

Figure 5.63: Proposed street right-of-way cross-section - Eglinton Avenue E.

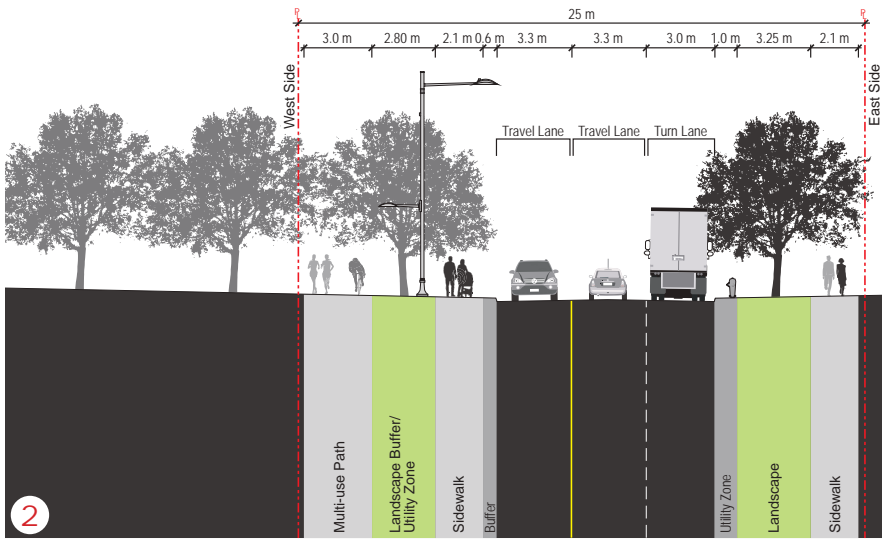


Figure 5.64: Proposed street right-of-way cross-section - Brentcliffe Road

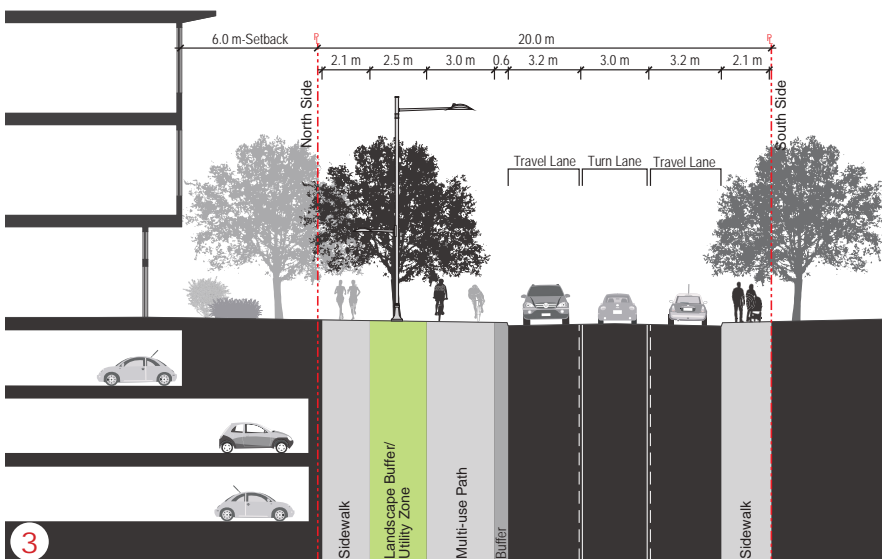
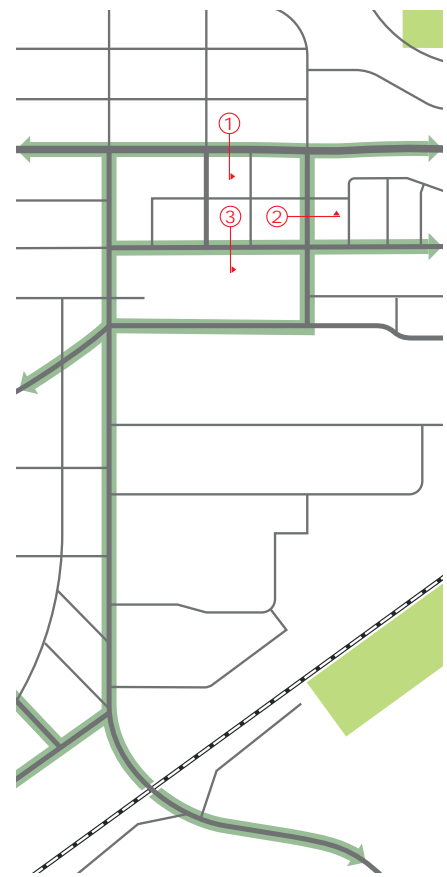


Figure 5.65: Proposed street right-of-way cross-section - Vanderhoof Avenue (typical)



Key Plan

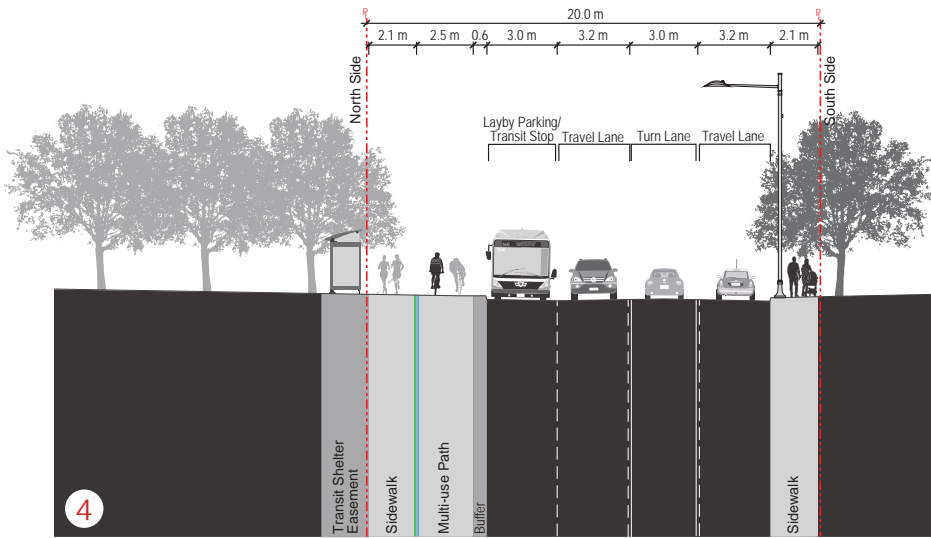
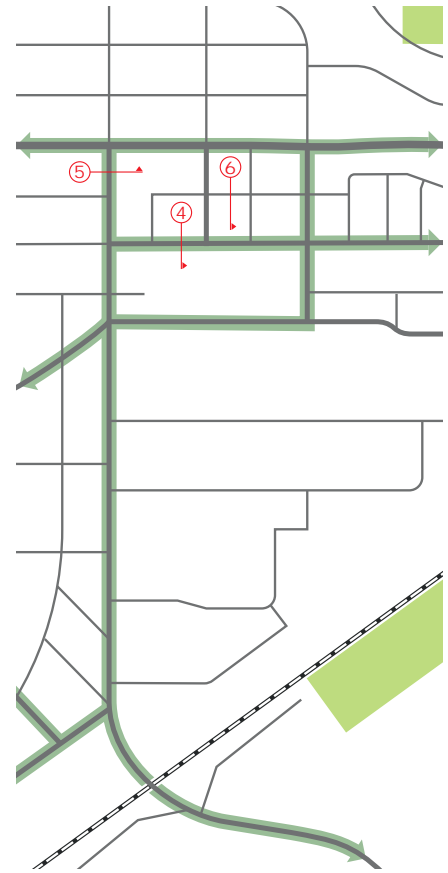


Figure 5.66 :Proposed street right-of-way cross-section - Vanderhoof Avenue (at transit stop)



Key Plan

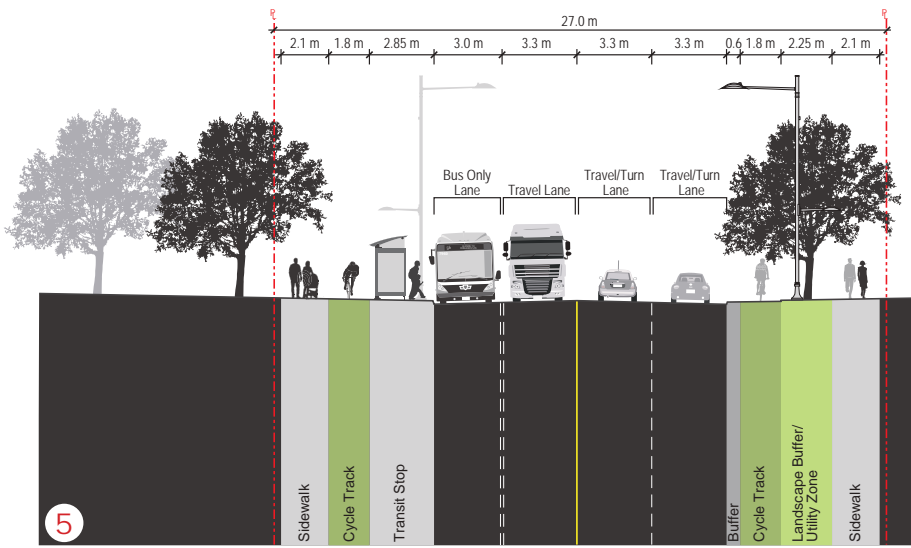


Figure 5.67: Proposed street right-of-way cross-section - Laird Drive (south of Eglinton Ave. E.)

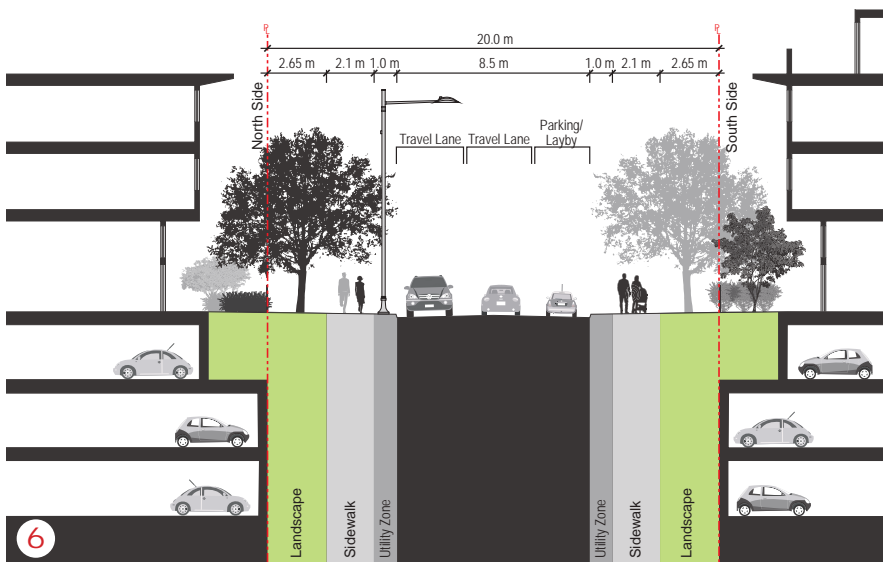


Figure 5.68: Proposed street right-of-way cross-section - Local Street (typical)

5.6 Recommendations

Study Area A Urban Design Recommendations

Streets and Blocks:

R1: All streets are to be designed as “Complete Streets”¹. Pedestrian connections, either separate or part of larger open spaces, are to connect key destinations within the new community.

