3.70 Aerial photo of the project. Note the lot coverage and potential impact on the surrounding sites.

Project Attributes

Status	Complete (2013)
Height (m)	63.5
Storeys	19
Floor Space Index	28.93
Lot Coverage Ratio (%)	62.3
Ground Floor Area (sq.m)	943.2
Ave. GFA Unit Area (sq.m)	83.7
Typ. Floorplate Area (sq.m)	768 (tower)
Parking Type(s)	Underground
Parking Spaces	129
Dwelling Units	155 (1 and 2 BDRM)
Land Use(s)	Mixed - CR
Residential GFA (sq.m)	12,970.4
Retail GFA (sq.m)	556.5
Employment GFA (sq.m)	0

fig 3.71 Axonometric photo looking northeast.

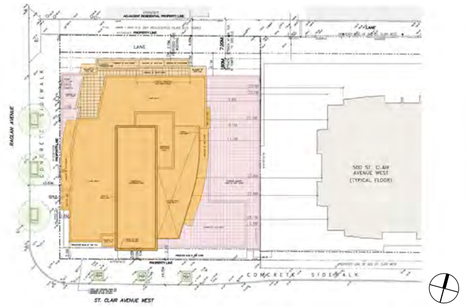


fig 3.72 Site plan land-use diagram. Note the small podium size relative to the tower floorplate.

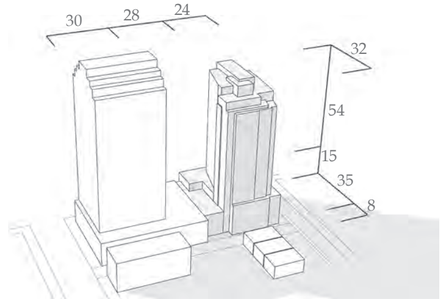


fig 3.73 Dimensioned massing diagram (metres) of building (right) looking south. Showing the shading of December sun (10:00am).

fig 3.74 South elevation land-use diagram. This project's podium is made up of ground floor retail, residential units and amenities.

Five-Thirty Condominiums is an apartment residential tower at the corner of two prominent transit orientated streets: St. Clair Avenue and Bathurst Street.

The tower's floorplate, at 768 sq.m, nearly follows the 750 sq.m maximum floorplate recommended by Toronto's Tall Building Guideline.[73] The shallow 43m site negatively impacts low density semi-detached residential buildings located to its north. The project's widened rear lane helps buffer the building's negative impact while providing underground parking access.

fig 3.75 Image of a future high-rise office building to the east of Toronto's downtown core.

fig 3.76 Aerial photo of the project's excavated site and surrounding context.

Project Attributes

Status	Under Construction (2016)
Height (m)	77
Storeys	17
Floor Space Index	6.03
Lot Coverage Ratio (%)	81.6
Ground Floor Area (sq.m)	12,912
Ave. GFA Unit Area (sq.m)	-
Typ. Floorplate Area (sq.m)	2817 (tower)
Parking Type(s)	Underground
Parking Spaces	371
Dwelling Units	0
Land Use(s)	Mixed - CE
Residential GFA (sq.m)	0
Retail GFA (sq.m)	6052
Employment GFA (sq.m)	68623

fig 3.77 Axonometric photo looking northwest. Note building's large scale and size of floorplate.

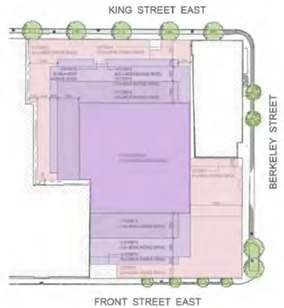


fig 3.78 Site plan land-use diagram.

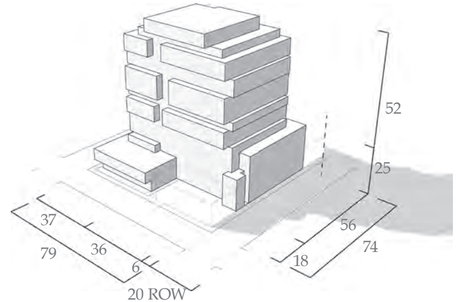


fig 3.79 Dimensioned massing diagram (metres) looking southwest. Showing the shading of December sun (10:00am).

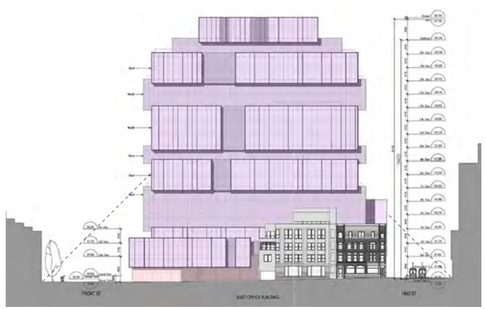


fig 3.80 East elevation land-use diagram showing ground floor commercial, office employment, and preserved existing buildings.

This high-rise office building's large floorplate and height provides employment density within Toronto's urban core.

Significantly, the approximate average floor plate size is 2817 sq.m (well beyond the Tall Building's 750 sq.m guideline). The structure's differentiated use of coloured glass, envelope projections, its central position on site, and its treatment of the podium help reduce some of the negative impacts of the building's large floor plates (e.g. wind, visual perception) though the building's central drawback is its bulkiness: an aspect that will negatively effect King Street East heavily shading its 20m right-of-way throughout the year.

Mid Rise

East Lofts Condos - 275 King Street East. Toronto, Ontario

fig 3.81 Photo of the project during construction.

fig 3.82 Aerial photo of the project on the northeast corner of the block.

Project Attributes

Status	Complete (2010)
Height (m)	42.9
Storeys	12
Floor Space Index	8.6
Lot Coverage Ratio (%)	100
Ground Floor Area (sq.m)	1520
Ave. GFA Unit Area (sq.m)	63.3
Typ. Floorplate Area (sq.m)	442.9
Parking Type(s)	Underground
Parking Spaces	-
Dwelling Units	129
Land Use(s)	Mixed - CRE
Residential GFA (sq.m)	8171
Retail GFA (sq.m)	1330
Employment GFA (sq.m)	1330

fig 3.83 Axonometric photo looking southwest.

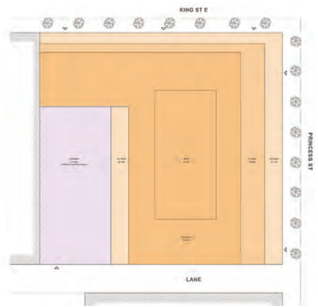


fig 3.84 Site plan land-use diagram.

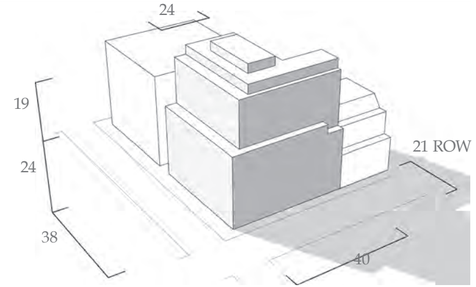


fig 3.85 Dimensioned massing diagram (metres) looking southwest.

fig 3.86 East elevation land-use diagram showing each land-use's location and varied floor-to-floor height.

The East Lofts development's significance is its vertical mix of land-uses and mid-rise scale. The scale and mix of uses potentially helps to activate the surrounding urban environment throughout the day by providing diverse density (a mix of different land-use densities).

Notably, floor-to-floor heights reflect the mix of land-uses approximately having an 8m high commercial ground floor, 2.9m office employment second floor, and 3.1m residential heights for the remaining floors.

fig 3.87 Rendered image of the proposed mid-rise.

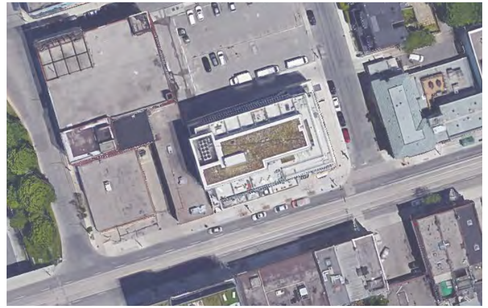


fig 3.88 Aerial photo of the project's block and surrounding context.

Project Attributes

Status	Complete (2013)
Height (m)	29.9
Storeys	9
Floor Space Index	5.11
Lot Coverage Ratio (%)	79.5
Ground Floor Area (sq.m)	2798
Ave. GFA Unit Area (sq.m)	65.2
Typ. Floorplate Area (sq.m)	99.1
Parking Type(s)	Underground
Parking Spaces	80
Dwelling Units	95 (1 and 2 BDRM)
Land Use(s)	Mixed - CR
Residential GFA (sq.m)	6197
Retail GFA (sq.m)	727
Employment GFA (sq.m)	0

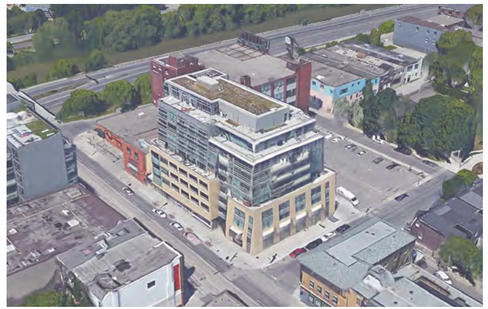


fig 3.89 Axonometric photo looking northwest showing the building's overall form, its built to plane strategy, and mechanical green roof.

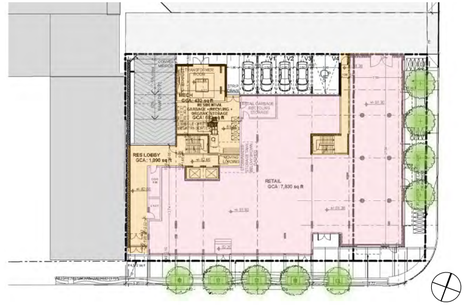


fig 3.90 Site plan land-use diagram.

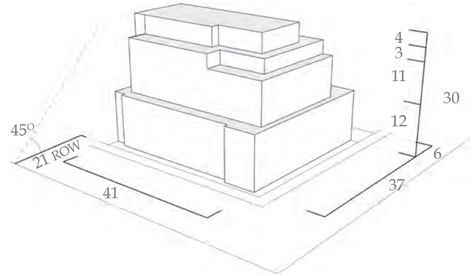


fig 3.91 Dimensioned massing diagram (metres) with an average floor plate of 1420 sq.m.

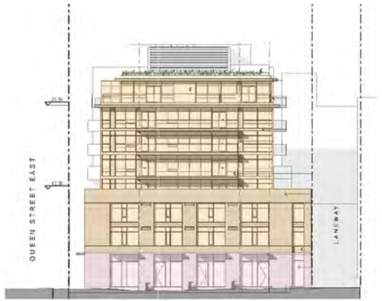


fig 3.92 East elevation land-use diagram.

Sync Lofts represent a prototypical mid-rise commercial-residential mix-use building. Ground floor commercial uses serve the public realm while above, residential uses increase the area's population density (supporting transit, businesses, and the street life). The scale of the building and location of stepbacks reflect the project's surrounding context (e.g. cornice line, street perception, and street width). The project's urban heat island effect is reduced by its mechanical penthouse's green roof: a by-product of Toronto's 2009 Green Roof By-Law requiring that most building types over 2,000 sq.m must have a percentage of roof space be covered by a green roof.[74]

fig 3.93 Street view of the historic building and added mid rise tower.

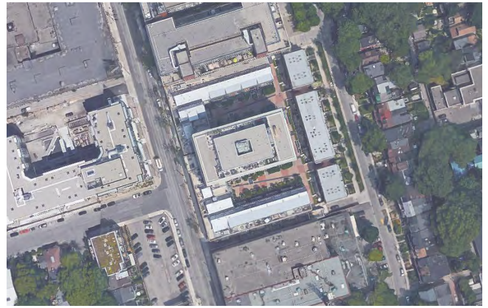


fig 3.94 Aerial image of the project showing the site's components: the historic lofts, central mid-rise tower, and rear townhouses.

Project Attributes

Status	Complete (2010)
Height (m)	28.36
Storeys	9
Floor Space Index	2.6
Lot Coverage Ratio (%)	77
Ground Floor Area (sq.m)	6722
Ave. GFA Unit Area (sq.m)	95
Typ. Floorplate Area (sq.m)	2,009 (tower)
Parking Type(s)	Underground
Parking Spaces	257
Dwelling Units	274 (Bachelor, 1, 2 BDRM)
Land Use(s)	Residential
Residential GFA (sq.m)	25873.5
Retail GFA (sq.m)	0
Employment GFA (sq.m)	0

fig 3.95 Axonometric photo looking northeast.

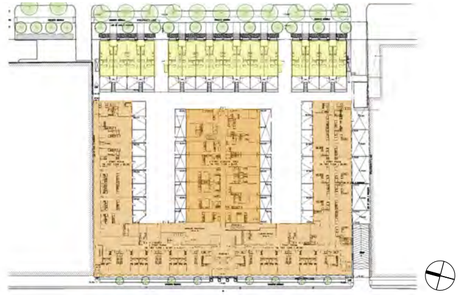


fig 3.96 Site plan land-use diagram showing residential townhouses and apartment residential loft and mid-rise units.

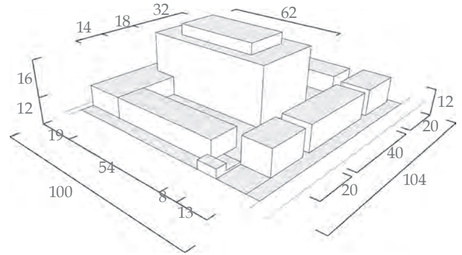


fig 3.97 Dimensioned massing diagram (metres) looking northwest from the residential neighbourhood.

fig 3.98 West elevation land-use diagram.

Significantly, the Printing Factory Lofts project is an intensification of an existing industrial building using a mix residential typologies on site. The rear townhouses relate to the lower density neighbourhood along the rear street while the mid-rise and the existing historic building relate to the site's primary street and its density requirements. The addition of a mid-rise tower and rear townhouses to the repurposed residential lofts generates a project that has the potential to attract a diverse number of lifestyles to cohabit an single site.

Low Rise - Stacked Back-to-Back Townhouse + Light Industrial Units

Wallace Walk - 362 Wallace Avenue. Toronto, Ontario

fig 3.99 Street view of the stacked back-to-back townhouse units and underground parking access.

fig 3.100 Aerial photo of the project under construction.

Project Attributes

Status	Under Construction (2010)
Height (m)	10.7
Storeys	3 (+basement)
Floor Space Index	1.44
Lot Coverage Ratio (%)	47.5
Ground Floor Area (sq.m)	18150
Ave. GFA Unit Area (sq.m)	94
Typ. Floorplate Area (sq.m)	390 (per structure)
Parking Type(s)	Underground (Private Garages)
Parking Spaces	277
Dwelling Units	169 (1, 2, 3+ BDRM)
Land Use(s)	REI
Residential GFA (sq.m)	13656
Employment GFA (sq.m)	4044
Institutional GFA (sq.m)	450

fig 3.101 Axonometric view of project with six structures under construction looking northeast.

fig 3.102 Site plan land-use diagram showing stacked back-to-back residential townhouses, light industrial units, and community centre.

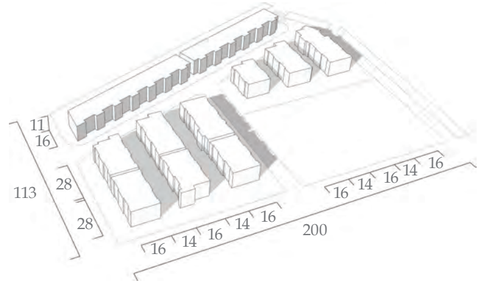


fig 3.103 Dimensioned massing diagram (metres) looking northwest.

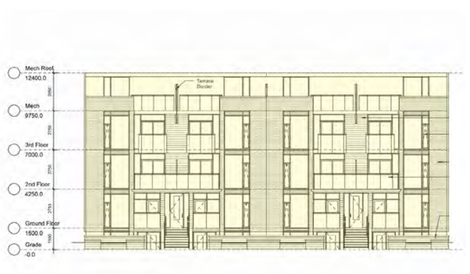


fig 3.104 Typical elevation land-use diagram.

Long Branch Avenue is comprised of stacked back-to-back residential townhouses, light industrial units, and small community centre. Together the site mixes land-uses in a compact fashion: one of key components of promoting complete communities. Moreover, the increased density and plausibly more affordable units are added benefits for the community and Toronto as a whole.

The most apparent drawbacks of the project is the relatively small unit sizes (averaging approximately 94 sq.m each) and their the limited access to daylight.

Low Rise - Back-to-Back Townhouse

Beach Lofthouses - 715 Kingston Road. Toronto, Ontario

fig 3.105 Street view of the back-to-back townhouse units under construction.

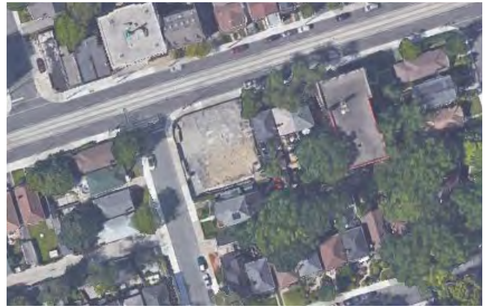


fig 3.106 Aerial photo of the site pre-construction.

Project Attributes

Status	Under Construction (2016)
Height (m)	13
Storeys	4
Floor Space Index	1.53
Lot Coverage Ratio (%)	57
Ground Floor Area (sq.m)	963
Ave. GFA Unit Area (sq.m)	120
Typ. Floorplate Area (sq.m)	963
Parking Type(s)	Interior Parking
Parking Spaces	10
Dwelling Units	8 (1, 2 BDRM)
Land Use(s)	Residential
Residential GFA (sq.m)	963
Retail GFA (sq.m)	0
Employment GFA (sq.m)	0

fig 3.107 Axonometric render of project on image of the site.

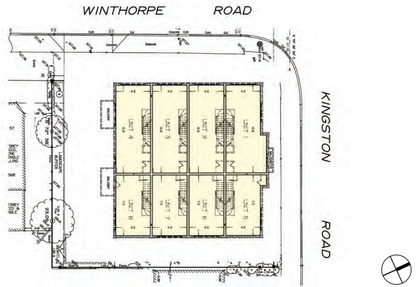


fig 3.108 Site boundaries and second floor land-use diagram with back-to-back one and two bedroom units.

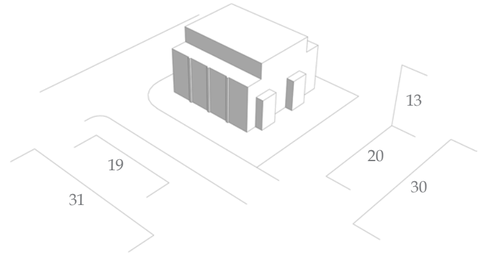


fig 3.109 Dimensioned massing diagram (metres) looking northeast.

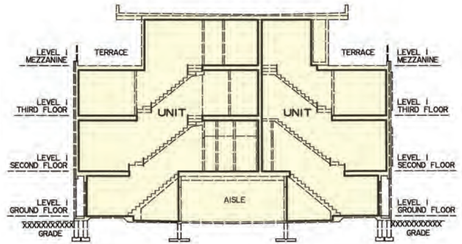


fig 3.110 Typical section land-use diagram of the two unit types.

This project features a back-to-back townhouse complex with eight units: four two bedroom units and four one bedroom units.

Key considerations of this type of project are the treatment of dual frontages, access to daylight, and how parking is accommodated.

Low Rise - Townhouse

Trinity-Bellwoods Towns + Homes - 250 Manning Avenue. Toronto, Ontario

fig 3.111 Street view of the townhouse units having raised units and four metre setbacks from the sidewalk edge.

fig 3.112 Aerial photo of the project showing its infill of a traditional Toronto block width with a higher density of building.

Project Attributes

Status	Complete (2010)
Height (m)	12
Storeys	3 (+basement)
Floor Space Index	1.91
Lot Coverage Ratio (%)	68.5
Ground Floor Area (sq.m)	2798
Ave. GFA Unit Area (sq.m)	173
Typ. Floorplate Area (sq.m)	353 (per structure)
Parking Type(s)	Underground (Private Garages)
Parking Spaces	45
Dwelling Units	45 (3 BDRM)
Land Use(s)	Residential
Residential GFA (sq.m)	7782
Retail GFA (sq.m)	0
Employment GFA (sq.m)	0

fig 3.113 Axonometric view looking northwest.

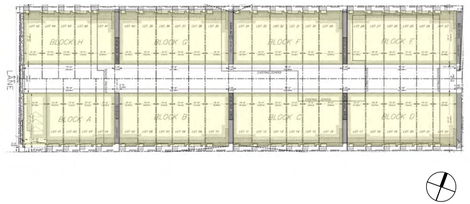


fig 3.114 Site plan land-use diagram.

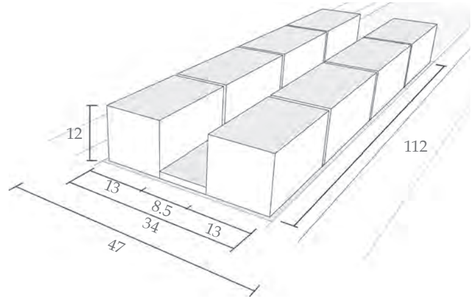


fig 3.115 Dimensioned massing diagram (metres). Note the minimal space between units (reducing privacy and daylight access).

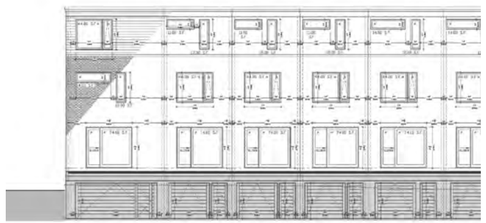


fig 3.116 East rear elevation showing the townhouse's underground parking.

This project intensifies a traditional low density neighbourhood with three storey townhouses. The block, with a width of 47m, represents a relatively small block width for Toronto making this project a highly compact if not cramped example; an example that resulted in a 8.5m rear separation of residences that functions as private patios (note: Toronto's infill townhouse guideline typically recommends a 15m space between townhouses).[75] Future townhouse blocks should likely increase the separation between buildings to increase daylighting and open space.

Architectural Study Synopsis

Future reurbanization plans should aim to incorporate architecture that increases employment and residential densities, mixes architectural types and land-uses, and is suitable to its surrounding context.

Increasing Toronto's density, especially in transit-orientated areas, requires compact, dense, and large scale architecture typologies be incorporated in future reurbanization plans (types include high and mid-rise buildings, lofts, and stacked townhouses).

Future plans should ensure a mix of architecture types and land-uses (in buildings or on-sites). Mixing architecture types can not only provide dwelling and employment options, but can also promote diverse lifestyles. Mixing land-uses on-site or within individual structures are key components in creating complete communities and increasing the reurbanization area's timeframe of activation (by mixing uses the area is more likely to be activated throughout the day and week).

Ensuring the architecture is appropriate to it surroundings involves relating to the size and scale of the street and block, the pedestrian, and its surrounding buildings, spaces, and/or land-uses. Additionally, architecture should suitably address its shadowing, wind, and urban heat island impact.

Design Methodology Chapter Synopsis

The Design Methodology chapter has focused on investigating and examining street, block, architecture, and other urban elements to inform the creation of a cohesive, balanced, and complete community in Scarborough's Golden Mile.

Shaped by the street cross-section selection, the *Avenue Study*, and selected architecture typologies, Eglinton Avenue and its adjoining blocks represent the most significant and important aspect of this thesis' reurbanization plan being not only the most public area of the plan and the social nerve of the area, but also it sets the rhythm for the district's other streets, blocks, and surrounding neighbourhoods.

Future block morphology will be rooted in the *Block Typology Study*'s lessons learned, the site's existing conditions, and the architectural requirements. Treatment of architecture, land-uses, and edge conditions will help shape the street room and its atmosphere.

Together, and in conjunction with the official policies and studies discussed in Chapter Two, the treatment of streets, crosswalks, edge conditions, block morphologies, and architecture types helped to guide the thesis' design decisions with the intent of creating an enjoyable and desirable place for people to live, work, employ, shop, and be entertained.

fig 3.117 *(opposite)* Image of blank facades aligning Eglinton Avenue between Pharmacy Avenue and Lebovic Avenue (looking east).

04
Consolidated Intensification
a study in urban alchemy

fig 4.1 *(opposite)* Aerial view of the proposed Golden Mile reurbanization.

Design Case Study Overview

The following design will act upon an existing underachieving urban environment attempting to transform it into an attractive, pedestrian-orientated, and complete community. The analysis will initially focus on the district's overall conditions followed by a discussion of the specific details of its differing precincts. The redesign incorporates applicable official studies and existing conditions in conjunction with the street, architecture, and block studies developed by this thesis in the previous Design Methodology chapter.

fig 4.2 Aerial image of Barcelona's *Eixample* blocks superimposed on the Golden Mile comparing scale. The area of the Golden Mile's proposed reurbanization is 98 hectares. Currently, this area is comprised of commercial and employment uses (with no dwelling units). The Barcelona blocks have approximately 4.7 floor-to-area ratio, with a density of 359 people and 230 dwelling units per hectare (employment densities were not available).[76] Applying Barcelona's *Eixample* density (359 people and 230 units per hectare) to the Golden Mile would result in a population of approximately 35,200 people with 22,500 dwelling units. In order to accommodate future population and employment growth, help to support transit, and make more the area more enjoyable, the Golden Mile requires a vast transformation from its current state (figure 4.3).

fig 4.3 *(opposite)* Aerial of the Golden Mile's existing conditions.

Design Guidelines

The *Block Typology Study's Lessons Learned* were tailored to the Golden Mile's existing conditions, its architectural requirements, and its opportunities. The district's arterial streets and surrounding land-uses acted as the framework which the proposed reurbanization plan would be built within and be supplemented by. The following design guidelines illustrate the attributes of the reurbanization proposal.

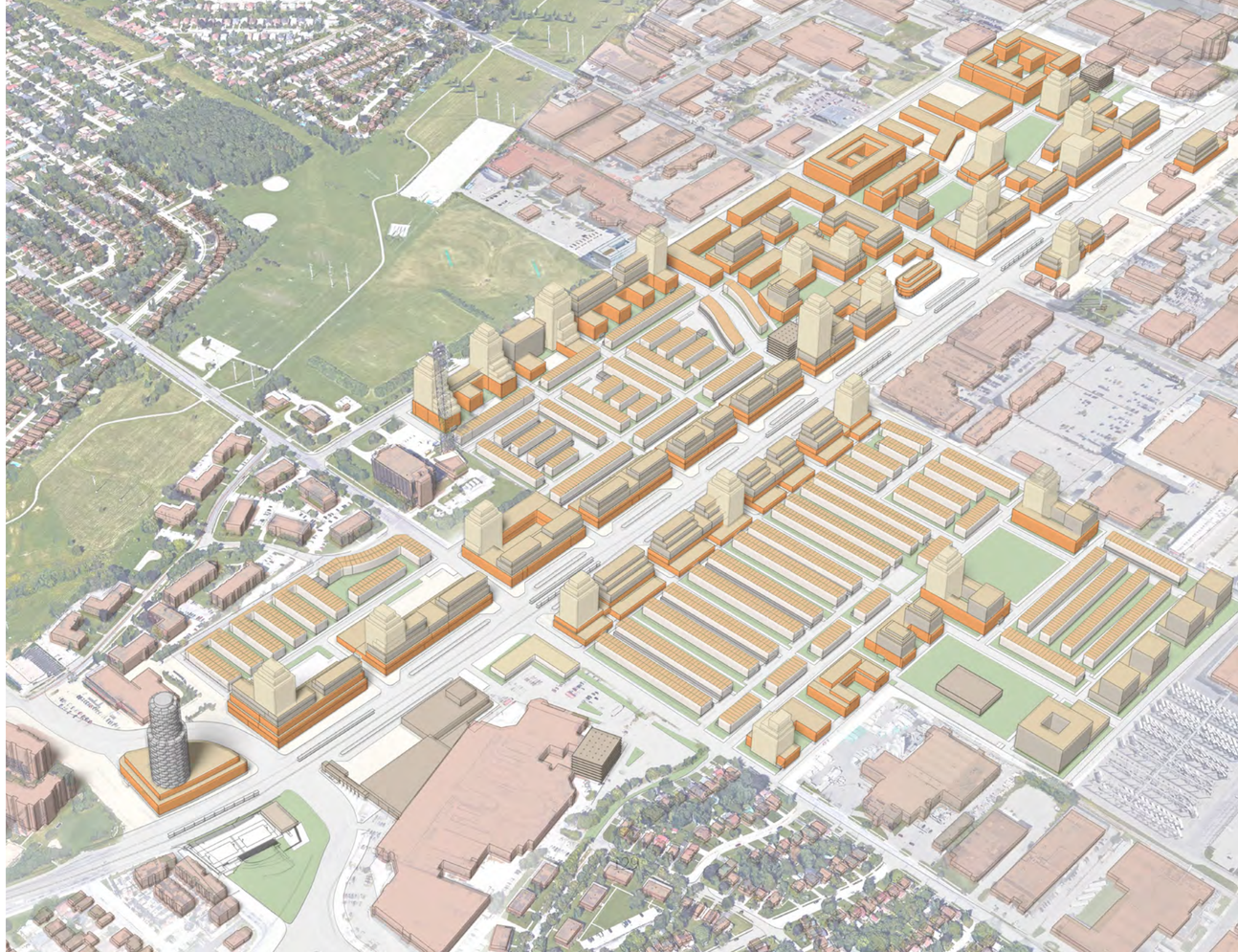


fig 4.4 *(opposite)* Massing plan view of the reurbanized Golden Mile (from the southwest).

Eglinton Avenue Design Implications

Eglinton Avenue, being the focal point of the district as a whole, was the initiator for the reurbanization plan. Using the selected street cross-section proposal (shown in figure 4.6), the street intends to help the area function as part of a larger circulation network, as a place, and as a key component in developing the rest of the district. Together, the *Avenue Study* and proposed street cross-section's increased ROW helps form the shape and scale of the adjoining block's architecture and the dimensions of the blocks themselves. Subsequently, this effects the layout of the blocks and architecture in neighbourhoods located to the rear of the blocks adjoined to Eglinton Avenue. Together the cross-section, its ROW, land-uses, and architecture served as the foundational conditions on which the rest of the district could be built.

