TRANSIT-ORIENTED DEVELOPMENT (TOD) Plans

Lees, Hurdman, Tremblay, St. Laurent, Cyrville and Blair





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TABLE OF CONTENTS

1.0 BACKGROUND

In January 2010 Council approved the functional design for Ottawa's Light Rail Transit (the Confederation Line) corridor from Tunney's Pasture to Blair Station. At that time City Council also approved the $2.1 billion cost estimate for the project and directed staff to commence the proper studies, assessments and processes necessary to advance the design.

The Confederation Line will run east-west from Tunney's Pasture to Blair Station. The system includes 12.5 km of new rail, 13 stations and a tunnel through the downtown core.

Ten of the stations are a conversion or reconstruction of existing bus rapid transit stations to accommodate light rail and the other three are new underground stations in the downtown area. Opening day is scheduled for the spring of 2018.

In anticipation of land development projects in proximity to the Confederation Line stations, Council established priority areas for the creation of Transit-Oriented Development (TOD) plans. At Council's direction, the planning for these priority areas will result in the development of well-designed, compact neighbourhoods where residents can live, work, shop and play close by, complete daily activities easily, access excellent transit, and support local businesses.

1.1 PURPOSE

The Transit-Oriented Development plans set the stage for future transit-supportive or "intensified" land development in priority areas located near future Confederation Line stations. The plans establish a broad growth strategy for achieving transit supportive communities. A primary goal of the TOD Plans is to promote public transit usage by employing effective urban design techniques in the planning and design of the communities surrounding the stations. The TOD Plans guide the creation of future high-quality living environments that include an increase in residential and employment densities in the study areas.

The TOD plans include maps and drawings that illustrate pedestrian and cycling circulation routes to transit, the street network, and the development of the public realm. The TOD Plans also include illustrations to demonstrate potential built form as well as show locations for improved pedestrian connections and landscaping.

1.2 SCOPE

The TOD plans are Council-approved policy documents and are similar to Community Design Plans (CDP). TOD plans are a tool to address growth and change in a specific area around future light rail stations. Their preparation followed an expedited time frame and do not include all of the components of a CDP, as outlined in the Official Plan. While the TOD plan components may vary over time, they will always include critical direction regarding density, desired land use

and built form, development of the public realm, place-making, mobility and servicing of a defined TOD area.

1.3 INTERPRETATION AND APPLICATION

TOD plans apply at several stages in the municipal planning and development process, and will be used by several groups. The plans will provide direction to developers at the development application and review stage including, for example, proposed Official Plan and Zoning By-law Amendments, Subdivisions and Site Plan Control applications. Planning professionals at the City will be responsible for ensuring the coordinated review and implementation of proposals located in the TOD plans. The plans will also be used by City Departments such as Infrastructure Services and Planning and Growth Management to inform the decision-making, acquisition, design and/or development of capital and growth-related projects such as roadway renewal, streetscaping initiatives, sidewalk and pathway upgrades and public park development.

At the development review stage, the TOD plans will provide information to developers, staff, community associations and the public in conjunction with other Council-approved policies such as, but not limited to, the Official Plan, Secondary Plans, CDPs and urban design guidelines (e.g. Transit-Oriented Development Guidelines, Urban Design Guidelines for High-Rise Housing, Urban Design Guidelines for Development along Arterial Mainstreets, etc.). The TOD plans are not meant to duplicate the many growth-related design policies already established via other policy documents. Development proponents in cooperation with City staff should be able to demonstrate how their proposal follows the intent of the TOD plans.

1.4 CONSULTATION PROCESS

The consultation for the TOD plans involved a collaborative effort among many different stakeholders across an expedited timeline.

Stakeholder groups were formed and engaged at key junctures throughout the TOD planning process. Stakeholder groups include Ward Councillors, area landowners and a Technical Advisory Committee (TAC) comprised of City staff, partners in different levels of government, utilities, etc. Community groups and municipal Advisory Committees were also consulted individually at key junctures in the project.

Stakeholder groups assisted in data gathering, analysis, the review of preliminary development concepts, and the review of final TOD plans. Meetings with individual stakeholders were also held throughout the planning process as warranted and/or as requested. The general public was consulted through two Public Open House meetings held during the project.

2.0 POLICY CONTEXT

The TOD Plans have been prepared in anticipation of achieving light rail transit-supportive land use densities in communities surrounding new Confederation Line stations over the long-term. Light rail transit is successful in densely populated areas as it excels at moving large numbers of people efficiently. The target density range is approximately 200 to 400 people and jobs (combined jobs and residents) per gross hectare within each TOD Plan area. Pedestrian and cycling access to transit, along with high urban design standards for public and private spaces, were given priority in the preparation of the TOD Plans. In addition to these primary objectives, the Plans implement Council's strategic priorities regarding transportation and mobility and were prepared under existing City and Provincial transit-supportive policies and guidelines.

Council's strategic priorities relating to the TOD Plans are:

- ***TM2 - Maximize density in and around transit stations*** *(Plan well-designed, compact neighbourhoods where residents can live, work, shop and play close by, complete daily activities easily, access viable transit, and support local businesses.)*

- ***TM3 - Provide infrastructure to support mobility choices*** *(Improve residents' mobility choices by supporting a variety of initiatives related to routes, rapid transit, walking, and cycling.)*

The policy and guideline directions of the City and Province are embodied in the TOD Plan designs and recommendations, along with additional context specific design and implementation requirements. Highlights of these documents are included below and they are essential to the success of the TOD areas. It is required that the documents discussed below, and other relevant policies not specifically identified, will be referenced where appropriate in concert with the design and implementation requirements in this Plan.