Parks and Open Spaces:

R2: Provide a range of parks and open spaces that provides variety of functions and character through form, surface treatment, and programming while accommodating a range of uses and users.

R3: Establish a common palette of materials, elements, and functions to be used throughout to integrate new parks and open spaces into Leaside and promote identity through lighting, seating, waste and recycling receptacles, bicycle facilities, paving materials, and wayfinding.

R4: Provide public art within public parks and open spaces promoting a sense of place and identity while relating to the history of Leaside and commemorating its industrial legacy.

Building Setbacks:

R5: All buildings, including the first level of below-grade parking, will be set back from the property line: buildings along Eglinton Avenue E., Laird Drive, and Vanderhoof Avenue are to be set back 6 metres; along local streets, the setback of buildings is to be 3 metres.

R6: The ensuing space between building face and property line will be designed as an enhanced extension of the streetscape.

R7: Accommodating spillover activity from ground-related retail/commercial uses, or serve as a landscape transitional buffer between public sidewalks and private residential uses.

Ground-related Uses:

R8: Ground-related uses should provide clear glazing and entrances to promote spill-over from building interiors and interact with adjacent public spaces.

R9: Ground-related family units should be located adjacent to park space or green courtyards and other open spaces.

R10: The design of a new community facility should be visually iconic relating to both the square and the public park on either side visible from Laird Drive, Eglinton Avenue East, and the LRT station entrance.

Transition in Height:

R11: Tall buildings within the interior of large blocks will fit under the street proportion and guidelines for Laird Drive and Eglinton Avenue East.

Step-backs and Heights:

R12: Maximum building heights will be established based on their proximity to LRT station with no height exceeding 32 storeys, while also not exceeding a 45-degree angular plane ceiling taken from 80% of the street right-of-way as established from Eglinton Avenue E., Laird Drive, and Aerodrome Crescent .

R13: All development will provide a primary façade of 6 storeys along Eglinton Avenue E. with additional floors stepped back within a 45-degree angular plane.

R14: Minimum height for buildings along Laird Drive within the employment area will be 4 commercial storeys.

¹ Complete Streets are defined as streets that safely accommodate all users - pedestrians, cyclists, transit services, and motor vehicles – while also supporting and enhancing local neighbourhood context and character. (Toronto Complete Streets Guidelines, p. 2)

Study Area B Urban Design Recommendations

Building Types:

- R15: All buildings will conform with the design guidelines and performance standards, with local modifications, as recommended in this study. Maximum height shall be determined according to a 45-degree angular plane taken from 80% of the street right-of-way to a maximum of 32 storeys.*
- R16: Tall buildings whose presence will be seen from afar or form the terminus for a street view will be visually iconic and will contribute singularly and together to the skyline.*
- R17: Building materials should be predominantly masonry and relate in quality and colour to employment and nearby residential brick buildings.*

Employment Lands:

- R18: Employment buildings will provide transition between the mixed-use community to the north and the employment lands to the south.*
- R19: Parking to be provided below-grade.*
- R20: Separation distance between employment and mixed-use buildings to be provided through a combination of shared service/ access laneways.*

Setbacks:

- R21: Set back all new development along Laird Drive from the front property line by 3 metres (including the first level of below-grade parking).*
- R22: Parking for commercial/retail uses is to be located to the rear of the building with appropriate side yard pedestrian connection provided.*
- R23: All primary entrances into the building are to be located directly accessible from Laird Drive.*
- R24: Activate ground-related uses with enhanced streetscaping, provision of bicycle posts, and strategically located street furniture that creates an inviting public realm and convenient access to commercial/retail businesses.*

Transition in Scale and Setbacks:

- R25: All new developments are to be set back from the rear property line by 9 metres.*
- R26: A 3-metre landscaped buffer and screening fence are to be provided along the shared property line in order to accommodate high branching trees through improved soil volumes and avoidance of compaction.*
- R27: All developments taller than 4 residential storeys are to conform with the City's Mid-rise Building Performance Standards concerning rear yard angular plane and associated step-backs for shallow lots.*
- R28: Along the Laird Drive frontage, provide a consistent façade height of 4 storeys with a setback of 1.5 metres.*

Building Types: Low-rise & Mid-rise:

- R29: Mitigate against multiple driveway entrances off of Laird that impede pedestrian and cycling movements by providing rear lane access.*

Heritage:

R30: *The identified potential heritage properties located at 66, 68, 70, 72, 96 and 180 Laird Drive should be included on the City of Toronto's Heritage Register.*

R31: *Any proposed alterations and/or development on potential heritage properties should meet the intent of the City of Toronto's Official Plan heritage policies and should conserve the cultural heritage values and attributes of these properties.*

R32: *Any proposed alterations and/or development on sites adjacent to potential heritage properties should meet the intent of the City of Toronto's Official Plan heritage policies and complement adjacent heritage properties through compatible built form.*

R33: *The City should require a Heritage Impact Assessment to describe and assess the impacts of proposed alterations and development on, or adjacent to potential heritage properties identified in the Laird in Focus Cultural Heritage Resource Assessment.*

R34: *The City should explore opportunities to interpret and commemorate the history of Leaside, including the area's role as a rail and manufacturing hub, and the historic function of Laird Drive as the main connector and transition between the original eastern industrial and western residential portions of the neighbourhood. Such an interpretation strategy could be implemented through the proposed public realm and streetscape improvements contained in this study.*

R35: *Ensure high quality architecture in the design of alterations and/or new development on, or adjacent to heritage properties that is complementary to the identified heritage resource and in accordance with City of Toronto Official Plan heritage policies;*

R36: *Recommend that any required accessibility upgrades to heritage buildings carefully consider, and have minimal impact on, the heritage property's cultural heritage values and attributes; and*

R37: *Require that any new development explore opportunities to interpret and commemorate the history of Leaside.*

Gateways and Streetscapes Urban Design Recommendations

Gateways:

R38: *Primary gateways will signify arrival and departure for all modes of movement.*

R39: *Commemoration of Leaside's history will form part of the gateway design.*

R40: *Public art will be considered as part of the gateway design.*

R41: *High quality landscape materials will be utilized with the objective of encouraging sitting and lingering.*

R42: *Design considerations should include 4-season use.*

R43: *Where appropriate, relate and extend the gateway treatment through open spaces and increased scale of area for landscaping and pedestrians.*

Streetscapes:

R44: *The emerging street network will provide a safe and attractive environment for all ages and mobility users.*

R45: *Utilities are to be relocated below-grade as part of the public realm improvements.*

R46: *Street trees with appropriate soil volume and additional greening are to contribute to the enhancement of the boulevard.*



6.0 Mobility Plan



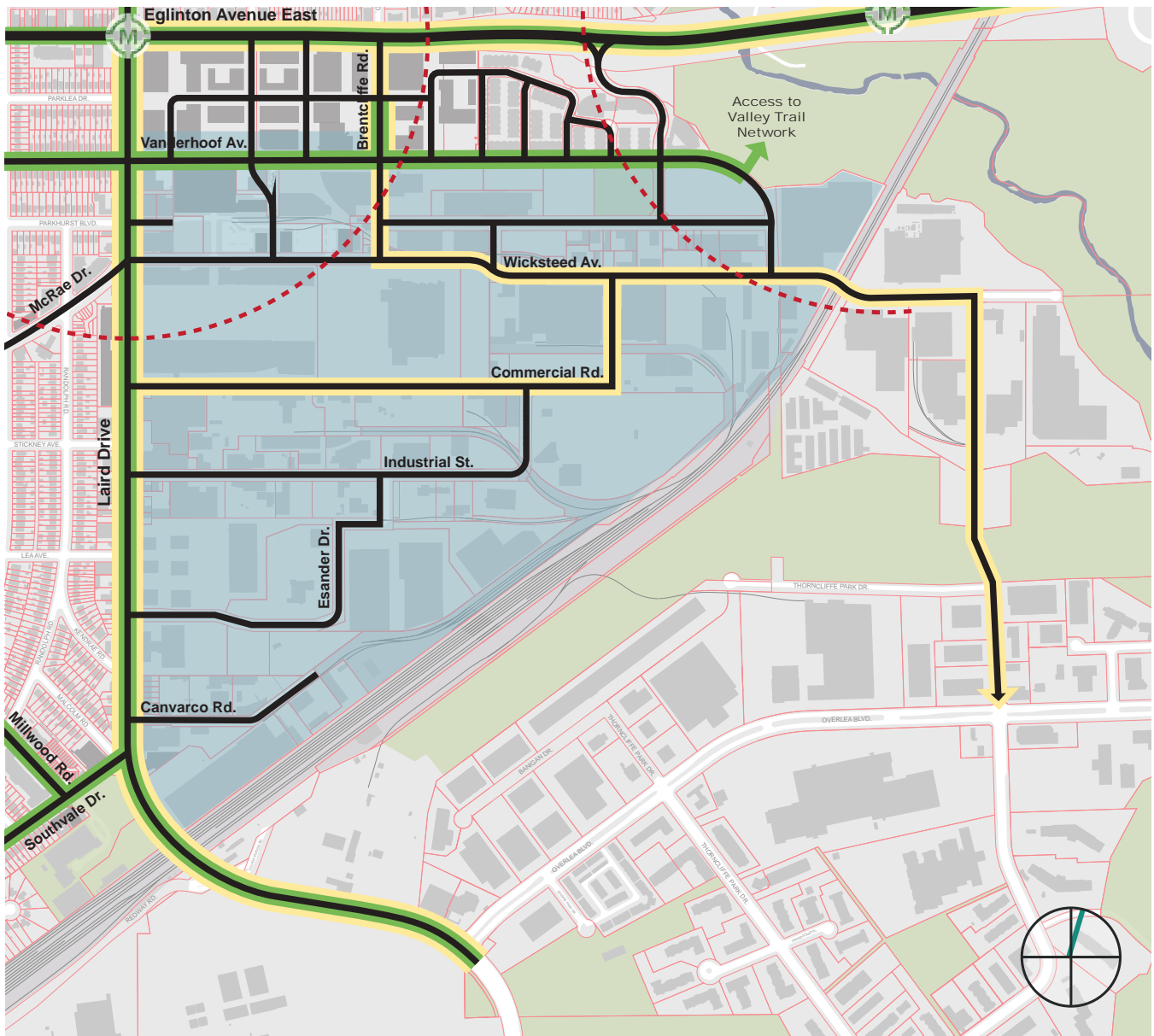






Figure 6.1: the short-term potential for the study area includes improving truck movement on identified roadways while also introducing dedicated cycling facilities that will connect directly to key destinations

LEGEND

-  Eglinton LRT Station
-  Employment Lands
-  Cycling Route
-  Truck Route

6.0 MOBILITY PLAN

The Laird Study Area and its surroundings were originally planned for cars and trucks. Today the resulting environment, combined with physical barriers (i.e. railway corridor, large property parcels, and ravine system) and a disconnected street network, poses challenges to pedestrians and cyclists. This in turn further encourages people to drive, producing greater traffic delays, congestions and safety issues.