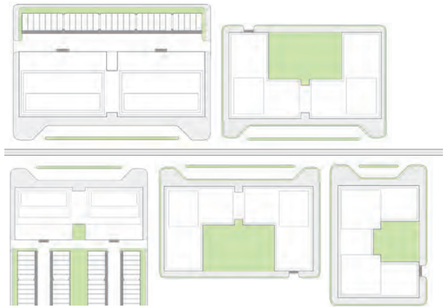


fig 4.5 *(above)* Street Proposal D's aerial view shows the impact of this option on the functioning and shape of blocks along the Avenue. Akin to chamfered corners in Barcelona's Eixample, the proposed block's extended corners grant each block with small open spaces in which urban functions can take place tailoring each to suit requirements and functions of either the architecture or the urban realm.

fig 4.6 *(opposite)* Street Proposal D was the selected street type for the Golden Mile's reurbanization proposal. This section incorporates side parking lanes, protected bicycle lanes, and a 63m street width (ROW) that, using a basic principle of the *Avenue Study*, potentially can accommodate architecture that is up to 16-20 storeys (depending on its land-use(s)). Though the *Avenue Study*'s standards are for mid-rise buildings, considering mid-rises as being a maximum of 11 storeys, the increased width of the ROW potentially allows for taller buildings along Eglinton Avenue's proposed street.

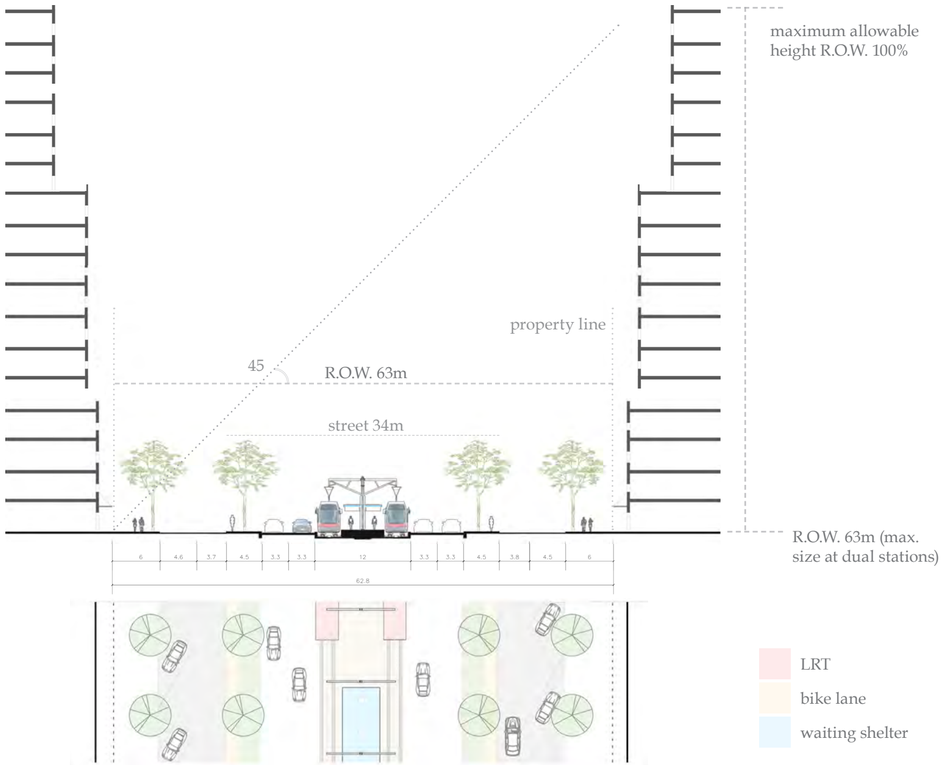


fig 4.7 Render of the pedestrian's view of the proposed streetscape along Eglinton Avenue. Note the dedicated parking lane, overlapped colonnade edge condition, and (intermittently) protected bicycle lane median.

Residential Focused Area's Design Guidelines

The residential focused area's Avenue blocks were derived from the Public Edge analysis found in the *Block Typology Study's Lessons Learned*, the requirements of the proposed street cross-section, the *Architecture Precedent and Typology Study*, and the recommendations of the *Avenue Study*.

Residential area's future block's Public Edge should have a depth of at *least* 68m; this depth includes the Avenue's parking lane (10m), sidewalk (6m), and space for an 11 storey (approximately) mid-rise (52m).

Residential block *lengths* should follow the *Block Typology Study's* findings being between 100-240m in length (approximately a 2-5 minute walk). Residential block *widths* reflect the requirements of residential block widths and tertiary street widths being between 57-130m wide.

Northern blocks, following the minimum 68m Public Edge depth, would have an overall *block* length of 93m. This increase is attributed to incorporating the requirements of taller buildings or, as shown in figure 4.9, lower density residential townhouses as required.

Where taller buildings are used in the place of lower density buildings, the increased block depth will allow for larger podiums and reduced shading of the street and other properties to its north.

It should be noted that due to the district's proximity to transit, it was determined that the lowest density of buildings would be stacked townhouses (low density buildings would be supplemented by existing surrounding residential neighbourhoods).

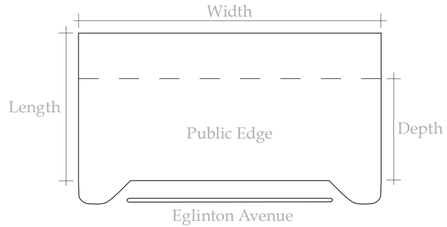


fig 4.8 Diagram of the block's measurement references.

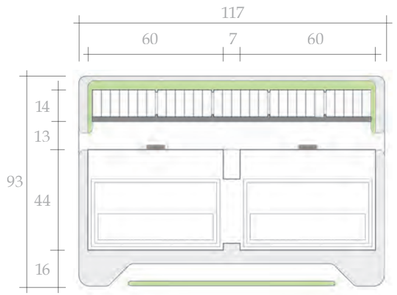


fig 4.9 Diagram of a northern Residential-Area block having a CRE, CR, or CE mid-rise building on the Public Edge adjoining the Avenue. This building is supported by a rear lane (that also buffers the low density residential buildings if included). As required, tall buildings can replace the mid-rise building and low density residential with a podium-tower combination (that would incorporate commercial, employment, and/or residential ground floor units).

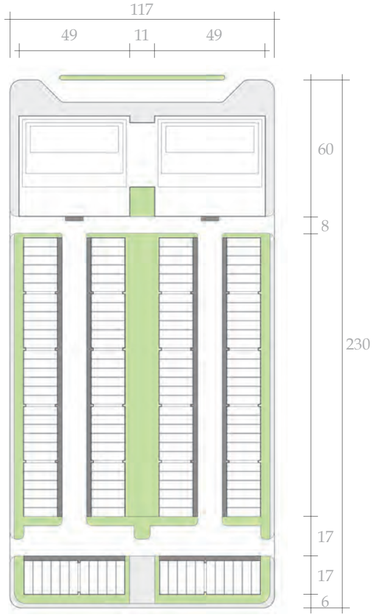


fig 4.10 Diagram of a southern Residential-Area block incorporating a mid-rise building on the Public Edge of the Avenue served by a rear lane. Farther south, rows of stacked townhouses (accompanied by rear laneways, tucked parking, and linear parks) provide lower density dwelling options to the district.

The southern blocks' Public Edge, being 68m deep, would not only allow for mid-rise buildings, but could intermittently support taller buildings as, though the scale of the building would need to be broken up, the shading impact of a tall building would be reduced due to this thesis' proposed increase to the Avenue's ROW.

Rear laneways and parking infrastructure were incorporated to serve the Public Edge while separating and buffering the Public Edge from more sensitive land-uses.

Overall, the residentially-focused areas will incorporate mid and high density residential buildings locating taller buildings at the edges of its precinct, adjoined to non-sensitive land-uses, near greenspaces, and/or adjoined to arterial or secondary streets.

Typical Block Sizes:	• Public Blocks (blocks with a Public Edge): 57-130m by 93-240m. • Semi-Public/Private Blocks: 57-130m by 100-240m.
Laneway Types:	• Public Block Areas: parallel laneway. • Semi-Public/Private Areas: 'I' or 'T' laneways.
Architectural Types/Treatment:	• Public Block Areas: high density mid-rise to high-rise buildings generally following the *Avenue Study*'s standards while incorporating the advantages of Eglinton's increased ROW. Though the *Avenue Study* standard's call for architecture that is at a maximum 11 storeys, the proposed larger street cross-section size could allow for taller buildings and higher densities. • Semi-Public/Private Areas: typically composed of stacked townhouses (with some back-to-back stacked townhouses), mid rises, and high rises.
Typical Land-Uses	• Public Block Areas: mixes of commercial and residential uses with service or other light employment. • Semi-Public/Private Areas: comprised predominately of residential and open space land-uses, residential areas should also incorporate mixed-use buildings with commercial, institutional, and employment uses. Open spaces and high density buildings should be positioned near one another to provide recreational space and buffer scale while avoiding excessive shading of the open space.

General Density Strategy	• Public Areas: high and mid density buildings. • Semi-Public/Private Areas: medium density buildings in compact forms. Edges of the precinct and greenspaces should incorporate taller buildings and higher density with mid density buildings being typically located within the precinct's interior.
Recommended Parking Strategies	• Public Block Area: parking is located underground accessed via rear lanes. Some street parking, parking structures and surface parking space should also be allocated to supplement underground lots. • Semi-Public/Private Area: parking is located underground, tucked within buildings (accessed via lanes), in small surface lots, and on-street.

Employment Focused Area's Design Guidelines

The employment focused area should have similar (if not larger) block *widths* relative to the residential blocks yet, unlike their residential counterparts, they may benefit from shorter block *lengths*. Shortening block lengths increases the areas permeability, accessibility, and walkability: gestures complimentary to the publicness of office employment, commercial uses, and collective residential buildings.

Blocks that adjoin the Avenue (those with a Public Edge) would be best served by blocks that fit into the typical dimensions of mid-rise to high-rise tower-base architecture.

Typical architecture podium dimensions were sampled as being 22-30m wide by 64-75m in length. The separating gap between *residential* podium appendages were sampled as being between 20-30m while *employment* buildings varied between 10-25m. Together, the proposed laneway, 6m sidewalk, street edge setbacks, and architecture requirements require residentially-based blocks to be roughly between 91-101m deep while employment-based blocks would be between 82-112m: dimensions of block depths that generally coincide with the 75-95m findings of the *Block Typology Study*.

Although the block's *widths* can and should be adapted to suit site conditions, they would generally be between 72-160m: a range generated using the requirements of architectural typologies and the *Avenue Study*'s 60m preferred maximum unbroken architecture frontage.[77]

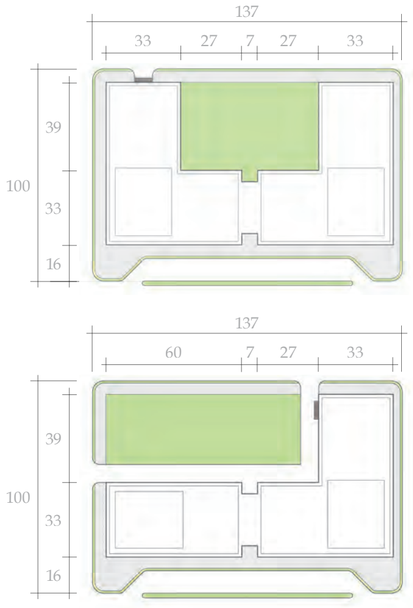


fig 4.11 Diagram of two of this thesis' Employment-Area block variations showing a typical building width at 30m (with two 1.5m setbacks), the length of the podium's appendages at 72m, the breaking up of long street frontages (60m maximum), and the possibility of locating taller towers (shown with 750sq.m floorplates) at building's corners.

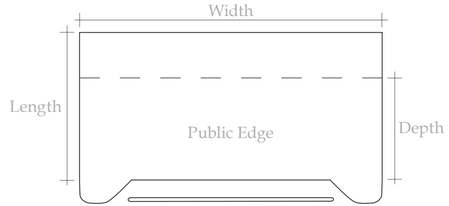


fig 4.12 Diagram of the block's measurement references.

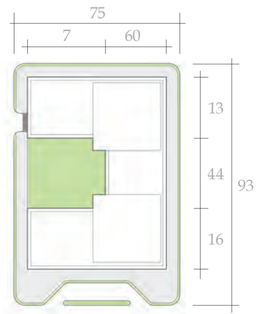


fig 4.13 Diagram of a short Employment-Area block having 60 metres of frontage along the Avenue. The primary negative impact of having short block widths on the Avenue is the shortening of the parking lane (longer blocks are more suited to the proposed parking lane).

Blocks not adjoined to the Avenue would follow similar requirements (incorporating mid-rise or high-rise tower-base architecture typologies).

Parking should be accommodated underground or in parking structures while allocating a smaller portion of surface and on-street parking. Rear laneways can be incorporated to serve buildings and provide access or, depending on the block and architectural requirements, these services would be located underground.

The primary goal of the employment precinct is to provide a transit-supportive mix of employment, residential, and commercial densities in a pedestrian-orientated environment. Although a number of conflicts will arise through the compact mixing of sensitive land-uses with employment uses, by incorporating residential densities in employment areas, the area's timeframe of activity can increase throughout both the day and into the weekend. Increasing the timeframe of activation not only supports local businesses and helps activate streets, it also promotes safety by increasing the likelihood of eyes on the street.

Employment Areas - Design Guides

Typical Block Sizes:	• Public Blocks (blocks with a Public Edge): 82-112m by 72-160m. • Interior Semi-Public/Private Blocks: 72-160m by 72-160m.
Laneway Types:	• Public Block Areas: parallel laneway. • Semi-Public/Private Areas: site specific laneway.
Architectural Types/Treatment:	• Public Block Areas: high density mid-rise to high-rise buildings following the *Avenue Study's* and/or Toronto's *Tall Building Design Guidelines*. • Semi-Public/Private Areas: typically mid rises and high rises incorporating office and residential buildings, service employment, and live-work lofts.
Typical Land-Uses	• Public Block Areas: ground floor commercial and employment with office employment and some residential on the floors above. • Semi-Public/Private Areas: employment, residential, commercial, utility, and open space uses with an emphasis on employment uses.
General Density Strategy	• Public Areas: mid to high density buildings. • Semi-Public/Private Areas: mid to high density with no or very minimal low-density buildings.

Recommended Parking Strategies	• Public Block Area: parking located underground or in parking structures allocating some on-street and small surface parking space. • Semi-Public/Private Area: *(similar strategies to the Public Edge).*

Diagramming Existing and Proposed Conditions

Street Grid Diagrams

The layout of the area's street grid is an important foundational element having significant residual effects on future conditions. Currently, the Golden Mile's street grid is comprised of large tracts of land leftover from the area's industrial age. These large tracts (figure 4.14), beneficial for industrial and larger commercial land-uses, resulted in a vast under-defined and under-used urban environment: a landscape that appears oppressive and uncomfortable for pedestrians and detrimental to the transformation of the Golden Mile into a vibrant urban area.

The thesis' proposed street grid (figure 4.15) used existing conditions of the streets, the selected architecture type's requirements, and the *Block Typology Study's Lesson's Learned* in deciding to increase the number of street and laneway connections to better suit the requirements of a vibrant pedestrian-orientated community.

The hierarchy of streets denote the privacy or publicness of the district's circulation and land-uses. Obviously and notably, arterial and secondary streets promote circulation and, hence, are suitable to public land-uses and its architecture while tertiary streets and laneways, often restricting the ease of circulation, are typically located where privacy is a significant consideration.

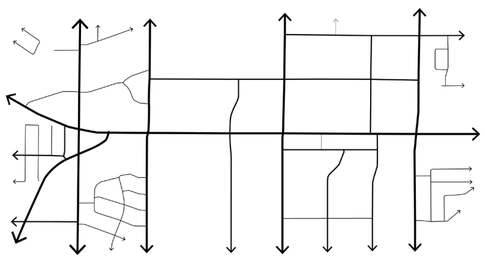


fig 4.14 Diagram of existing street grid showing primary, secondary and tertiary streets.

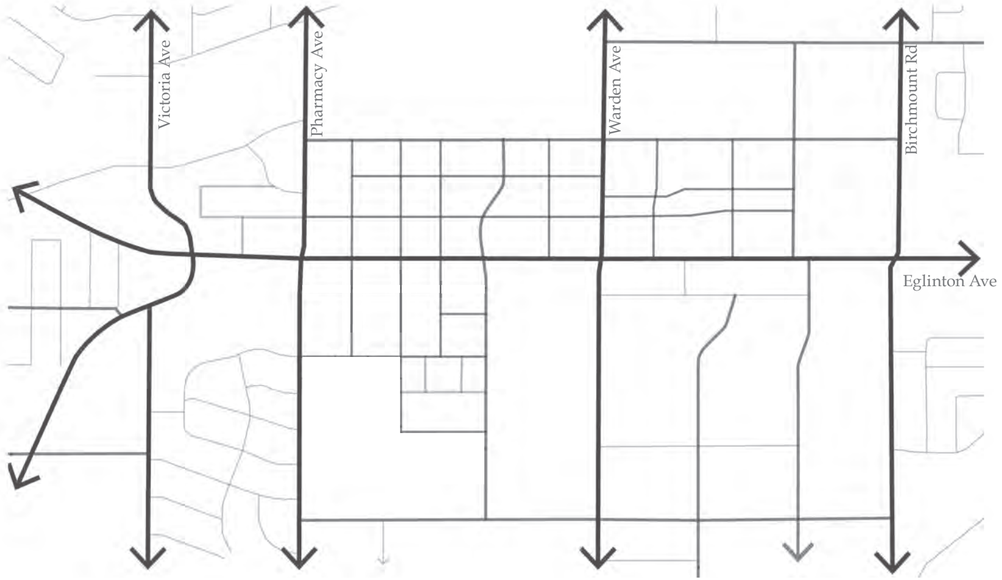


fig 4.15 Diagram of reurbanized street grid showing the introduction of new streets and blocks that break up the Golden Mile's existing superblocks.

Crosswalk Selection and Locations

As shown in figure 4.16, Eglinton's crosswalks are spaced between 213-320m: intervals that intend to increase convenience and help reduce jaywalking. Level crosswalks were selected as the most appropriate and justifiable crosswalk type for the Golden Mile.

fig 4.16 (above) Diagram of the added crosswalk location and the distance between existing and proposed crosswalks along Eglinton Avenue (assuming a walking speed is 1.4 metres per second).

fig 4.17 (opposite) Rendered street-level perspective of the added crosswalk showing the proposed at-grade crosswalk and accompanying urban form.

Land-Use Diagrams

As shown in figure 4.18, built forms are overlaid on the land-use zones in white illustrating their large scale and limited lot coverages. The Golden Mile's built forms, street types, block types, and land-uses, inherited from industrial beginnings and readapted into commercial plazas, are currently unable to support high-order transit, a vibrant street life, nor a complete community.

Currently, the Golden Mile is predominantly *zoned* as both commercial-residential and employment land-uses. Though zoned as such, these designations have not been strictly followed as, when compared to the area's *actual* land-uses (figure 4.19), both commercial and employment land-uses have encroached one another. Aside from this, residential land-uses, zoned in combination with commercial land-use, are currently nonexistent anywhere along this portion of Eglinton Avenue.

If the Golden Mile plan proposed by this thesis were applied in its entirety, the land-use would be converted to look similar to figure 4.20. The Avenue would be aligned with CE, CR, and CRE buildings that are built to plane, that reflect the scale of the street and pedestrian, and that create continuous street walls. Overall, the land-uses will help promote an activated street and a pedestrian-orientated environment through the formation of a diversity of land-uses within proximity to one another: thereby helping provide a key component in the creation of a complete community.

fig 4.18 Prescribed existing zoned land-use: avenue split between commercial-residential and employment uses.

fig 4.19 Actual existing zoned land-use: employment encroached by commercial uses. Residential is nonexistent.

fig 4.20 Proposed land-uses mixing residential, commercial and employment uses throughout the district, within blocks, and on individual sites.

Built Form-Use Diagram

The district's Built Form-Use diagram shows the district's general massing land-uses helping highlight the built form in relation to voids and land-use(s).

Like the figure-ground, this diagram helps show the relationships between solid and void spaces; solids are articulated masses (with their associated land-use colours) while voids use imagery or, for introduced greenspaces, its land-use colour.

Existing conditions of the surrounding areas are shown using aerial imagery and massing with their designated land-uses.

Eglinton Crosstown's future LRT stops are shown aligned or staggered on the main street in orange circles.

- Future LRT Stops
- residential apartment
- residential
- commercial residential
- commercial
- commercial employment
- employment industrial
- commercial residential employment
- institutional
- open space
- utility and transportation

fig 4.21 *(opposite)* Built Form-Use diagram showing the proposed land-use on massing.

Figure-Ground Diagram

fig 4.22 Existing Figure-Ground diagram shows the district's existing large grain of built forms and vast under-defined open spaces.

fig 4.23 Proposed Figure-Ground diagram shows a clear transformation of the district's morphology as building sizes are reduced while built intensity and density are increased.

Built-Block Diagram

fig 4.24 Existing Built-Block diagram showing the built footprints in relation to their block, open spaces, and addressed streets.

fig 4.25 Proposed Built-Block diagram shows the area's proposed intensification with a significant increase in lot coverage and buildings that are built to plane addressing the street well.

Transit Shed Diagram

fig 4.26 The existing Transit Shed diagram shows the number of buildings within a (as the bird flies) 500m radius of future LRT nodes.

fig 4.27 In the proposed Transit Shed diagram the thesis' reurbanization plan increases the number of buildings served by transit promoting ridership and convenience.

Block-Lane Diagram

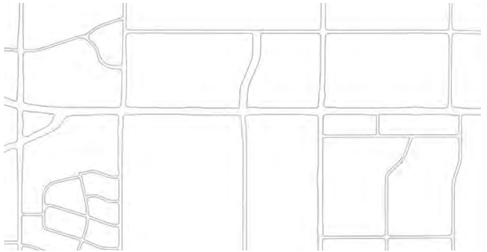


fig 4.28 Existing Block-Lane diagram shows the large superblocks leftover from the district's industrial past.

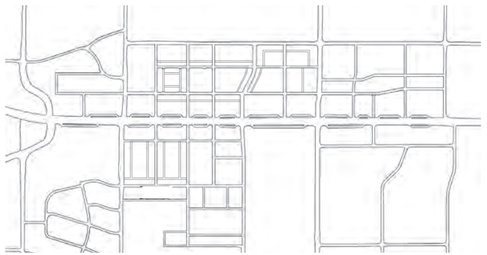
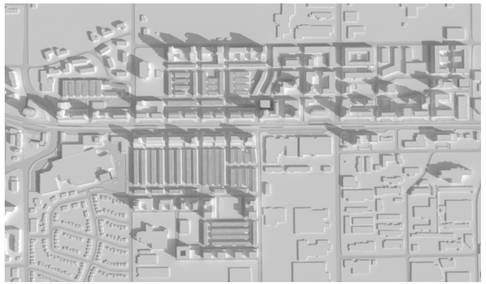


fig 4.29 The proposed Block-Lane diagram shows the size and shape of the increased number blocks (as well as their use of laneways).



9:00 am

solar path

12:00 pm

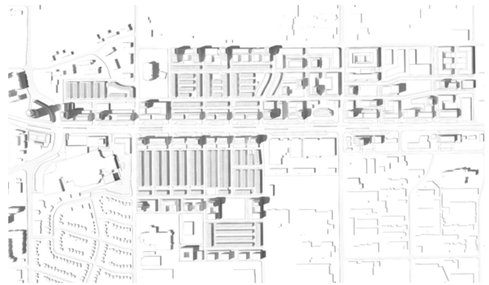
3:00 pm

fig 4.30 Diagram of March Equinox's shadows and solar path. Note: the *Avenue Study* suggests that Avenue sidewalks should get a minimum of five hours of sunlight between March 21st and September 21st.[78]

9:00 am

solar path

12:00 pm



3:00 pm

fig 4.31 Diagram of June Solstice's shadows and solar path.

9:00 am

solar path

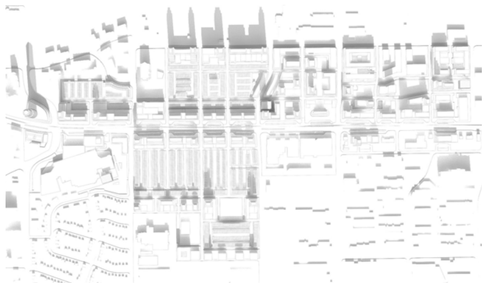
12:00 pm

3:00 pm

fig 4.32 Diagram of September Equinox's shadows and solar path.

9:00 am

solar path



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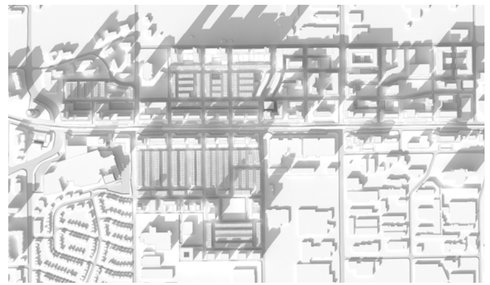

3:00 pm

fig 4.33 Diagram of December Solstice's shadows and solar path.

Precinct Design Explanations

Divisions Diagram

The Golden Mile district was divided into three precincts based on their location in relation to Eglinton Avenue, adjoining streets, and existing conditions. Though the design's goals are similar throughout the entire district, each precinct focuses on a particular objective including an urban focused area, residential focused area, and an employment focused area (figure 4.35). Separating the district into three areas allowed for the application of appropriate block types and sizes, streets types, and architectural types. Each precinct's current conditions, proposals, and intended results are examined and explained in the following pages.

It should be noted that, aside from the existing parcel divisions and though implied by the built forms, the proposed reurbanization plan did not undergo parcelization and, therefore, does not discuss parcel division strategies.

fig 4.35 Diagram showing the three precincts: the urban focused (white), residential focused (yellow) and employment focused (purple).

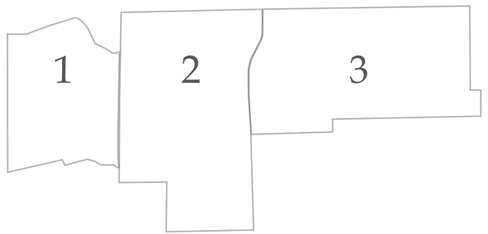

fig 4.34 Line drawing of the three precinct's boundaries.

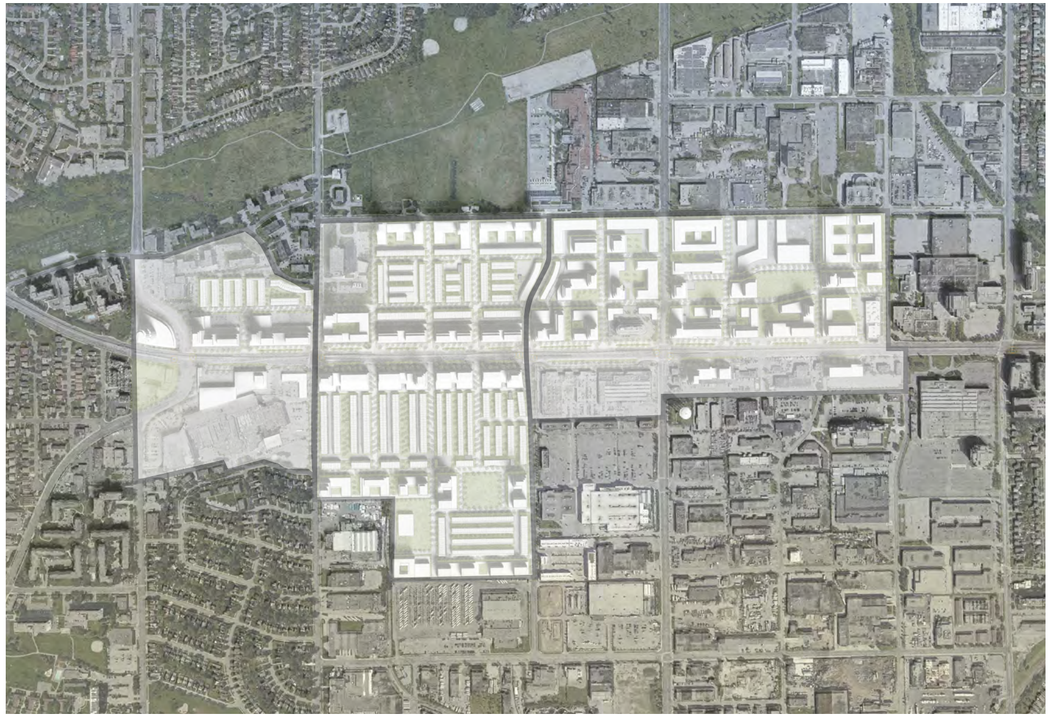

fig 4.36 Aerial view of the three precinct divisions.

Precinct One

Existing Conditions - Precinct One

Precinct One is currently comprised of residential apartments, townhouses, commercial properties, and two shopping centres. Surrounding the precinct's boundaries, with the exception of the east, are residential neighbourhoods of varying typologies; from high-rise complexes to detached housing.

The physical factors that have generated the area's existing vastness include the meeting of three arterial streets, the northwestern high-rise apartment's setbacks, and the parking requirements of two large commercial properties. Arguably, the area's amount of car infrastructure reinforces the notion that, under this land system model, circulation has taken precedence over place.

Paradoxically, the three major streets used to take people through the area, hindering the area's creation of a strong positive identity, is one of the reasons why it should be improved as the precinct's high amount use and connections make it a prominent public node for Scarborough. Opposed to the area's activation, borrowing a notion from architect and theorist Mario Gandelsonas in his book *X-Urbanism*, is the notion that the area's street-life has been interiorized.[79] A significant portion of the Golden Mile's street life currently occurs in its shopping malls, large retail stores, residences, and even its large surface parking lots. The interiorizing of street-life is the result of many factors including, as journalist and author Joel

fig 4.37 Plan view of Precinct One's boundaries.

fig 4.38 Plan view of existing conditions in Precinct One.

fig 4.39 Aerial view of Precinct One's boundaries and existing conditions (looking west) circa 2009.

Garreau states in *Edge City*, societal "value decisions on the best way to live, work, and shop."[80] Here, Garreau was referring to American Edge Cities, yet the same holds true for the Golden Mile: a once prominent fringe, now aged, repurposed, and engulfed by urban growth. The industrial and edge city past that initially created this district still lingers, ever-inflicting bystanders with land systems, urbanism, and values of a different age.