2.1 PROVINCIAL POLICY STATEMENT

The Provincial Policy Statement (PPS) provides for appropriate land use development while protecting matters of provincial interest, public health and safety, and the quality of the natural environment. It supports improved land use planning and management, which contributes to a more effective and efficient land use planning system.

The PPS sets out policy direction in support of transit-oriented development including support for efficient development and land use patterns with an appropriate range and mix of land uses and housing options and including setting minimum targets for intensification. Land use patterns that make efficient use of municipal infrastructure, that reduce vehicle trips and that support use of public transit are encouraged. The PPS also directs that areas of compact form and mix of land uses should be focused in locations that are well served by public transit.

2.2 OTTAWA OFFICIAL PLAN

The Official Plan (OP) contains policy direction supporting land use intensification and improved urban design in areas with proximity to rapid transit stations. The OP gives guidance for the planning of TOD areas, for example, by setting targets for intensification, establishing design priority areas, increasing cycling and walking mode shares and reducing vehicle parking rates.

The policies related to transit-supportive development were amended as part of the TOD study process to align with the range of land use areas captured within the TOD Plan boundaries. In some cases the land use areas were changed to provide for a broader range of land use mix, for example to include the possibility of residential development. Changes to the OP arising from the TOD study process are summarized later in this Plan.

2.3 OTTAWA TRANSPORTATION MASTER PLAN

The Transportation Master Plan (TMP) identifies the transportation facilities, services and policies that the City will implement to serve a projected population of 1.14 million people by 2031. It sets the direction for the City's day-to-day transportation programs and provides a basis for budget planning that is consistent with the growth management policies of the Official Plan. The TMP provides guidance in the preparation of TOD Plans by setting out "active transportation" polices that support walking and cycling as desirable modes of travel, not only on the road network but also on multi-use pathways.

2.4 OTTAWA INFRASTRUCTURE MASTER PLAN

The Infrastructure Master Plan (IMP) identifies that infrastructure services, the major public water, wastewater and stormwater expansion projects and the City's role in protecting the natural resource base which supports private wells and septic systems, are provided through the planning period to serve a projected population of 1.14 million people by 2031. It sets the direction for the City's day-

to-day infrastructure programs that is consistent with the growth management policies of the Official Plan. The IMP provides guidance in the preparation of TOD Plans ensuring provision of adequate services to support estimated levels of development intensification.

2.5 OTTAWA PEDESTRIAN PLAN

Ottawa's Pedestrian Plan establishes a vision and policy framework for pedestrian travel, planning, designing and implementing pedestrian facilities, and establishing actions and policies for better integrating pedestrian travel into the transportation system as a viable active transportation mode. The primary goals of the Pedestrian Plan are to:

- Increase the pedestrian modal share across the city;
- Assist in guiding future development in such a way that encourages creation of a high quality pedestrian environment; and,
- Develop and strengthen the “culture of walking” in Ottawa.

A key objective to realizing these goals is the development of an integrated network of pedestrian-friendly spaces with primary connection to transit facilities that integrate into and improve upon the walkability of the community. The Pedestrian Plan supports the TOD Plans by providing guidance for pedestrian-supportive planning and design, safety and accessibility guidelines and direction for safe and convenient pedestrian crossings. The Pedestrian Plan also provides guidance for pedestrian-supportive amenities, wayfinding and pedestrian-scale lighting.

2.6 OTTAWA CYCLING PLAN

One of the key principles of the Cycling Plan is to make Ottawa more cycling friendly and to ensure safe and efficient routes for cyclists.

The primary goals of the Ottawa Cycling Plan are summarised as follows:

- To build upon existing cycling initiatives by linking, connecting and expanding existing cycling facilities in the city;
- To make cycling safer for cyclists of all skill and age levels;
- To achieve a cycling mode share of 5% of all morning peak period person-trips by 2031, which means an increase in cycle trips during this period from 12,300 as measured in 2011 to 30,100 by 2031.

The Cycling Plan supports the TOD Plans by recommending integration of transit and cycling as complementary modes and by providing information on existing and planned cycling routes within and adjacent to the TOD Plan areas.

2.7 ONTARIO TRANSIT SUPPORTIVE GUIDELINES

The Ontario Ministry of Transportation (MTO) released comprehensive guidelines that promote transit use through land use planning, urban design and transit operational practices. The guidelines support TOD planning by providing recommendations on land use intensification, community design, creating complete streets and enhancing access to transit by pedestrians and cyclists. The guidelines also provide useful links to related resource materials. The design principles in the MTO guidelines are embodied in the design and planning approach used in the TOD Plans.

2.8 OTTAWA TRANSIT-ORIENTED DEVELOPMENT GUIDELINES

The Transit-Oriented Development (TOD) Guidelines define TOD as a mix of moderate to high-density transit-supportive land uses, located within an easy walk of a rapid transit stop or station and which are oriented and designed to facilitate transit use. The TOD Guidelines are used to assess, promote and achieve appropriate transit-oriented development within Ottawa. The main objectives of the Guidelines are to:

- Provide a mix of uses and densities that complement both transit users and the local community;
- Ensure that built form is designed and orientated to facilitate and encourage transit use while managing the safe circulation of pedestrians, cyclists, vehicles and parking; and,
- Create quality public spaces that provide direct, convenient, safe and attractive access to transit.

The TOD Guidelines should be referenced in the preparation and approval of development plans and streetscapes within the approved TOD Plan areas.

2.9 OTTAWA URBAN DESIGN GUIDELINES FOR HIGH-RISE HOUSING

The Urban Design Guidelines for High Rise-Housing apply to high-rise (10 storeys or more) housing as well as to high-rise housing in mixed-use development. The guidelines are used during the review of development proposals to promote and achieve appropriate high-rise development and may also be referenced in the design of high-rise commercial development. The main objectives of the Guidelines are to:

- Address the compatibility and relationship between high-rise buildings and their existing or planned context;
- Coordinate and integrate parking, services, utilities, and public transit into the design of the building and the site;
- Encourage a mix of uses and open spaces that contribute to the amenities of urban living;
- Create human-scaled, pedestrian-friendly streets and attractive public spaces that contribute to liveable, safe and healthy communities;
- Promote high-rise buildings that contribute to views of the skyline and enhance orientation and the image of the city;
- Promote development that responds to the physical environment and microclimate through design.