Short-term opportunities for the area include the introduction of cycling facilities, which currently do not exist. A network of dedicated cycle tracks and multi-use pathways can provide efficient connections between key local destinations such as the future LRT station, community facility, and new and existing parks. The network should also connect to the larger cycling system that is comprised of the future Eglinton Avenue cycle track, the existing Millwood Road bicycle lanes, and the Don Valley ravine system.

Support for employment uses includes the identification of specific truck routes to facilitate movement within and beyond the Leaside Business Park. These routes tie into the larger arterial and highway road system and should be designed to minimize pedestrian and cyclist conflicts with heavy vehicles while also ensuring truck movement is efficiently realized.

This transportation review confirms that the major investment into the Eglinton Crosstown LRT (ECLRT) line will significantly improve regional and local mobility, both directly through enhanced higher-order and connected feeder bus transit options, and indirectly through supportive multi-modal access and shared mobility strategies.

Correspondingly, emerging city-building initiatives present opportunities to integrate new residential with employment intensification and a future community facility, while providing enhancements to the public realm. As such, this integrated planning process considers safe mobility access and choice in the development of the overall planning framework. This is evidenced by several transportation-related references in the Laird in Focus Vision Statement and associated principles, as well as in five of the “10 Guiding Principles” identified in the Study.

In embracing a multi-modal transportation approach that is sustainable and balanced, redefining the transportation mode structure is required. The following transportation mode hierarchy has been adopted, consistent with the City's policies:

Active transportation: walking and cycling modes provide both health and infrastructure capital as well as operating cost benefits;

Transit network: higher-order transit lines, such as the Eglinton Crosstown, provide significant opportunities to not only draw regional trip choices away from vehicles, but also to facilitate development that is supportive of active transportation. Furthermore, feeder bus networks can be effectively planned to connect higher-order transit lines with residential communities and employment districts;

Transportation demand management (TDM) and innovative mobility strategies: adopting TDM and technological advances, accepting emerging governance structures, supporting shared arrangements, and encouraging/incentivizing modifications in societal behaviour leads directly to infrastructure cost benefits, while also fulfilling a need for non-peak travel periods;

Goods movement: supporting the vitality of employment lands is critical to an economically sustainable city; and,

Vehicular movement and associated parking: vehicles and parking will remain essential elements of the transportation network; however, major infrastructure costs and decisions affecting personal convenience will be required to accommodate future transportation demands. The shift away from vehicular trips is necessary in order to achieve a sustainable and balanced transportation system within a vibrant city.

In recognizing the benefits of an integrated multi-modal transportation system, the recommended mobility plan reinforces low-carbon options, while addressing environmental and health benefits, and societal equity in mobility planning for all users. Based on analysis and extensive consultation, the following mobility recommendations, when implemented, will transform the study area from being car-dependent to embracing other modes, the most predominant of which is transit.

6.1 Preferred Mobility Plan: Shifting Away from Vehicles - A Balanced Approach

Once Eglinton Crosstown is operational, a transformation in travel modes will occur, locally and regionally. The degree to which future travel moves away from vehicles however, will be measured by how well a balanced and integrated multi-modal transportation network is achieved. Critical for success will be enhanced access and connections to Eglinton Crosstown. This includes reliable and convenient local transit as well as safe and comfortable walking and cycling facilities.

Based on multi-modal analysis and extensive consultation, a long list of mobility recommendations has been identified to transform the study area from car-dependent travel to transit and other modes.

Central to most of the recommendations are a re-imagining of Laird Drive and guidance towards non-auto based new development.

Laird Drive will become a central spine in the area, unifying existing residential neighbourhoods, retail uses and employment areas with an attractive multi-modal transportation corridor. It will connect existing and planned community facilities, have major bus routes and provide access to the vital employment lands. Currently, cycling routes lack safe connectivity to the adjacent neighbourhoods and, beyond the Study Area, to the larger network. Furthermore, existing sidewalks and boulevards are generally unattractive, due to narrow widths, utility pole locations, numerous driveway depressions, and limited greenery and amenities. The re-imagined Laird Drive is highlighted by implementing continuous, grade-separated cycle tracks and wide sidewalks on both sides of the street.

Site-specific Opportunities

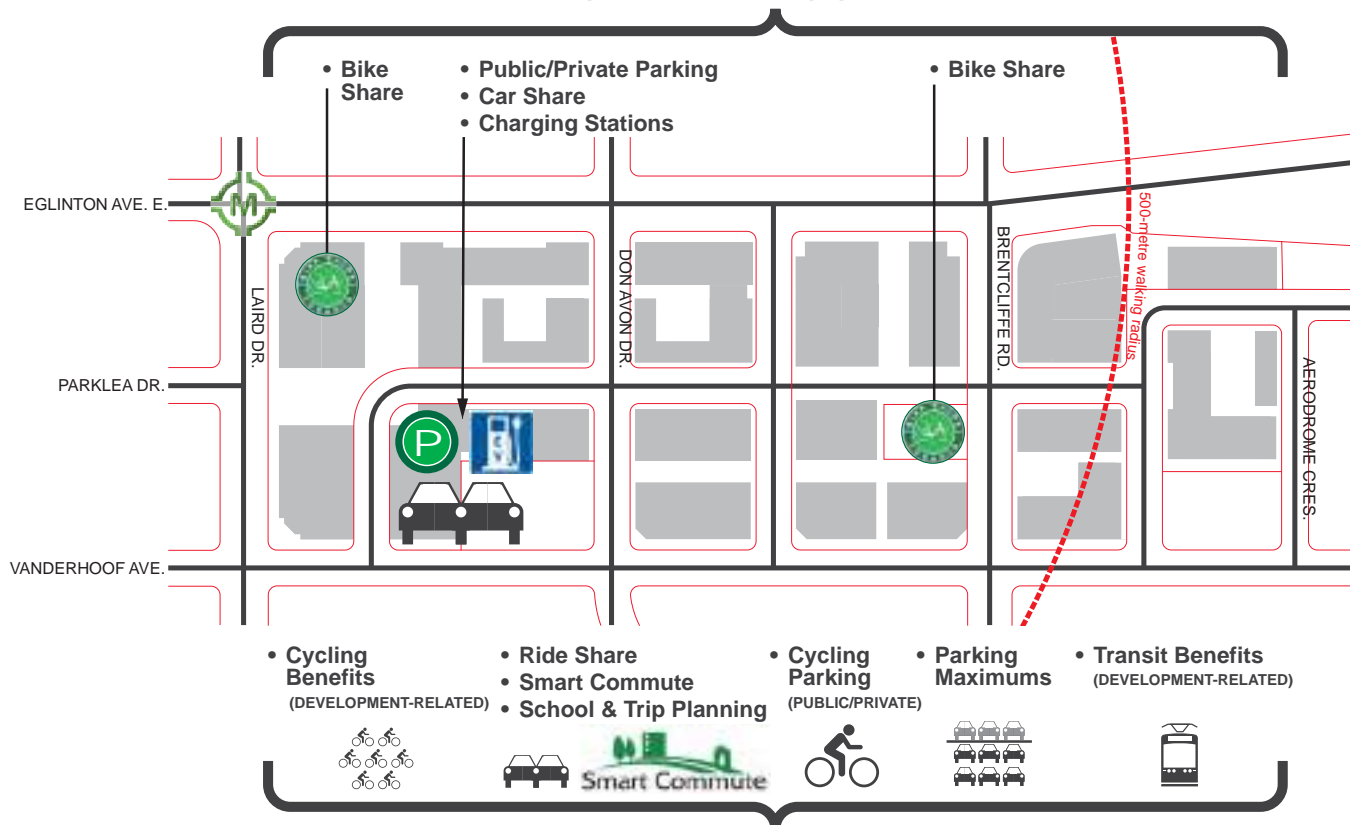


Figure 6.2: Menu of transportation demand management options to reduce single-occupancy car travel while recalibrating the modal split

Boulevards widths are optimized for streetscape greening and street furniture, with additional width generally provided along the west side to integrate with emerging mixed-use development. Another key design component is integrating the bus stops into the boulevards, ensuring that shelters, street furniture / seating, shade, lighting, and bike parking, are incorporated to enhance the comfort of transit patrons. This is being achieved while maintaining reasonable traffic operations, including goods movement via trucks, within the established right-of-way.

Guiding the emerging neighbourhood along Eglinton Avenue is largely founded on implementing a finer grain street network to provide choice for how people will move around and access to where they want to go. Additional safe and comfortable mid-block connections will be encouraged through the development blocks to improve permeability. With a green and attractive setting and a resulting lower speed environment the following attributes will be achieved:

- Increased pedestrian and cycling activity with safe, comfortable and attractive conditions;
- Enhanced and convenient access and connectivity to transit; and
- Alternative routing choices that connect to the surrounding street network, that will distribute vehicular trips within the study area.

The extent of a mode shift to active transportation and transit will be magnified by the success of a travel demand management (TDM) program and associated innovative mobility strategies. The recommended mobility plan promotes TDM to promote travel demand measures and technological advances that will ensure additional travel choice to single occupant vehicular travel, including adding capacity to the network without expansion. Smart Commute programs, school trip planning, parking maximums and development-related benefits should be the minimal expectations to provide modest reduction on vehicle trips. Enhanced and progressive TDM measures are continuously being advanced with technology, presenting significant opportunities. Monitoring of the transportation network as development occurs is critical, to ensure that trips are being diverted to transit and the effectiveness of the adopted TDM program, but also when / if further transportation infrastructure is required.

6.2 Recommended Mobility Plan: Key Findings

A multi-modal demand model generated trips for the area was developed considering each mode, each development block, each existing and planned land use and characteristics, provided mobility choice and quality (i.e. vehicle, transit, cycling and pedestrian networks), and existing mode splits, volumes and travel patterns. Given the area's presently limited existence of ride-sharing and other typical TDM measures and existing low-density residential characteristics, a modest trip reduction of 5% was adopted.

This multi-modal analysis was based on a modest 5% TDM-related trip reduction presenting in the AM peak hour 4,400 additional trips due to the planned development, with a corresponding modal split of 41% vehicles, 41% transit, and 18% active transportation (existing modal split of 69% vehicles, 10% transit, and 21% active transportation without the Eglinton Crosstown in operation). In addition, it was determined that approximately 80% of the development could be accommodated with the proposed street network. Additional roadway infrastructure, a Wicksteed Avenue road widening and grade separation to provide additional east-west roadway capacity, was deemed to be required.

Given that a relatively modest TDM-related trip reduction rate was adopted, potential for a higher rate is considered highly feasible with innovative technologies, evolving societal behaviour, and emerging programs supported by developing policies. As such, a higher trip reduction rate of 10% rate was tested, which is presently achievable in other parts of the City. Based on these tests, a 10% reduction to peak hour total person trips, and an additional increase in transit mode share of 10%, would allow for the planned development to be built in full, and be supportable by existing infrastructure.

Additional details and discussion is provided in Steer Davies Gleave's **Laird in Focus Transportation Report**.

6.3 Implementation Plan: Phasing

The recommended mobility plan findings present an implementation plan based upon development levels and the need for additional infrastructure. An additional critical roadway improvement is envisioned, a Wicksteed Avenue roadway widening from Brentcliffe Road to Millwood Road via Beth Neelson Drive, including a CPR grade separation. This improvement will provide additional east-west roadway capacity, including increase connectivity and access to and from the employment lands.