Intersection Proposal

Transforming the Golden Mile into an area that hosts a vibrant street-life will require significant changes. The redesign attempts to promote spontaneous interaction of the public by incorporating civic serving buildings, public programs, and by creating attractive areas for gathering.

To accomplish this, the reurbanization design of Precinct One began in resolving the intersections of Eglinton Avenue, Victoria Park Avenue, and O'Conner Drive. Two of these arteries are deemed as "Avenues" by the *Avenue Study*[81] and, hence, are considered as main streets in Toronto. The third, Victoria Park Avenue, being the first north-south artery east of the Don Valley, connects the Victoria Park Subway and the terminal King Street streetcar station in the south to communities in the north and, hence, is a major road itself.

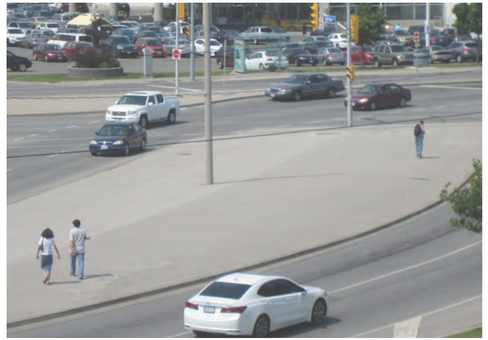

fig 4.40 Picture of Precinct One's existing conditions at O'Conner Drive at Eglinton Avenue looking north.

fig 4.41 Picture of Eglinton Avenue at Victoria Park and O'Conner Drive looking west in 1963.

fig 4.42 Diagram of the Golden Mile Triangle: a convergence of three main streets and its resulting triangular greenspace.

fig 4.43 Diagram of proposed shifted intersection and greenspace.

Currently, the greenspace that exists appears as a secluded island, carved out from the street grid, creating a spatially under-defined and paradoxically restrictive urban area. Its inadvertent creation was rooted in traffic decisions happening before the 1950s when Eglinton Avenue had yet to extend over the Don Valley. It was then that Eglinton Avenue, O'Conner Drive, and Victoria Park Avenue shaped the still present marooned greenspace. By the end of the 1960s the greenspace was solidified by the three major circulation arteries.

The redesign of this intersection attempts to encompass and balance a diverse number of goals including automobile circulation, pedestrian traffic, public transit, allotment of greenspace, the creation of a recognizable gateway into Scarborough, and the promotion of spontaneous interaction. To accomplish this, the sixty year-old triangular greenspace and accompanying intersection required a significant transformation.

Ambitiously, the proposed solution shifts Victoria Park Avenue to the east, using the existing end of O'Conner Drive to carry Victoria Park Avenue up to Eglinton Avenue, while simultaneously connecting the greenspace to a land mass.

fig 4.44 Looking west on Victoria Park between O'Conner Drive and Eglinton Avenue: the frontages that the greenspace would connect to if Victoria Park were shifted east. (left to right) The street frontage includes a coffee shop, day care, and townhouses.

The part of the block that the greenspace would be connected to currently has a row of townhouses, a day care, and a coffee shop. The addition of the park to the townhouse and day care frontages will minimally affect their accessibility as vehicular access is via a rear secondary street. Moreover, the townhouses and day care gain immediate access to a more protected park: likely a beneficial outcome for both residents and the day care.

Farther south a coffee shop accessed via a rear street and, for southbound lanes, directly via Victoria Park Avenue. Connecting the greenspace would disallow *direct* southbound access to this property. In consideration of the three properties' land-uses and vehicular accessibility, it appears that the properties would be minimally affected by such a major change.

To the north of Eglinton Avenue, the street shift would be conducted at the expense of existing properties as the new right-of-way cuts into the parking lots of two commercial properties (see figure 4.43 on page 161). The shift moves a parking lot area to the opposite side of the street forming a new parcel. The new parcel's location, though somewhat isolated, would be a prominent parcel for the Golden Mile as a whole addressing two major streets, in close proximity to a regional shopping centre, newly revamped park, and a future LRT stop. The isolation of the new parcel, due to the surrounding greenspace and streets, make it suitable for a mid or high-rise project that potentially could become an icon for the Golden Mile. The development of a hospitality and commercial building would suit the parcel's size and location while housing any overnight visitors or out-of-town employment or residential guests.

Before implementation, the impact on circulation and congestion would need to be thoroughly investigated to determine viability of such a proposal.

fig 4.45 Aerial view of the shopping center at Eglinton Avenue and Victoria Park Avenue.

fig 4.46 Aerial image of proposed intersection, park, and mall addition.

Urban Anchors: Proposals for a Mall and Greenspace

The regional mall to the south was preserved in the reurbanization plan because it represents an established urban anchor for the Golden Mile. The term urban anchor is used here in the same context as an anchor store within a larger complex though, in this case, it refers to civic buildings, urban places, or amenities that work to attract people to the district intending for them stay for residual purposes (e.g. shop, relax, or be entertained).

Currently, the mall is divorced from the street by its surface parking lot, its two swooping car ramps, and its blank facades that, together, hinder the public realm's potential activation.

The removal of both surface parking and signature ramps from the front façade clears a path for the building to reach out to Eglinton Avenue. Reconnecting the mall to the street enables the street and architecture to form a more reciprocal relationship than the existing subservient relationship.

Shown in figure 4.46, the extension towards the street incorporates commercial and civic uses while simultaneously shaping an open air plaza. The block's parking lane furthers this relationship serving as a convenient parking and drop-off location or a place for food trucks and/or spillover event space.

The expense of these alterations is the convenience of parking and vehicular accessibility. To ensure the functionality of the mall, parking would need to be increased either underground or, more likely and as shown, in an added parking structure.

The Shopping Centre's addition aims to improve the relationship between the street and its architecture, creates public gathering space, increases the amount of leasable space for the complex, and adds civic program to the site. These changes intend to help promote the cultural and social aspects of the community enticing both to have a greater presence in the precinct's public life.

fig 4.47 Render of Precinct One's proposed public plaza.

Reprogramming Victoria Park

The repositioned park's fundamental objective was to create another urban anchor for the precinct. This can be accomplished by making the park safe, by making it attractive, and by revamping its programs.

The proposed program for this park includes the addition of a pavilion, basketball courts, and a sloped grassy area. The park's grade changes and use of vegetation help dilute traffic noise intending to achieve the atmospheric conditions of an urban retreat.

Together the park, shopping centre, civic building, and civic plaza aim to formulate harmony between architecture, land-uses, and spaces that can strengthen the urban area as a whole.

fig 4.48 Render of Precinct One's park in winter looking northeast from O'Conner Avenue. In the winter, to promote year-round use, its is imagined that the hill (back of the basketball court's grandstands) can become a small toboggan run while the basketball courts could become a skating rink or event space.

fig 4.49 Render of Precinct One's park in early fall looking southeast from Eglinton Avenue.

To the north of Eglinton Avenue it is proposed that the local mall and parking lot are replaced by mixed-use mid to high rise buildings that would follow the guidelines of the *Avenue Study* albeit with greater height allowances. Here, the buildings integrate employment towers with ground floor commercial or service employment. These uses are supported by underground parking and, to a lesser extent, surface parking located to both the rear and, in this thesis' proposed Avenue parking lane, along the building's frontage.

Behind these buildings residential streets stacked residential townhouses match the existing mid-density apartment neighbourhood located to its north.

Though the built form along Eglinton Avenue would generally follow the recommendations of the *Avenue Study* resulting in mid-rise buildings, it was deemed appropriate to include high-rise buildings as the thesis' increased right-of-way and prominence of the intersection potentially make it a desirable place that is capable and potentially suitable to have tall buildings.

fig 4.50 *(opposite)* Built Form-Use diagram of Precinct One.

fig 4.51 Precinct One's Plan View Render shows the intersection shift, the mall's proposed addition, and the precinct's proposed massing.

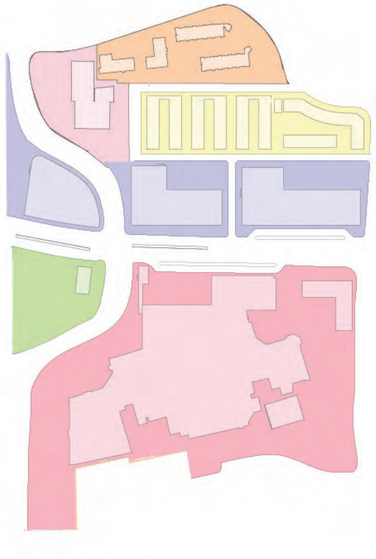

fig 4.52 Precinct One's Land-Use Diagram showing a mix of commercial, employment, institutional, and residential uses. Buildings are built to street frontages forming continuous street walls a strategy supported by moving parking underground, to smaller rear surface lots, and into parking structures.

fig 4.53 Precinct One's Figure Ground Diagram showing how the scale of built forms and spaces and how built forms articulate public and private space.

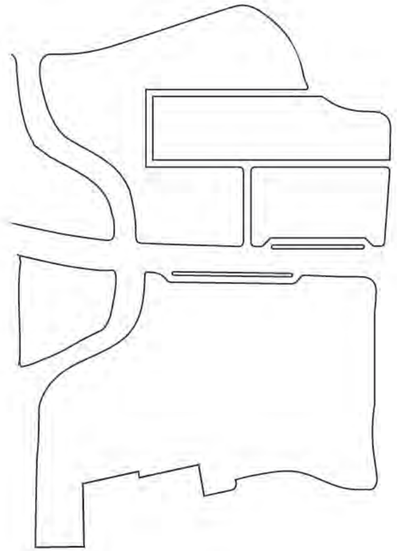

fig 4.54 Precinct One's Plan Block-Lane Diagram shows the area's use of arterial and tertiary streets providing the neighbourhood with localized circulation and, for CR-uses, access for support and rear parking.

fig 4.55 Street section massing perspective of Precinct One (looking east).

The reurbanization plan of Precinct One would increase density, the diversity of architecture and lifestyles, and would promote public life through civic programming and establishment of urban anchors. This change would serve both local and neighbouring communities helping to activate a currently dormant street life. The addition of residential and employment land-uses will increase the precinct's density supporting transit, commercial properties, and employment uses. Simultaneously, the increase in density animates the street which, in turn, helps this precinct in becoming a more desirable place for people to live, work, shop, and be entertained.

Precinct Two

Currently, Precinct Two represents the epitome of the existing Golden Mile shopping experience with large surface parking lots and accompanying big-box stores. The precinct includes a manufacturing plant, gas station, a multi-storey utility building and tower, a car dealership, and two large commercial shopping plazas.

The vast majority of this precinct's buildings are low-rises that are setback into the block or are turned inwards orientating themselves to their associated surface parking lots.

To the north of the precinct, behind a big box store, lies a large greenspace area connected to the area's hydro corridor (hosting a soccer pitch, two cricket grounds, and a pedestrian/cycling path).

The area's low density and low lot coverages need to be improved to help support the LRT, accommodate population and employment growth, and to make the area an attractive pedestrian-orientated urban area.

fig 4.56 Plan view of Precinct Two's boundaries.

fig 4.57 Plan view of existing conditions in Precinct Two. Including 1891 Eglinton Avenue: a property that has applied for amendments to Toronto's Official Plan.

fig 4.58 Aerial view of Precinct Two's boundaries and existing conditions (looking west) circa 2009.

1891 Eglinton Avenue East

The manufacturing property, located in this precinct at the southwestern corner of Eglinton Avenue, has been applied for redevelopment with the City of Toronto.[82] A key component of the plan is the parcel's application for land-use change: from allowing only employment uses to also allowing commercial and residential uses. The proposal incorporates five towers with podiums and a single storey building that together provides the site with 22,696 square meters of retail, office, and residential spaces (see appendix for more information on the application).[83]

The primary drawbacks of this application's proposal is its over-building of the site. If built as proposed, the architecture would likely appear monotonous, would provide a limited way in which to dwell, and its scale would tower over the Avenue and surrounding properties: decisions that fail to reflect the scale of the pedestrian nor the intentions of the *Avenues Study's* performance standards.

The benefits of this proposal are its mix of land-uses, provision of open spaces, and its density. The mix of land uses adhere's to the reurbanization proposal's plan in forming complete communities that accommodate residential and office employment uses within proximity to one another. Moreover, the site's commercial uses would help to amenitize the area further attracting population and employment densities.

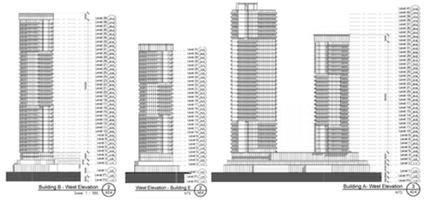

fig 4.59 Elevations of 1891 Eglinton Avenue application.

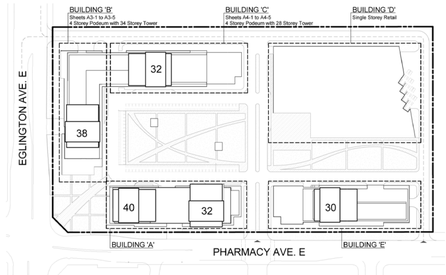

fig 4.60 Site plan of 1891 Eglinton Avenue application.

To summarize the uses in each building (all areas in square metres):

Building	Retail	Office	No. of Res. Units	Buildings total
A	2,103	2,846	658 (2 towers)	5,607
B	1,950	1,706	360	4,016
C	1,541	1,661	320	3,522
D	7,144	0	0	7,144
E	2,105	0	302	2,407
Total	14,843	6,213	1,640	22,696

fig 4.61 Floor space estimates 1891 Eglinton Avenue application.

435. 1891 Eglinton Avenue East

a) Development of lands for residential uses on the Mixed Use Areas-designated portion of the site will include employment uses including office space having a minimum gross floor area of 6,000 square metres or 5 per cent of the total gross floor area of residential uses, whichever is smaller.

b) Employment uses on the portion of the site designated General Employment Areas, shown as "Parcel A", will be compatible with adjacent residential uses.

c) A feasibility analysis and impact assessment as per Section 4.10.3 of the province's D-6 Guidelines for Compatibility Between Industrial Facilities and Sensitive Land Uses is to be completed and necessary mitigation measures are to be incorporated into the development design for residential and other sensitive uses, to the satisfaction of the City.

fig 4.62 Official Plan Amendment for 1891 Eglinton Avenue allowing commercial and residential land-uses provided that a minimum amount of employment uses are included. This request adheres to the *Employment Study's* requirement that if employment area's land-use are permitted to change it will be beneficial to employment by increasing amenities, office space, and by preserving half of the lot for employment uses. The two parcels created by the lots division are approximately 150 metres by 150 metres (note: this site would still be considered as very deep according to the *Avenue Study* as 52 metres would allow for the maximum building height of Eglinton's 36m ROW). See appendix for more information on 1891 Eglinton's Application.

An update to Toronto's Official Plan in June of 2015 (figure 4.62) partially approved the application's change of land-use as the northern half of the site (along the Avenue) is permitted to have commercial and residential uses if it achieves a minimum amount of office-employment density.[84]

The requirements of this employment land-use change decision adheres to the recommendations discussed in the *Employment Study* and resembles strategies applied by this thesis' reurbanization plan. Mixing office-employment, commercial, residential, and other employment uses in proximity to one another appears to be an appropriate strategy for the Golden Mile.

The Avenue, including 1891 Eglinton, is proposed by this thesis to incorporate a mix of mid and high rise buildings between 11-20 storeys depending on location, land-use requirements, and the impact of the architecture on its surrounding environment. Along the main street, employment and commercial uses would outfit ground floors while upper floors would incorporate residential and/or employment uses.

Blocks adjoined to the Avenue are split by rear laneways that provide support and parking access to Avenue Buildings and, to the north as the public realm transitions into the neighbourhood, stacked townhouses. Farther north, stacked and stacked back-to-back townhouse complexes are served by tucked or underground parking.

The northernmost buildings are mid to high rise residential buildings with either ground floor residential, commercial, or employment walkout units.

The southern half of the precinct incorporates a mix of stacked townhouses, various mixed-use mid rises, a school, and CRE lofts.

When laneways are not present, linear greenspaces split rows of stacked townhouses providing the neighbourhood with recreation space while also decreasing the neighbourhood's urban heat island effect.

Overall, Precinct Two increases density, provides architectural diversity, and provides public open space forming interrelationships between the street types, blocks, and architecture that as a whole represents a plan with the potential to create a more desirable, activated, and functional pedestrian-orientated community.

fig 4.63 Built Form-Use diagram of Precinct Two exhibiting the mix of employment, residential, and commercial land-uses both on-site and within individual structures.

fig 4.64 Precinct Two's Built Form-Use diagram showing the location of the accompanying street cross-section perspective render.

fig 4.65 Street cross-section perspective of Precinct Two.

fig 4.66 Precinct Two's plan view render. Note the (increased) amount of built forms and greenspaces, the definition of open spaces, and the mix of built forms and scales.

fig 4.67 Precinct Two's Land-Use diagram exhibits the positioning and interaction of the land-use mix.

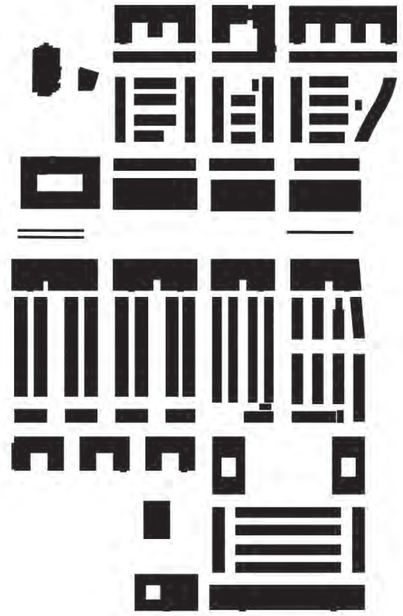

fig 4.68 Precinct Two's Figure-Ground diagram showing the solid-void relationships. Solids enclose street rooms defining streets, shape open spaces and linear parks, and capture private void spaces.

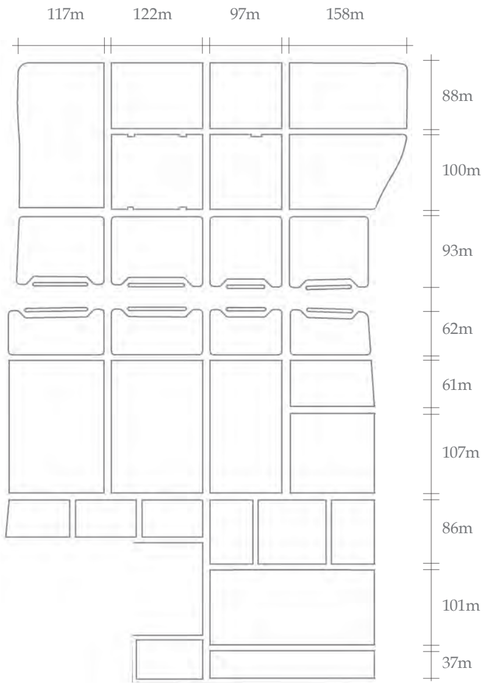

fig 4.69 Precinct Two's Block-Lane diagram showing the area's block dimensions and street configuration.

fig 4.70 Diagram of Precinct Two showing its rows of stacked townhouses, visitor parking, and linear park.

Precinct Two's Residential Edge Conditions

Precinct Two's Edge-Condition diagram examines the proposed treatment of the transition between public and private realms through the examination of potential edge conditions. Split into two pages, the accompanying diagrams on this page show the northern portion of the Residential Edge Condition Section.

The first edge condition, being the northernmost mid-rise building, incorporates residential ground floor units with an inserted edge condition. This edge condition provides residences with privacy by separating units from the public realm.

Similarly, the two stacked townhouse edge conditions are setback from the street edge. These conditions claim their territory either passively through association (using an overhang, change in grade, change in materiality) or aggressively by inserting an ancillary structure (porch) as shown in the third edge condition.

All of these residential edge conditions require privacy and, hence, are in conflict with the public street. To reclaim privacy (thereby appeasing the conflict) the architecture is separated from the street edge: a gesture that creates semi-private space infilled with elements that extend the residence into the public realm helping to reinforce the privacy of the space and its architecture.

fig 4.71 Overall section of the residential-focused edge conditions.

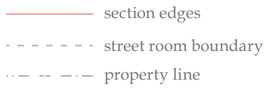

fig 4.72 Aerial image of the northern portion of the Employment-Focused Edge Condition Section.

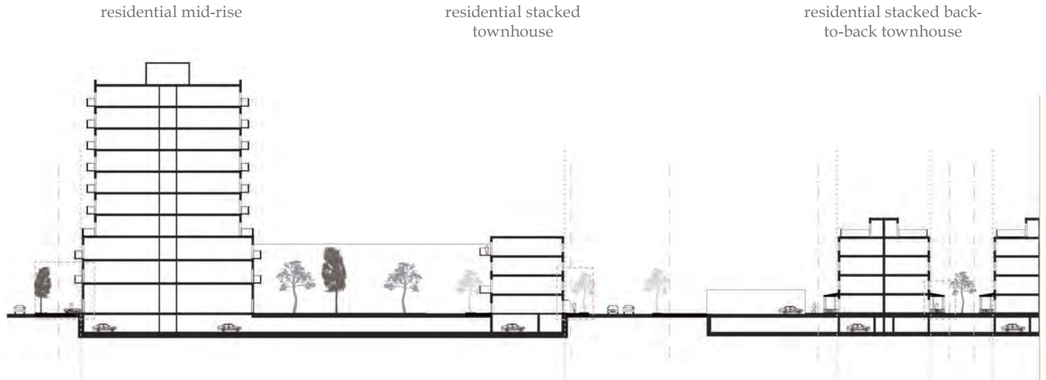

fig 4.73 Northern portion of the Employment-Focused Edge Condition Section.

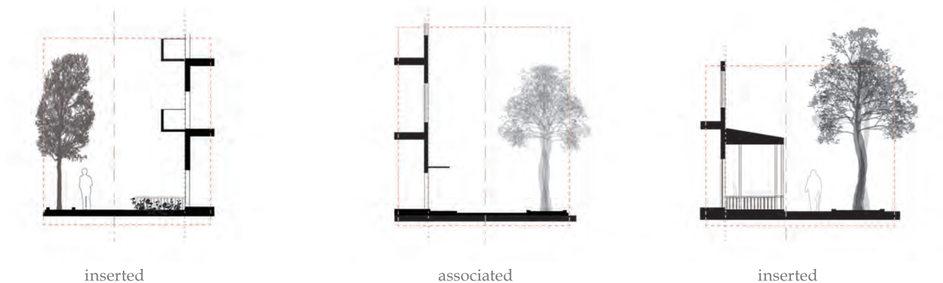

fig 4.74 Callouts of residential edge conditions.

The southern half of the section includes a set of stacked townhouses and a mixed-use mid rise building along Eglinton Avenue.

The first edge condition uses setbacks and overhanging balconies to associate the space below the balconies with the architecture. The space between the street and the building's edge allows for privacy for residences. Together the residential street, balcony, and other on-site elements (e.g. changes in paving, use of vegetation) help promote the privacy of the architecture through implication and obstructions.

The inserted edge condition marks private territory using inserted space and its inherited signals (e.g. outdoor furniture, changes in paving, use of vegetation).

The third edge condition, situated along Eglinton Avenue, extends the public sidewalk space underneath and into the architecture. It should be noted that Eglinton's street edge condition, shown in both edge condition diagrams (and in renders throughout this thesis), alternates between overhangs (associated) and colonnades (overlapped). Likely, it would be best suited that northern properties employ the overlapped condition (an arcade condition) while southern properties, having less direct sunlight, would benefit from the associated condition (employing transparent or translucent overhangs).

fig 4.75 Overall section of the residential-focused edge conditions.

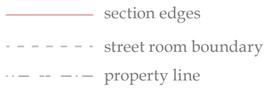

fig 4.76 Aerial image of the southern portion of the Employment-Focused Edge Condition Section.

fig 4.77 Southern portion of the Residential-Focused Edge Condition Section.

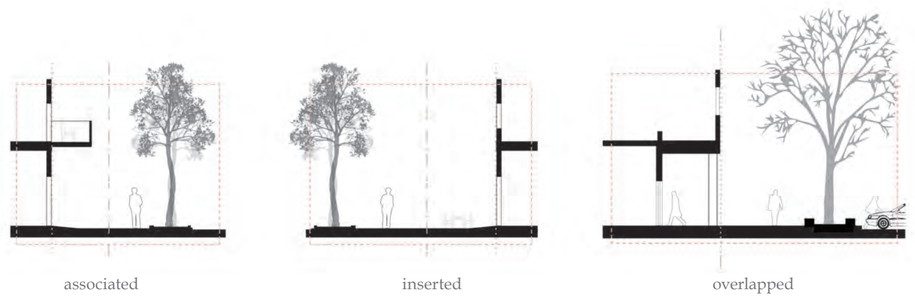

fig 4.78 Callouts of residential and commercial-residential edge conditions.

Precinct Three

Currently, Precinct Three is the location of two commercial shopping plazas, several car orientated employment buildings, a manufacturing plant, historically protected office tower, and, in the southwest corner of the precinct a commercial-employment strip mall.

Both the historic office tower and the strip mall were deemed to be valuable for the reurbanization of the Golden Mile and, hence, were kept. In *Stripping Away Stereotypes: Toronto's Retail Plazas* John Lorinc, a journalist, author, and editor focusing on Toronto's urban and municipal affairs, argues the value of older strip malls for the fact that these older properties charge affordable rents[85] and promote small and medium sized local businesses.[86]

Like the strip-malls referred to in Lorinc's article, the Golden Mile building has several local commercial and service businesses, a commercial flea market, and an institutional building on its premises. The commercial flea market, besides serving as a strong indicator of the diversity of culture of the people that live and work in the area, allows for micro-businesses to competitively operate in the marketplace providing consumers with diversity of choices that may be lacking in chain retailers. Though these buildings lack the height called for in the *Avenue Study* and do not incorporate residential uses, they benefit the urban realm providing affordable rents, shopping diversity, and act as a hub for spontaneous interaction within the community. Replacing this building may

fig 4.79 Plan view of Precinct Three's boundaries.

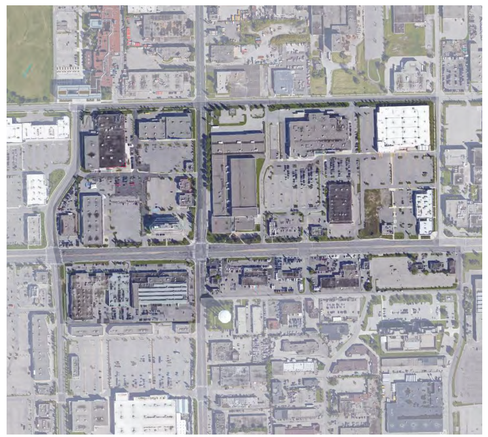

fig 4.80 Plan view of existing conditions in Precinct Three.

fig 4.81 Aerial view of Precinct Three's boundaries and existing conditions (looking west) circa 2009.

be unfavorable as the affordable rents and cultural mix would be difficult to reproduce *and* economically justify. This building was therefore incorporated into the thesis' reurbanization design plan.

Mixing employment, residential, and commercial uses both in buildings and on-site aims to create self-sufficiency within the precinct and the district as a whole. Comparable to Block Area C in the Bloor-Bathurst district, Precinct Three hosts block types, architecture, and land-uses that are public and more collective in nature.

The 93m block widths, aligning with the thesis' proposed 63m ROW and the need for greater density, allow for mid to high rise buildings along the Avenue.

Behind these Avenue buildings, the remaining district is proposed to be predominately composed of mid-rise buildings and podiums mixing employment, commercial, and residential land-uses in proximity to one another.

As recommended in the *Employment Study*, by increasing density and sharing amenities (e.g. greenspaces, entertainment venues, and restaurants), this precinct helps attract office employers and residential occupants to the area. Increasing the built density and compactness helps promote the area's degree of activation and, in terms of safety, the number of eyes on the street. In addition to this, by mixing different land-uses within an area, the timeframe of an area's daily-use can be extended throughout the day (rather than having peak on and off hours). This outcome can not only extend the district's timeframe of activation and eyes on the street throughout the day and week, but can also help to support local amenities and businesses. By increasing the area's timeframe of activation the precinct can potentially avoid the temporally vacated landscapes of large single-use areas that tend to occur in residential neighbourhoods during the day and in employment areas after 5 p.m. and on weekends. Therefore, increasing density and mixing uses will help transform this precinct into a more self-sufficient, safe, and vibrant urban environment throughout the day and week.

fig 4.82 *(opposite)* Built Form-Use diagram of Precinct Three.

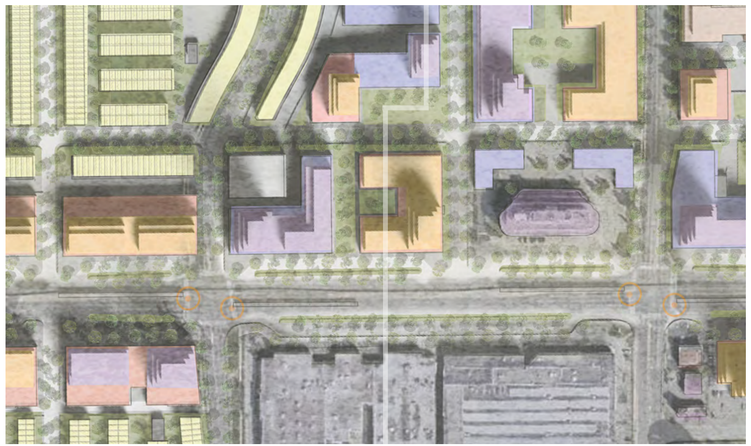

fig 4.83 Precinct Three's Built-from use showing the location of the accompanying Street Cross-Section Massing Perspective.

fig 4.84 Warden Avenue Street Section-Massing Perspective highlights the larger scale of the built forms and its spaces.

fig 4.85 Precinct Three's plan view render shows the treatment and articulation of built forms and their associated spaces.