The Urban Design Guidelines for High-Rise Housing should be referenced in the preparation and approval of development plans within the approved TOD Plan areas.

3.0 PLANNING APPROACH TO TRANSIT-ORIENTED DEVELOPMENT

The TOD Plans were prepared with an understanding that redevelopment and higher densities will occur over the long-term around the Confederation Line stations. The permitted densities and mix of uses may result in TOD Plan areas functioning like small downtowns. The TOD Plans serve as the land use planning framework that allows the centres to grow and evolve in response to market pressures and public improvements.

Literature research of several Canadian and United States municipalities with light rail transit systems showed that there are common themes but varying approaches to TOD planning. In particular, acceptable walking distance to rapid transit ranged from 400 to 800 metres (5 to 10 minutes) and the people and jobs targets to support transit within those walking distances varied. The target average people and jobs density selected for the TOD Plans is a

range of 200 to 400 people and jobs per gross hectare, within a walking distance of 800 metres. Some common and essential TOD planning elements are:

- Priority given to pedestrian and cyclist movements within the TOD Plan area and improved connections with the surrounding community;
- Proximity of higher density land use to transit stations;
- Flexible planning permitting a varied mix of land use types; and
- An enhanced public realm.

The TOD Plans were prepared combining these essential elements with made-in-Ottawa solutions. A key approach to realizing TOD intensification is to provide flexibility by permitting existing development to remain, to permit expansion when desired, and to have in place a regulatory framework that permits a broader range of land uses and higher densities over time. Another key approach is to permit future uses of land to establish in response to market pressures for most locations in the TOD Plan areas.

The TOD Plans are supported by a TOD Servicing Overview (Appendix C). This overview analyses existing infrastructure capacities, estimates the servicing requirements, related costs and recommends phasing of improvements based on levels of development estimated to occur in short-term (approximately within 20 years) and long-term (over 20 years) timeframes.

3.1 PLAN BOUNDARIES

The study area boundaries for the TOD Plans were established based on an approximate 10 minute (800 metre) walking distance from the transit stations. This was measured using public sidewalks and walkways and in consideration of existing land use patterns, physical elements and existing and planned pedestrian and cycling connections. The TOD Plan areas range in size from approximately 75 to 120 hectares.

3.2 EXCLUSION AREAS

Within the TOD Plan areas select properties are identified as “Areas Not Under Consideration for Intensification”. These areas include land that is either already developed to a transit-supportive density, is not at a transit-supportive density but is stable (unlikely subject to redevelopment pressure in the foreseeable future) or is protected due to heritage or environmental values. The number of people (residents) and jobs (employees) in the exclusion areas is included in the TOD area density calculations.

3.3 STABLE NEIGHBOURHOODS

Some areas within the TOD Plan boundaries have clusters of existing lower density residential development. Except for minor infill projects and second unit additions to existing homes, for example, these areas are identified on the TOD Land Use Plans as “Stable Neighbourhoods”. These locations were not planned in the TOD studies for future transit-supportive development intensification but the existing populations within them have been counted in the TOD Plan density calculations. Small-scale infill and redevelopment projects within Stable Neighbourhoods are not subject to the minimum density targets for TOD areas, as established by the Official Plan.

3.4 INFLUENCE AREAS

Adjacent to the TOD Plan areas are properties that may be subject to future redevelopment. Although not part of the TOD Plans, these locations are considered to be TOD “influence areas” which may be

suitable locations for higher density infill development or redevelopment in the future, despite having longer walking or cycling commute distances to transit. In many cases the existing zoning on properties within influence areas already supports a variety of uses at transit-supportive densities. Intensification of influence areas will be considered by the City based on its contextual fit within the community and its ease of access to transit.

3.5 DEVELOPMENT AREAS AND ESTIMATED TIMING

Development areas include vacant property, infill areas such as larger parking lots and existing developed areas that could be redeveloped in the future. Roughly one-half of the total land in the TOD Plan areas is considered to be available for development or redevelopment at transit-supportive densities. This is due primarily to the Highway 417 corridor, existing road rights-of way, rail and rapid transit corridors, environmental land, etc. Vacant properties, infill areas and other building areas where the landowners indicated the possibility of shorter-term redevelopment are considered to be available at any time, but may take many years to be developed.

Two basic timeframes were used in the analysis of density potential: short-term and long-term. The short-term timeframe is within the next 20 years, generally coinciding with the planning horizon year for the Official Plan and Master Plans. Most of the development projected to take place over the short-term will be on vacant and infill properties since they are the easiest to develop. Areas where existing (newer) buildings require demolition in order to be redeveloped are considered to be available mostly in the longer term.

Other lands are identified as “Very Long-Term” and have not been assigned a density since they are primarily highway interchange and residual highway right-of-way areas. Major changes in current traffic patterns through the city, highway levels of service and maintenance procedures would be required before development in the Very Long-Term areas could occur. Development of land identified as “Very Long-Term” is considered to be too far into the future and so has not been planned at this time. In the future the City may proceed with plans for transit-supportive development in these areas.

The diagrams in Appendix F show vacant, infill and redevelopment land as short-term (in purple) and redevelopment land as long-term (in pink). These plans are not prescriptive in guiding when development or redevelopment is permitted to occur. They are intended to be a guide to assist in calculating short and long-term capacity for transit-supportive density.