Also noted, was that an achievable 10% TDM-related trip reduction rate with an associated 10% increase in the transit mode split, that capacity could be added to the network without infrastructure expansion.

To achieve the planned development levels, two scenarios are presented:

Option 1: Adopting a modest 5% TDM-related trip reduction, but including additional roadway infrastructure, a Wicksteed Avenue road widening and grade separation, at approximately the 80% development build-out phase.

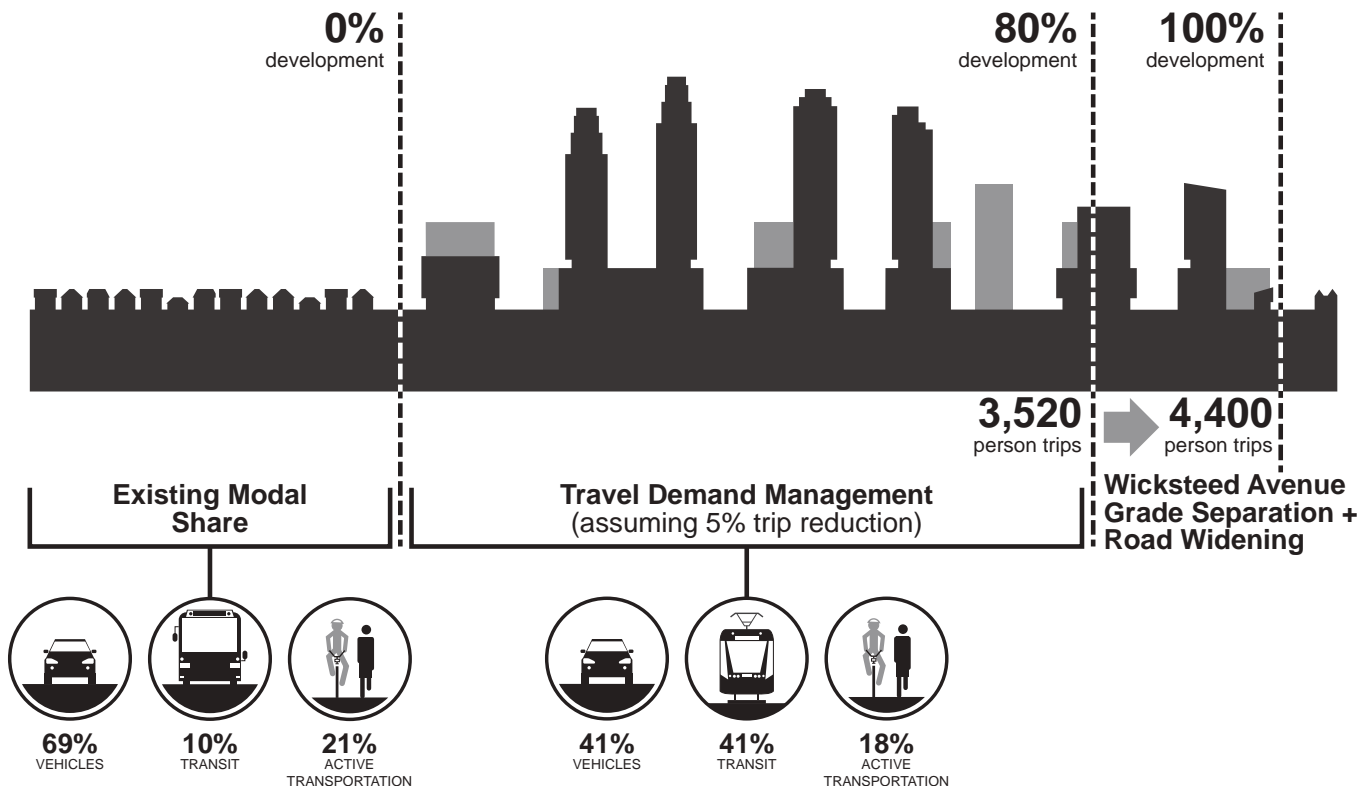


Figure 6.3: Phasing of development in Study Area A with an assumption of 5% trip reduction and a 41:41:18 modal split

Option 2: Successfully embracing TDM strategies to achieve a 10% person-trip reduction, which will also contribute to an additional 10% person-trip diversion to transit. Monitoring of the transportation network, pre-development and during development as it comes into service, is critical.

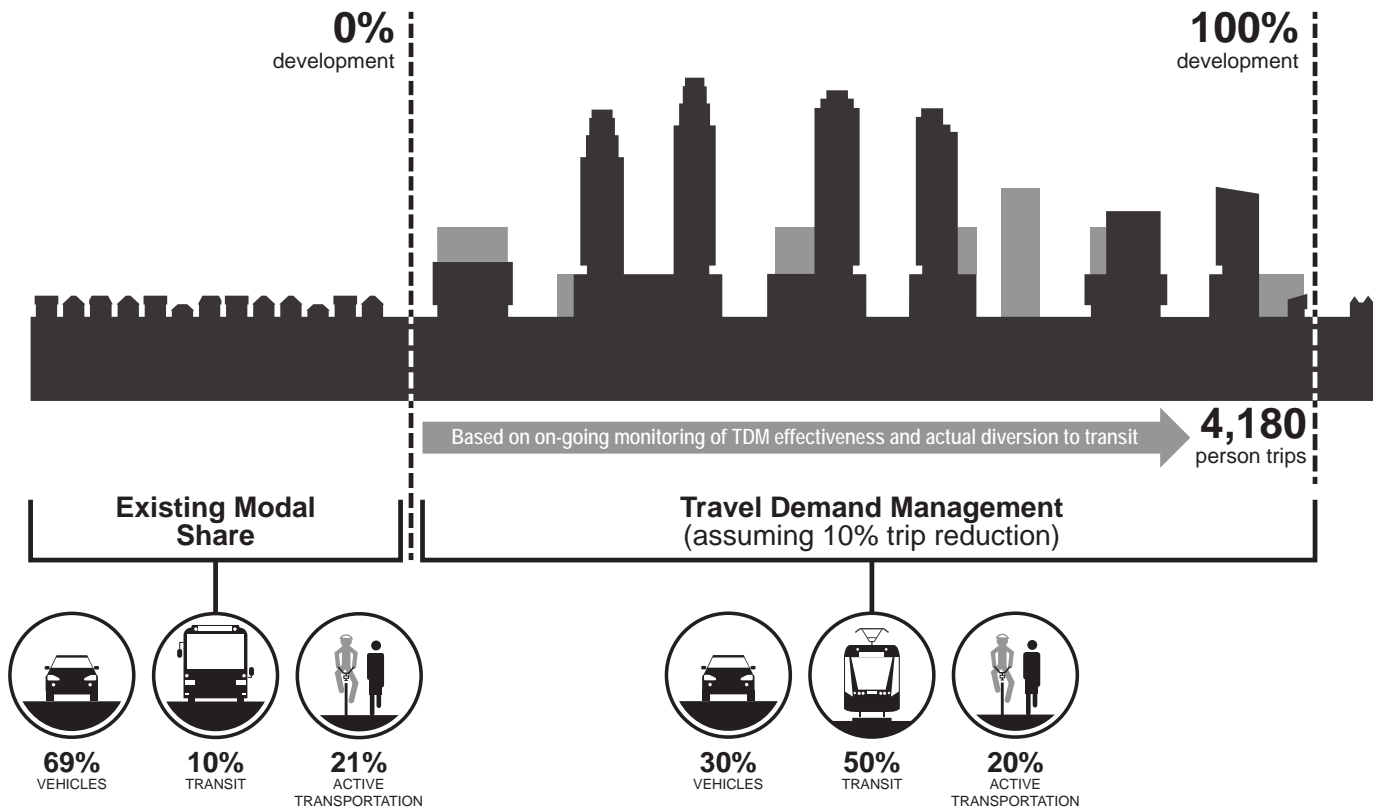


Figure 6.4: Phasing of development in Study Area A with an assumption of 10% trip reduction and a 30:50:20 modal split

6.4 Implementation Plan: Other Requirements

Other requirements have been identified to implement the recommended mobility plan:

Official Plan Amendments: secure all new public streets in Schedule 1 and 2 of the Official Plan

Cycling Network Amendment: refine the Cycling Network Plan to include cycle tracks along Laird Drive

Environmental Assessments (EAs): potential EAs to be undertaken include:

Wicksteed Avenue road widening and CPR grade separation; and

Laird Drive reconstruction, dependent on scope and capital costs, could include the addition of cycle tracks, roadway reconfiguration, municipal servicing and other

utilities, and the extension of the proposed Laird cycle tracks across the CPR corridor to Millwood Road.

Zoning By-Law 569-2013 amendment to include Policy Area 2 designations for developments within 500m of a transit station, and a Policy Area 3 designation elsewhere. Further site specific parking space rate reductions should be considered when accompanied with additional TDM and innovative mobility measures that will contribute to additional person trip reduction.

Additional details and discussion is provided in Steer Davies Gleave's **Laird in Focus Transportation Report**.

6.5 Pedestrian Network

Providing a high quality and safe pedestrian network will help to promote shorter trips by enhancing travel choice, provide access and connectivity to where people want to go, and improve the quality of the pedestrian experience.

A finer grain street network is proposed for the area that includes sidewalks on both sides providing movement choice, with an emphasis on safe and comfortable walking. A generous and continuous 2.1-metre wide sidewalk on both sides of Laird Drive will improve the pedestrian experience. Boulevard widths will be optimized for streetscape greening and street furniture. Local streets will provide a green and comfortable setting for all users and activities. These streets will have lower travel speeds and primarily provide local-only access while supporting increased pedestrian activity. Additional safe and comfortable mid-block connections are encouraged through the development blocks to improve permeability. The implementation of a finer grain street network will occur in phases as redevelopment occurs improving connectivity that facilitates a modal shift to active transportation, including transit access.

A new east-west mid-block green street will be developed north of Vanderhoof Avenue to connect residential areas to destinations such as the LRT transit station, proposed community facility, and emerging retail and office uses. With an attractive public realm treatment, the new street will be pedestrian-friendly with a focus on intimate passive activities, in comparison with a busier, active Eglinton Avenue.

Vanderhoof Avenue will be transformed into a greenway spine, linking existing neighbourhoods to new planned developments, new and existing parks, as well as the Don Valley trail system. This greenway spine will have a widened north boulevard comprised of a generous sidewalk and a multi-use path buffered with additional greenery. The widened boulevard and associated building setbacks present a walking and cycling environment that is appropriate for all users and ages, while establishing a clear transition to the remaining employment lands to the south.