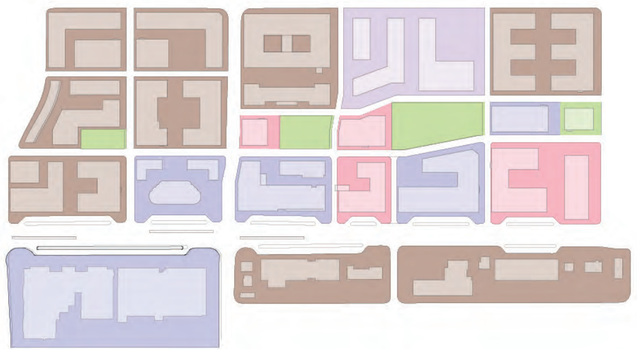

fig 4.86 Precinct Three's Land-Use diagram exhibits the area's mix of land-uses as it strives to become a complete community.

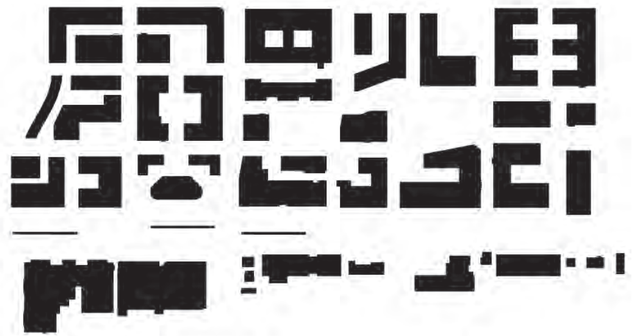

fig 4.87 Precinct Three's Figure-Ground diagram exhibiting the number of built forms and larger grain as they shape private and public spaces.

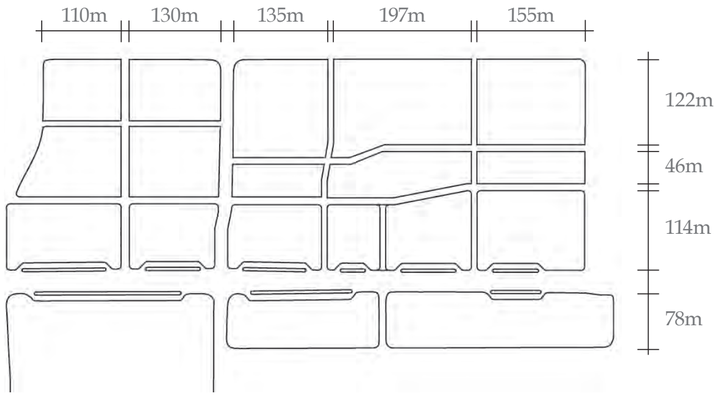

fig 4.88 Precinct Three's Block-Lane diagram showing the area's block dimensions and street configuration.

Precinct Three's Edge Conditions

Precinct Three's Edge-Condition diagram presents the proposed edge conditions for a mix of mid and high-rise residential, commercial, and employment buildings. This diagram represents potential public and collective types of edge conditions in conjunction with the precinct's street types, architecture, and land-uses.

The northern three buildings (left half of the section) contains mixed CRE and residential-use buildings. Their collective mix of uses require edge conditions that are semi-public/private.

Located on a secondary street, the first confronted edge condition shows a commercial-employment ground floor extension of the building to the sidewalk edge. By building to plane the storefront provides physical access, shapes the street room, and animates the street frontage.

The second extended edge condition marks a unified claim of a linear park by two CRE buildings having ground floor walkout units. Without obstruction, the two properties bleed into the linear park separating the two buildings. Together the two buildings make a silent claim to the park making it appear as an extension of either building's property.

The third confronted edge condition is a residential building's collective access to the interior lobby. The (short) setback psychologically highlights the transition from the public realm to the architecture's semi-private lobby.

fig 4.89 Overall section of the employment-focused edge conditions.

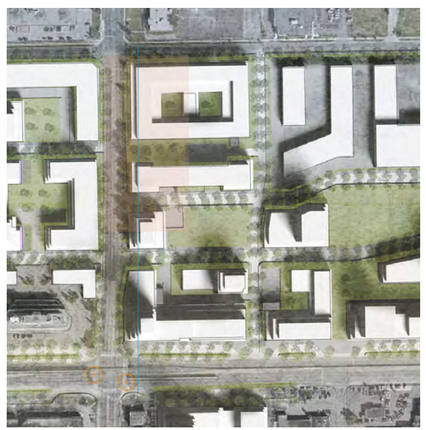

fig 4.90 Aerial image of the northern portion of the Employment-Focused Edge Condition Section.

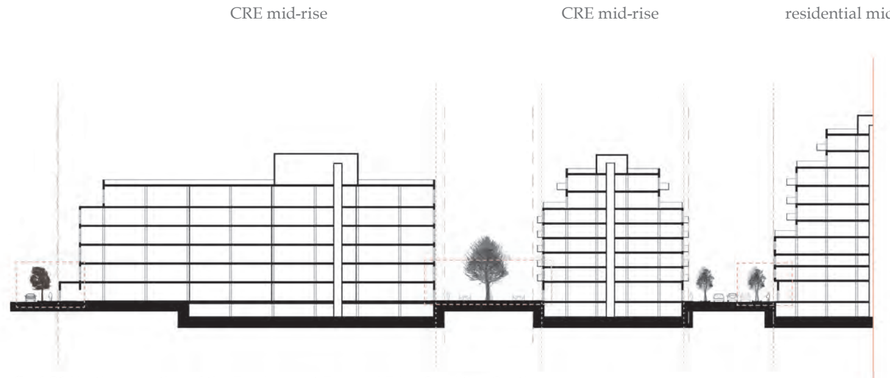

fig 4.91 Northern portion of the Employment-Focused Edge Condition Section.

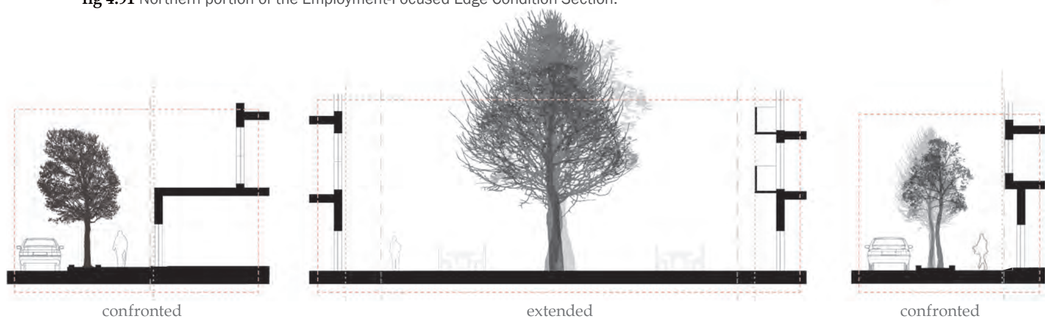

fig 4.92 Callouts of commercial-residential-employment edge conditions.

The first confronted edge condition in the southern portion of the employment-focused section is a mid-rise building with ground floor commercial-employment. Building to plane, a gesture that provides easy access and maximizes ground floor space, shows an agreement between the semi-public building and the secondary street (befitting to the precinct's public nature).

The inserted edge condition shows ground floor commercial-employment uses setback slightly from the sidewalk edge increasing public space while allowing for the private property to invade "public" territory (e.g. with merchandise stands or signage). Again the land-use and edge condition match the street and precinct's collective nature.

The third associated and suspended edge condition marks the transition between an arterial street and an employment-commercial property at the corner of an intersection abutting Eglinton Avenue. The overhang invades the public realm associating the space below it with the interior of the architecture. This condition (better suited to the southern side of the street) helps improve the fluidity of transition from exterior to interior: an outcome beneficial to the location's public types of land-use. In exchange of the invasion, the public sidewalk gains shelter from the weather or sun as required.

The increased width of the sidewalk at the corner of intersections, a result of this thesis' proposed Avenue parking lane, would allow for a suspended edge condition whereby the architecture's land-uses skips over the 6m sidewalk spilling out onto the block's corners.

fig 4.93 Overall section of the employment-focused edge conditions.

fig 4.94 Aerial image of the southern portion of the Employment-Focused Edge Condition Section.

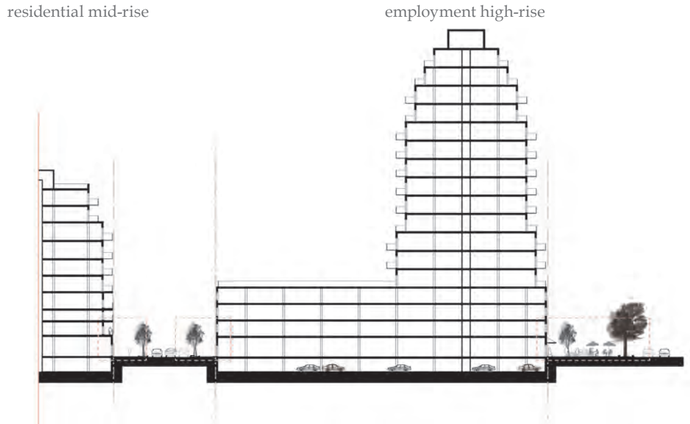

fig 4.95 Southern portion of the Employment-Focused Edge Condition Section.

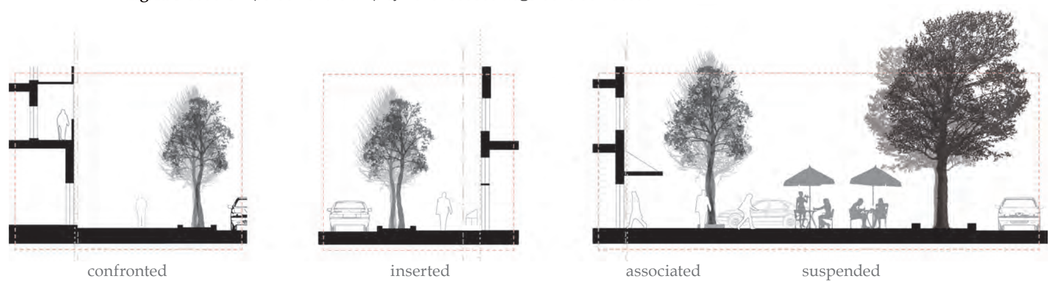

fig 4.96 Callouts of commercial-residential-employment edge condition types.

fig 4.97 Render illustrating the aura of the proposed Eglinton Avenue in the Fall. The reurbanization proposal intends to provide the public with urbanism that is functional, convenient, enjoyable, and that will embody an atmosphere that has the potential to inspire.

Reurbanization Design Synopsis

The reurbanization of the Golden Mile represents an example of how consolidated intensification could transform an existing under-performing urban area into a compact self-supporting mixed-use pedestrian-orientated community. The transformation of the environment can be accomplished through the manipulation of its urban elements (streets, crosswalks, blocks, land-uses, architecture, and edge conditions); properly orchestrated, these elements can achieve the intended metaphysical outcomes (the area's attractiveness, amount of interaction, culture, diversity, vibrancy, atmosphere, and inspiration) becoming greater than the sum of its parts. The redesign incorporated changes to the district's streets, architecture, void spaces, land-uses, edge conditions, and blocks to formulate morphologies (derived from typologies and precedents studies, official policies, and existing conditions) that can accommodate growth within the Golden Mile in a sustainable and attractive manner. Arguably, this thesis' redesign has developed the foundations to achieve these goals and transform the Golden Mile from its current state into a complete and pedestrian-orientated community.

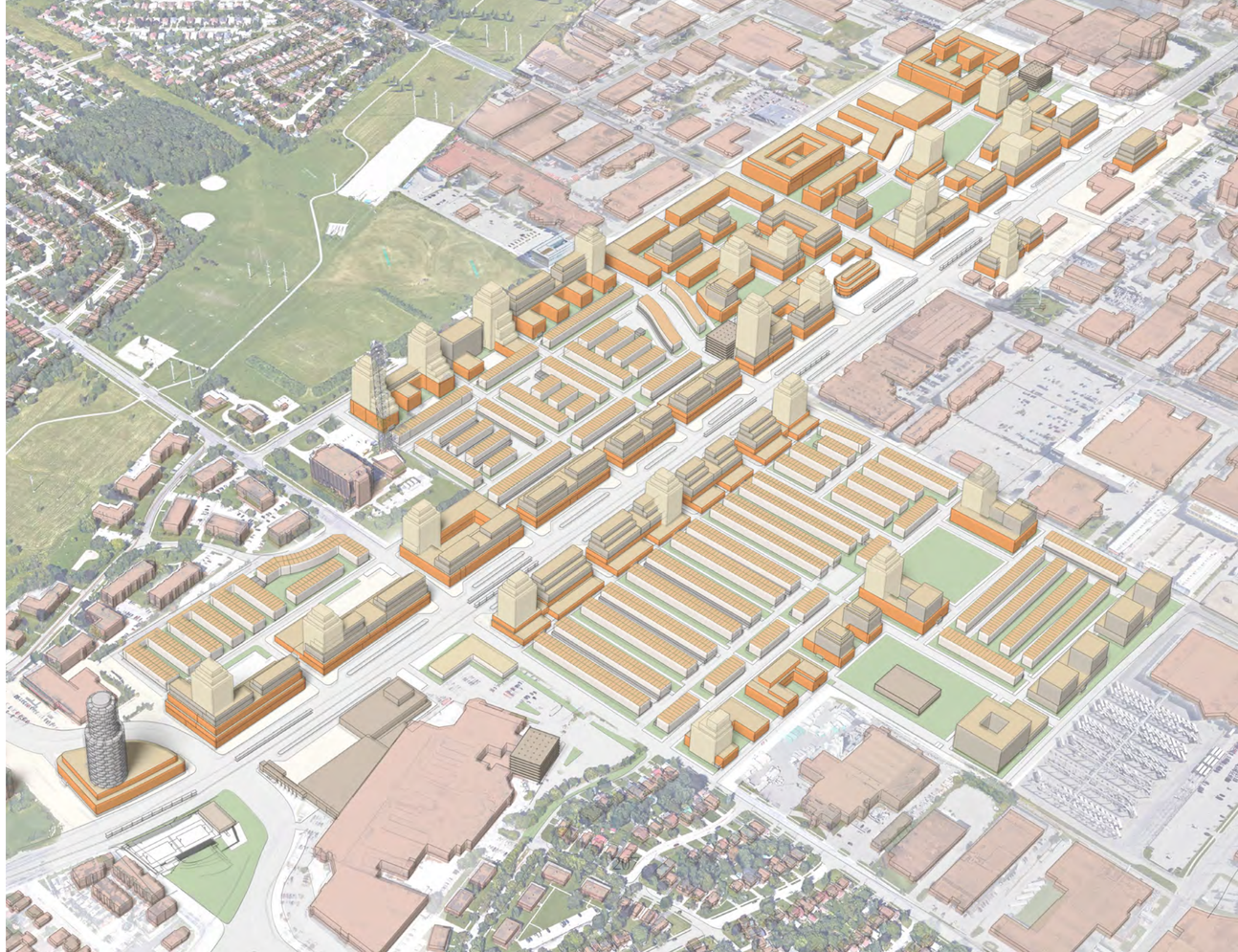

fig 4.98 *(opposite)* Bird eye view of the proposed reurbanization of the Golden Mile looking northeast.

06
Conclusion
Intensifying Toronto

fig 4.99 *(opposite)* Bird eye view of the proposed reurbanization of the Golden Mile looking southeast.

With the degree of intensification of Toronto appearing set to increase, consolidated intensification of key transit-orientated areas, particularly those requiring revitalization, appears to be the most suitable manner in which urban growth can currently be accommodated. The transformation of these transit-orientated intensification areas into mixed-use, multi-cultured, and complete communities is not only a sustainable method to accommodate growth, but also one that can be highly beneficial to the public, infrastructure, and the urban environment. After analysis of precedents, typologies, and morphologies of established urban areas, this thesis has proposed a reurbanization plan for one of Toronto's most significant opportunities: Scarborough's Golden Mile.

With intensification arguably being imminent, the identification of key intensification areas and reurbanization master plans are necessary. This thesis has aimed to answer:

1. Where should intensification occur?
2. In what manner should intensification happen?

Empirical Findings

Continual outwards expansion of Toronto cannot be sustained forever. Ontario's Greenbelt, likely the most immediate catalyst of change in the GTA, will put pressure on new development to occur either within built-up areas, outside the outer ring of the Greenbelt, within the Greenbelt lands (if amendments occur), or, more likely, a combination of all three scenarios.

Of these scenarios, intensification of built-up areas within the inner ring of the Greenbelt appears to be positioned to become a much more predominate method of accommodating urban growth than it has been in Toronto's recent past. This statement is complemented by Ontario's *Growth Plan for the Greater Golden Horseshoe* a plan that advocates for the intensification of built-up areas. Already within the municipal boundaries of Toronto, easily developable land is becoming scarce necessitating that the degree in which intensification and reurbanization occurs be increased.

The second major catalyst for intensification is Ontario's transit plan. In Toronto, the increase in transit has great potential to attract residents and employers potentially consolidating development to transit nodes and corridors. Consolidated intensification appears to be a manner of intensification that can accommodate Toronto's population and employment growth in a sustainable and beneficial manner.

Together Ontario's Greenbelt, *Growth Plan*, and regional transit improvements will all arguably lead to an increased reliance on the intensification and reurbanization of the GTA's built-up areas and, specifically, of Toronto's transit-orientated areas.

As intensification becomes a more prevalent method of accommodating growth so too will the need for urban planning, design strategies, and the identification of appropriate intensification areas. Without plans, policies, and support, it is presumable that intensification will happen in more ineffective manners thereby reducing the achievement of all the possible benefits that intensification can provide. By directing intensification to transit stations and corridors, areas in need of revitalization, and designated Growth Centres, the rate of expansion of the built-up area's overall size will potentially decrease while high-order transit trips have the potential to increase: benefits that help make the intensification of Toronto more sustainable.

Currently, the best opportunities in Toronto appear to be those areas developed in the infancy of sprawl: the initial edge cities. The proximity of post-edge cities like the Golden Mile to the central core of the city, their deteriorating architecture stock, the surrounding existing employment and population densities, its existing infrastructure, low density sprawled urban form, its single-use zones, and large under-utilized greyfields represent some of the more significant opportunities for consolidated intensification in Toronto.

The manner in which consolidated intensification of transit-orientated areas occurs can further promote sustainability and the benefits of intensification; these areas, like the Golden Mile, have the opportunity to transform into attractive, transit supportive, dense, self-sufficient, and mixed-use communities that have the potential to become attractive, cultured, and activated pedestrian-orientated urban areas. To accomplish this however, further investigations and reurbanization plans of key intensification areas need to be undertaken.

Transforming this thesis' case study site, the Golden Mile, from its current state into a complete community required precedent, typological, and morphological analyses. Existing street precedents, architectural typologies and precedents, and block morphologies informed the reurbanization design helping to develop the foundations for a functional and attractive urban environment. The proposed reurbanization plan has attempted to transpose the urban strategies altering and tailoring them to suit the existing conditions, needs, and opportunities of the Golden Mile.

The treatment of the Golden Mile's public realm was perhaps the most critical aspect of the redesign as not only does it act as the social nerve of the district, but also as a primary urban attractor for the area.

Selection of a new street cross-section proposal for the Avenue aimed to create a complete street that serves pedestrians, cyclists, transit, and automobiles. The proposed street, though fairly wide and plausibly difficult to implement, would not only promote

different modes of transit, but could also create a comfortable and attractive environment potentially helping activate the area's street life thereby promoting social interaction within the community.

The built form of the street, directed by the *Avenue Study*'s performance standards, helps to ensure that the main street's density and scale of architecture are appropriate while meeting minimal standards of quality necessary for a public environment. Ensuring that the Golden Mile's public environment not only be functional, but of significant quality is a crucial and significant aspect to the district and Toronto as a whole.

Mixing residential and employment land-uses helps to provide density that is supportive of high-order transit, local businesses, and the community. It is intended that the plan accommodate densities in a diverse, compact, and balanced manner. By providing different architectural typologies, these mixed-use neighbourhoods aim to attract different lifestyles, incomes, and people thereby promoting diversity within the district.

Employment areas attempt to compactly mix residential uses and amenities while attracting office employment to the Golden Mile. Beneficially, amenities of office employment and those of residences are similar making the inclusion of both land-uses within districts a mutually beneficial option as both densities could support amenities throughout the day and week helping extend the district's timeframe of activity and its self-sufficiency.

The reurbanization design of the Golden Mile attempts to provide a case study exhibiting how Toronto could be intensified in what is believed to be an appropriate, beneficial, and sustainable manner. By intensifying Toronto in this manner, not only can declining areas of the city be revitalized and population and employment growth be accommodated, but also intensification has the opportunity to create an attractive, diverse, and quality urban environment.

Theoretical Implications

The *Growth Plan*, *Avenue Study*, *Employment Study*, and *Eglinton Connects Study* setup the initial framework for this thesis' proposed reurbanization plan. Further study and master planning, as developed by this thesis for the Golden Mile, can greatly benefit the development and future conditions of intensification areas as they are able to focus on the needs and conditions of individual communities. Future reurbanization plans may benefit from using this thesis' site selection method, design method, and/or case study to assist in developing the Golden Mile or other intensification areas in Toronto.

Policy Implications

This thesis' methodology of analysis and the observational findings could help in developing future intensification policies for Toronto. The street proposals, block morphology analysis, and the Golden Mile case study all offer relevant points of discussion, strategies, and designs that could help inform such policies.

Discussions, methods, and urban strategies presented in this thesis (with expertise, other precedents, and further refinement) could help to begin the formulation of intensification guidelines. If the intensification of Toronto does escalate, then not only will ad-hoc area plans for reurbanization be required and highly beneficial, but so too would urban standards. Urban standards, in terms of recommendations on the form, strategies, and qualities of intensification areas, could help to establish expectations, provide general insight into urban design (and its reasonings), and allow for larger urban design moves to be carried throughout districts.

Future Research

There are a number of areas for future research that would benefit this thesis and the intensification of the Golden Mile in general. The recommended future research surrounding this thesis includes the following:

• The presented site selection methodology requires further refinement to ensure the quality of its results. By consulting professionals and stakeholders directly it is likely that a more accurate and beneficial assessment of Toronto's geography of intensification areas and desirability would be created.

• A further investigation into building typologies would be beneficial to this thesis and future intensification in general. Particularly, the analysis of mixed-use employment-residential buildings and mixing uses on-site would help inform future complete communities' architecture and blocks.

• Parcel divisions, ownership and tenure types, and their residual impacts is another area requiring further investigation as these extensively determine the shape and atmosphere of the urban environment. The implications that the types of parcel division have on future adaptability and, if possible, their ability or inability to achieve the benefits of both small and large parcels could be useful endeavours for future reurbanization plans.

• The block typology analysis requires supplementary studies as it focuses primarily on residential and commercial blocks and strategies. Further studies should examine both employment areas and public blocks to understand their strategies, structures, and urban conditions more thoroughly. Specifically, this investigation would be useful to inform the conditions of employment areas within complete communities and those areas that are or intend to become highly populated (e.g. Growth Centres or major subway stations).

• Investigations into the costs, benefits, urban impact, and applicability of street crosswalk options for the Golden Mile would be necessary. Projecting future densities, traffic, and other urban conditions would help determine what type of crosswalks are appropriate to the intensification area and when such strategies should be implemented.

• Further refinement of the design and its methodology is required in order to include the local community and other disciplines at the early stages (if not throughout) the planning process.

• Further refinement and development of implementation methods for both consolidated intensification and the manner in which such intensification is developed is a difficult, complex, and important issue that requires future investigation.

The creation of complete communities within identified consolidated intensification areas of Toronto is a sustainable and beneficial manner to accommodate urban growth. This thesis has worked to support the *Greenbelt Plan, Growth Plan,* and *Metorlinx's Transit Plan* by compiling evidence and recommending that consolidated intensification around high-order transit as the most appropriate option to sustainably accommodate future growth. To aid these and other recommendations, this thesis developed criteria and a methodology to identify intensification areas, developed a design method based on the chosen case study site's needs and opportunities, and, using this design method, created a reurbanization plan for the selected site.

Using the strategies and precedents analyzed in the design methodology, the case study has attempted to envision what urban form the recommendations of the *Growth Plan*, *Employment Study*, *Avenue Study*, and *Eglinton Connects Study* would potentially shape. In other words, this thesis has attempted to answer what urban form the Golden Mile could become using the methods, elements, and urban strategies discovered in the thesis' urban analyses and those discussed in the area's applicable official studies.

The accommodation of Toronto's future growth has the potential to develop the city in a variety of different ways. How this growth is accommodated will influence the quality of its streets, neighbourhoods, and districts impacting the future health, quality, and sustainability of Toronto. This thesis has attempted to add to this topic's discourse through discussion, analysis, and a manifestation of its potential urban form.

Endnotes

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02 Golden Mile

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Appendix

Sprawl in Toronto
Site Selection Methodology
Employment Study
Street-Crosswalk Study
Architectural Typology Study
Block Typology Study
1891 Eglinton Avenue Application

Sprawl: How the Golden Mile was Created

In the past half century, throughout North America, a type of growth known as suburban sprawl has dominated the development industry on the urban periphery. Sprawl, characterized by its expansive and low density type of growth, is rooted in modernist planning principles and, in Canada, in the 1950s creation and early success of Toronto's Don Mills neighborhood. Don Mills' development represents the moment when crucial changes in development methods had reached a critical mass. These methodological changes created a strong model for growth that has, to at least 2016, continued despite being displaced by strategies of urban intensification in more central areas of Toronto and many other cities.

In Canada, the earliest most recognized, successful, and copied modernist development was Don Mills, a development created a decade before the Golden Mile. After its completion, Don Mills became the model for the development industry and led the way to Metropolitan Toronto's rapid suburban growth.

The Don Mills Model

Designed ironically as a "self-sufficient community,"[87] Don Mills is characterized even today by its use of "neighborhoods, a discontinuous road system, a profusion of greenspace, new house forms and lot configurations, and a separation of uses and activities."[88] The new 1950s modernist changes to the traditional pre-war method of urban development,

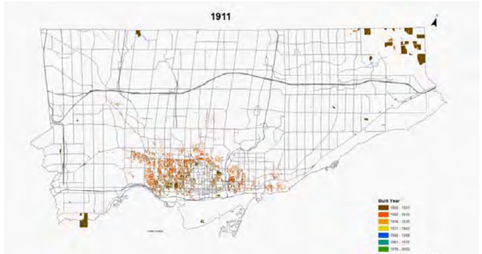


fig 5.1 Map of Toronto's Growth 1850-1911.

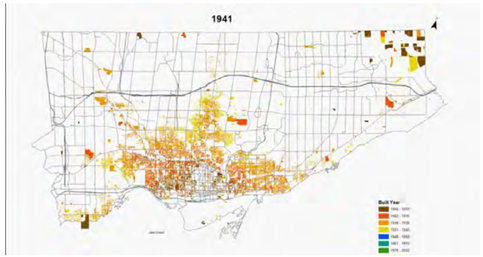


fig 5.2 Map of Toronto's Growth 1850-1941.

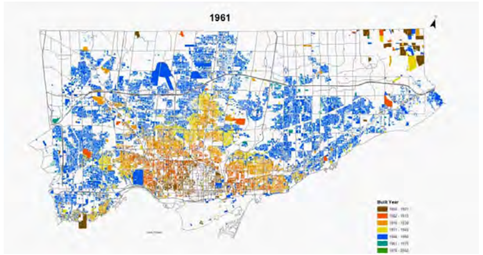


fig 5.3 Map of Toronto's Growth 1850-1961.

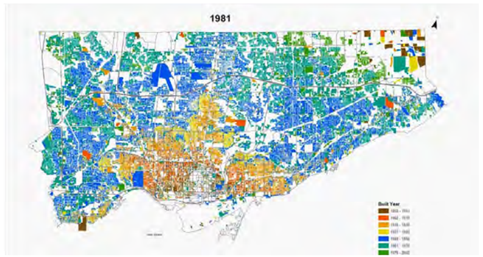


fig 5.4 Map of Toronto's Growth 1850-1981.

when misapplied in the next few decades across larger metropolitan areas, like Metro Toronto, would lead to planned monocultures of vast under-defined spaces, low densities, and less activated streets. In particular, the Don Mills' treatment of commercial land-use, when reapplied at large scales, would result in the removal of retail from the traditional street edge creating undefined environments and deactivating the street life condition. Commercial areas would also come to exclude residential uses and would be comprised of low density buildings, which would "cater to the shopper that drove:"[89] an approach marginalized the pedestrian, the streetscape, and portions of the pre-war city's urban civic duties.

While the scale of the Don Mills development of 35,000 inhabitants made these urban strategies acceptable, even beneficial, later larger scale reapplications of these urban strategies across much more extensive land areas would see the urban issues of the Don Mills model exacerbated. Most significantly, when applied over large territories, these strategies would make high-order transit unsupportable without subsidization, would increase travel distances, and would create uncomfortable and unwalkable urban areas. However detrimental, these now isolated commercial areas would not only prove to be highly profitable, but also convenient for car-based citizens that today represent the targeted suburban market. Moreover, these new retail centres would prove easy to replicate.

Of all the changes that were introduced by or combined into the development of Don Mills,

arguably, the most significant change was in the transfer of land servicing costs. Under the Don Mills model the owner would pay the site's service costs while, in the words of John Sewell, the "municipality shed its active involvement in the land development process and became nothing more than a passive rubber stamp."[90] From then on, developers and owners would have greater control in developing significant parts of the urban fabric while the municipality's role would diminish to that of a manager: regulating zoning by-laws, planning policies, and facilitating their modifications.[91] This change was accepted by the municipalities as it transferred the financial risk of servicing to the developers.[92] It was here that economics and urban planning fused together: where sprawl's strength and future dominance was created.

The pivotal land servicing shift marks the moment when "the question of good planning became intricately intertwined with corporate success rather than public goals and objectives."[93] This is not to say that public good was completely abandoned, but that public good became secondary to economic efficiency. The outcome of which resulted in efficient, minimalist, and self-serving urban areas that today, decades later, are strongly dictated by the economics of development driven urbanism. A strong indicator of this type of urbanism can be found in an area's treatment of the public street and pedestrian access. Good public design, sometimes termed as an externality by economists, is difficult to quantify and, hence, difficult to make financial arguments for in the planning and accounting of private land development. After this

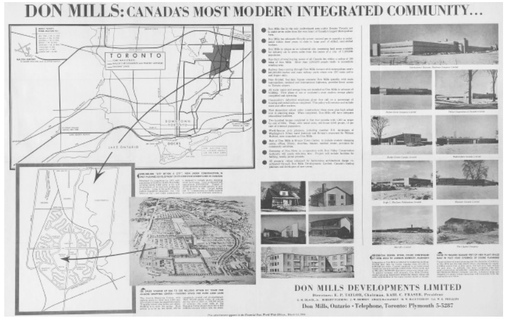


fig 5.5 Image of an advertisement for the Don Mills development.

fig 5.6 Aerial view of Don Mills neighbourhood as it currently exists.

fig 5.7 Oak Street Neighbourhood was replaced by Regent Park Neighbourhood (shown here) shaped by Modern planning principles.

fig 5.8 St. James Town neighbourhood's towers in the park an area developed using Modern planning principles.

shift of land servicing, the economics of urbanism have appeared to take on a larger and stronger role in the development of the city.