3.6 ACHIEVING TRANSIT-SUPPORTIVE DENSITY

Transit-supportive densities are typically expressed as the number of people and jobs (residents and employees) per hectare of land in the community immediately surrounding rapid transit stations. The target range for transit-supportive density in the Ottawa TOD Plan areas is 200 to 400 people and jobs per gross hectare. Although the majority of the properties within the TOD Plan areas are already developed, many of the existing buildings have very low “people” densities in terms of transit supportability. The average existing density in the TOD Plan areas ranges from approximately 35 to 90 people and jobs per gross hectare.

To determine if transit-supportive densities could be achieved through infill and redevelopment of the TOD Plan areas, three people and jobs density estimates were prepared. The first estimate determined total approximate density for the entire TOD Plan areas over the long-term. This estimate assumed redevelopment of all properties at transit-supportive densities, except for ‘Very Long-Term’ land, ‘Exclusion’ land and ‘Stable Neighbourhoods’ as described above. It shows total estimated people and jobs in the TOD Plan areas and is used in the TOD Servicing Overview to determine ultimate infrastructure needs. The second estimate determined the approximate density potential on all vacant, infill and underdeveloped parcels. This scenario demonstrates estimated population on land considered to be more easily available for development in the short-term. The third estimate is a calculation of density increase based on projected development in response to market demand in the short-term.

The Density Table in Appendix A demonstrates that the mid- to upper-end of the 200 to 400 people and jobs per gross hectare transit-supportable density range can be achieved over the long-term. It also demonstrates that there is sufficient short-term (vacant, infill and underdeveloped) land available to accommodate anticipated growth in each TOD Plan area over the next 20 years. However, unless the estimated rate of market uptake for development increases, the TOD Plan areas are not projected to achieve the target minimum transit-supportive density of 200 people and jobs per gross hectare in the next 20 years. It is important to remember that although it is easier for certain properties to redevelop in the shorter-term, it is estimated that growth will be gradual and occur over many years.

Of note, “visitors” to the TOD areas are not factored into the transit-supportive “people and jobs” estimates above, as some uses (e.g. VIA station, baseball stadium and retail areas) draw people who are neither employees nor residents. Currently it is estimated that most visitors to these facilities arrive by motor vehicle. However, over time, as densities increase and transit service improves, the number of visitors using public transit will increase.

3.7 DENSITIES AT DEVELOPMENT APPROVAL

Transit supportable densities are represented by the number of people and jobs living and working within the TOD Plan area. The transit-supportable density target is expressed therefore as the number of people and jobs per gross hectare since it applies to the entire TOD Plan area. Land is developed on a site-by-site basis, which is expressed as net density per hectare since streets and other non-development land is excluded.

The TOD Plan areas each have roughly one-half of their land available for development or redevelopment. Therefore, if the target overall TOD Plan area density range is 200 to 400 people and jobs per hectare (gross density), the average density on a site-specific basis (net density) would need to be approximately double the gross density target. This means that the densities on a site-by-site basis will be on average in the 400 to 800 people and jobs per net hectare range to achieve the overall 200 to 400 people and jobs per gross hectare density target.

It is anticipated that some site densities will be lower or higher than the expected net density range to respond to the context of the development. In particular, densities may be higher on properties closer to the Confederation Line stations. Phased development of larger properties is permitted subject to site plan approval where all phases are shown on a registered site plan and each phase meets or exceeds the minimum density required.

3.8 ZONING APPROACH TO DENSITY

The TOD zoning regulates key transit-supportive development factors including minimum building density and maximum height. The intent is to achieve transit-supportive density overall while generally locating buildings of higher density and height in proximity to the Confederation Line stations, and lower density and height on the periphery. It is estimated that the minimum transit-supportive density could be achieved in the TOD Plan areas even if all properties were developed at the minimum permitted zoned density.

3.9 TOD DENSITY ILLUSTRATIONS

The intent of the TOD sample illustrations (i.e. Figure 1) is to demonstrate one scenario of what development at the upper end of the 200 to 400 people and jobs per gross hectare transit-supportive density could look like (refer to Section 10). Conceptual residential and non-residential buildings were designed for the TOD illustrations and the various building areas were calculated. Statistical averages for the number of persons per dwelling unit (residential) and for the number of persons per square metre for non-residential uses permit translation of building area to “people density”. Table 1 sets out sample rates for the number of people in residential and employment uses. The average density per unit/building area was divided into the conceptual building areas based on an assumed land use mix. The resulting number of people then could be divided by the overall TOD Plan area to determine approximate TOD area people and jobs density.

Land Use Type	Density Index
Office	1 employee per 20 square metres
Retail	1 employee per 45 square metres
Apartments	1.62 residents per unit
Stacked Townhouse	2.06 residents per unit

Table 1: Sample Land Use Densities

The TOD illustrations are not prescriptive in terms of guiding building height, form, location and use. When development and redevelopment occurs in the future, architectural styles, heights, massing and siting will be unique and look different when compared to the TOD illustrations. Land use mix is permitted to vary from the illustrations as development is approved based on the market requirements of the day.

Figure 1: St Laurent Concept

4.0 VISION FOR TRANSIT-ORIENTED DEVELOPMENT

Transit-Oriented Development (TOD) areas in Ottawa will evolve into important "people places" set in urban environments that are attractive, compact, and liveable and that support barrier-free choices in mobility for pedestrians, cyclists and transit users. These are growth areas in the city that will accommodate the people and jobs densities required to support higher-order transit networks. Growth in TOD areas will be context-sensitive and respond to surrounding neighbourhoods.