The emerging neighbourhood will place a focus on pedestrian safety and will implement important measures from the City of Toronto's **Vision Zero** road safety plan, including:

- Narrowing all roadway lane widths to minimize crossing walking distances;
- Introduce a new signalized intersection at Laird Drive and Vanderhoof Avenue to facilitate safe Leaside neighbourhood access to the transit station, community centre, emerging retail and office uses, and existing and planned parks;
- For local roads into the Leaside residential neighbourhoods, introduce curb extensions consisting of a narrowed roadway with tighter turn radius, and a raised textured intersection profile. For pedestrians there will be an increased "storage" area at the intersection corners and a shorter walking distance across, while vehicular traffic will require lower speeds;
- Removal of existing Laird Drive medians while investigating new controlled pedestrian crossings at key intersection or mid-block locations;
- Reconfiguration of the signalized intersection at Laird and McRae Drive through the removal of the traffic island and reduction in the turning radii, in order to shorten walking distances and reduce vehicular speeds at this highly pedestrian-active intersection;
- Through roadway design and placement of utilities, reduce potential conflict between trucks and pedestrians;
- Provide widen crosswalks (6 m) at anticipated high-volume pedestrian crossings (i.e. Eglinton Avenue at Laird Drive, Laird Drive at Vanderhoof Avenue), and correspondingly ensure larger pedestrian storage areas with wider boulevards and building setbacks; and
- Provide continuous, uninterrupted sidewalks across driveways and minor, unsignalized intersections.

6.6 Cycling Network

Cycling trips will be promoted by enhancing travel choices that support safe and comfortable connections to the existing and planned cycle network. A safe and efficient cycling network within the Study Area will include a grade-separated cycle track along Eglinton Avenue, Laird Drive, Vanderhoof Avenue, and partially along the westside of Brentcliffe Road. The Laird Drive cycle tracks will complete a critical section of the cycling network between Eglinton Avenue and Millwood Road, providing safe and convenient connections between transit and community facilities.

Increased cycling will further be supported by a finer grain street network which will improve linkages and connectivity to facilitate a mode shift towards active transportation, and support access to the transit network. Through capital works projects and as the employment lands further develop, the cycling network will be implemented incrementally.

6.7 Transit Infrastructure

Improving the experience and amenities of the local feeder bus network along with the opening of the Eglinton Crosstown LRT will shift travel from private vehicles to more transit usage.

Coordination with the Toronto Transit Commission will be critical throughout the development of this emerging neighbourhood, including sensitive siting of bus stops and their associated design. The location of bus bays includes two-bus bays along Eglinton Avenue, two-bus bays along Brentcliffe Road (in the southbound direction south of Eglinton Avenue), two-bus bays along Vanderhoof Avenue (in the westbound direction east of Laird Drive), and two-bus bays along Laird Drive (in the southbound direction south of Eglinton Avenue). The design of bus bays and associated amenities will consider potential routing, timed layover locations, and potential vehicle type/length.

The street network will be designed to ensure that it facilitates bus movement through transit priority measures, appropriate intersection turning radii and avoidance of local street intersections with heavily traveled transit routes close to the LRT station. Further, active transportation connections to and from transit stations and stops will be improved through the finer grain street network and wider crosswalks.

All bus stops within the study area will include shelters and be designed with consistent integrated treatments with cycle tracks and adjacent developments. Bus stops should also include other amenities to enhance passenger comfort such as additional shelters, street furniture / seating, shade, lighting, and bike parking, particularly at stops where high volumes are anticipated.

6.8 Travel Demand Management and Innovative Mobility Strategies

Transportation Demand Management (TDM) and innovative mobility strategies are to be encouraged. These strategies promote travel demand measures and technological advances that support alternatives to single occupant vehicular travel, adding capacity to the network without requiring its expansion.

Developers will be encouraged to incorporate trip planning techniques, (e.g. “for school” travel) with the onset of their development marketing, and will work with Metrolinx Smart Commute to promote, educate and implement these strategies. Developers will further be required to contribute to a TDM monitoring program that will evaluate the success of these efforts.

Toronto Parking Authority will be encouraged to advance parking and other innovative mobility plan elements in the provision of new public parking infrastructure near the transit station and proposed community facility. Elements to be considered include car-share spaces, ride-share spaces, bike-share stations, electric vehicle charging infrastructure, real-time display information, and dynamic pricing to manage parking demand.

Additional details and discussion is provided in Steer Davies Gleave’s **Laird in Focus Transportation Report**.

6.9 Parking Strategies

The provision of parking within the Study Area will be planned in order to manage traffic volume growth and limit unnecessary car travel, thereby encouraging transit and alternative travel modes. On-street parking will not be provided along Laird Drive; in its place parking for development will be provided to the rear of properties, or below-grade. On-street short-term parking will be permitted along the new east-west mid-block street supportive of planned ground-level uses. Drop-off/Pick-up locations will be provided near the transit station entrance and the proposed community facility. Development in the Study Area will adopt the lowest maximum parking rates given the proximity to transit, population density and enhanced mobility options being introduced: an oversupply of parking spaces may result in a higher vehicle modal split. Should an approved development have an adopted maximum rate which exceeds the lowest rate, additional site-specific lower parking rates will require a Zoning By-law Amendment accompanied with TDM and innovative mobility measures.

6.10 Goods Movement

Supporting the vitality of Employment Lands is critical to an economically sustainable city. The City recognizes the importance of the Leaside Business Park and is committed that the Leaside employment lands are to remain as “employment lands”, maintaining access to and from their operations. The mobility plan recommends a safe and balanced approach to maintaining the employment lands vital, while providing the opportunity for people to work, live and play locally.

Roadway/Streetscape design and utility placement will identify truck routes along preferred corridors and internal employment lands access via Commercial Road and Wicksteed Avenue, thereby reducing potential conflict with pedestrians and cyclists. Truck route corridors will consist of arterial roadways such as Eglinton Avenue, Laird Drive, Brentcliffe Road and Millwood Road, and a left turn lane southbound along Laird Drive approaching Commercial Road will separate the primary truck entrance into the Employment Lands from other traffic to improve safety and ensure operational efficiency.

Goods servicing for emerging new development will be directed away from major roads and screened from view. Development along Eglinton Avenue will be accessed via internal local roadways, either to underground facilities and/or to screened locations off the local roadways. Development along Laird Drive will be accessed to rear of the properties via local streets and not from Laird Drive directly.

6.11 Vehicular Network

The development of this emerging neighbourhood will implement a finer grain street network, improving access and connectivity while facilitating a modal shift to active transportation and transit. This network will further provide alternative routing choices that connect to the surrounding street network, thereby distributing vehicular trips within the study area. New development will be required to demonstrate to the City’s satisfaction that the street network will function

appropriately, ensuring capacity and connectivity in the near term, until the required phased transportation improvements are fully delivered. Developers will contribute to monitoring provisions that will assess TDM effectiveness and the actual diversion to the transit mode.

A number of roadway improvements are planned to improve traffic circulation within a balanced, multi-modal transportation network. Laird Drive will be reconfigured between Eglinton Avenue and Millwood Road to re-balance the existing vehicle-focused functions with appropriate multi-modal uses, while prioritizing key traffic movements. Specifically, this includes combining lanes to provide wider sidewalks, a continuous cycle track, and optimizing boulevard widths for streetscape greening and furnishing.

Vanderhoof Avenue will introduce narrowed lanes and include a continuous left turn lane along its entire length within the Study Area ensuring safe and efficient traffic operations. This improvement is in response to the offset roadways and driveways on both sides and the projected large turning volumes.

As part of the redesign of the Don Avon/Eglinton Avenue East and Vanderhoof Drive/Laird Drive intersections, vehicular through access will be restricted to minimize vehicular traffic on local streets. The intersection design will focus on providing safe pedestrian and cycling access for the local community.

Future improvements to Wicksteed Avenue may be required in order increase roadway capacity as development occurs, subject to actual TDM effectiveness and diversion to transit. It is anticipated that additional east-west capacity will be required, as well as an alternative truck route. At a minimum, it is envisioned that a roadway widening is necessary from Brentcliffe Road to Millwood Road via Beth Neelson Drive, including a grade separation at the CPR rail crossing.

6.12 Transportation Recommendations:

Pedestrian Network

R47: *Implement recommendations along Eglinton Avenue as per EGLINTONconnects.*

R48: *Implement a finer grain street network that includes generous sidewalks on both sides of new and existing streets.*

R49: *Establish a new east-west mid-block green street that will act as a connector from residential areas to destinations.*

R50: *Transform Vanderhoof Avenue into a greenway spine.*

R51: *Incrementally enhance the pedestrian environment and safely connect to the enhanced pedestrian network within the employment lands as redevelopment occurs with the provision of sidewalks on both sides.*

R52: *Implement the City of Toronto's Vision Zero road safety plan to improve safety for pedestrians.*

Cycling Network

R53: *Implement grade-separated cycle track recommendations along Eglinton Avenue as per EGLINTONconnects.*

R54: *Undertake a refinement to the City's 10-Year Cycling Network Plan, to include continuous, grade-separated cycling facilities along Laird Drive between Eglinton Avenue, Millwood Road, and Vanderhoof Avenue.*

R55: *Provide public bicycle parking spaces along the key cycling routes and at key destinations.*

R56: *Coordinate with the Toronto Parking Authority, developers and landowners to create a bike share system within the Study Area.*

R57: *Encourage cycling usage through the development process by: a) securing above-minimum, long-term, on-site bike parking; b) providing development-related cycling benefits; c) promoting the implementation of cycling repair stations in the area; d) including educational training programs for all users and ages.*

R58: *Implement the City of Toronto's Vision Zero road safety plan to improve safety for cyclists.*

Transit Infrastructure

R59: *Co-ordinate with the Toronto Transit Commission regarding bus stop locations and associated design requirements.*

R60: *Adopt consistent integrated bus stop treatments with planned cycle tracks.*

R61: *Provide shelters at all bus stop locations, in addition to other amenities to improve passenger comfort.*

R62: *Explore the introduction of transit priority measures for the local feeder bus network, particularly near the transit station or congested intersection, to provide a more reliable choice for transit users.*

R63: *Improve active transportation connections to and from transit stations / stops, including wider crosswalks and cycling facilities at anticipated high passenger volume locations.*

R64: *Encourage transit usage through the development process by providing development-related transit benefits such as transit passes, real-time arrival display boards, and direct connection to the station.*

R65: *Provide proper integration of transit facilities with development where appropriate.*

TDM and Innovative Mobility Strategies

- R66:** Co-ordinate with the Metrolinx Smart Commute program, developers, businesses and related associations to incorporate a TDM plan to increase convenience and usage. Developers will be required to submit a comprehensive TDM plan and contribute to a TDM monitoring program.
- R67:** Co-ordinate with local school boards and school trip planning programs to incorporate new development requirements.
- R68:** Integrate publicly accessible parking infrastructure (i.e. the Toronto Parking Authority) near the transit station and the proposed community facility, control parking supply, and implement other innovative mobility plan elements, such as car-share and shared-bike facilities.
- R69:** Secure TDM measures, electric vehicle charging infrastructure, and other Toronto Green Standard requirements in new developments through the development review process in order to reduce the number of trips by 5% or greater.

Parking Strategies

- R70:** On-street parking along Laird Drive will not be permitted.
- R71:** Parking for development along Laird Drive will be underground or rear of property that will be accessed from the local streets, not from Laird Drive.
- R72:** On-street short-term parking will be provided along the new east-west mid-block street, and drop-off / pick-off locations will be provided near the transit station entrance and the proposed community facility.
- R73:** Consideration for lower parking rates for new development in concert with TDM strategies.
- R74:** Consideration for publicly accessible paid parking spaces for all new development on Laird Drive.