The Rise of Sprawl

When Modern planning was introduced as the planning method in Toronto, its new strategic drive replaced portions of low scale and sometimes deteriorating central city neighbourhoods (e.g. Oak Street neighbourhood transformed into Regent Park) with mid and high-rise residential tower neighbourhoods. Though rooted in positive ideals, these projects, for numerous reasons, would become known for their social problems. The creation of such apartment ghettos, and the expropriation and demolishing of existing neighbourhoods, resulted in political opposition that became strong enough to reject modern planning principles within the original built-up areas of cities like Toronto.[94] Pushed away from existing urban areas, and armed with the Don Mills model and other Modern planning principles, urban growth would head to the periphery in search of greener pastures.

Undeveloped farmland on the edges of the city, where few urban neighborhoods existed, became the location where modern planning methods "continued to flourish."[95] Here, on the fringes, land was cheap, opposition was minimal, and development was welcome. Expansion of the larger urban metropolis quickly spread and, in the 1970s, "the planning of

every Canadian city was dominated by the suburban form"[96] all modeled on the successes of the original 1950s Don Mills neighbourhood. The development of the suburban form in North America, as discussed by Joel Garreau in Edge City, was borne from three stages of urbanism beginning around the end of WW2: first, urban residents fled the stagnant city centres and moved from the city core to the edges[97] (creating sub-urban bedroom communities) and, soon after, in urban flight's second and third stages, the commercial and employment areas and uses followed.[98] The migration of the residences, jobs, and marketplaces from the city to its outskirts would have both evident and subtle residual effects.

Drawbacks (of Sprawl)

The problems with Modernist planning in the city were quickly identified in some city centres like Toronto and halted while, at the edges of cities, they continued to thrive. Sprawl, as a method of urban growth, is based on the (false) presupposition of the continued existence of cheap energy, cheap infrastructure construction and maintenance costs, and easily developable land. This problem was identified as early as 1962 in a Metropolitan Toronto Planning Board's district plan for the Jane and Finch corridor. To "overcome the tendency of establishing a one-sided community in the suburbs,"[99] the plan recommended that future developments be formed using a variety of residential types.[100] By creating multiple residential typologies future developments could accommodate a diverse assortment of the population, could provide "architectural effect and relief of monotony,"[101] and could achieve "higher residential densities… [to] support a full range of services and community facilities."[102] The report identifies what would become one of sprawl's most inherent problems: the development of social and architectural monocultures. It appears that suggestions to resolve the monoculture issues, from a "civic design point of view,"[103] were being discussed and yet the progress of suburban monoculture developments continued. These and other issues of sprawl are now well-known, openly discussed and opposed in academia, literature, and in official policies.

Persistence (of Sprawl)

Persistent and unshakable, even today when it has been largely discredited, sprawl, and its the intertwinement of urbanism and economics, remains as a dominant manner for accommodating growth. A major reason for sprawl's persistence, as Toronto economist and planner Pamela Blais argues in *Perverse Cities*, can be found in the economics behind sprawl. Blais argues, from an economical perspective, how the true costs of sprawl are not paid for by those that either create or use it; at least initially.[104] [105] The costs of sprawl, including maintenance of services, infrastructure, and the depletion or deterioration of externalities, she argues, are subsidized by the environment, society, and the economy.[106] Such real costs are subsidized because the deterioration of the environment, the loss of community services, and the historical inaccuracies in the pricing of infrastructure maintenance and updating are not accurately assessed or cannot be quantified. The inability to quantify quality or other environmental externalities (e.g. the price of clean air) has in effect subsidized what has been built to date. Further exacerbating the negative effects of misfunding, is the historical lack of political unity between cities and their outer regions. In Toronto, however, unification and dialogue between different levels of policy makers continues to improve thereby signaling a step forward in the reurbanization process. For Toronto, the *Ontario Greenbelt Plan* and *Growth Plan* represent the commencement of and framework for more effective political unification.

The 1968 MTARTS Greenbelt

The 1990s Ontario *Greenbelt Plan* actually would mark the second proposal that would designate an area with limited urban growth. The first proposal named *Choices for a Growing Region*, was introduced by a *Metropolitan Toronto Region Transportation Study* (MTARTS) in 1968 proposing a protected land corridor, integrated transit, and concentrated development at centres, nodes, and along corridors.[107] The recommendations, later presented in conjunction with the *Design for Development's Toronto Centred Region Concept*, was beaten aback by lack of political support in suburban communities, a lack of financial support from suburban tax bases[108] and higher levels of government. It is therefore apparent that current urban growth boundaries likely require large amounts of political support to be implemented and, more importantly, to be sustained.

fig 5.9 *(opposite)* Toronto's initial Greenbelt and subregional centres from "Choices for a Growing Region" (1967).

Design Methodology

The Geographical Information System (GIS)

To identify, evaluate, and prioritize sites the methodology used geographic information system software (GIS) to combine, filter, and evaluate data. The software has within it multiple tools to help identify, examine, and clarify geographical and statistical information. One of the tools, named "raster calculator", is able to weigh a number of inputs based on the value (or weight) that is associated to it. This tool played an instrumental part in identifying potential growth sites for this thesis.

Subjectivity and Mapping

The methodology used to identify thesis case study sites is the first trial in a fairly subjective exercise. Further refinement of its goals, parameters, data, and the input of experts would be required to produce more practical results. The goal of this map was to identify where people would want to live. Other trials may aim to identify other objectives such as, for example, where to locate office development. The weight associated to each input is an estimate and, without the help of surveys or censuses, should be regarded as a trial that explores the possibilities of using GIS to map growth areas. By increasing the quality of inputs, the amount of significant data used, and more traditional strategies, this methodology could be beneficial to many stakeholders.

fig 5.10 Diagram of a scale of undesirable to desirable locations.

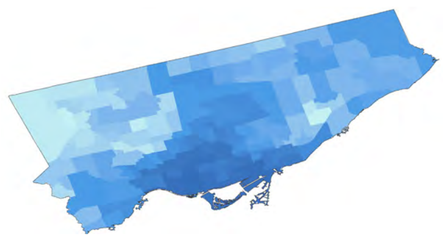


fig 5.11 Diagram of an example map of Toronto showing it's neighbourhoods denoting value based on the shade of hue: the darker the hue the more desirable the location.

Mapping Methodology Rating Scale

The methodology for the site search uses transit infrastructure, urban amenities, and social valuations to create parameters that are used to identify, evaluate, and compare geographical locations within Toronto's geographical boundaries. Throughout the diagrams, shades of blue represent the value of the area: the darker the blue the more desirable the location.

Stakeholder Perspectives

Perspectives of several Toronto stakeholders in the analysis were based on modelled perspectives of the population. These perspectives emulate the needs that people value based on the ways in which they live. These modelled lifestyles value urban elements or amenities, hereafter referred to as parameters, differently from other types of people and, hence, are likely to value areas of the city differently as well.

If the amenities that are most attractive to each lifestyle can be identified than the geographical locations that best suit each type of stakeholder can be estimated. Each stakeholder's lifestyle is reflected in the parameters chosen, their values and, discussed later, their associated values.

It should be noted that in future trials of this method that the perspective of each lifestyle be based on factual information gained from censuses, surveys, or other statistics.

The Methodology Parameters

The methodology uses urban parameters shown in figure 5.12 to evaluate sites. Each parameter acts as an evaluator of geographical locations based on either *area* of a parcel (size), a *count* within a neighborhood (amount), or the *proximity* to a point (distance). In other words, these three categories are used to assess the value of each parameter. For example, parcels within 500 metres of a transit node would be valued higher than those between 500 and 1000 metres and so on. This operation ensures that each location's value initially reflects the parameter's value.

It should be noted that the parameters were limited to the data sets that were currently available. Understandably, the more current and significant the data is, the higher the quality of information produced. Crime and education levels for example, though a key component in real estate, was not available and, hence, were excluded from this trial of the methodology.

Also, it should be noted that though there are several planned LRT lines and a subway extension in Toronto, only transit that was either existing or currently under construction was included in this map: namely the Eglinton Crosstown LRT.

A Master Intensification Map was created that illustrates potential locations for intensification while evaluating them based on the amenities of their site and surrounding area.

fig 5.12 *(opposite)* Diagram of the inputs used to identify, evaluate, and compare potential intensification sites.

Weightings

As mentioned, each stakeholder will want to include or exclude parameters based on their perspective and their needs. Furthermore, as some parameters will be more valuable than others, each is assigned an individual weight. As shown in the site selection methodology diagram, the significance of each parameter is manipulated based on the lifestyle of the perspective. These perspectives add or subtract value depending on whichever parameter they consider to be more or less important. For example, if a stakeholder wants growth to happen in proximity to transit corridors, they will weigh transit higher than another parameter that they value, say, access to greenspace. By combining and valuing parameters, significant locations for growth can not only be identified, but valued, categorized, and prioritized.

Combining Stakeholder Perspectives

Each type of perspective (e.g. family, seniors, single people, etc.) had four variations that altered the parameter type or their associated value or both. These four perspectives were combined to create a master diagram for each perspective type: one for family, another for seniors, and so on. The creation and combination of four variations within each type of perspective was an attempt to increase the generality of the findings while also reducing the subjectivity of

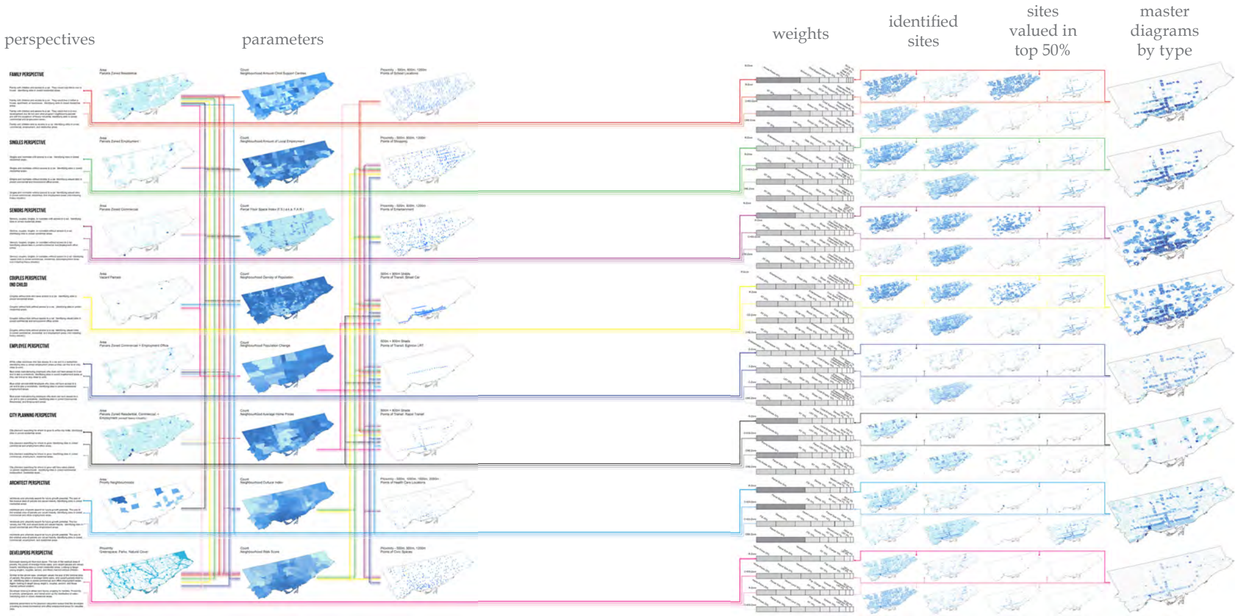


fig 5.13 Diagram of site identification method: coloured lines denote individual stakeholder's selected parameters and applied weights all of which identify potential intensification sites.

selecting one kind of perspective. This generated the *identified sites* maps for each of the four variations for every perspective (see figure 5.13).

These *identified sites* maps were reduced to identify only sites valued in the top 50%. This operation reduced the overall amount of sites excluding those undervalued by the associated perspective in order to generate master diagram maps that are more clear and focused. The stakeholder master diagrams show the geographical areas where people would have access to the urban elements or amenities that they valued most. The value of this information is its suggestion of the desirability or lack of desirability of each area of the city overall or by stakeholder type, what types of businesses may be desirable for each location, what amenities or services are needed or abundant, and what architectural typologies are desired, necessary, or currently unwanted.

Example of the Site Selection Method

The following diagrams illustrate an example of the methodology using the 'Singles' stakeholder. These four site identification trials alter parameters and acceptable zones where they desire to live. By changing the zoned area type, the trial can rank the most desirable intensification sites for each zone.

Single Person's Identified Sites 01 Single Person's Identified Sites 02 Single Person's Identified Sites 03 Single Person's Identified Sites 04

fig 5.14 Diagram of Singles Perspective's identified site maps.

fig 5.15 Diagram of Singles Perspective's top 50% identified sites.

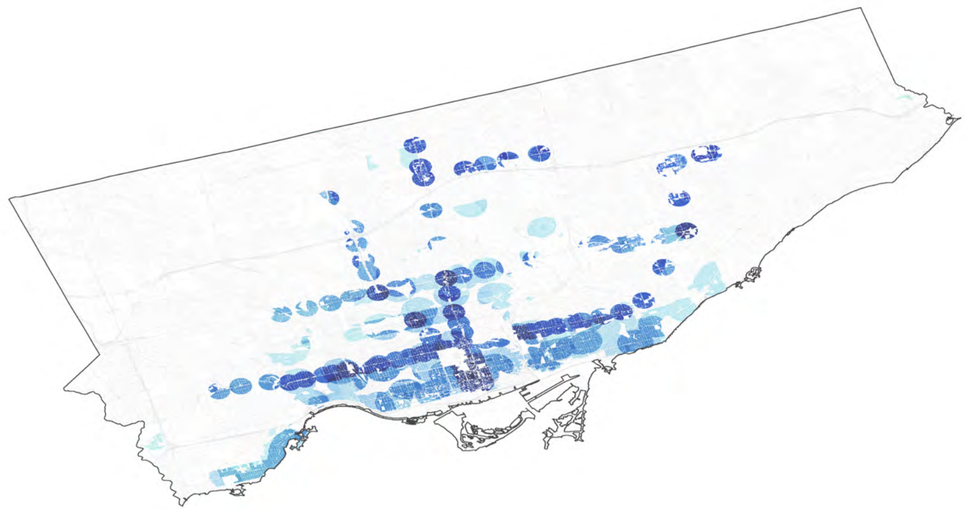


fig 5.16 Diagram of Singles Perspective's Master Diagram (combination of the four top 50% identified sites).

Creating a Master Intensification Map

Combining Stakeholder Intensification Maps

The final step was to combine all of stakeholder master diagrams by type together to produce the master map for all stakeholders. This map shows the value of land in Toronto based on the weight associated to parameters by the perspectives of different stakeholders: areas of overlapping desirability in dark blue, the areas of undesirability in white, and everything in between.

Map Analysis and Significance

The significance of this master intensification map is that it deciphers and compares data allowing for the evaluation of areas for variable applications such as future growth locations, residences, employment locations, improvement areas, or areas suitable for investment. A large portion of the results show obvious locations for future growth (e.g. around transit nodes) which, it is argued, adds to the validity of the map. One of the most significant aspects of this map is where misappraisal occurs or where areas of significance are undesirable (e.g. sites in proximity to high-order transit nodes). These unobvious or unexpected valuations of land help in identifying less recognizable opportunities, in dispelling overvalued land, and identifying areas that may require reurbanization to attract growth.

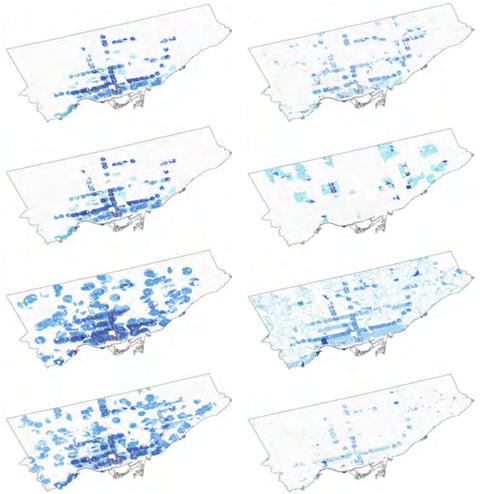


fig 5.17 Diagram of stakeholder intensification maps showing desired and suitable locations for growth for each stakeholder type.

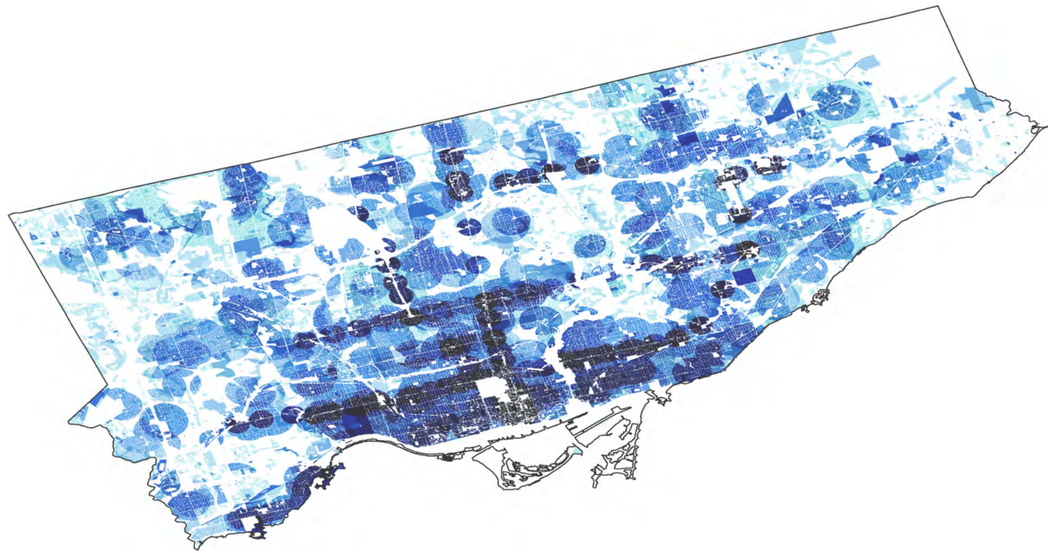


fig 5.18 Diagram of the Master Intensification Map that combines the intensification maps of all stakeholder types and shows potential locations for future intensification based on the inputs of parameter values, allocated weights, and stakeholder needs.

Misappraisals

Unobvious Areas for Urban Intensification

The unobvious areas for future growth are interesting because these areas could be valued less than they might be worth. This information is likely most useful for future transit plans and individual citizens. These newly identified areas, coupled with policies and development strategies, can increase the amount of intensification areas for future growth.

Unattractive Significant Areas

Unattractive significant areas are locations that should, under traditional assumptions, be valued higher, but, as shown by the diagram, could currently be undesirable places to live (e.g. transit nodes, major intersections, etc.). The significance of these potential misappraisals is that, according to the surrounding amenities, these areas are currently unattractive.

fig 5.19 Diagram of examples of unobvious intensification areas: areas that may be overlooked.

fig 5.20 Diagram of examples of unattractive significant areas: areas that represent the opportunity (or necessity) for reurbanization.

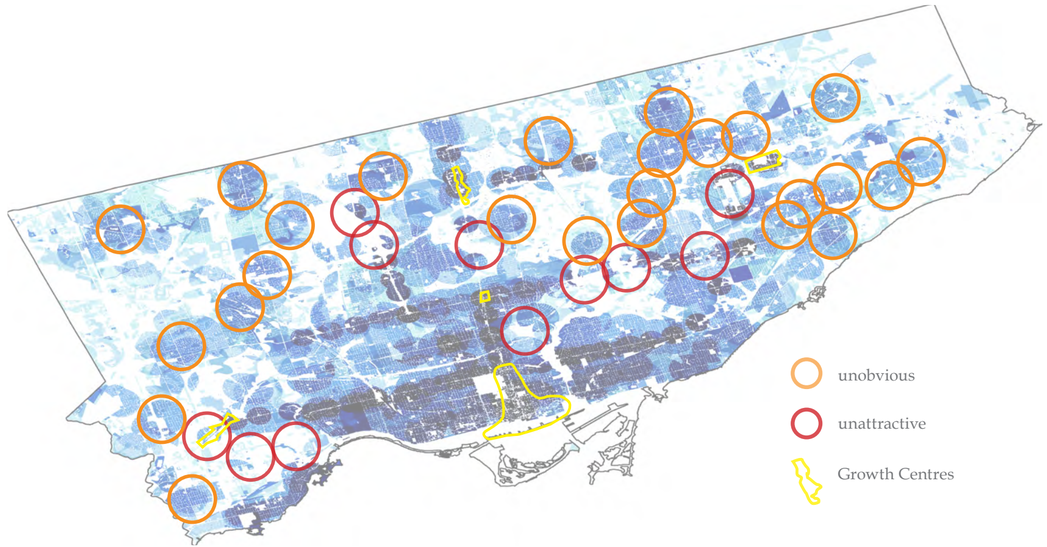


fig 5.21 Diagram of potential intensification areas vs. Urban Growth Centres.

Case Study Site: Scarborough's Golden Mile

Using the Master Intensification Map, the recommendations by Ontario's *Growth Plan*, and in conjunction with other important considerations (e.g. transit locations) a future transit-orientated site was selected to serve as the location where this thesis could conduct a case study site of consolidated intensification through the creation of a complete community. The site, an area in the former City of Scarborough located along Eglinton Avenue, was identified as an area that represents a significant opportunity for future growth. This area, known as the Golden Mile, is the future site of five stops for the Eglinton Crosstown LRT. This new high-order transit will require support from suitable residential and employment densities that currently appear insufficient. Currently, the area has large amounts of vacant, under used, and misused land. As seen in the Master Intensification Map (figure 5.22), the Golden Mile corridor has a range of values: abnormal for an area with several transit stops. The area's range of values, its scale, its Drosscape environment, and its soon to be completed high-order transit line exhibits an area that is suitable to undergo large scale change, that needs revitalization and that has the potential to become a complete community.

Intensification Areas Conclusion

The site selection methodology presented here has intended to highlight the capabilities and benefits of GIS software in terms of urban growth and urbanism in general.

The identification of undesirable significant areas within proximity to transit is useful to determine where significant opportunities for intensification and revitalization are. In identifying sites for the consolidated intensification of Toronto, the ability to identify, evaluate, and compare suitable and desirable intensification areas appears to be a valuable tool. Though requiring refinement, this trial helps highlights the capabilities of this site identification methodology.

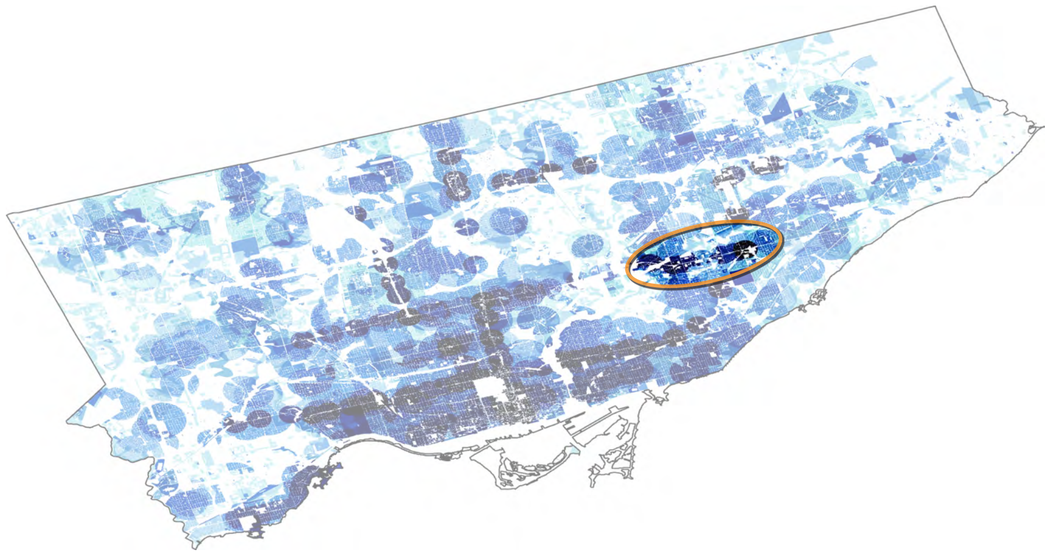


fig 5.22 Diagram map of the selected case study site the Golden Mile.

Employment Uses in Toronto

Employment Growth and Decline

The employment trends within Toronto are changing and, because of this, they require a portion of employment lands to shift their manner of development and treatment. Toronto, similar to other developed cities, appears to continue to move away from manufacturing employment to other areas of focus (e.g. knowledge-based employment).

In the South West Scarborough Employment District, which includes the Golden Mile, the manufacturing sector saw a 40% decline in employment in the same period while other sectors, excluding office employment, grew.[109] The losses to manufacturing employment within the Golden Mile (and city in general) signal the continuance of deindustrialization within urban areas. Employment therefore needs to adapt to the changing market trends to remain competitive.

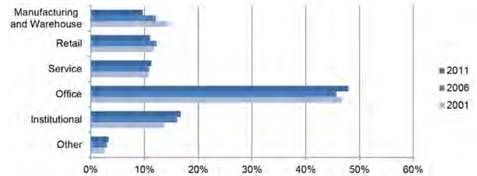


fig 5.23 City wide percentage distribution of employment.

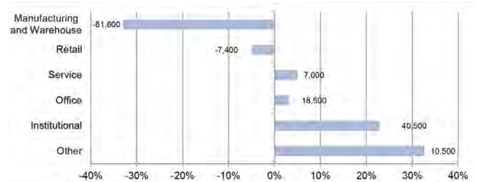


fig 5.24 City wide employment growth by function from 2001 to 2011.

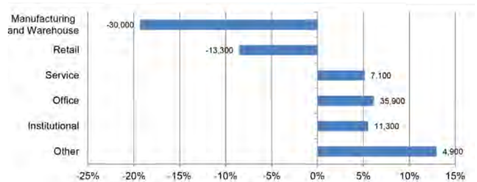


fig 5.25 City wide employment growth by function from 2006 to 2011..

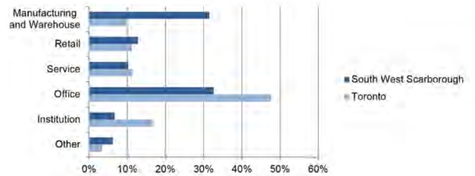


fig 5.26 South West Employment District (includes Golden Mile) distribution of employment in 2011.

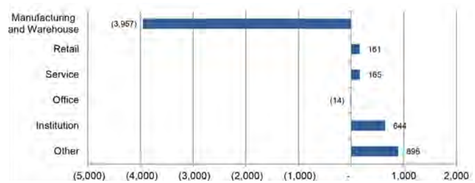


fig 5.27 South West Employment District employment growth by function from 2001 to 2011.

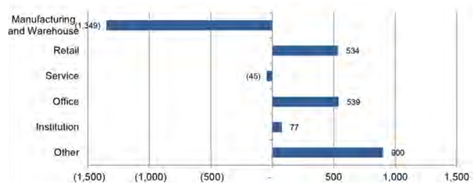


fig 5.28 South West Employment District employment growth by function from 2006 to 2011.

The employment study recognizes that attracting office employment into the city is necessary for the future success and competitiveness of the city's employment.[110] Office employment is targeted due to its ability to generate quality employment opportunities, its sufficient amount of wealth production, its limited frictions with other uses, and its relatively small built footprint requirements.

The creation of complete communities in existing employment areas like the Golden Mile lies in the area's ability to sustain jobs, to generate wealth, and to be located in near proximity to other uses. Therefore, a key part in achieving mixed-use employment areas is the development of office space.

fig 5.29 Image of a pedestrian and child crossing Eglinton Avenue.

Street-Crosswalk Study

The Street-Crosswalk Study examined potential street crosswalk interventions for the Golden Mile. Due its planned reduction of traffic lanes, introduction of the LRT, and its proposed increase in density, the Golden Mile may require alternate types of crosswalks: particularly those with a greater separation between pedestrian, transit, and automobile. This area of Eglinton Avenue has three potential opportunities for alternate methods of street crosswalks, the second of which is shown in more detail in the following section. The following introduces 5 options for crosswalks for the Golden Mile, their attributes, and precedents of similar existing interventions.

Example of Potential Street-Crossing Intervention in the Golden Mile

Areas of Large Distances Between Crosswalks (465m)

fig 5.30 Panorama of Eglinton Avenue between Pharmacy Ave and Hakim Ave: a 470m area without pedestrian crossings.

Pedestrian Street-Crossing Options

Pedestrian at Grade Crosswalk/Crossover
Req. Infrastructure: typ. intersection infrastructure
Location: public at grade
Impact on Street: pedestrians stay on the street disrupt traffic
Climatic Conditions: exposed
Add. Program: none
Types: crosswalk/crossover/scramble
Precedent: Dundas Square (Toronto, Canada)

This option drops traffic below grade (approximately 280m in the St. Clair precedent) allowing not only pedestrians, but program to seamlessly cross between street edges. Briefly dropping traffic below grade would open up the street to extensive amount of unused space (space for additional program).

fig 5.31 Pedestrian crosswalk/crossover at grade.

fig 5.32 Images of pedestrians crossing Eglinton Avenue between Pharmacy Ave and Hakim Ave on Eglinton Avenue.

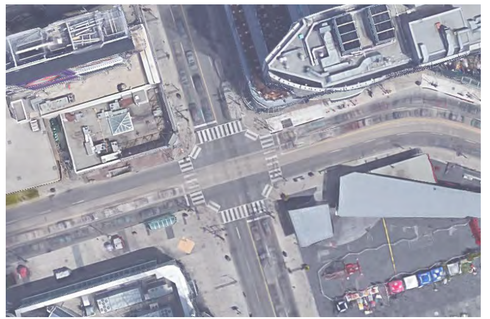


fig 5.33 Scramble crossing in Dundas Square, Toronto.

fig 5.34 Scramble crossing in Hachiko Square, Tokyo.