4.1 GUIDING PRINCIPLES OF TRANSIT-ORIENTED DEVELOPMENT:

1. **Creating complete, mixed-use communities:** TOD areas will accommodate a wide range of land uses such as residential, office, commercial, retail, arts and culture, entertainment, service, recreational and institutional uses to provide opportunities to develop a mix of uses. This land use mix will promote the development of TOD communities that are complete, vibrant with activity, and offer choice. Residents in these areas will be able to live, work, access services, shop and play in their neighbourhoods. Diversity in land uses may be achieved vertically in one building or horizontally across several adjacent buildings.

2. **Accommodating people and jobs densities in a compact built form:** Light-rail transit creates the opportunity to accommodate more jobs and housing close to stations, thus increasing ridership as well as reducing the need for development land elsewhere. Medium and high densities will be accommodated in varying compact built forms and may result in tall buildings being located close to transit.

3. **Establishing context-sensitive development that respects existing neighbourhoods:** With the introduction

of high densities and potentially tall buildings near transit stations, scaling-down development towards existing residential neighbourhoods is critical to maintain the established character and charm of surrounding areas. Buildings near existing low-density, low-rise neighbourhoods should ensure height and density transitions.

4. **Promoting choices and reprioritizing pedestrians, cyclists and transit users over single occupant automobiles:** The success of TOD areas depends on the availability, ease and appeal of walking, cycling and using transit. Pedestrian pathways, cycling routes and public spaces are well-connected to transit and introduced in a timely fashion as the area develops to support individual choices. Transit is an attractive option and a smaller percentage of people drive to or from the area.

5. **Creating green spaces and urban places:** Complete communities include opportunities for residents and visitors to play, gather, socialize and quietly reflect during their day-to-day activities. As such, the creation of public and private amenity spaces is critical in making TOD communities more liveable. TOD areas will evolve into urban environments and will include well-designed and well-located green spaces and urban plazas.

6. **Creating an attractive, well-designed urban environment:** TOD areas will evolve into important people places that are attractive and exhibit high-quality urban design to enhance livability and quality of life for residents. Development will maintain a human-scale on the ground; tall buildings will be designed to minimize impacts on their neighbours and on the ground. Mainstreets with wide sidewalks and trees will also be established.

7. **Managing Parking:** Parking in TOD areas is limited to help reduce the reliance on automobiles and promote the use of other modes of transportation. The location and design of parking structures will be subject to specific criteria to minimize their impact along public streets. Transportation Demand Management techniques are also encouraged on a site-by-site basis to further reduce the travel demand for single occupancy vehicles.

5.0 MOBILITY

TOD areas will develop as one of the most pedestrian, cycling and transit-friendly areas in the city. To that end, the TOD plans shift the traditional prioritization of travel modes away from cars towards walking, cycling and transit. Developing a comprehensive active transportation network for the TOD areas has a three-pronged effect with respect to transportation: promoting sustainability by supporting multiple modes of transportation, discouraging single occupancy vehicle trips, and supporting the City's light rail investment.

This Section describes the design intent for the Pedestrian, Bicycle and Street Network plans for TOD areas, which illustrate the full mobility network, as envisioned over time. Together, they form the primary organizing elements of the TOD plan areas and inform the general location of new development parcels, buildings and open spaces. For each layer, the barriers in the existing network are removed, existing gaps are filled-in, and new connections are introduced to create a complete and accessible active transportation system. The mobility network does not have to align exactly as illustrated in the TOD plans but should demonstrate how the various mobility components follow intent of this Section.

5.1 PEDESTRIANS

The Pedestrian Network plans for the TOD areas show the location of existing and future facilities required to complete the network over time. Existing pedestrian networks are often fragmented and show evidence of pedestrian short-cutting (e.g. desire lines and beaten paths) to create more direct routes to key destinations and amenities. These informal routes can be unsafe and unattractive and are not a preferred option for the high volumes of pedestrian traffic envisioned by the TOD plans. The Pedestrian Networks outlined in

the TOD plans aim in some circumstances to formalize these desire lines to complement the pedestrian system.

Primarily, the pedestrian facilities outlined in the TOD plans are public sidewalks within road rights-of-way, but may also be publically-owned pathways (e.g. multi-use pathways) or formalized routes on private lands. For public and private roadways, sidewalks shall be developed on one or both sides of the street as shown on the Pedestrian Network plans. In all contexts, sidewalks shall be connected to existing or planned infrastructure and shall be linked to support movement to and from the Confederation Line stations.

Private lands will be planned and designed in a collaborative effort between City staff and developers during the development review phase of the municipal planning process. These pedestrian facilities may be located on private surface parking lots, private aisle ways, in shopping malls and plazas, university campuses, etc. They form critical connections within Pedestrian Networks and, ultimately, provide pedestrians with convenient walking routes to Confederation Line stations and other key destinations and area amenities. Formalized routes on private lands shall be secured through legal mechanisms such as Joint Use Agreements.

5.2 CYCLING

The Bicycle Network plans for the TOD areas show a combination of routes that provide cycling options (e.g. on-road, off-road) that together form a complete cycling network. Cycling routes are connected to one another and to destinations, and integrated with the existing or planned cycling network as outlined in the Ottawa Cycling Plan (OCP). The Bicycle Network proposed in the TOD plans occasionally show additional planned facilities and connections not shown in the OCP.

The TOD Servicing Overview transportation study area map identifies a cycling capture area boundary for the Confederation Line stations. This capture area is the area that “non-commuter” cyclists may cycle to and park at the stations. People who live beyond the ten minute (800m) walk and up to approximately 1.5 to 2 kilometres away may choose to take a short bike ride to the stations rather than choose a longer walk. Cycling connection improvements within this area will benefit the community and increase transit ridership numbers. A list of improvements, timing for completion and related costs for short distance cycling access to transit are discussed in Section 11.2, Future Capital Projects and Financing.