Goods Movement

- R75:** Support key truck / goods movement routes, consisting of arterial roadways to the Leaside Business Park (Eglinton Avenue, Laird Drive, Brentcliffe Road and Millwood Road), and internal roadway access via Commercial Road and Wicksteed Avenue, including the provision of truck turning radii and lanes where appropriate.
- R76:** Goods servicing for the emerging new development along Eglinton Avenue will be accessed from the internal local roadways.
- R77:** Goods servicing for development along Laird Drive will be in the rear of the property, accessed from the local streets.
- R78:** Implement a left turn lane southbound along Laird Drive approaching Commercial Road to separate the primary truck entrance into the employment lands.
- R79:** Minimize potential conflicts with pedestrians and cyclists through roadway / streetscape design and placement of utilities.
- R80:** Incrementally enhance the pedestrian and cycling environment, and safely connecting to the enhanced transit and active transportation network within the employment lands as redevelopment occurs, to provide increased travel choice for employees and patrons.
- R81:** Future consideration for Wicksteed Avenue improvements, to provide additional roadway capacity and to facilitate goods movement.

Vehicular Network

- R82:** Development proponents must demonstrate to the City's satisfaction that the street network will function appropriately, and ensure capacity and access is available at time proposed development.
- R83:** Laird Drive will be reconfigured between Eglinton Avenue and Millwood Road as a "Complete Street".
- R84:** Vanderhoof Avenue roadway will introduce narrowed lanes and include a continuous left turn lane.
- R85:** Improvements to Wicksteed Avenue at the railway crossing should be considered, subject to TDM effectiveness.



7.0 Servicing Analysis



7.0 SERVICING ANALYSIS

This Phase 3 analysis outlines the servicing strategy for long-term growth within the Laird in Focus Study Area. Phase 3 builds upon Phases 1 and 2, which described the existing conditions of the servicing infrastructure and provided an assessment of the massing of the Emerging Preferred Alternative.

The infrastructure recommendations provided through this analysis were determined by modelling anticipated contributions to municipal infrastructure from the proposed development (Preferred Alternative) into the various systems reviewed.

This report references a general area bound by the limits identified in **Figure 6.1** found in **Appendix C-1**.

7.1 Preferred Alternative

The Laird in Focus Study includes two separate areas, with each planned to accommodate different built-forms through future redevelopment and intensification. Study Area A, located along Eglinton Avenue East, is approximately 9.7 hectares and is expected to yield a total unit count of 3,765 or an equivalent population count of 8,335, when factoring in employment. Study Area B, located along the west side of Laird Drive, is approximately 3.8 hectares and is expected to yield a total unit count of 815 or an equivalent population count of 1,975, when factoring in employment. Please refer to the summary yields found in **Sections 5.3** and **5.4** and in **Appendix A** respectively.

7.2 Objectives

This servicing analysis assesses the impact of intensification on the existing Toronto Water infrastructure in the study area, focusing on the capacity of watermains, sanitary, storm and combined sewers. It further provides a description of each component of the existing infrastructure, and outlines the information reviewed, methodology,

key assumptions, constraints, and concludes with recommendations for infrastructure improvements that will appropriately support long term growth.

Specifically, the goals and objectives of this analysis are to:

- Build on the existing identified conditions and assess the future impacts of the proposed intensification on Toronto Water infrastructure;
- Provide recommendations for infrastructure improvements to address previously identified deficiencies; and,
- Provide recommendations for infrastructure improvements necessary to implement the Preferred Alternative.

7.3 Background Review

The following applicable standards, design criteria and public documents were considered and reviewed in the completion of the servicing analysis:

- Design Criteria for Sewers and Watermains, City of Toronto, November 2009;
- Wet Weather Flow Management Guidelines, City of Toronto, November 2006;
- Toronto Municipal Code, §681 Sewers, May 2016;
- Procedure F-5-5 of Guideline F-5: levels of treatment for municipal and private sewage treatment works discharging to surface waters, Ontario Water Resources Act, RSO 1990, Section 53;
- Building Code Act 1992;
- Development applications as noted in Section 2.2.7 Recent Development Applications of the RFP;
- Sewer Atlas Maps (for information purposes only), City of Toronto, September 2010;
- Report on Municipal Services in the Leaside Area, Borough of East York, October 1973;
- 2017 Capital Works Program, City of Toronto;
- City of Toronto digital water model;
- City of Toronto digital sewer model;
- Basement Flooding Study, Area 2, XCG Consultants Ltd., November 2014; and,
- Metrolinx Laird Station plans.

7.4 Existing Infrastructure

The following summarizes existing infrastructure within the study area boundary, depicted in **Figure 6.1** as included in **Appendix C-1**.

Sanitary Sewer

There are few dedicated sanitary sewers located within the study area. Generally these consist of 250- to 300-mm diameter sanitary pipes, located on Vanderhoof Avenue, Brentcliffe Road, Aerodrome Crescent and on the south boulevard of Eglinton Avenue East. These sewers drain eastwards to the Metrolinx in-line storage pipe and ultimately discharge into the Don River West Branch trunk sewer.

There are no other sanitary sewers within the study area, although some local sanitary sewers are located east of the study area within the industrial lands. While these sewers drain into the study area combined sewers, they were not considered as part of this report.

Storm Sewers

There are few storm sewers located within the study area. These consist of primarily local sewers with pipes up to 1,200-mm in diameter, located on Vanderhoof Avenue, Brentcliffe Road, and Aerodrome Crescent. These sewers outlet to a 1,200 mm diameter sewer outside of the study area and ultimately discharge into the Don River West tributary.

Again, while there are no other storm sewers within the study area, some local storm sewers are located east of the study area within the industrial lands. These sewers drain into the study area combined sewers, but were not considered as part of this analysis.

According to the **November 5, 2014 Basement Flooding Study (Figures 6.6 and 6.8 in Appendix C-1)**, the depth of water in the overland flow system for the 5-year and 100-year storm respectively is reported to be between 0 to 150 mm in depth and thus was not flagged as problematic in this report.

Combined Sewers

The study area is primarily serviced by combined sewers ranging in size from 300 mm to 1,200 mm in diameter. Laird Drive has a dual combined sewer system. The east side of Laird Drive is largely serviced

by small diameter local sewers which typically outlet the large diameter combined sewer located on the west side of the street. The west portion of Laird Drive consists of large diameter sewers serving both a local and trunk function.

There is one Combined Sewer Overflow (CSO) location along the downstream reach of sewers on Laird Drive, located at Wicksteed Avenue. At this location, surcharging within the combined sewer is relieved by overflowing into a 975-mm diameter storm sewer running eastward along Wicksteed Avenue to the Don River (just south of Eglinton Avenue).

Please refer to **Figure 6.2 (Appendix C-1)** for a general layout of the sewer infrastructure located within the study area.

Watermains

The study area forms part of Pressure District 3E, generally bounded by Bayview Avenue to the west, Kilgour Road to the north, and the Don Valley Parkway to the east and south. The pressure district is largely fed from a 600-mm diameter watermain along Don Mills Road, via a 400-mm diameter main located along Overlea Boulevard.

Water within the Study Area, and the larger pressure district, is locally supplied by small-diameter watermains, ranging in size from 150 mm to 400 mm in diameter. The pipe material varies throughout the pressure district, but typically consists of ductile iron and PVC pipes.

Study Area A, bounded by Vanderhoof Avenue and Eglinton Avenue East, is generally serviced by local watermains ranging in size from 150 mm to 300 mm in diameter. These provide water services to development flanking Vanderhoof Avenue, Eglinton Avenue East, Brentcliffe Road and Aerodrome Crescent.

There are two watermain along Laird Drive (Study Area B). These watermains consist of a 400-mm diameter main feeding the pressure district from Don Mills Road, across Overlea Boulevard to Parkhurst Boulevard, and 250- to 300-mm diameter local watermain providing water services to development flanking Laird Drive.

Please refer to **Figure 6.3** found in **Appendix C-1** for a general layout of the water infrastructure located within the study area.

7.5 Implementation

As the Laird in Focus Preferred Alternative is implemented through future development, each applicant will be responsible for clearly documenting how the proposed servicing strategy for their development satisfies the Toronto Wet Weather Flow Management Guidelines. Applicants will further be responsible for the preparation of a detailed servicing report that outlines the sanitary/combined sewer destination that proposed flows will be directed, and which is consistent with the findings and recommendations of this report. Additional modelling work may be necessary to assess the impact of each individual application once exact population counts are established.

It is recommended that the City continue to follow its standard practice of requiring hydrant flow tests to support individual development applications. The results from these tests should be used by the City to confirm that the performance of the system is consistent with the basis upon which this study was prepared, and also to confirm the suitability of the system to support the application.

Applicants will be responsible for the preparation and submission of all technical documents related to its application for (if necessary) a Private Water Discharge Approval and obtaining approvals from Toronto Water.

7.5.1 Storm Sewer and Stormwater Management

Existing Drainage

The study area currently consists of mostly hard surfaces, including both roofs and pavement. As shown on **Figure 6.4 (Appendix C-1)**, Area A conveys runoff to Eglinton Ave (east) while Area B conveys runoff to Laird Drive (south). It is assumed that Study Area A may have some on-site controls, which are not currently in compliance with the TWWFMG. It appears that no controls are provided within Area B.

According to the **Novemberr 5, 2014 Basement Flooding Study (Figures 6.5 and 6.7, Appendix C-1)**, surface flooding was identified during the 5-year storm event and the 100-year storm event along Eglinton Avenue between Laird Drive and Brentcliffe Road. This is schematically represented on **Figure 6.7 (Appendix C-1)**.

Proposed Drainage

It is anticipated that both Study Areas will continue to convey runoff to the existing outlets upon redevelopment, as illustrated in **Figure 6.5 (Appendix C-1)**. Each applicant will be required to demonstrate how existing drainage patterns are to be maintained.

Design Criteria

Based on the TWWFMG, the design criteria for the Study Areas are as follows:

Quantity Control

The release rate to the municipal storm infrastructure will be limited to the allowable discharge rate, determined as the lesser of:

- The existing peak flow rate from a 2-year storm event (with a maximum runoff coefficient of 0.50); and,
- The existing capacity of the receiving sewer.

It must be demonstrated that the existing downstream system has the capacity to convey the proposed peak flow rates up to the 100-year design storm event to an existing outfall. Alternatively, on-site detention could be provided, which would control the 100-year peak flow rate to the municipal system to the allowable discharge rate.

As previously noted, Study Area B outlets to a combined sewer; therefore, the combined reduction of existing stormwater and sanitary flows from any one development must be less than existing, so as to not adversely affect upstream and downstream conditions within the City's infrastructure.

Quality Control

- Provide Enhanced (Level 1) quality control per Ministry of the Environment guidelines (i.e., 80% TSS removal).

Water Balance

- The 1991 precipitation data from the Pearson International Airport rainfall gauge is to be used for the analysis;
- Stormwater is to be retained on-site (to the extent practical) to achieve the same level of annual volume of overland runoff allowable from the development site under existing conditions;
- The maximum allowable annual runoff volume leaving a proposed development is 50% of the total average annual rainfall depth; and,
- The minimum on-site runoff retention requires the proponent to retain all runoff from a small design rainfall event - typically 5-mm - through infiltration, evapotranspiration and rainwater re-use. On average, the total rainfall from all small events with daily rainfall amounts of less than or equal to 5-mm is equivalent to about 50% of the total average annual rainfall in Toronto.