Pedestrian Bridge Connected to Architecture/Infrastructure
Req. Infrastructure: interior elevators/stairs
Location: private buildings above grade
Impact on Street: separates pedestrians/maintains visual connection
Climatic Conditions: climate controlled
Additional Program: none
Precedent: Calgary Plus 15 (Calgary, Canada)

The pedestrian bridge option uses stairs and elevators within buildings. Private and public partnerships would be required for implementation.

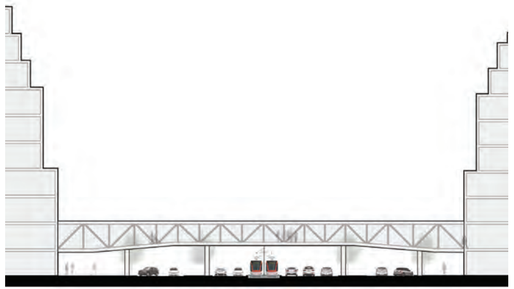


fig 5.35 Pedestrian bridge connected to architecture option.

Underground Pedestrian Crossing
Req. Infrastructure: exterior elevators/stairs
Location: public below grade
Impact on Street: briefly separates pedestrians from street
Climatic Conditions: climate controllable
Add. Program: none/minimal
Types: brief/long distance
Precedent: Rideau St at Elgin St (Ottawa, Canada)

Stairs and elevators would be required along the street's edge. Pedestrians are briefly removed from the street without visual connection. Increased safety measures would be necessary. Relatively easy to implement as the thesis street's parking lane provides various locations.

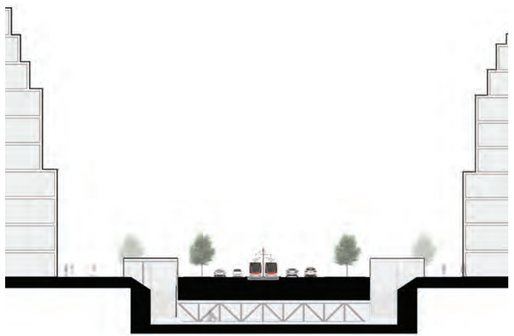


fig 5.36 Underground pedestrian street crossing.

fig 5.37 Image of a pedestrian bridge between buildings in Calgary.

fig 5.38 Image of a pedestrian using infrastructure in New York.

fig 5.39 Underground pedestrian street crossing in Shanghai.

fig 5.40 Underground pedestrian street crossing in Ottawa.

Freestanding Pedestrian Bridge (enclosed)
Req. Infrastructure: exterior elevators/stairs
Location: public above grade
Impact on Street: briefly separates/maintains visual connection
Climatic Conditions: climate controllable
Add. Program: none/minimal (e.g. street vendors)
Types: straight/circular/angled
Precedent: Las Vegas Blvd at W Flamingo Rd (Las Vegas, USA)

The pedestrian bridge option uses freestanding stairs and elevators along the street edge. Pedestrians are briefly separated from the street, but are maintain visual connection. Relatively easy to implement as the thesis street's parking lane provides various locations.

fig 5.41 Freestanding pedestrian bridge street crossing option.

Underground Traffic/Pedestrian at Grade
Req. Infrastructure: traffic tunnel infrastructure
Location: public at grade
Impact on Street: briefly separates pedestrians from street
Climatic Conditions: exposed
Add. Program: minimal-extensive (e.g. landscaping)
Types: brief/long distance
Precedent: St. Clair Ave at Wells Hill Ave (Toronto, Canada)

This option drops traffic below grade (approximately 280m in the St. Clair precedent) allowing not only pedestrians, but program to seamlessly cross between street edges. Briefly dropping traffic below grade would open up the street to extensive amount of unused space (space for additional program).

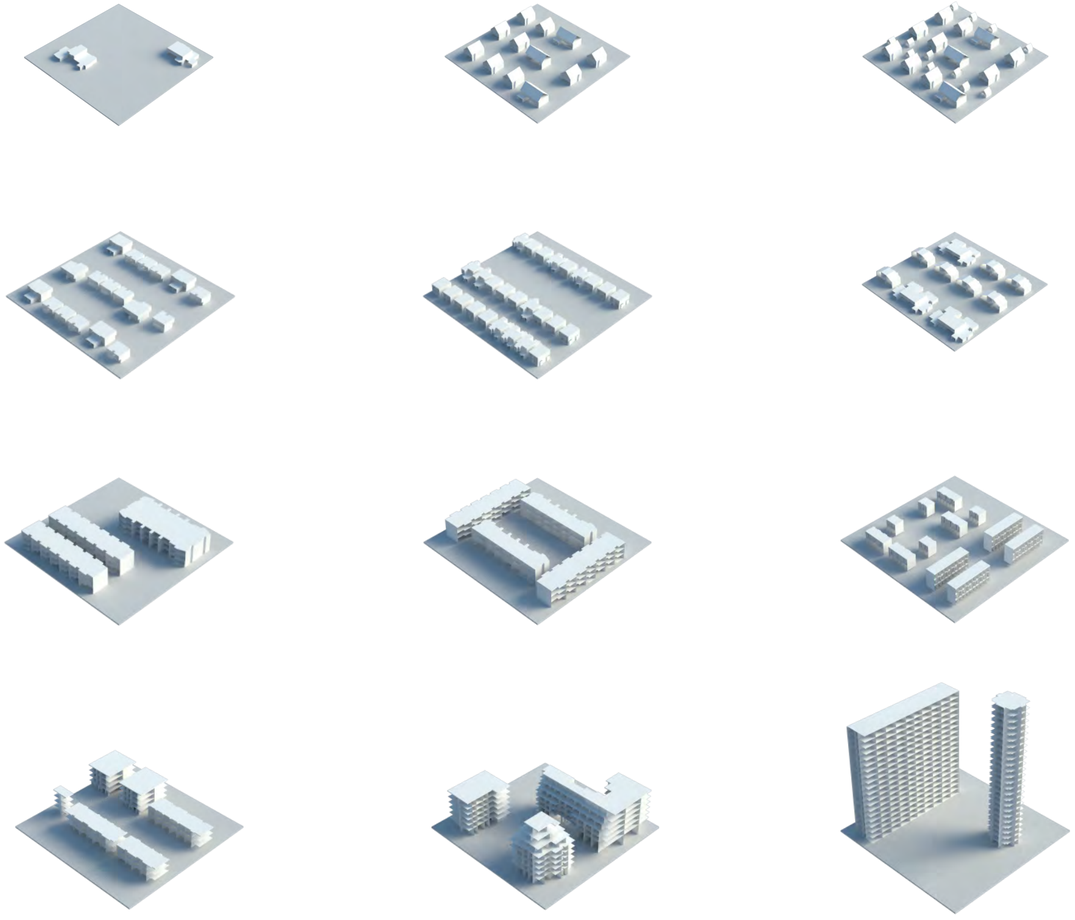
fig 5.42 Underground traffic/Pedestrian at grade street crossing option.

fig 5.43 Freestanding pedestrian bridge street crossing in Las Vegas.

fig 5.44 Freestanding pedestrian circular bridge in Shanghai.

fig 5.45 Intermittent 280m underground LRT lane in Toronto.

fig 5.46 Underground traffic/Pedestrian at grade street in Boston.



Architectural Typology Study

The following analysis is the thesis' study of residential architectural typologies common to North America and Toronto. The analysis organizes different types of architecture types based on their units per hectare analyzing their fundamental architectural factors and urban conditions.

fig 5.47 *(opposite)* Axonometrics of the twelve residential typologies examined.

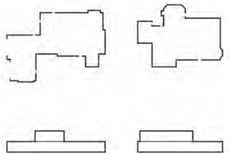
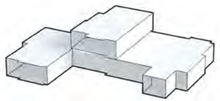
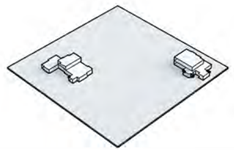
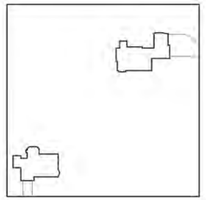
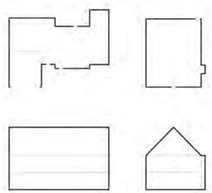
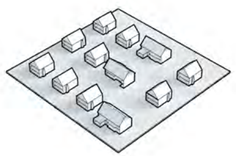
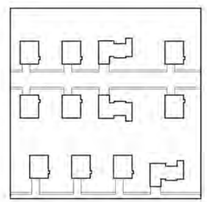
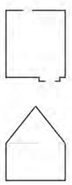
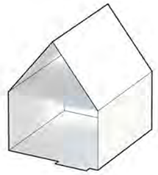
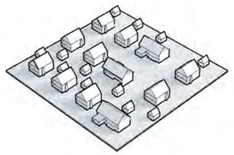
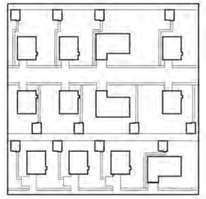
Architectural Factors	Plan/Elevation Example	Unit/Floor Separation	Hectare Axonometric	Hectare Site Plan	Urban Factors
1-10 uph Estate House Single Family Location: rural Density: very low (2-3 storeys) Types: mansion/country house/farmhouse Avg. Parcel Size: 2,000-4,000 sqm Built Footprint: 325-470 sqm Unit Size: 400-1000 sqm Add. Program: n/a					Median Hectare FSI: 0.2 Ave. structures per hectare: 1-9 Greenspace: private Parking: on-site/within Street type: rural No. of parcels/hectare: very low Tenure Type(s): own Typ. lot coverage (%): 13%
10-20 uph Detached Single Family Location: rural/suburban/neighbourhood Density: very low-low (1-3 storeys) Types: mansion/neighbourhood Avg. Parcel Size: 700 sqm Built Footprint: 140-470 sqm Unit Size: 280-940 sqm Add. Program: n/a					Median Hectare FSI: 0.65 Ave. structures per hectare: 14 Greenspace: private/semi-private Parking: street/on-site/within Street type: rural/cul de sac/secondary No. of parcels/hectare: low-medium Tenure Type(s): own/rent Typ. lot coverage (%): 44%
20-25 uph Detached w/ Secondary Unit Location: rural/suburban/neighbourhood Density: low (1-3 storeys) Types: Laneway/Granny Flats/Above Garage Avg. Parcel Size: 700 sqm Built Footprint: 55-80 sqm (+detached) Unit Size: 45-70 sqm (+detached) Add. Program: n/a					Median Hectare FSI: 0.8 Ave. structures per hectare: 14 Greenspace: private/shared/semi-private Parking: on-site/within Street type: laneway No. of parcels/hectare: low-medium Tenure Type(s): own/rent Typ. lot coverage (%): 10% (54% w/detached)

fig 5.48 The diagram illustrates the individual and urban conditions of housing types within a specified area independent of other functions and conditions. This portion showing residential types with 1-25 units per hectare.

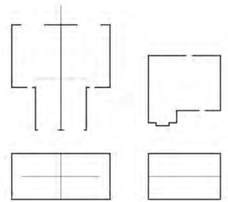
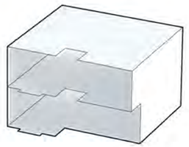
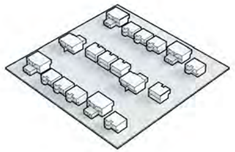
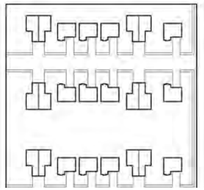
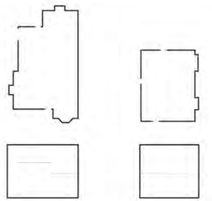
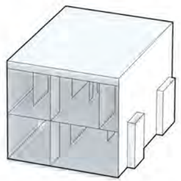
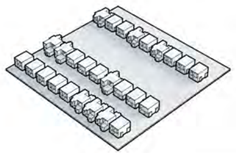
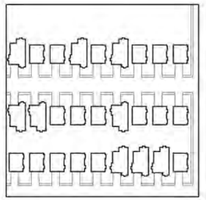
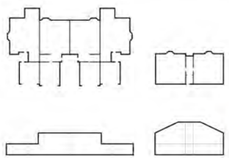
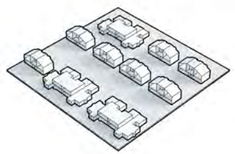
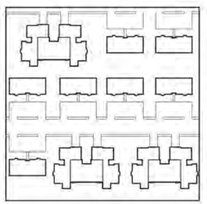
Architectural Factors	Plan/Elevation Example	Unit/Floor Separation	Hectare Axonometric	Hectare Site Plan	Urban Factors
20-30 uph Semi-Detached/Duplex Location: suburban/neighbourhood Density: low (1-3 storeys) Types: side-to-side/stacked/back-to-back Avg. Parcel Size: 360-620 sqm Built Footprint: 260 sqm Unit Size: 90-130 sqm Add. Program: n/a					Median Hectare FSI: 0.83 Ave. structures per hectare: 20 Greenspace: private/semi-private Parking: street/on-site/within Street type: rural/cul de sac/secondary No. of parcels/hectare: medium-high Tenure Type(s): own/rent Typ. lot coverage (%): 53%
25-35 uph Compact Single Family Location: suburban/urban/neighbourhood Density: low-medium (1-3 storeys) Types: narrow/shotgun/post-war homes Avg. Parcel Size: 70-250 sqm Built Footprint: 50-100 sqm Unit Size: 90-140 sqm Add. Program: n/a					Median Hectare FSI: 0.86 Ave. structures per hectare: 50 Greenspace: private/semi-private Parking: street/on-site/within Street type: secondary No. of parcels/hectare: high/very high Tenure Type(s): own/rent Typ. lot coverage (%): 47%
35-50 uph Multi-Family Home Location: suburban/urban/neighbourhood Density: low-medium (2-4 storeys) Types: maisonette/retrofit/fourplex Avg. Parcel Size: 600-1000 sqm Built Footprint: 200-550 sqm Unit Size: 45-65 sqm Add. Program: n/a					Median Hectare FSI: 0.75 Ave. structures per hectare: 10 Greenspace: private/semi-private/shared Parking: street/on-site Street type: rural/cul de sac/secondary No. of parcels/hectare: medium Tenure Type(s): own/rent/co-op Typ. lot coverage (%): 47%

fig 5.49 In the 20-50 unit per hectare typologies the individual dwellings are amalgamated or arranged in close proximity initializing the transition to collective types

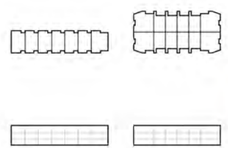
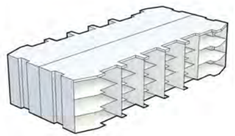
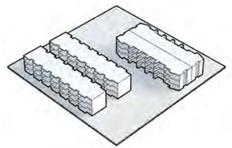
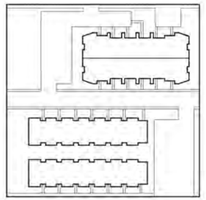
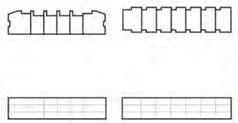
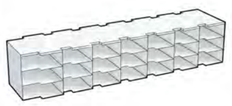
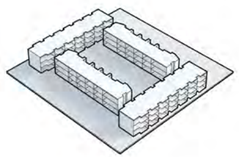
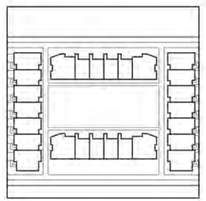
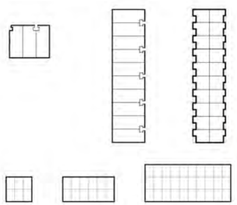
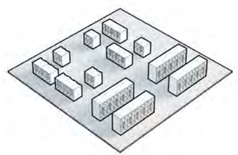
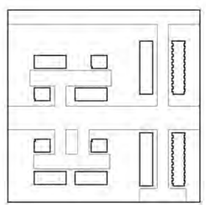
Architectural Factors	Plan/Elevation Example	Unit/Floor Separation	Hectare Axonometric	Hectare Site Plan	Urban Factors
30-75 uph Townhouse/Rowhouse Location: suburban/urban/neighbourhood Density: medium (1-3 storeys) Types: side-side/back-back Avg. Parcel Size: 1500 sqm (8 units) Built Footprint: 300 -500 sqm Unit Size: 75-90 sqm Add. Program: n/a					Median Hectare FSI: 0.75 Ave. structures per hectare: 7 Greenspace: private/semi-private Parking: street/on-site/within Street type: cul de sac/secondary/main No. of parcels/hectare: low-high Tenure Type(s): own/rent/condominium Typ. lot coverage (%): 27%
35-75 uph Courtyard Townhouse Location: suburban/urban/neighbourhood Density: medium (1-3 storeys) Types: cottage/duplex/townhouse Avg. Parcel Size: 6000 sqm (185 sqm/unit) Built Footprint: 1200 -2000 sqm Unit Size: 75-90 sqm Add. Program: n/a					Median Hectare FSI: 0.64 Ave. structures per hectare: 6 Greenspace: semi-private/shared Parking: street/on-site/within Street type: cul de sac/secondary/main No. of parcels/hectare: low-high Tenure Type(s): own/rent/condominium Typ. lot coverage (%): 27%
50-65 uph Stacked Townhouse Location: urban/corridor/neighbourhood Density: medium-high (2-4 storeys) Types: bar/courtyard Avg. Parcel Size: 1,500-3,000 sqm Built Footprint: 1200-2000 sqm Unit Size: 60-80 sqm Add. Program: commercial					Median Hectare FSI: 0.84 Ave. structures per hectare: 6 Greenspace: private/semi-private/shared Parking: on-site/underground Street type: cul de sac/secondary/main No. of parcels/hectare: low-high Tenure Type(s): own/rent/condominium Typ. lot coverage (%): 67%

fig 5.50 The mid-density residential typologies bridge what is traditionally seen as suburban types with urban intensity. The individual dwelling form has been consumed by the collective form.

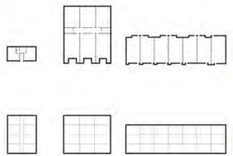
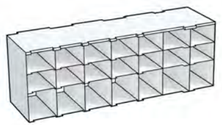
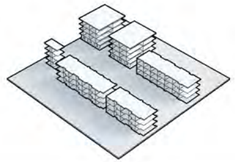
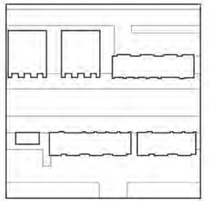
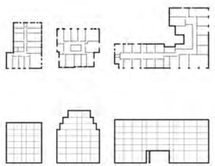
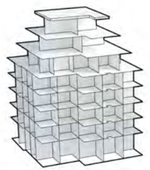
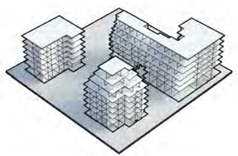
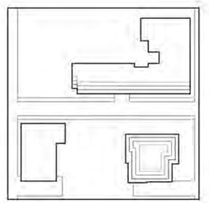
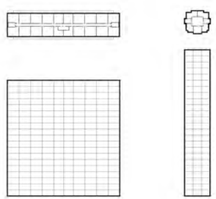
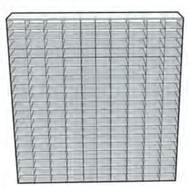
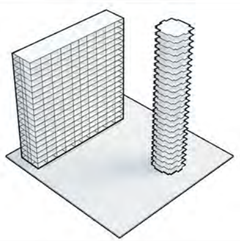
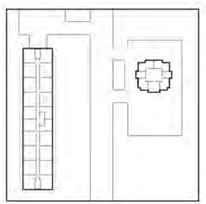
Architectural Factors	Plan/Elevation Example	Unit/Floor Separation	Hectare Axonometric	Hectare Site Plan	Urban Factors
60-90 uph Live-Work Walk-Ups Location: urban/major corridor Density: medium-high (2-4 storeys) Types: street aligned/bar/house/apartment Avg. Parcel Size: 500-1,000 sqm Built Footprint: 250-400 sqm Unit Size: 70-100 sqm Add. Program: commercial/service					Median Hectare FSI: 1.12 Ave. structures per hectare: 10 Greenspace: public/semi-private/shared Parking: street/on-site/underground Street type: secondary/main No. of parcels/hectare: low Tenure Type(s): own/rent Typ. lot coverage (%): 40%
100-200 uph Mid-Rise Apartment Location: urban/major corridor Density: high (5-11 storeys) Types: bar/box/letter shaped/courtyard Avg. Parcel Size: 1,500-3,000 sqm Built Footprint: 1,200-1,700 sqm Unit Size: 70-150 sqm Add. Program: commercial/service					Median Hectare FSI: 4.64 Ave. structures per hectare: 3 Greenspace: public/shared Parking: on-site/underground Street type: secondary/main No. of parcels/hectare: very low Tenure Type(s): rent/condominium/co-op Typ. lot coverage (%): 57%
240-800 uph High-Rise Apartment Location: urban/major corridor Density: very high (12-39+ storeys) Types: bar/point/Y-shaped/podium Avg. Parcel Size: 5,500-13,000 sqm Built Footprint: 700-2,000 sqm Unit Size: 75-85 sqm Add. Program: commercial/service					Median Hectare FSI: 6 Ave. structures per hectare: 1-2 Greenspace: public/shared Parking: on-site/underground Street type: secondary/main No. of parcels/hectare: very low Tenure Type(s): rent/condominium/co-op Typ. lot coverage (%): 20%

fig 5.51 The 60-800 units per hectare typologies represent the most urban and collective of the residential options that statistically perform the best of all types. Their allowance for additional ground floor commercial or employment use mixes well with the urban setting it is typically found in.

Block Typology Study Diagram Types

Each district and its three selected block areas were subjected to a similar set of diagrams that aimed to discover the strategies, interrelationships, and structures that form Toronto's block types.

• The Street Grid Diagram shows the district's streets in three tiers: primary (arterial) streets, secondary (collector) streets, and tertiary (local) streets. The street grid serves as the foundation for all other strategies.

• The Street Grid-Figure Ground Diagram highlights the relationship between the street grid and its architecture showing how the size of blocks and types of streets influence the urban form.

• The Land-Use Diagram is in the tradition with the City of Toronto's zoning practices in both categories and colour schemes. It should be noted that this diagram represents what the area is zoned for and not necessarily what use is currently occupying the site.

• The Transit Shed Diagram roughly shows the 500m walking sheds of high-order transit nodes. The built form and property divisions are under laid to show the number of buildings served within the walking sheds.

• The Figure-Ground Diagram highlights the solid to void relationships of the districts. The sizes, shapes, scales, positioning, alignments, and permeability of solids and voids illustrates the shape of space and architecture alluding to their impact on the urban environment.

• The Block-Built Diagram shows the relationship of the built forms to their street edges, how streets are addressed, and the lot coverages.

• The Block-Parcel Diagram shows the number of property owners in the district, implicates the types of ownership, and the size of properties: alluding to its future adaptability and uses.

Together these diagrams provide the necessary tools to deconstruct, examine, and compare the inner-workings of Toronto's block types.

fig 5.52 diagram of the selected block locations in Toronto.

Saint Lawrence District

To the east of Toronto's downtown core lies the Saint Lawrence district. This district serves as an example of a *planned* compact community that mixes uses, architectural types, tenures, and densities successfully. The district is served by and helps to support a streetcar running along the northern part of the district. The treatment of the grid, built forms, and the block types are useful urban design strategies that can be readapted to the Golden Mile.

fig 5.53 Image of the Saint Lawrence District (orange) and Toronto's high-order transit routes (blue).

fig 5.54 Aerial of Saint Lawrence District at Front Street East.

fig 5.55 Street views of the Saint Lawrence District at King Street East, The Esplanade, the southern residential area, and a rear residential lane.

The Figure-Ground diagram of the St. Lawrence district shows how the grain of solids transition from north to south: simultaneously articulating the shift from the district's public area to its more private and local areas. The northern part of the district, having large square grain of solids, alludes to the density and collectiveness of the public area's built form.

The southern areas of the district, though based on similar square block shape and size, dilutes the original block shape with bars of solids and voids. This transition of scale presents one method of creating a compact, balanced, and cohesive urban area.

The treatment of streets define the amount of access, the ease of or resistance to circulation, and the formations of blocks. The main east-west arteries of this district, shown in the darkest black line in the Street-Grid diagram, have the largest traffic loads, are used to circulate the city, carries public transit, and hosts public land-uses.

The second tier of street in the hierarchy are the collector streets: the thoroughfares of districts. These streets act as the transitional connection between public and local areas balancing the ease of access with resistance to circulation through its continuance or termination, number of lanes, and the traffic rules applied to it.

The third tier of streets, shown in the lightest grey, handle the circulation for local traffic, are kept relatively short, and terminate often to interrupt circulation and, hence, being useful only to those that belong in the area. The southern neighbourhoods, being the least public and more individual-based areas, are host to this type of street.

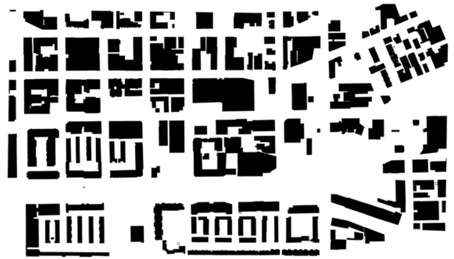


fig 5.56 Saint Lawrence Figure-Ground diagram.

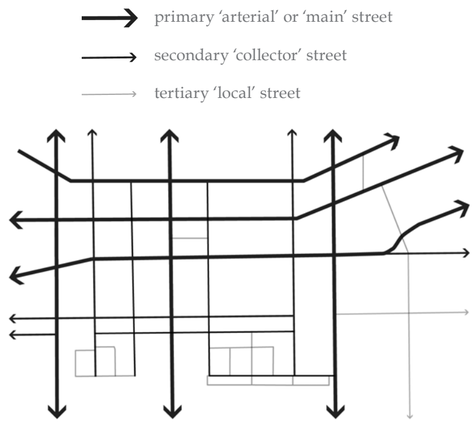


fig 5.57 Saint Lawrence Street-Grid diagram.

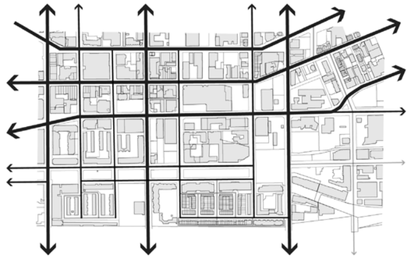


fig 5.58 Saint Lawrence Street Grid-Figure Ground diagram.

fig 5.59 Saint Lawrence Land-Use diagram.

The network and hierarchy of streets not only forms the shape of a block, but it determines block accessibility, the amount and purpose of people who are likely, or are supposed to, circulate there, the suitability to land-uses, and the suitability of the blocks to architectural typologies. Therefore, the articulation of circulation, the degree of its publicness, and the shape and size of the blocks formed by streets serve as the foundations of the district's morphology and its subsequent use of other urban strategies.

The mix of land-use creates diversity in built types, can extend or limit the time frame of daily-use, and can promote or discourage a diversity of users. The organization of land-use works in conjunction with the street hierarchies and neighbouring uses.

St. Lawrence's Land-Use diagram shows commercial-residential-employment in brown (hereafter referred to as CRE), mixed-use commercial-residential in red (hereafter referred to as CR), apartment-residential and residential in yellow, and open-space in green. The area's density and mix of uses helps enliven the district throughout the day and week diluting the after-five employment ghost town or the nine-to-five residential ghost towns that tend to be seen in large single-use areas of the city and its suburbs.

The St. Lawrence district can be divided into three land-use areas: CRE public areas, mixed-use transitional areas, and protected residential areas. The CRE blocks, served by arterial and collective streets, represent what can be best described as public blocks: blocks with larger built footprints (overlaid in white) and collective land-uses.

The second area, comprised of CR use, can be deemed as the transitional area between CRE and residential uses. CR uses, fronting arterial roads, act as buffers between the public CRE area and the more private residential areas.

The third area of the district contains apartment-residential and lower scale residential uses all organized around a central strip of recreation open-space. The open-space strip is useful in serving higher density residential-apartments through its provision of necessary recreational surface areas. Protected by the CR and apartment-residential land-uses, these low density residential blocks help to add diversity of type, income, lifestyles, and social groups to the area.

The organization of land-uses presents a structured pattern, in line with the district's street types, transitioning from public to local and from mixed-use to single-use areas. These land-use patterns work with the street grid, block sizes, and architectural types of the district.

St. Lawrence District Block Area Study

For each district three blocks were selected and individually examined. This further reduction of the district aims to understand the strategies of the individual block and the block-to-block relationships. Similar to the other districts, the three block-areas, were selected based on their land-uses, architectural typologies, block shape and sizes, street-edge conditions, and street types.

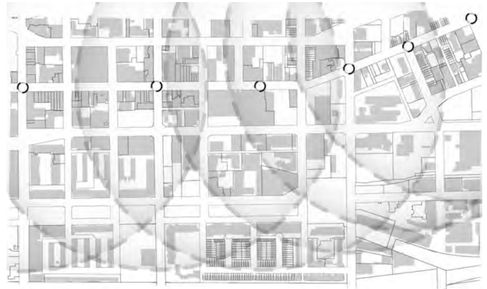


fig 5.60 Saint Lawrence Transit Shed diagram exhibiting a 500 metre walking-shed of streetcar stops in comparison to the area's built fabric. St. Lawrence District's transit service area appears to be supported by, and conveniently accessible to, a high amount built forms and mix of land-uses serving both population and employment densities.

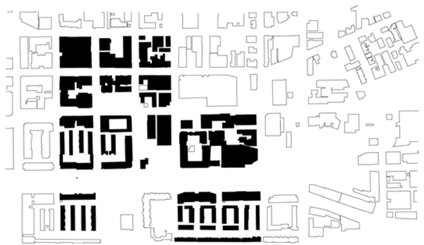


fig 5.61 Figure-ground of Saint Lawrence's selected blocks.