5.3 STREET NETWORK

The Street Network plans show the existing roadways and potential roadways that help form the basic mobility framework of the TOD plan areas. In conjunction with the proposed Pedestrian and Cycling Networks plans, the Street Network plans assist in making the TOD areas more permeable for all modes of transportation, provide more choice for pedestrians, cyclists and drivers, and inform the organization of development blocks. The roadways shown on the Street Network represent the minimum number of new roadways that may be developed in any TOD plan area.

The Street Network plans show a required but flexible future connection referred to as a “Future Public Road, Private Road, Aisle way or Multi-Use Pathway”. The purpose of this connection is threefold: to provide shorter, more direct pedestrian and cycling routes to transit using one or a combination of connection types; to show locations for potential roadways that create a street grid; and, to divide larger parcels into organized development blocks. The type of connection actually proposed can be decided at the time of development. This feature provides flexibility for City staff and developers during planning and design to choose which transportation facility best “fits” the subject development proposal.

New private roads and new private aisle ways developed through parking lots in locations shown on the Street Network plans should “look and feel” like public roads, using similar cross-sections and streetscape design. These facilities do not necessarily have to employ the same dimensions as City standards. For example, an aisle way through a parking lot that is an extension of a public road,

where both are part of a required connection alignment, may have slightly different pavement and sidewalk dimensions. However, both facilities are required to have sidewalks on both sides, a pavement width wide enough to accommodate cycling, boulevard tree plantings, and roadway and pedestrian scale decorative lighting.

To further encourage walking and cycling within the TOD Plan areas, motor vehicle speeds may be reduced along select roads and at key locations. A reduction from 60 km/hr for example would help facilitate a more pedestrian and cycle-friendly environment. Opportunities for other similar speed limit reductions, including opportunities to reduce design speeds, will be encouraged. The City will continue to endeavour to maintain a maximum of 90% volume to capacity ratio for mixed traffic at signalized intersections during weekday peak hours, where feasible, although similar to the Central Area a 100% ratio will be acceptable in the TOD Plan areas. The intent is to encourage more pedestrian and cycle-friendly intersections that do not have multiple motor vehicle turning lanes in an effort to maximize the quality of service and minimize delay for active modes.

Other complementary strategies towards reducing the use of private automobiles and improving transit ridership and active transportation will be introduced on a site-by-site basis. Transportation demand management practices such as charging for parking, developing secure bicycle storage, and providing on-site change rooms and shower facilities will be implemented.

5.4 TRANSIT

The Confederation Line stations are at the heart of the TOD areas and will become central hubs to the mobility network. As such, the TOD plans and corresponding servicing analyses assume high mode shares in favour of transit and active transportation. Transit ridership will be increased through intensification for residential and non-residential uses and such measures as: improving accessibility to the stations, creating active transportation networks that are comprehensive, connected and attractive, improving the pedestrian environment and limiting the amount of parking that may be developed in TOD areas.

In addition to intermodal integration and parking management, a variety of other measures also support transit's competitiveness with automobile use. These measures include transportation demand management, increasing frequency of transit when warranted and enhancing service delivery, for example through on-street measures such as bus queue jumps and signal priority.

The existing bus network provides direct service from surrounding neighbourhoods to major transit stations as well as service in the vicinity of secondary transit stations. As TOD plan areas develop over the short and long-term planning horizons, bus service in the vicinity of these areas will continue to be monitored and adjusted accordingly.

6.0 LAND USE

The TOD Land Use plans provide a vision of station areas as complete, mixed-use communities. As such, a wide range of land uses are permitted to meet the daily needs of residents and visitors in TOD areas. This Section describes the conceptual Land Use Framework for the TOD areas. A mix of land uses will be achieved both within individual TOD areas and across adjacent TOD areas, organized along the Confederation Line corridor. Although some station areas now contain a predominant land use (e.g. primarily office and/or retail), it is anticipated that over time the land use mix will naturally evolve such that the TOD Plan areas will be comprised of a broad range of land use.

6.1 MIXED USE AREA

Mixed Use is permitted in the majority of TOD plan areas as implemented by the TOD zoning. Mixed Use provides an opportunity to develop many different transit-supportive land uses such as residential, commercial, office, institutional, entertainment and recreation accommodated in a variety of built form.

Urban residential uses are permitted in all TOD zoned areas. Residential can be located to establish a compatible use and height transition between existing stable neighbourhoods and potentially tall buildings developed in other TOD area locations. Residential development in transitional locations should be at a moderate to low density, accommodated in buildings that are no more than six storeys in height. The ground-floor treatment should include a street-oriented built form such as row houses and have individual primary entrances oriented to the sidewalk.

6.2 ACTIVE FRONTAGE STREETS

Active Frontage Streets are generally located along the main roadways in TOD Plan areas. They are “complete streets” in an urban context with a built form scale that reinforces the pedestrian experience and improves the public realm. Active Frontage Streets will stand-out as the main spines of activity and communicate the character of their respective TOD plan areas through enhanced streetscape design, land use mix and treatment of ground-floor buildings. The location of Active Frontage Streets is shown on the TOD Plan Land Use plans. The design treatment used along Active Frontage Streets should exceed traditional City standards.

The ground-floor design and use of buildings that front onto Active Frontage streets requires special treatment to animate the street and engage pedestrians at a human-scale. These streets are characterized by the presence of street-oriented buildings and individual building entrances that are accessible from the sidewalk, highly-transparent at pedestrian scale ground-floor facades, outdoor patios, adjacent urban squares and forecourts, wide hard sidewalk surface treatment, enhanced landscaping and street furniture. Ground floor uses envisioned but not required for Active Frontage Streets include shops, cafes, and restaurants, with outdoor patios where possible. Servicing and loading is not permitted to directly abut these streets.