Erosion Control

- No erosion control is necessary, as the study area does not discharge directly to or within 100 m of a natural watercourse, and provided that the on-site retention of the 5-mm rainfall event will be achieved under the Water Balance Criteria.

Expected Release Rate

In accordance with the TWWFMG, the allowable release rate to the existing municipal infrastructure was assumed to be the 2-year runoff rate under existing conditions, with a maximum runoff coefficient of 0.5. However, future applications will be required to assess any downstream constraints to confirm the allowable release rate.

The rational method was used to determine the target release rate from Study Areas A and B based on Intensity-Duration-Frequency (IDF) rainfall curves from the **City of Toronto Design Standards**.

The 2-year runoff rate under existing conditions to the existing storm sewer infrastructure for Study Area A is approximately 2,225 L/s. The 2-year runoff rate under existing conditions with a runoff coefficient of 0.50, as per TWWFMG, is approximately 1,236 L/s. Therefore, the total expected release rate from all developments within this area to the existing City of Toronto infrastructure is approximately 1,200 L/s, a reduction of nearly 1000 L/s in the 2-year storm event alone compared to existing conditions.

The 2-year runoff rate under existing conditions to the existing storm sewer infrastructure for Study Area B is approximately 858 L/s. The 2-year runoff rate under existing conditions with a runoff coefficient of 0.50, as per TWWFMG, is approximately 477 L/s. Therefore, the total expected release rate from all developments within this area to the existing City of Toronto infrastructure is approximately 477 L/s, a reduction of 44% in the 2-year storm event compared to existing conditions.

Quantity Control

Quantity control can be achieved through a combination of above- and below-ground storage located within each individual site plan block. A cubic metre of storage per hectare was developed as a guide, based on the allowable release rates and a proposed runoff coefficient of 0.9. A storage volume of approximately 300 cu.m/ha is required to provide adequate 100-year control for both Study Areas A and B. As noted previously, the required quantity controls will assist to alleviate the existing strain on the stormwater infrastructure.

Quality Control

To achieve the required MOECC Enhanced Level quality treatment, a variety of practices will be required to form a treatment train. These practices will focus on above- and below-grade infiltration or filtration based LID's (permeable pavement, bioswales, rain gardens, green roofs, etc.) or end of pipe treatment (oil/grit separator (OGS), etc.) to provide 80% TSS removal.

Water Balance

Runoff from a 5-mm rainfall event is required to be retained on each individual property. It will be up to the applicant to determine an appropriate method by which to reuse this retained rainfall volume.

7.5.2 Watermains

The Preferred Alternative population yields were used in the assessment of servicing requirements and opportunities. As outlined above the study area focuses on two distinct development areas:

- Study Area A consists of three major blocks fronting on Eglinton Avenue East and generally includes high-density, mixed-use developments. The flow generation design criteria used for this area is 191 L/c/D for residential units and 180,000 L/Ha/D for ICI (Industrial/Commercial/Institutional) development; and
- Study Area B consists of seven smaller blocks along the west side of Laird Drive and generally includes medium density mixed use developments. The flow generation design criteria used for this area is 320 L/c/D for residential units and 180,000 L/Ha/D for ICI (Industrial/Commercial/Institutional) development

Based on the above, preliminary water demand calculations for the two areas were prepared and are summarized in **Table 1**.

The model was updated to reflect the Preferred Alternative conditions. The existing meter-based demands for the proposed redevelopments were removed from the appropriate nodes and the Preferred Alternative design demands were assigned to new nodes. The model was thus modified to revise “Average” day, “Max” day and “Peak” hour demand scenarios for the Preferred Alternative conditions, post development. The preliminary post-development conditions

were simulated with the modified calibrated model to establish the residual pressures under several demand scenarios throughout the study area. The model was simulated for the following scenarios and the pressure/head loss in the system was evaluated to understand the impact of the Preferred Alternative development on the existing system capacity. The model output for the post development condition analysis is summarized in **Table 2**.

The model was re-run to confirm the magnitude of the system upgrades required to mitigate the impacts of the proposed development on the level-of-service provided throughout the service area. A series of system upgrades is outlined in **Table 3**.

Study Area	ICI Area (m ²)	Resid'l Units	Resid'l Pop'n	Avg Day Demands		Max Day Demands		Peak Hour Demands	
				ICI (L/s)	RES (L/s)	ICI (L/s)	RES (L/s)	ICI (L/s)	RES (L/s)
Area "A"	44,670	3,755	6,684	9.31	14.78	10.24	19.21	11.17	36.94
Area "B"	21,090	1,017	2,102	4.39	7.78	4.83	12.84	5.27	19.30

Table 7.1: Summary of Proposed Development Water Demands

Water Demand Modelling Scenario	Minimum Water System Requirements	Modelling Results
Average Day Demand	Recommended System Pressures = 40 psi to 100 psi	Model System Pressure = 43.4 psi to 93.1 psi (Ref Fig 8)
Maximum Day Demand	Recommended System Pressures = 40 psi to 100 psi	Model System Pressure = 30.6 psi to 87 psi (Ref Fig 9)
Peak Hour Demand	Recommended System Pressures = 40 psi to 100 psi	Model System Pressure = 19.4 psi to 81.8 psi (Ref Fig 10)
Required Fire Flow to be provided at a residual pressure of no less than 20 psi		
Maximum Day Demand plus Fire Flow	Residential Fire flow requirements per City of Toronto Standards, Q _r >64 L/s to 189 L/s	Model Residential Available Fire flow = 50.2 L/s to 269.5 L/s (Ref Fig 7)
	Employment Fire flow requirements per City of Toronto Standards, Q _r = 189 L/s to 317 L/s	Model Employment / High Rise Available Fire flow = 75.3 L/s to 742.9 L/s (Ref Fig 7)

Table 7.2: Post-development Condition Modelling Scenario Results

Road	From	To	Length (m)	Type of Upgrade	Ex. Diam (mm)	Prop. Dia. (mm)
Overlea Blvd.	West of Don River	Thornclyffe Park	490.3	Rehab	400	400
Beth Neelson Dr	Thornclyffe Park Dr	Wicksteed Ave	500.4	Upsize	300	400
Wicksteed Ave	Beth Neelson Dr	Leslie St	350.1	Upsize	300	400
Leslie St	Wicksteed Ave	Research Rd	97.0	Upsize	200	300
Leonard Linton Park Easement	Wicksteed Ave	Vanderhoof Ave	184.9	Upsizing	150	200
Aerodrome Cres	Vanderhoof Ave	Thomas Elgie Dr	222.4	Upsizing	200	300
Brentcliffe Rd	Vanderhoof Ave	Eglinton Ave	184.5	Upsizing	200	300
Vanderhoof Ave	Brentcliffe Rd	Future Block A1/A2 Easement	235.3	Upsizing	150	200
Vanderhoof Ave	Future Block A1/A2 easement	Laird Dr	197.2	Upsizing	200	300

Table 7.3: Recommended Watermain Upgrades

The impacts of the increased densities can be mitigated through approximately 2.5 km of local system improvements. The detailed modelling memorandum is found in **Appendix C-2**.

7.5.3 Sanitary and Combined Sewers

The sanitary flow rates for the revised models were based on the City of Toronto’s criteria as noted in **Table 4**.

Using the provided densities and the flow rates noted above, peak sanitary flows for each proposed development were calculated and are summarized in Table 5.

In total, the proposed redevelopment in Study Area A will likely generate approximately 85 L/s, directed to the existing infrastructure on Eglinton Avenue East.

The hydraulic grade line (HGL) profiles from the existing conditions were reviewed and analyzed for both main reaches (Eglinton Avenue East and Laird Drive) and for all four of the modelling scenarios. The branch along Eglinton Avenue East is part of the “foul” system and the branch along Laird Drive is part of the “combined” system.

- Under the “Baseline DWF (dry weather flow)” scenario, the Eglinton Avenue East HGL is completely eliminated, suggesting that the HGL is largely produced from the inflow and infiltration (I/I) along this branch. Similarly, the Laird Drive HGL is largely contained within the pipes, equally suggesting that the surcharging conditions are a direct result of storm flows within the combined system;
- Under “Baseline 2-year” scenario, the Eglinton Avenue East HGL shows significantly less surcharging while the backwater condition is still occurring along the end of this branch. The Laird Drive HGL shows some surcharging along the northern part of the branch and near the limit of the Study Area; however, the surcharging is below the 1.8-m limit;

	Generation Rate	Peaking Factor
Residential	240 Lpcd	Harmon
Commercial, Office, Retail, Community Centre	180,000 L/ha/day	None

Table 7.4: Design Criteria

Address	Building No.	Population	Res. Flow (L/s)	Peak Res. Flow (L/s)	Office Area (m ²)	Office Flow (L/s)
815-845 Eglinton Ave	1	375	1.04	4.20	3,200	0.67
	2	1,056	2.93	11.10	6,950	1.45
	3	565	1.57	6.20	0	0
	4	0	0	0	8,990	1.87
	5	636	1.77	6.93	0	0
	6	198	0.55	2.28	5,340	1.11
849 Eglinton Ave	1	508	1.41	5.61	4,370	0.91
	2	475	1.32	5.26	0	0
	3	307	0.85	3.47	8,250	1.73
939 Eglinton Ave	1	638	1.77	6.94	1,285	0.27
	2	327	0.91	3.69	555	0.12
	3	671	1.86	7.27	0	0
	4	0	0	0	4,300	0.90
943-957 Eglinton Ave	1	596	1.66	6.51	1,400	0.29
	2	203	0.56	2.33	0	0
	3	552	1.53	6.06	0	0
	4	641	1.78	6.97	0	0

Table 7.5: Eglinton Development Statistics and Sanitary Flow

- Under the “Baseline 100-year” scenario, the Eglinton Avenue East HGL shows surcharging-to-ground on Eglinton Avenue, and a backwater condition within the Valley. The Laird Drive HGL shows slight surcharging along the entire branch; however, the surcharging conditions meet the requirements of the City of Toronto and do not reach the 1.8-m limit below existing road centreline grades (Note that the assessment of this scenario for combined sewers is not a requirement of the City of Toronto); and,
- Under the “Baseline May 12, 2000” scenario, the Eglinton Avenue East HGL shows surcharging at or below the surface along Eglinton Avenue, while the Laird HGL indicates surcharging near the upstream portion of the Study Area. The surcharging conditions remain below the 1.8-m threshold (Note that the assessment of this scenario for combined sewers is not a requirement of the City of Toronto).

The simulations were reviewed on two branches: along Laird Drive and along Eglinton Avenue East. The HGL for both branches were reviewed for the 2-year and 100-year events. It was observed that both show similar results when existing conditions and post-development conditions are compared. Additional discussions for each run is as follows:

Laird Drive: The results of the combined system modelling along Laird Drive indicate that there are no adverse impacts to redeveloping the various sites within Study Area B. The 2-year storm HGL is similar under existing conditions and post-development conditions; that is to suggest that the development flow was similar to the existing flow removed. Similarly the 100-year storm HGL also looks comparable under existing conditions and post-development conditions, suggesting that the future development flow was similar to the existing flow removed. In terms of the risk of basement flooding, the freeboard is lower than 1.8-m on the first two pipe segments for both existing and future conditions. Therefore, development within Study Area B does not adversely affect existing conditions.