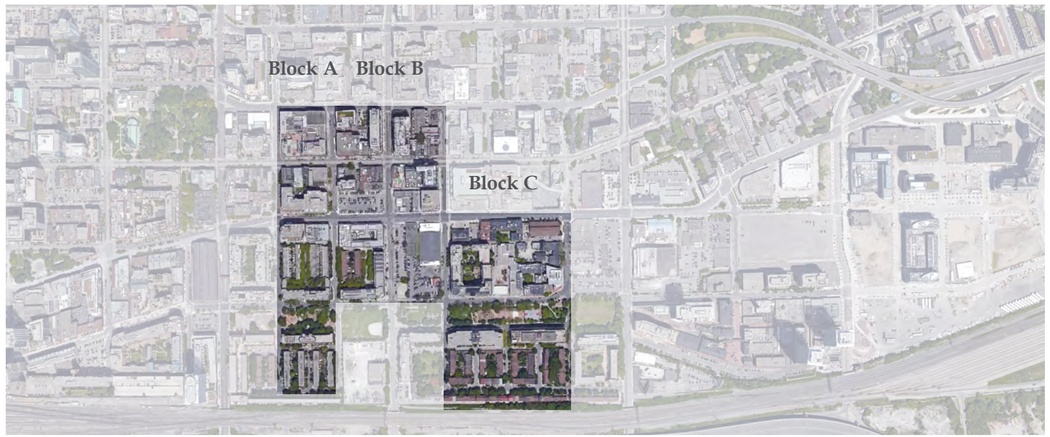


fig 5.62 Aerial image of Saint Lawrence's selected blocks.

St. Lawrence Block Area A

Block Area A shows a transition from a public major arterial transit street and its CRE uses to a more private area having local streets, residential uses, and open-space. This transition is further accuentated in the Figure-Ground diagram as complete block extrusion are reduced to bars of solid and void.

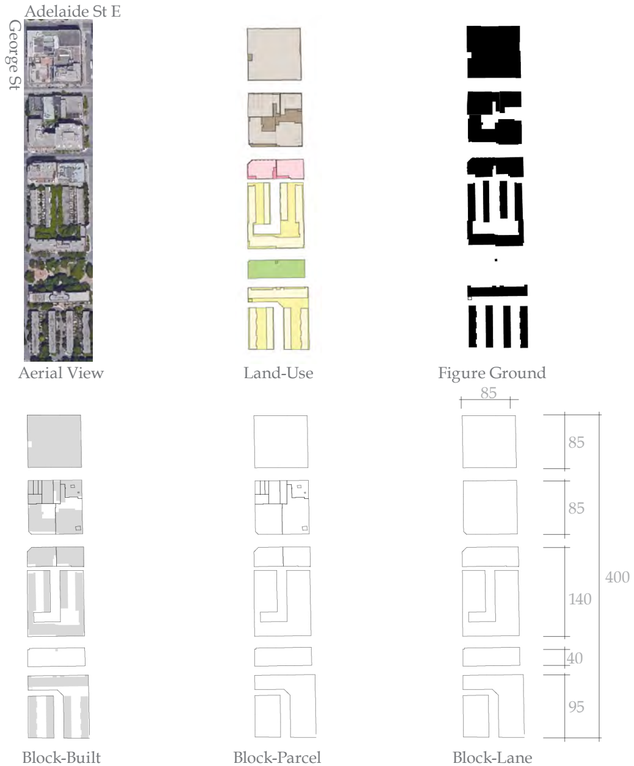
As shown in the Block-Built diagram, the area's built forms are predominantly built to plane creating continuous street walls that protect and capture interior void spaces.

The Block-Parcel diagram denotes the collective nature of the built forms implying their types of tenure to be rentals, cooperatives, or condominiums.

The treatment of streets, lanes, and blocks serve as the foundations for land-uses, architecture, and parcel divisions through its shape, dimensions, and accessibility.

Block Area A caters to a variety of land-uses, architectural types, and, likely, lifestyles necessary in creating a diverse and complete community.

fig 5.63 *(opposite)* Saint Lawrence Block Area A's explanatory diagrams.



St. Lawrence Block Area B

Block Area B highlights the interrelationships formed between the block, its land-uses, and its built forms.

The area is comprised of six blocks divided by three arterial streets including, running east-west in the centre of the block area, King Street East. King Street, being the host to the area's streetcar, is aligned by buildings that are built to a similar plane. This gesture creates a continuous street wall, provides direct access for pedestrians, and spatially defines the street room.

To the rear of these buildings are its support spaces and laneways. By locating parking and other services in the rear, King Street is free to be built to plane.

As discussed in the previous example, the land-use of this area's transition is in synchronisation with the street hierarchy, the degree of the block's publicness, and its architectural types. Together, the mix of uses and the diversity of built forms promotes a range of users, supports a number of functions simultaneously, and helps to create a self-sufficient community.

Parcel divisions impact the future shape of districts as, even if assembly occurs, their sizes and shapes will restrict and partially determining the scale, type, use, and feasibility of its architecture.

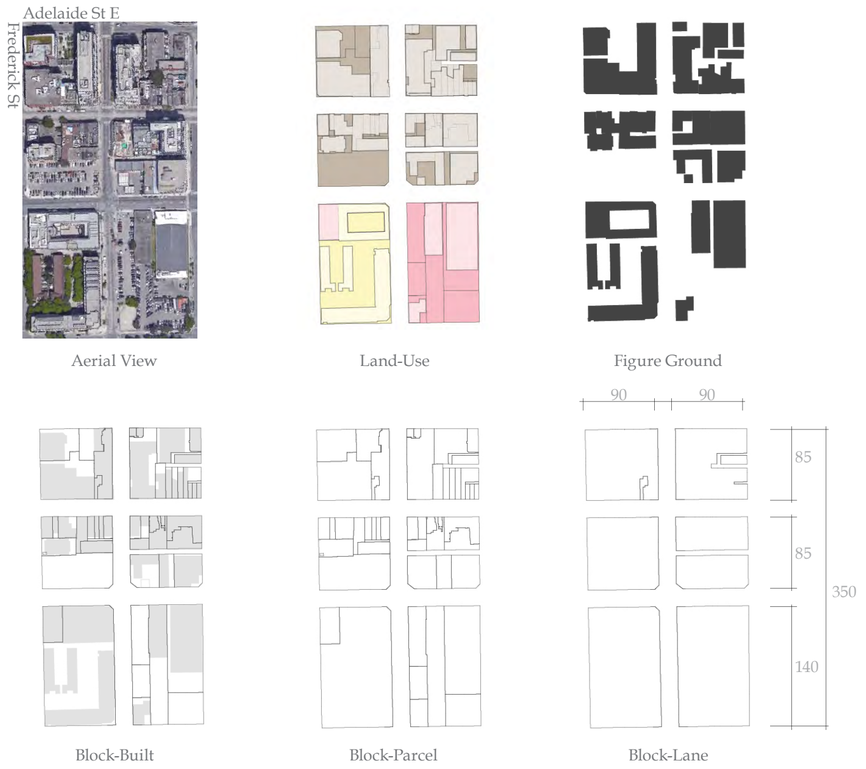


fig 5.64 *(opposite)* Saint Lawrence Block Area B's explanatory diagrams.

St. Lawrence Block Area C

Block Area C was selected for its combination of public and local land-uses, property divisions, and built forms. The north and south blocks of this area, though clearly different, employ similar strategies.

The Land-Use diagram highlights the use of the central mall as it acts as the area's organizational element, serves as a buffer space between blocks of public and private land-uses, and provides recreational space to the high residential densities that surround it.

As seen in the Figure-Ground diagram, by building to plane block interiors are able to be captured. These void private spaces are used as courtyards or, in the case of the southern residential area, are subdivided further into smaller blocks that capture smaller and more private void spaces.

In the southern residential area, the inclusion of a variety of architectural types promotes social diversity. To accomplish a mix of architectural types, the area's built density appears to have an inverse relationship to the compactness of the built forms: the lower the density of building the more compact areas and blocks are likely to be and vice versa.

Block Area C's strategies highlight the relationships of open spaces to block types, building-to-plane and captured spaces, and architectural types associated compactness.

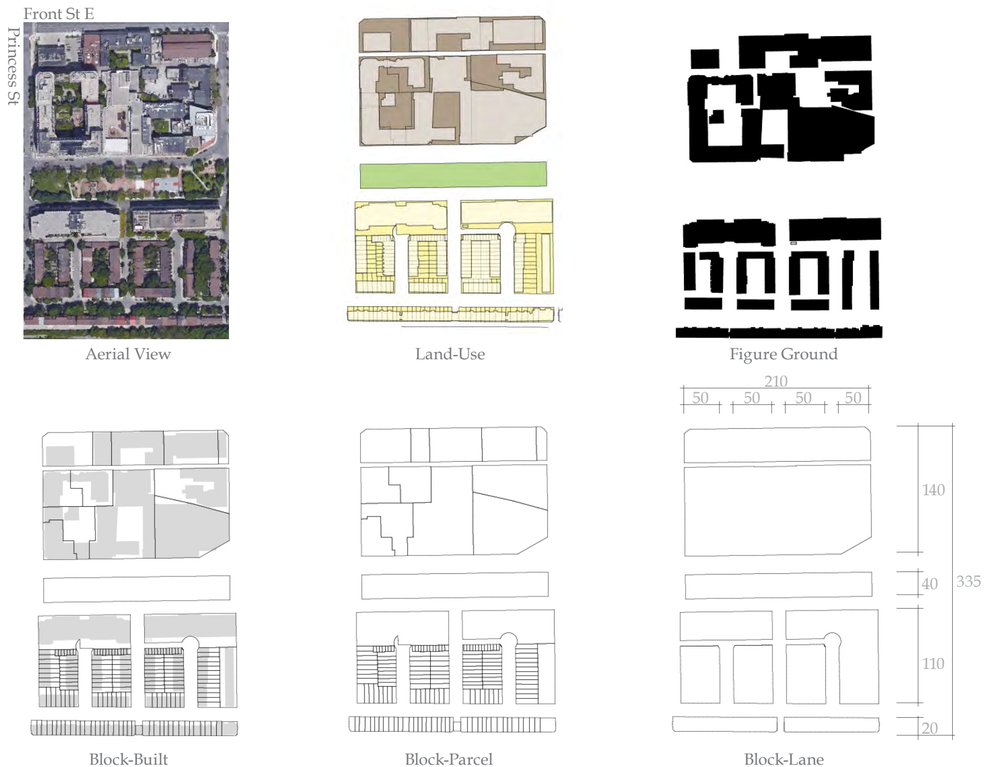


fig 5.65 *(opposite)* Saint Lawrence Block Area C's explanatory diagrams.

fig 5.66 Image of the Spadina District (orange) and Toronto's high-order transit routes (blue).

fig 5.67 Aerial of Spadina Avenue at Dundas Street West.

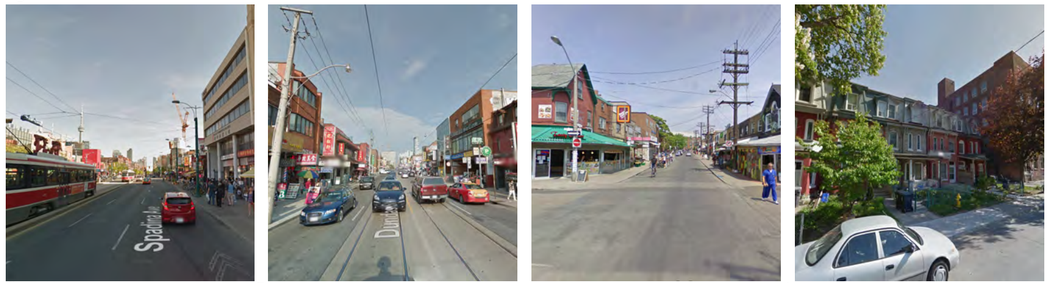


fig 5.68 Street Views of the Spadina District at Spadina Avenue, Dundas Street, Kensington Market, and an innominate residential street.

Spadina's figure-ground shows dense clusters of solids, continuous street walls, and well-defined void spaces. Again, solids are built to similar planes making continuous street walls that define the street boundaries and the shape of the public realm.

Solids that have frontage along Spadina Avenue (the central void space that runs left to right in the diagram) are larger than their finely-grained residential counterparts: a result of the maximization of floor space.

There were however two exceptions to the typical conditions. The first, standing out at the top-central portion of the diagram, is Alexandra Park: an area, currently under revitalization, that appears to disregard the surrounding street grid and morphology.

The second exception, shown in the lower portion of the diagram, was the district's use of square blocks for a CR and single-use residential block. The block's width, being more suitable to a public block, leads to both awkward infilling and unsuitably large captured void spaces that subsequently reduce the compactness of the area. In this instance the mismatched block widths, land-use, street type, and architectural types either reduce the order or the compactness of the district.

The Spadina district's land-uses arrangement is typical: incorporating CR uses along the edges of main streets with residential land-uses and low density architecture located in rear neighbourhoods.

fig 5.69 Spadina District Figure-Ground diagram.

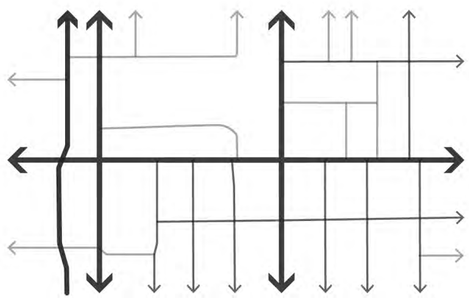


fig 5.70 Spadina District Street-Grid diagram.

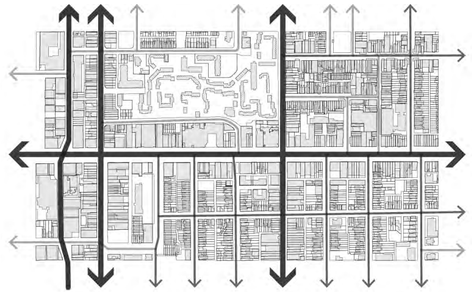


fig 5.71 Spadina District Street Grid-Figure Ground diagram.

fig 5.72 Spadina District Land-Use diagram.

The exception to this is the spillover of CR use into secondary and tertiary streets as seen in the northeastern area of the Land-Use diagram: an area known as Kensington Market. Possibly, as will be discussed in a block area analysis that follows, this exception is the result of a convergence of main streets and a subsequent high demand for commercial floor space.

Spadina District Block Area Study

The three block areas that were selected all have frontage along Spadina, share a mix of commercial, employment, and residential uses in a mix of different block types and sizes.

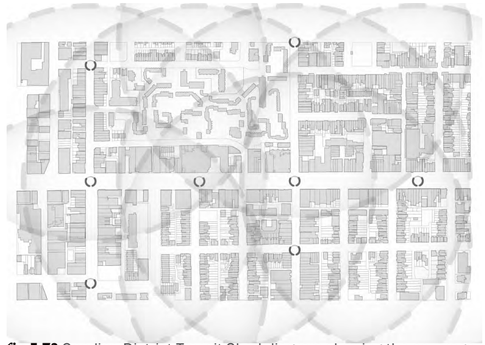


fig 5.73 Spadina District Transit Shed diagram showing the coverage of the district's streetcars. The compact treatment of the built form and the convergence of three transit corridors makes the Spadina District very well served by transit.

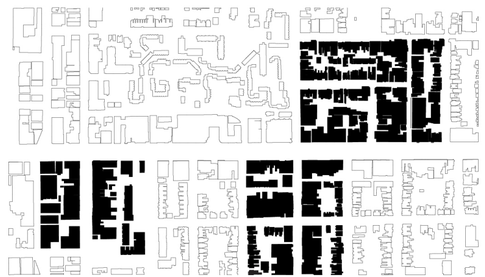


fig 5.74 Figure ground of Spadina District's selected blocks.

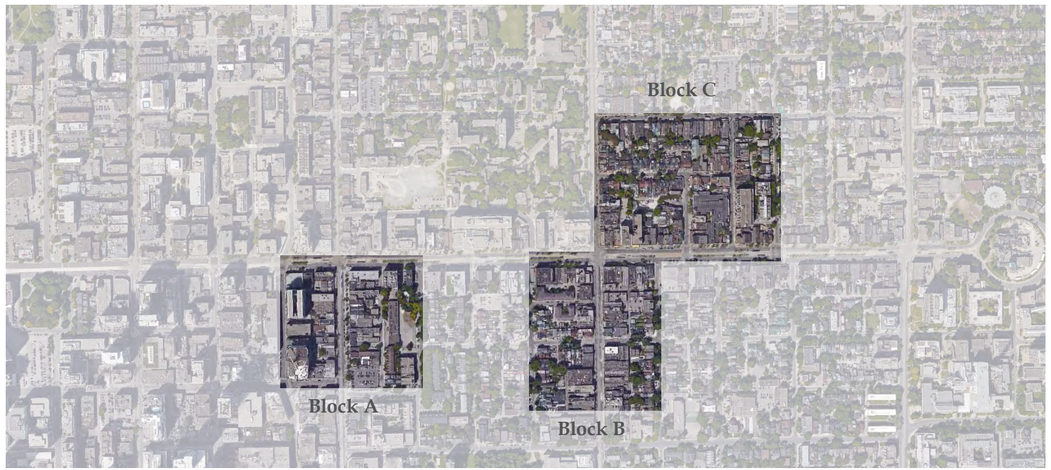


fig 5.75 Image of Spadina District's selected blocks.

Spadina Block Area A

Block Area A's land-use is focused around public uses (mixed employment and mixed commercial) being complimentary to the convergence of two main streets, the area's density, and the area's urban location.

The Land-Use diagram highlights the relationship between land-use, parcel divisions, and lot coverages. The block's CRE-uses are combined with larger parcels, larger building types, high lot coverages, and, hence, have high densities. The CR-use parcels are thinner, have high lot coverages, and are host to lower density buildings. For this block area, blocks with the largest parcels represent the more public areas with greater allowance for mixes of land-uses, high lot coverages, and larger densities.

The Figure-Ground diagram shows the compact nature of the built form, the area's high solid-to-void ratio, and the overall continuity of its street walls. The footprints of buildings, sometimes being almost complete extrusions of parcels, leave minimal open spaces in the block showing the area's preference for floor space alluding to the area's urban location and function.

Typically, as shown on the Block-Built diagram, buildings are built to the edge of property lines which, in the case of commercial and employment properties, helps in maximizing floor space.

The parcel divisions show the area's high amount of ownership division along the central street that, in the future, will generate high lot coverages promoting a compact urban environment (albeit one with low density buildings).

To support these uses, laneways split the blocks providing service access, buffer spaces, and parking options allowing for architecture to be built to plane.

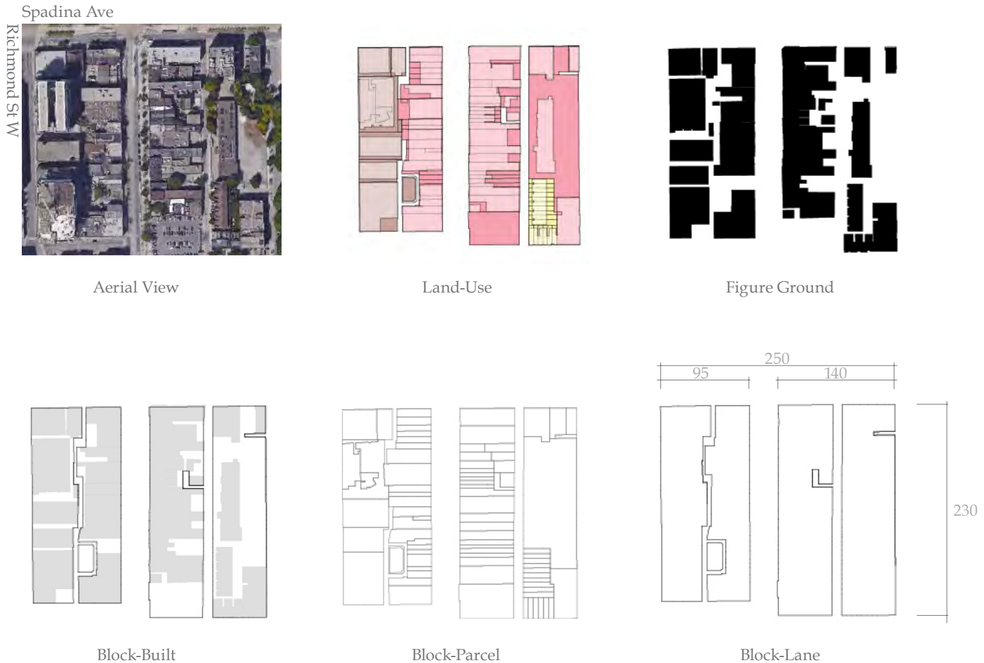


fig 5.76 *(opposite)* Spadina District's Block A explanatory diagrams.

Spadina Block Area B

The second block area selected examines four small square blocks selected for their land-use structure, its high solid-to-void ratio, and its incorporation of laneways.

The Land-Use diagram shows the CR uses, fronting Spadina Avenue (top) and a perpendicular Dundas Street (centre), protecting the more localized realm and its residential uses: a typical strategy of Toronto's blocks.

The large width of the square blocks, larger than what is required by the residential land-use and low density architecture, results in interior parking courtyards, infilled buildings, or larger built footprints. The area's individual floor space or void space gains are created at the expense of higher density and ordered environments.

To resolve the disagreement between land-uses, architecture, and block widths, laneways are used extensively throughout this block area to provide support and access.

Though the width of these blocks are suitable to higher density buildings, the parcels are circumscribed by their size requiring assembly to allow for larger building types. Therefore, though suited to a higher density of architecture, the built form is difficult to change and, hence, will likely not happen.

The high amount of thin parcel divisions is not without its benefits. Their subsequent small amount of individual frontages allows for a higher amount of properties to have frontage. This increases the number of owners while activating the street edge condition both architecturally and by providing numerous access points.

fig 5.77 *(opposite)* Spadina District's Block B explanatory diagrams.

Spadina Block Area C

Block Area C includes four dissimilar blocks that make up a portion of Kensington Market.

The Land-Use diagram appears to show that most of the area's residential uses have transitioned into CR uses. This assumption is based on the street types, the lot coverages, and the morphology of the block.

This CR spillover onto secondary streets appears to a result of the convergence of main streets and parcel sizes. Arguably, this spillover signals the main streets requirement and ability to support higher densities of commercial and residential uses which, due in part to their parcel size, regulated building limits, and, for small parcels, their need for assembly, is more difficult to accomplish than spilling over into residential areas.

The leftover captured void space in the interior of the northwestern block, unideal for commercial purposes, was infilled with compact residential laneway housing.

The Figure-Ground articulates the intensity of built forms, their compactness, and their captured private void spaces. The low amount of unused open space, as seen in the Block-Built diagram, shows the area's high lot coverage ratio and built intensity. As expected, the residential properties are divided into thin rectangular parcels increasing ownership, the number of properties with frontages, and influencing the street's level of activation.

Similar to the rest of the district this block area incorporates rear laneways for support (although these lanes appear haphazardly rather than planned forced to follow existing conditions and awkwardness of the blocks and their built forms).

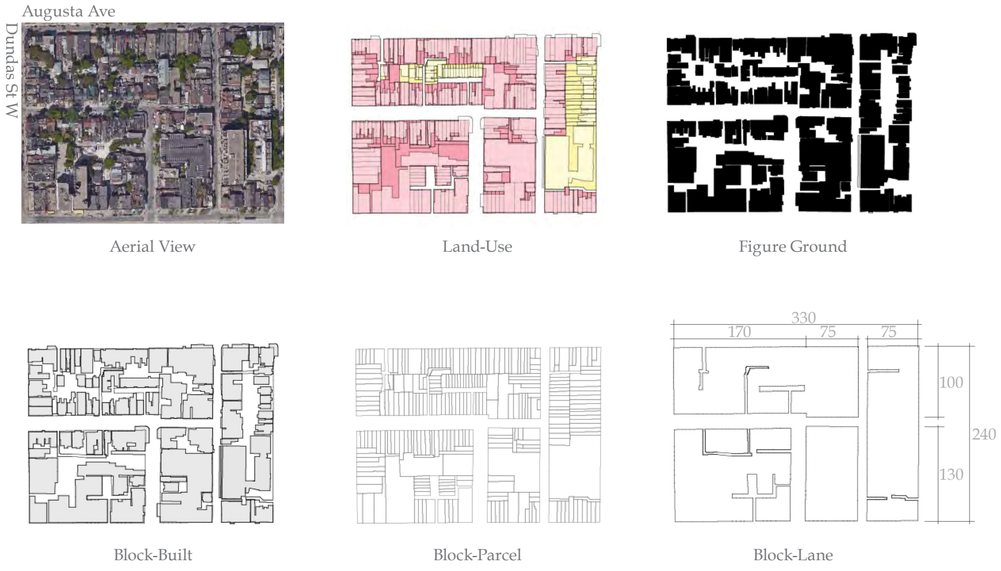


fig 5.78 *(opposite)* Spadina District's Block C explanatory diagrams.

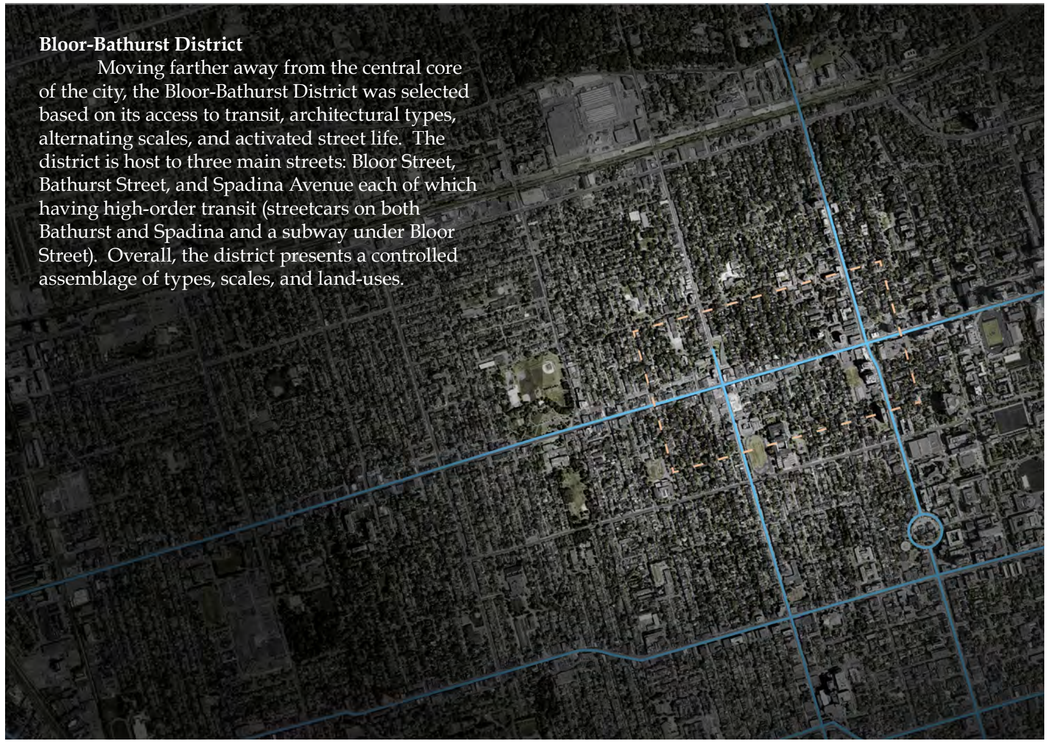


fig 5.79 Image of the Bloor-Bathurst District (orange) and Toronto's high-order transit routes (blue).

fig 5.80 Aerial of Bloor Street at Bathurst Street and Spadina Avenue.

fig 5.81 Street Views of the Bloor-Bathurst District at Bathurst Street, a mid-block laneway, townhouse development, and a residential neighbourhood.

The area's built form, as seen in the Figure-Ground diagram, appears more rigidly planned, controlled, and sparser than the previous two districts alluding to its apparent lower density and compactness.

Similar to other districts, solids are aligned forming continuous street walls. One of the district's exceptions to this is Spadina Avenue's built form (the arterial north-south street on the east side of the district) which has a noticeable increase in the scale of solids coupled with an increase in the permeability of the street wall. This morphological gesture, subject to the required limiting distances and setbacks of larger scaled and higher density buildings, begins to obscure the spatial definition of the street and, if repetitiously applied, degenerates the spatial definition of the urban environment. Therefore in future plans, the treatment of solids and voids should aim to either balance or unify density and scale with the continuity of the street wall and the definition of void public space.

The district's grid, initially formed by Bloor Street, Bathurst Street, and Spadina Avenue, is subdivided by several methodically positioned secondary streets that create the rectilinear blocks of the district. Although it appears that secondary streets continue through arterial streets (as seen in the Street-Grid diagram), they actually use a strategy of one-way streets that terminate or start at main streets thereby helping to articulate the amount and purpose of secondary street circulation. Overall, the grid's evenly spaced rectilinear shaped structure provides

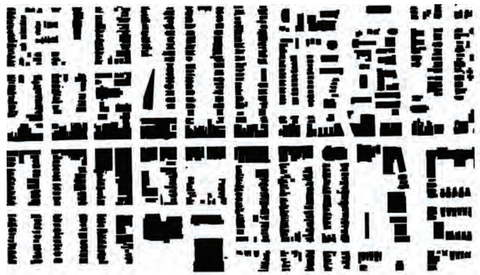


fig 5.82 Bloor-Bathurst District Figure-Ground diagram.

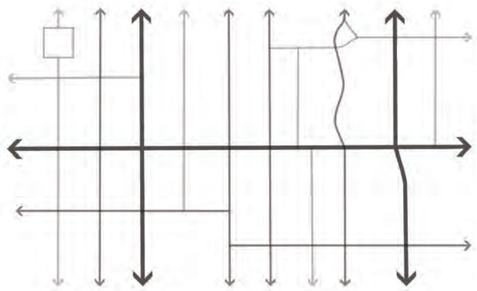


fig 5.83 Bloor-Bathurst District Street-Grid diagram.

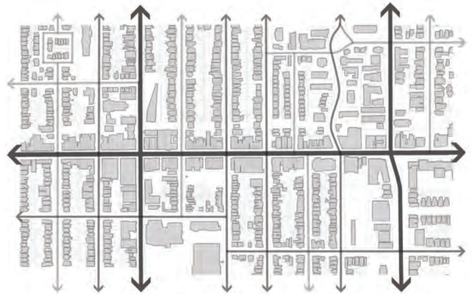


fig 5.84 Bloor-Bathurst District Street Grid-Figure Ground diagram.

fig 5.85 Bloor-Bathurst District Land-Use diagram.

predictability and order for the district's land-uses and architectural types.

Dominated by commercial and residential uses, this district's Land-Use diagram expectably has continuous strips of CR use align main streets shielding the local finer grain residential uses behind them.