Active Frontage Streets also include street trees and coordinated furnishings such as waste receptacles, benches and light standards to add to the character and livability of the public realm. Improvements on Active Frontage Streets are made incrementally at the time of development of abutting properties to facilitate coordination of hard and soft landscape design between the building face and the roadway curb.

Figure 2: Active Frontage Street Conceptual Image

7.0 “GREEN” PLANS

Enhancing the public realm is important to support development intensification and user experience of TOD areas. Private and public outdoor urban spaces such as parks, squares, courtyards and building forecourts are required to be high quality, visible and accessible to improve the public realm and encourage walking and cycling to transit within and through the community. “Green Plans” for each TOD Plan area are located in Section 10 of this Plan. The following sections describe the general principles and direction for greening TOD Plan areas.

7.1 STREETSCAPES

Creating complete streets is an important element of an enhanced public realm. Street rights-of-way typically provide about one-third of the public space in a community, offering a significant resource and opportunity to improve the public realm. The TOD Plans encourage use of transit by improving the user experience of the streetscape. This is achieved by balancing the movement and safety of pedestrians, cyclists, transit and motor vehicles and by creating enhanced streetscape designs.

Priority Streetscapes identified on the Green Plans also include Active Frontage Streets, defined in Section 6.2, and should evolve into special places in TOD Plan areas.

The primary goal of plans showing future streets and street widening is not to facilitate the movement of cars, but to improve the internal network of walking and cycling routes and to create opportunities for on-street parking.

Streetscape improvements within the right-of-way are to be made at the time of major street reconstruction or as stand-alone improvements under separate capital budgets. Examples of this include improving key pedestrian/cyclist crossings to facilitate transit access, constructing or signing cycling routes to transit and constructing missing sidewalk links.

7.2 PUBLIC PARKS

Most properties in the TOD Plan areas are already developed. Therefore the densities required to support transit usage will evolve over time mostly through a combination of new, infill and redevelopment projects. Aside from consolidation of properties to create larger development parcels, the lot fabric that will support most future development projects is already established by historical lot creation. The City will require parkland dedication or payment of cash-in-lieu of parkland at the time of development through Subdivision and Site Plan approval. The cash-in-lieu funds collected will be used to acquire and to develop public park spaces in accordance with City policy.

Existing and potential future green spaces are identified on the “Green Plans” for each TOD Plan area (refer to Section 10). Park “districts” are identified on the Green Plans within which a public park may be established through dedication and/or purchase of land by the City at the time of development approval. The number of public park spaces will be determined in the future by monitoring the type and density of development within the district and identifying the size, location and function of the park space at that time. Because of the compact urban nature of the TOD areas, public parks will likely be correspondingly compact and urban in design.

The land use mix within the TOD Plans for most properties is not prescribed in advance. Using the district approach to locating a future public park provides flexibility for the City to establish public park space where it may have the most benefit to the community. In cooperation with the developer, the City may elect to purchase land abutting private park space / outdoor amenity areas provided as part of site development, and co-design and co-develop a larger public park space by means of a registered access and maintenance agreement.

7.2.1 GUIDELINES

Public parks in TOD areas will range between approximately 0.1 and 0.5 hectares in size as determined by the City at the time of development approval. These compact parks will provide valuable urban public open space for the surrounding community, offering recreational opportunity and gathering places that encourage pedestrian interactivity. They should be easily recognizable as public spaces and be located in places of prominence.

Park programming should be flexible and designed to adequately reflect adjacent land uses. In recognition of this, park design will include features that are contextually appropriate to both residential and non-residential areas. Parks in residential areas could include additional features such as a play structure or splash pad. Parks in non-residential areas could include additional features such as

gazebos, pergolas, basketball courts or statues. To promote visual access and safety, parks should have open frontage on at least two but up to four streets, and have adjacent development oriented towards the park. Park design should relate to the form and pattern of surrounding development and key areas of pedestrian movement. *Crime Prevention through Environmental Design (CPTED)* principles and accessibility shall be considered in the design of the park.

Figure 3: Urban Public Park Conceptual Image

The following provides minimum placement recommendations for amenities within TOD Area parks:

1. Vegetation:
   Soft landscaped features could include features such as shrub beds, trees and grass and should be used to define walkway areas and promote circulation. Tree spacing for deciduous and coniferous species shall be in accordance with City standards for planting in hard surface and permeable surface areas.

2. Paving:
   Hard landscape elements such as paved walkways shall be used to promote pedestrian connections by identifying points of entry, areas of activity and circulation.

3. Benches:
   Provide accessible seating along walkways and at key scenic locations. Ensure that benches are located to provide at least two metres of unencumbered sidewalk.

4. Waste Receptacles:
   Waste receptacles should be placed according to city standards and located in areas that allow for easy access and maintenance by city staff and collectors.

5. Signage:
   Signage should be placed at, or near crosswalks, entrances, focal points and areas of gathering to aid circulation and wayfinding.

Additional TOD Area park features subject to the availability of funding and or financial contributions from private developers could include:

6. Hard Surfaced Courtyards and Landscape Features
   Hard surface features such as concrete and paving stone courtyards, sitting walls, raised planting beds and small performing arts locations could be considered for parks located in very urban contexts such as adjacent to transit stations and in high density development areas.

7. Lighting:
   Lighting fixtures could be strategically placed to define a pedestrian realm and reflect the community identity. Where possible, light poles should be arranged along major walkways and at focal points. Any lighting will be in

accordance with the council approved “Park Pathway Lighting Policy.”

8. Bike racks:
   Bike racks could be placed at key circulation nodes, and should adhere with city standards and coordinate with the City to allow for regular maintenance and affordable replacement when required.

9. Bollards:
   Bollards could be placed in accordance with City standards at walkway intersections with a public street where it is deemed desirable.