Eglinton Avenue East: The 2-year storm HGL looks very similar under existing conditions and post-development conditions. The flow at the study boundary is slightly lower in post-development conditions than existing conditions, suggesting that the development flow added was less than existing conditions. This is likely due to the replacement of inflow and infiltration flows with sanitary effluent. The 100-year storm HGL is also very similar under existing conditions and post-development conditions, including the flow at the study boundary, suggesting that the development flow added was similar to the existing flows removed. Under the 100-year storm, the surcharging on Eglinton Ave reaches the surface and exceeds the 1.8m limit. Please refer to **Figures 6.5 and 6.6 (Appendix C-1) and Sewer Profiles (Appendix C-2)**. Based on the modelling results, the following sewer segments, noted in **Table 6**, do not meet the level of service expected by the City of Toronto.

7.6 Hydrogeology and Groundwater

City of Toronto staff have advised that there are high groundwater levels within the Study Area, as identified through active development projects in the area. Should groundwater need to be discharged to the combined/sanitary system, identified through the preparation of future development applications within the Study Area, the proponent will need to satisfy Toronto Water that sufficient capacity exists within the system to handle any potential discharge of groundwater.

7.7 Cost Estimate of Recommended Improvements

Please refer to **Appendix C-4** for a complete estimate of the probable cost to implement the recommendations outlined in this report.

From MH	To MH	Length(m)	Existing Diameter (mm)	Slope (m/m)
4119116042	4120716094	54.4	250	0.01151
4120716094	4122116139	46.8	250	0.00115
4122116139	4122816139	7.8	250	0.20218
4122816139	4131016115	84.6	250	0.00401
4131016115	4131516117	5.4	250	0.04259
4131516117	41318516096	73.4	250	0.00107

Table 7.6: Area A Sewer Upgrades

7.8 Servicing Recommendations:

Sanitary Sewers

R86: *New development shall demonstrate that sufficient capacity is available to service future intensification. Where new/upgraded infrastructure has been identified as per Table 6 of this report, development proponents will be required to make satisfactory arrangements with the City of Toronto to design/construct/fund the identified upgrades in order to attain a level of service acceptable to the City of Toronto.*

R87: *An inflow/infiltration study for infrastructure within Study Area A should be conducted to identify the source of the unusually high inflow identified in the model. Removing the source of inflow/infiltration would further improve sewer capacity.*

Storm Sewers

R88: *New developments shall comply with the TWWMF and must achieve a minimum peak flow reduction of 50% or greater.*

Combined Sewers

R89: *New developments shall comply with the TWWMF and must achieve a minimum net combined (storm plus sanitary) peak flow reduction of 50%.*

R90: *As future development along Laird Drive is serviced by combined sewers, a 'net reduction' in combined flows (sanitary effluent + storm run-off) is expected due to reductions in storm runoff from implemented lot-level controls. Since a net reduction is expected, no improvements to the combined sewers are recommended.*

R91: *The City of Toronto should undertake a feasibility study for providing separated storm and sanitary sewers along Laird Drive. This should be coordinated with the recommended streetscape improvements of this plan.*

Water

R92: *Development within the Study Area will trigger watermain upgrades, as identified in this section, to ensure an adequate water supply for long term growth in the area.*



8.0 Implementation Strategy



8.0 IMPLEMENTATION STRATEGY

8.1 Introduction

This Section of the report provides recommendations for the implementation of the vision, principles and community design details as outlined in the previous sections for the Study Area identified on Figure 8.1. It is written in policy language in anticipation that the text and figures will form the basis of both a Site and Area Specific Policy (as an Amendment to the Official Plan), as well as the regulatory basis for an Implementing Zoning By-law. Detailed implementation directions are provided in Appendix A-Planning and Urban Design of this report.

It is understood that changes to the nature of development proposal evaluation and approval in the absence of the Ontario Municipal Board need to be anticipated. As such, there is substantial detail in the proposed policy framework in recognition of the need for more specific policies that will allow a detailed assessment of development applications, and the need to show consistency with the Provincial Policy Statement and conformity with the Growth Plan for the Greater Golden Horseshoe, as well as conformity with City planning policy approved under the Planning Act.

The previous sections of this report outline the vision, principles and community design details in a non-statutory format. In a general sense, all of that work can be considered to be the basis for Design Guidelines that provide important direction for future development. It is a requirement of the City that all new development must implement the intent of the Design Guidelines prepared as a part of this study. In addition, all new development shall implement the intent of other applicable City-adopted Guidelines.

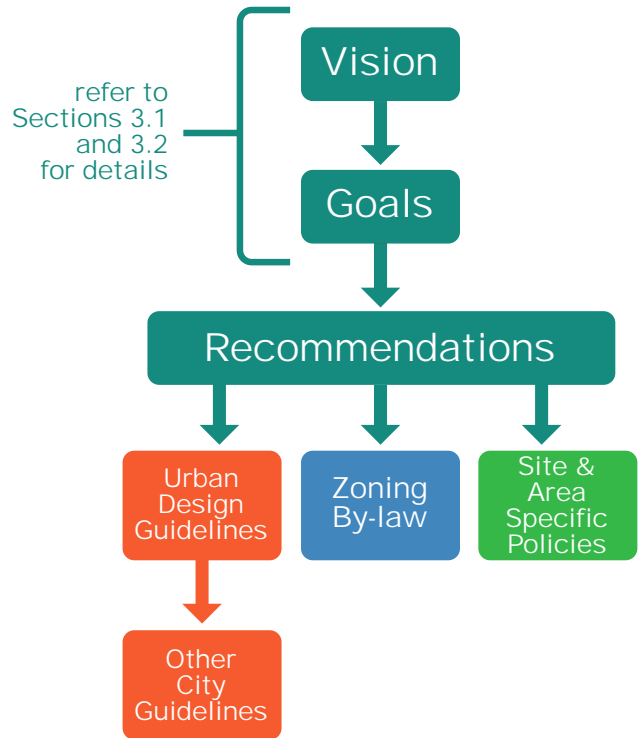


Figure 8.1: Diagram identifying 3 components that the City can utilize in shaping development

8.2 Employment Area Strategy

Employment Areas within the City of Toronto are generally considered finite and in increasingly short supply. These lands are crucial for the maintenance of employment and economic competition within the City. The Employment Areas' land use designation is comprised of large tracts of land for primarily industrial, commercial, and service employment within proximity to population and often with good access to transit.

This Plan:

- Conserves all lands currently designated General Employment within Study Area A in accordance with OPA 231 policies;
- Recognizes the implementation of the Eglinton Crosstown LRT as a key piece of infrastructure to promote employment growth and reduce congestion impacts on local businesses, residents and commuters;
- Promotes greater permeability of the Employment Areas within the Study Area through enhanced public realm connections and the addition of a local road network through Study Area A;
- Proposes to intensify the retail and service commercial and office uses through requirements for mixed-use development within Study Area A that currently accommodate retail uses, with the intention of generally maintaining the total number of jobs, while also improving the public realm and urban design character of the area; and,
- Promoting employment opportunities through permissions for smaller scale retail and service commercial and office uses in a mixed-use format along Laird Drive and within Study Area B, while also improving the public realm and urban design character of the area.



Figure 8.2: Gateway feature into Leaside Business Park along Wicksteed Avenue

8.3 Affordable Housing Strategy

Efforts will be made to secure new affordable housing as a community benefit within new residential and mixed-use residential developments in accordance with City of Toronto policy and any associated development agreements.

Presently, affordable housing is typically secured through Section 37 agreements, which are negotiated on a development-by-development basis. The authority to implement Inclusionary Zoning policies was recently enacted by the Province of Ontario. This planning tool could potentially secure a proportion of the new residential units as affordable housing units.



Figure 8.3: Affordable housing development (Canary District)



Figure 8.4: Community facilities integrated into the neighbourhood (Central YMCA, Toronto)

8.4 Community Services and Facilities Strategy

A number of community infrastructure priorities were identified through the Eglinton Connects Community Services and Facilities needs assessment carried out through the Eglinton Connects process, which states:

“Future community services and facilities needs include new, nonprofit licensed child care facilities, improved/ additional public library space, new green and open space (including parkland), a strategy to address school capacity, and community agency/ human services space.”

Through EglintonCONNECTS, the following community facilities and services needs have been identified/ confirmed:

- **Child Care:** City of Toronto Children’s Services have identified that child services and childcare facilities are inadequate within the community (including the Study Area). Additional capital facilities are required as existing facilities lack sufficient capacity and the area is experiencing significant residential growth;
- **Community Recreation Facilities:** upgrades to existing facilities to accommodate programming demands, an additional satellite recreational space or an additional stand-alone facility is required to accommodate existing and projected programming demands; and,
- **Community Agency/Human Services Space:** Non-profit groups have identified the need for additional community agency space within the larger area.

To address these priorities, the Plan proposes the development of a new community facility in Study Area A, that will offer residents a variety of programs and services, including: recreation facilities, childcare, flexible multi-purpose programming spaces, and community agency spaces, in addition to outdoor amenity recreation spaces. Further community facilities and services may also be the subject of Section 37 agreements.

8.5 Phasing Strategy

The Phasing Strategy for both Study Area A and Study Area B is fundamentally tied to the capacity of the servicing infrastructure to accommodate anticipated growth. The Phasing Strategy is as follows:

- a) Development intensification, as modelled for this report, will not be constrained by existing sanitary or storm water systems; and,
- b) For Study Areas A and B, water supply pressure is a concern. All development applications shall provide a functional servicing report, to the satisfaction of the City, that ensures that adequate water supply can be provided, and shall identify all required improvements to the overall water supply system; and,
- c) Development beyond as-of-right will require upgrades to watermain system in order to maintain Employment fire flow requirements of between 189 and 317 litres/second.
- d) For study area A, new development will be subject to the following:
 - The expansion of the transportation network will gradually increase capacity in the study area, but certain streets and network improvements will be required for development to proceed;
 - Full development of the area will require further monitoring to ensure the reduction in person-trips is achieved with the projected modal shift;
 - The implementation of the transportation network will be monitored to determine the impact to travel characteristics for new developments; and,
 - Holding By-laws may be enacted to ensure transportation improvements and infrastructure are in place prior to new residential development being permitted.

Phase 3 concluded with a public open house and presentation in May, 2018. Over the intervening 15 months a public process was initiated that culminated in a preferred plan for the identified lands along the south side of Eglinton Avenue East and the west side of Laird Drive. Along the way, a vision, guiding principles, land use and built form options, and a Preferred Alternative plan were created and refined, all with community, stakeholder, City staff, and Consultant Team input. The recommendations that ensued will assist City staff as they move forward in drafting implementation tools that will guide development towards realizing the vision.

Underlying the emerging plan are transportation and servicing analyses with follow-up recommendations that relate future development back to the municipal infrastructure that is required to support it. These recommendations include transportation demand management measures, street network improvements, and sanitary and water main upgrades.

The Eglinton Crosstown LRT will bring change along the east-west corridor extending from Kennedy Road to Mount Dennis. Laird Drive will be a node of intensified development. In response, the City has proposed a way forward with developers, property owners, residents, and stakeholders to create a new and improved community.



9.0 Summary



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