Again, the convergence of main streets produces CR-use spillover onto secondary streets. An exception to this spillover, further discussed in the analysis of Block Area C, are portions of the east side of the district: where block sizes have increased in width to suit larger density buildings.

Overall, the structure of land-use found in this district is methodical, ordered, and highly planned.

Bloor-Bathurst District Block Area Study

The three block areas chosen from this district are focused along Bloor Street and include blocks that adjoin to Bathurst Street and Spadina Avenue. Each block area gets progressively larger examining, at first, the block type and, in the following two areas, the relationship between blocks. These three areas use similar structures that were adapted to suit different architectural types, densities, and uses.

fig 5.86 Bloor-Bathurst District Transit Shed diagram shows 500m walking sheds of the Bloor subway, Bathurst streetcar, and Spadina streetcar. Together, these three transit corridors cover the entire district easily. The mix and structure of land uses found in the district, though simplistic, attract people to the area to live, shop, and be entertained. This influx of people to the district increases the support for transit, commercial properties, and for the creation of an activated urban area.

fig 5.87 Figure-ground of Bloor-Bathurst District's selected blocks.

fig 5.88 Image of Bloor-Bathurst District's selected blocks.

Bloor-Bathurst Block Area A

Bloor-Bathurst's Block Area A represents a fairly typical arrangement of blocks in its treatment, shape, and underlying structure. The block's CR use has encroached along a secondary street which, as discussed, is likely due to the convergence of two main streets, and in this instance the smaller than average CR parcels on the southern side of the Bloor Street (central street). These conditions, developed over time, required the block type's adaptation. The identification of common reoccurrences such as spillover CR uses neighboring major intersections can lead to its anticipation and, in future plans, block structures that can avoid or promote such outcomes.

Similar to other districts, and as shown in the Block-Built diagram, the buildings are all built to plane: a gesture attributable to the fine division of parcels. By restricting the sizes of parcels, property owners are likely to build to predictable sizes (e.g. the maximum allowable area) not only initially, but also if buildings are renovated or reconstructed. Restricting the width and shape of parcels influences the area's future compactness, architectural types, the continuity of the street wall, and the architectural activation of the street.

Thin parcel divisions and building to plane are supplemented by area's laneways, rear yard parking, on-street parking, and public surface parking lots. This block area incorporates a 'T' shaped laneway, a quintessential laneway type for Toronto, that separates CR-uses from residential uses and provides access, parking options, and support.

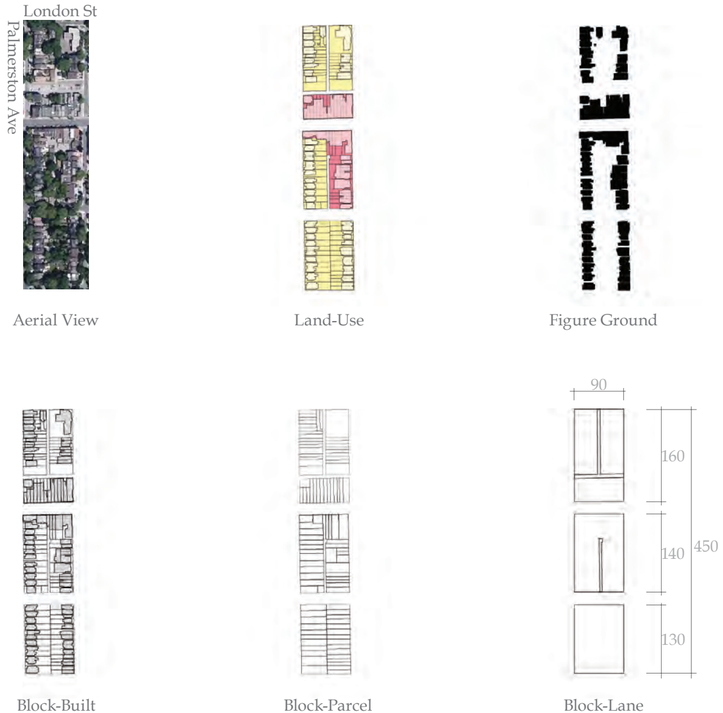


fig 5.89 *(opposite)* Bloor-Bathurst District Block A explanatory diagrams. This block's structure of land-use, architectural treatments, division of property, and use of laneways represent one of Toronto's prototypical block morphologies.

Bloor-Bathurst Block Area B

The second block area chosen includes four blocks located along Bloor Street. Bounded in the west by Bathurst Street, this block area has similar elements and structures that are repeated from the previous block area and, therefore, is relatively unsurprising; a revelation that is a testament to this district's dependence on a prototypical block type. Though the prototypical block type has been generally adhered to, it has also been adapted to suit the requirements of the site and district.

The Land-Use diagram, repeating a pattern now expected, is altered slightly having a transit stations and, located in the bottom right block and zoned as residential use, a surface parking lot (supplementing on-street parking thereby supporting the main street).

The ability of a block to adapt to other uses and architectural types is an important consideration in shaping new blocks. A block's adaptability is attributable to its shape, accessibility, surrounding conditions, and dimensions.

Here, the thin division of parcels, influencing the type and shape of built forms, also limits the block's ability to adapt in the future. An increase in density and scale of building type, for example, would require parcel assembly making change difficult to accomplish.

fig 5.90 *(opposite)* Bloor-Bathurst District Block B explanatory diagrams.

Bloor-Bathurst Block Area C

The final block area in the Bloor-Bathurst District, Block Area C, examines six blocks used to discuss avoidance of CR spillover and helps to highlight two types of transitions between different architectural types and scales.

The convergence of the area's two main streets (Bloor and Spadina) has not caused CR uses to creep down secondary streets. Presumably this can be attributed to the larger footprints, parcels, and higher density of this block area. The opposite side of Spadina, as shown in the *district's* Land-Use diagram, has smaller footprints, parcels, and densities and, expectably, its CR uses *have* crept down secondary streets.

The built form of the area, though not a quintessential example, shows two methods of transitioning between scales: the direct and the gradual.

The direct method, shown in the bottom three blocks of the Figure-Ground, uses a half-block of open buffer space to transfer from the smallest to larger scale. The benefits of this method are its quick transition of scale, its provision of open spaces (a necessary amenity for large scale high density buildings), and its following of traditional development practices (creating either large or small scale developments while typically avoiding mid-scale development).

The gradual method, shown in the top half of the block area, uses three blocks to transfer from low-rise residential to mid-rise CR buildings. Though this example is imperfect, it shows the potential of gradual change to incorporate larger scale buildings in proximity to small scale buildings. The integration of different scales and types in this gradual method avoids architectural monotony while providing different ways to dwell, incorporating mid-rise developments, and diluting differences in scale. The gradual transition is accompanied by increased setbacks and limiting distances (partially dissolving the continuity of the street wall and the definition of the street), larger parcels, and the abandonment of the laneway system marking a significant change from other Toronto block types. The block area's larger parcels, in comparison to the typical thin residential parcels, are more adaptable in the future as the needs of the district and the city changes. Here, the abandonment of the laneway system is replaced by on-site circulation and access.

fig 5.91 *(opposite)* Bloor-Bathurst District Block C explanatory diagrams.

Saint Clair District

The furthest northwestern district studied is the Saint Clair District an area comprised of a commercial-transit corridor, institutions, and low density residential blocks. The area, also known as Corso Italia, was selected based on its prototypical block types, access to transit, and its activated street life. Overall, this district's analysis demonstrates typical Toronto block structures, the developed interrelationships between and within blocks, and the variability of strategies within such block structures.

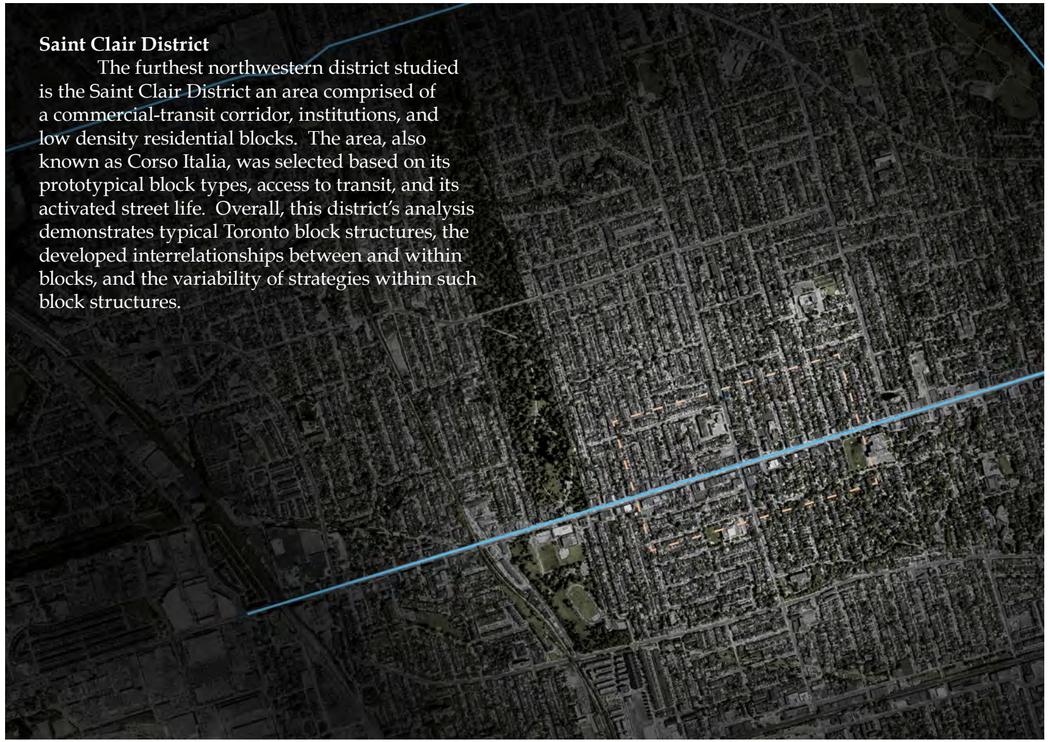


fig 5.92 Image of the Saint Clair District (orange) and Toronto's high-order transit (blue).

fig 5.93 Aerial of Saint Clair Avenue at Dufferin Street.

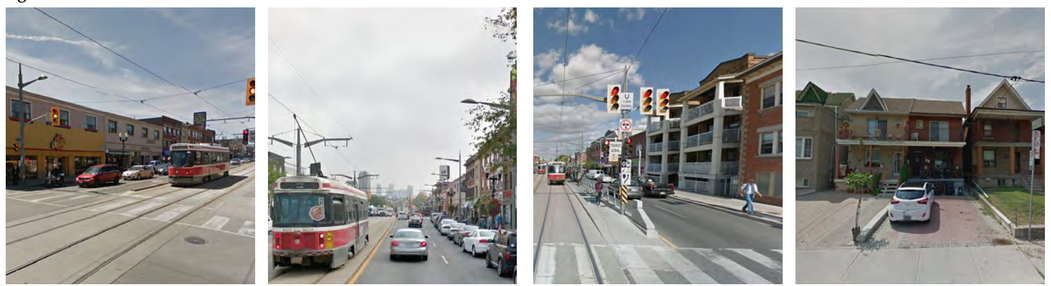


fig 5.94 Street views of the Saint Clair District at Dufferin Street, Via Italia, Northcliffe Drive, and a residential street.

The built form of the district, highlighted in the Figure-Ground, uses a highly repetitious land-use structure and built form morphology that, together, represent a typical block type of Toronto.

As shown in the Street-Grid diagram, the district is host to two arterial streets: St. Clair Avenue (running east-west) and Dufferin Street (running north-south). The secondary collective streets rhythmically form the oblong rectilinear block shapes of the district. These secondary streets are offset from one another funneling vehicles to the main street thereby reinforcing the hierarchy of streets.

The blocks in the northwestern section of the district are slightly wider than their eastern counterparts allowing for the inclusion of laneways thereby freeing the front façade to either be built to plane or to serve other functions.

fig 5.95 Saint Clair District Figure-Ground diagram.

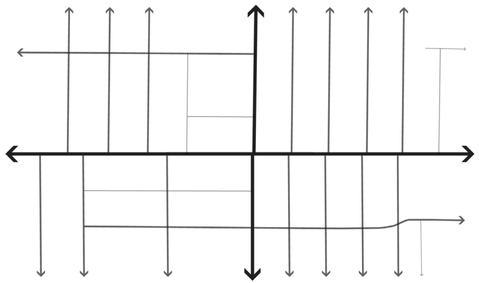


fig 5.96 Saint Clair District Street-Grid diagram.

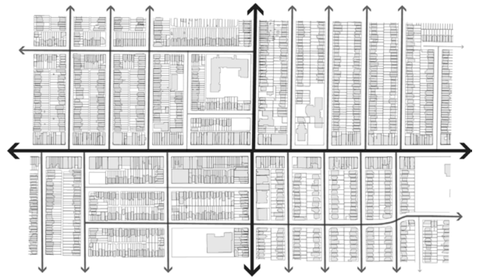


fig 5.97 Saint Clair District Street Grid-Figure Ground diagram.

fig 5.98 Saint Clair District Land-Use diagram.

The land-use of the Saint Clair District is typical: comprising of commercial-residential uses, institutional uses, and (overwhelmingly) residential uses. Dufferin Street, being the exception, is aligned with residential uses that is likely attributable to the district's peripheral location.

A necessary critique of the district is its development of an architectural (and likely social) monoculture. Future developments would be wise to include a larger range of architectural types and land-uses.

St. Clair District Block Area Study

The three block areas selected from this district initially help to examine the individual block and then, in the two other areas, the relationships within and between blocks. These blocks were selected for their variety within typical structures (e.g. in orientation, scale, or shape).

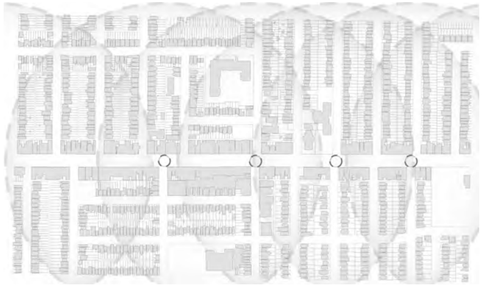


fig 5.99 Saint Clair District Transit Shed diagram shows the coverage of an LRT transit corridor. Reciprocal to this, the area's compact built form and the amount of residences, institutions, and commercial properties, though comprised of low scale and density, help to support transit increasing its viability.

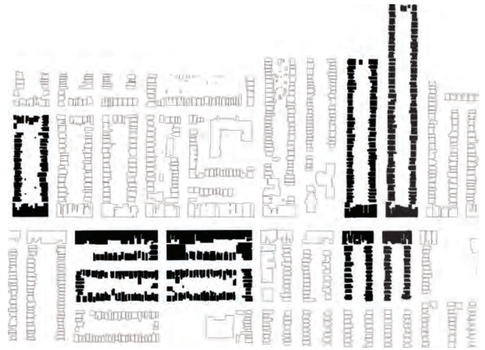


fig 5.100 Figure ground of Saint Clair District's selected blocks.

fig 5.101 Image of Saint Clair District's selected blocks.

Saint Clair Block Area A

Saint Clair District's Block Area A represents a block structure typical to Toronto.

The near extrusion of CR-use parcels by their built forms, relative to residential uses, shows, whether by choice, regulation, or necessity, their valuation of interior over exterior space.

The block's 'I' shaped laneway provides service lanes to residences and commercial properties alike reducing the need for support along the street edge or on the street itself.

This block's significance is its typicalness. It is useful in future plans showing best practices when incorporating low density architecture on blocks adjoined main streets.

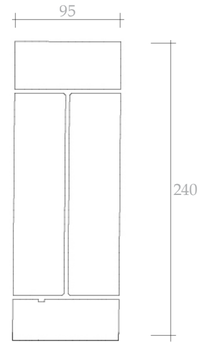
Aerial View


Land-Use


Figure Ground


Block-Built


Block-Parcel



Block-Lane

fig 5.102 *(opposite)* Saint Clair District Block A explanatory diagrams.

Saint Clair Block Area B

Block Area B, located at the southwestern corner of St. Clair Avenue and Dufferin Street, positions its broad side along the main street creating a longer block and less permeable street wall.

Public parking is accommodated either on-street or, as shown in the southwestern-most parcels of the northern blocks, behind CR uses: one a surface parking lot and the other a two-storey parking structure. The neighbourhood's residential parking is accommodated either on-street or on-site via rear lanes, front driveways, or side lanes.

Similar to other blocks, Block Area B utilizes laneways which take the form of cul-de-sac laneways providing access to select parcels and claustrophobic turnaround areas. This block area's incorporation of laneways, parking types, and its orientation presents varied strategies of a typical block shape and structure.

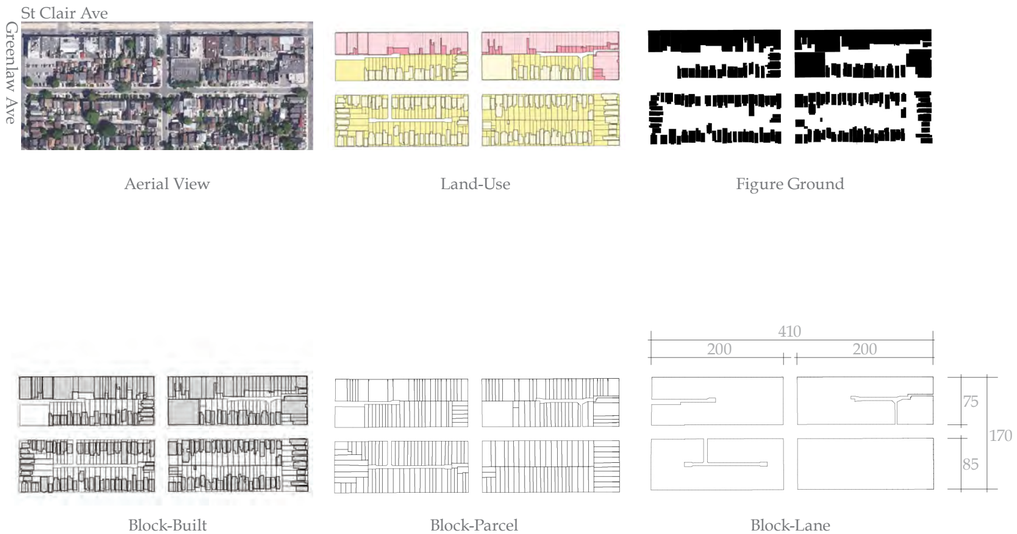


fig 5.103 *(opposite)* Saint Clair District Block B explanatory diagrams.

Saint Clair Block Area C

The third block area of the Saint Clair district, though emphasizing the typical block structure seen throughout the district, has variances from it including its reduced block widths. The reduced width of block restricts the incorporation of the laneway effecting its accessibility and parking. Parking, in turn, is located in front of houses or, via side driveways, in rear yards. Collectively, relative to the incorporation of a rear laneway, the individual side driveways require more land to accomplish the same task and, hence, is wasteful leading to the loss of open space, built form, or on-street parking.

The fundamental benefit of this block structure is its slim block width allowing for more blocks within a district. The length and width of block impacts its walkability, connectivity, publicness, architectural types, and the number of blocks able to be accommodated within the district.

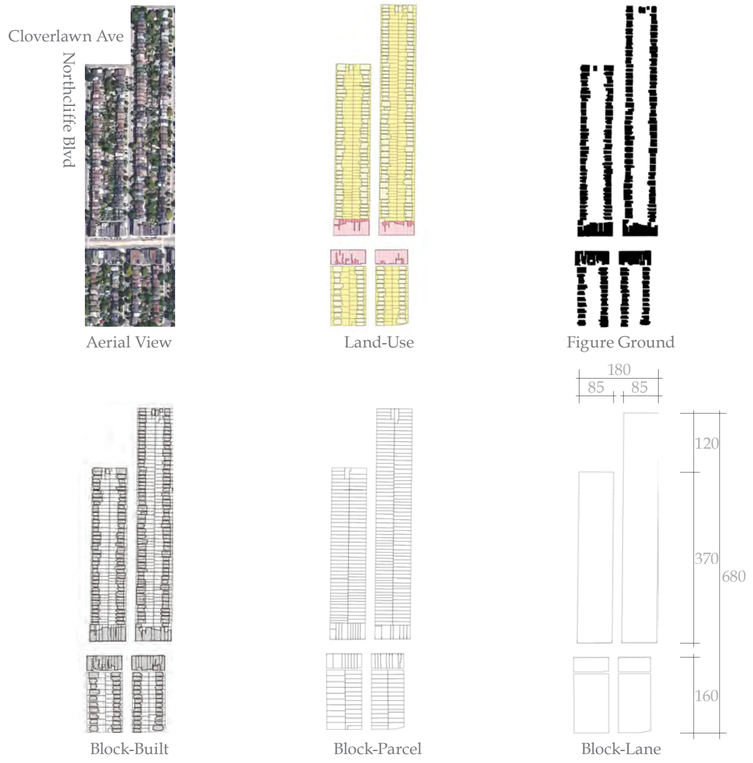


fig 5.104 *(opposite)* Saint Clair District Block C explanatory diagrams.

1891 Eglinton Avenue Application

As mentioned in the Precinct Two's explanation, 1891 Eglinton Avenue has been applied for redevelopment with the City of Toronto. Currently a manufacturing building, the application intends to change land-use from allowing employment uses to allowing a mix of commercial, residential, and employment uses. The following images and diagrams show the location of the project, current zoning, the application's attributes and the City of Toronto's June 2015 amendment.

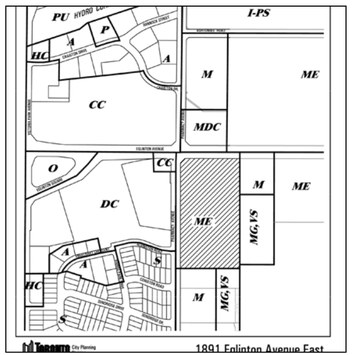


fig 5.106 Zoning for 1891 Eglinton having mixed employment (ME).

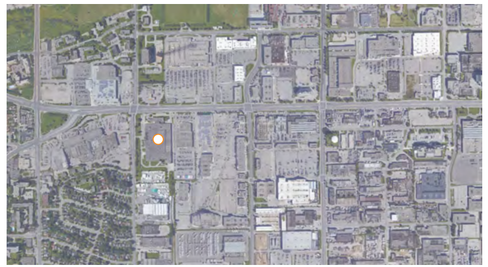


fig 5.105 Aerial image of 1891 Eglinton and the surrounding Golden Mile.

fig 5.107 Aerial of 1891 Eglinton.

fig 5.108 Images of 1891 Eglinton Avenue and its edge condition as it currently exists.

TORONTO

STAFF REPORT
ACTION REQUIRED

1891 Eglinton Avenue East – Official Plan Amendment Application – Preliminary Report

Date:	March 14, 2012
To:	Planning and Growth Management Committee
From:	Chief Planner and Executive Director, City Planning Division
Wards:	Ward 35 – Scarborough Southwest
Reference Number:	Pg 12020 (File No. 11 325706 ESC 35 OZ)

SUMMARY

An application has been submitted to amend the Toronto Official Plan to permit a mixed use development by redesignating the lands at 1891 Eglinton Avenue East from Employment Areas to Mixed Use Areas. A total of 1640 residential units are proposed in five buildings, three of which include mixed-use podium buildings, ranging from 30-40 storeys in height. A one-storey retail building is also proposed at the southwest portion of the site. The application includes 14,843 square metres of commercial/retail space and 6,213 square metres of office space.

This report provides preliminary information on the above-noted application and seeks Planning and Growth Management Committee's directions on further processing of the application and on the community consultation process.

RECOMMENDATIONS

The City Planning Division recommends that:

1. Staff be directed to review this application to redesignate the subject lands from Employment Areas to Mixed Use Areas for the purpose of permitting residential

fig 5.109 PDF of 1891 Eglinton Application at the corner of Eglinton Avenue and Pharmacy Avenue (currently manufacturing employment).

A map showing the siting of the proposed buildings is attached as Attachment 1 to this report.

Building A is located along Pharmacy Avenue and has a four-storey podium with two tower components, 40 and 30 storeys, with a total of 658 residential units. Retail and service uses are located at grade, with office and commercial uses on the second floor of the four-storey podium.

Buidling B is located along Eglinton Avenue and has one tower at 38 storeys, with 360 residential units. Retail and service uses are located at grade, with office and commercial uses on the second floor of the four-storey podium.

Building C is located along the east side of the property, adjacent to a proposed private driveway, with one tower at 32 storeys and 320 residential units. Retail and service uses are located at grade, with office and commercial uses on the second floor of the four-storey podium.

Building D is a one-storey retail store, with a gross floor area of 7,143.94 square metres, and is located at the southeast portion of the site.

Building E is located at the southwest portion of the site and addresses Pharmacy Avenue. It has one tower at 30 storeys, with retail and service uses on the ground floor of the four-storey podium.

Vehicular access to/from the site is proposed from both: Pharmacy Avenue at two locations, one approximately in the middle of the site and the other at the southern limit of the site; and Eglinton Avenue East at the eastern limit of the site.

A total of 2,540 parking spaces are proposed in a two-level underground parking garage. An additional 84 at-grade parking spaces are proposed to primarily service visitors and the at-grade retail and service commercial uses.

Private open space is being proposed at three locations on site: the northwest corner of the site at the intersection of Eglinton Avenue East and Pharmacy Avenue; a central courtyard adjacent to the inside face of buildings A, B and C; and a rectangular green space along the west façade of building D, the free-standing retail building.

To summarize the uses in each building (all areas in square metres):

Building	Retail	Office	No. of Res. Units
A	2,103	2,846	658 (2 towers)
B	1,950	1,706	360
C	1,541	1,661	320
D	7,144	0	0
E	2,105	0	302
Total	14,843	6,213	1,640

fig 5.110 PDF of the square metre of program per building. The site mixes office employment and residential densities necessary in the creation of the *Growth Plan's* complete communities.

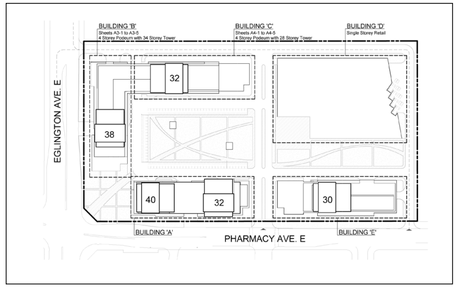


fig 5.111 Site plan of 1891 Eglinton Avenue.

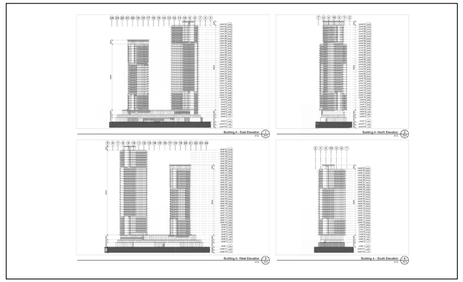


fig 5.112 Elevation of 1891 Eglinton Avenue's *Building A* (40 and 32 stories).

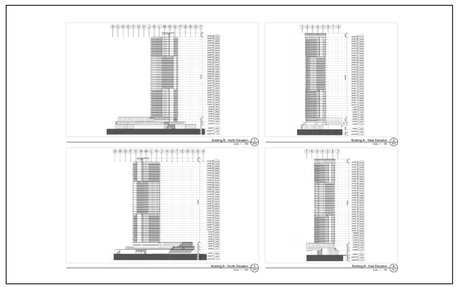


fig 5.113 Elevation of 1891 Eglinton Avenue's *Building B* (38 stories).

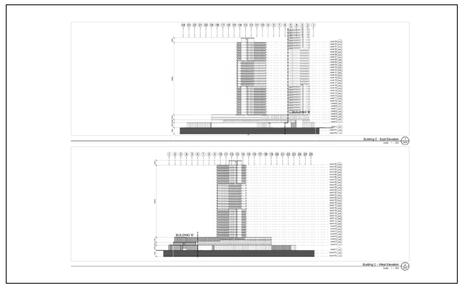


fig 5.114 Elevation of 1891 Eglinton Avenue's *Building C* (32 stories).

PLANNING CONTROLS

Official Plan Designation:	Employment Areas	Site Specific Provision:	
Zoning:	ME	Historical Status:	
Height Limit (m):		Site Plan Control Area:	

PROJECT INFORMATION

Site Area (sq. m):	51006.48	Height:	Storeys:	40
Frontage (m):	154		Metres:	0
Depth (m):	307			
Total Ground Floor Area (sq. m):	19060.7			**Total**
Total Residential GFA (sq. m):	126631.72		Parking Spaces:	2,540
Total Non-Residential GFA (sq. m):	21055.86		Loading Docks	0
Total GFA (sq. m):	147687.58			
Lot Coverage Ratio (%):	37.4			
Floor Space Index:	2.9			

DWELLING UNITS

Tenure Type:		**FLOOR AREA BREAKDOWN** (upon project completion)	**Above Grade**	**Below Grade**
Rooms:	0	Residential GFA (sq. m):	126631.72	0
Bachelor:	0	Retail GFA (sq. m):	14843.14	0
1 Bedroom:	0	Office GFA (sq. m):	6212.72	0
2 Bedroom:	0	Industrial GFA (sq. m):	0	0
3 + Bedroom:	0	Institutional/Other GFA (sq. m):	0	0
Total Units:	1640			

fig 5.115 Application data sheet for 1891 Eglinton Avenue.

1891 Eglinton Avenue East: Chapter 7 Site and Area Specific Policies

435. 1891 Eglinton Avenue East

a) Development of lands for residential uses on the Mixed Use Areas-designated portion of the site will include employment uses including office space having a minimum gross floor area of 6,000 square metres or 5 per cent of the total gross floor area of residential uses, whichever is smaller.

b) Employment uses on the portion of the site designated General Employment Areas, shown as "Parcel A", will be compatible with adjacent residential uses.

c) A feasibility analysis and impact assessment as per Section 4.10.3 of the province's D-6 Guidelines for Compatibility Between Industrial Facilities and Sensitive Land Uses is to be completed and necessary mitigation measures are to be incorporated into the development design for residential and other sensitive uses, to the satisfaction of the City.

fig 5.116 Plan view of the amendment to Toronto's Official Plan for 1891 Eglinton Avenue allowing other uses on the portion of the site adjoining Eglinton Avenue presuming the prescribed amount of employment densities are incorporated. The 300m deep by 165m wide parcel is divided into two parcels each being approximately 150m by 165m.