10. Public Art:
    Public art, where provided for under Ottawa’s Public Art Policy, such as sculptures or murals could be provided as a focal point and driver of public activity in urban spaces.

11. Tree guards and grates:
    Could be provided for trees located within a hard surfaced area.

12. Gazebos and Pergolas
    To provide focal points and shaded seating areas as well as opportunities for minor cultural events. Generally could form part of park design in primarily non-residential areas but could be considered for residential area park design.

13. Sports Facilities
    Facilities that promote active lifestyles such as sports fields (size permitting), volleyball, tennis and basketball courts could be integrated into the design of public parks.

14. Playstructures and Splash Pads
    These features could be added to residential area parks to provide warm-weather recreational opportunities for children.

Figure 4: Marion Dewar Plaza provides an example of an urban park in a non-residential area.

Figure 5: Minto Park provides an example of an urban park in a residential area.

7.3 PRIVATE OUTDOOR AMENITY SPACES

Most medium and high density residential and commercial developments include private outdoor amenity spaces for the benefit of the residents and/or employees of the location. They are designed and constructed at the time of development through site plan agreements with the City and are maintained by the landowner. These spaces range in size and design commensurate with the scale and use of the associated development. Examples include tot lots and gazebos constructed with apartment development and landscaped building forecourts and pergolas with seating areas constructed with office development.

Private outdoor amenity spaces will not replace the City's parkland dedication requirements and are not intended to act as public parks. Private amenity spaces contribute to the public realm by providing outdoor seating and play spaces for the development as well as attractive views and informal gathering places. They are visible from surrounding streets and are accessible by the public on a casual basis.

The TOD Green Plans illustrate conceptual size and locations for some of these private outdoor amenity spaces. The implementing TD zones require a minimum of 2% of the land area of the project to be constructed outdoor communal amenity space. There will be cases where landowners and the City agree that larger private amenity space is warranted or desired.

The following criteria apply to the provision of outdoor amenity spaces:

a) Must be at least 2% of the site area in size but are encouraged to be larger than the minimum.

b) Can be separate smaller amenity spaces on larger and/or phased development parcels where the site layout or facilities warrant.

c) Can be combined in cooperation with neighbouring development to form larger outdoor amenity space.

d) Must be shown on an approved site plan.

e) Must have a combination of hard and soft landscape materials, pathways, suitable lighting for safety, include seating areas and provide treed shade areas.

f) Should include facilities geared to the use of the associated development such as a tot lot play structure for residential and a gazebo or pergola for non-residential uses.

g) Access by the general public on a casual basis should not be discouraged by the use of fencing or prohibitive signage.

h) Can be co-developed with the City by means of a joint construction, use and maintenance agreement to form a larger public park space.

Figure 6: Private Outdoor Amenity Area- Office Example

Figure 7: Private Outdoor Amenity Area- Residential Example

8.0 URBAN DESIGN DIRECTION

TOD areas will evolve as compact urban environments that accommodate medium to high land use density and a growing population base. To build these new communities and ultimately make them more livable, TOD plans focus on achieving high-quality urban design and identifying the location of special places and how they may look and feel over time. Occurring in the public or private realm, effective place-making and urban design should result in places that are comfortable, accessible, inviting, lively, and attractive, and have a mix of activity and land use to promote socializing, gathering, commerce, mobility and recreation. Such places help define the identity and character of an area.

In addition to the urban design direction provided below, other relevant Design Guidelines and standards in design that are approved by City Council shall also be used to guide the development of TOD Plan areas.

Most of the urban design considerations have been incorporated into TOD zoning regulations.

1. **Low TOD Density Zone (TD1):** Buildings in the TD1 zone will have a minimum density of 150 units per net hectare for residential or a minimum Floor Space Index (FSI) 0.5 for non-residential land use. Buildings in this Zone shall range in height from two storeys to six storeys, and will be comprised of one or more of stacked dwellings, townhouses, apartment dwellings, mixed-use and commercial uses. New single and semi-detached dwellings are not permitted. Generally the Low Density Zone is located adjacent to existing low-profile, low-density neighbourhoods. Establishing a transition in building height minimizes the impacts of new buildings on existing residential neighbourhoods.

2. **Medium TOD Density Zone (TD2):** Buildings in the TD2 Zone will have a minimum density of 250 units per net hectare for residential or a minimum FSI of 1.0 for non-residential land use. Buildings in this Zone shall be no more than 20 storeys in height, and may be apartment dwellings, a combination of ground-oriented dwellings and apartment dwellings, mixed-use, and commercial buildings.

3. **High TOD Density Zone (TD3):** Buildings in the TD3 Zone will have a minimum density of 350 units per net hectare for residential or a minimum FSI of 1.5 for non-residential land use. Buildings in this Zone shall be no more than 30 storeys in height and may be apartment dwellings, a combination of ground-oriented dwellings and apartment dwellings, mixed-use and commercial buildings. The TD3 Zone is generally located nearest to future stations, maximizing the efficiency of land and City infrastructure, and bringing more people in proximity to the stations.

4. **Podium Development:** Buildings that are over four storeys in height shall incorporate a podium design. The podium or base of a building is the primary interface with the context of the street, people, and services. Podiums shall exhibit a human-scale; the proportional relationship of the physical environment to human dimensions and abilities, acceptable to public perception and comprehension in terms of the size, height, bulk, and massing of buildings or other features of the built environment. The height of the podium will vary depending on the ultimate height of the building (e.g. taller buildings may have a taller podium); proportions and rhythm of the neighbouring buildings or the width of the fronting street.

   The treatment of the podium may also vary according to ground-floor uses. Ground-floor commercial uses should be highly transparent and have front doors with barrier-free access to the sidewalk. Ground-floor residential uses such as row houses may have individual primary entrances to the sidewalk that are placed slightly above grade or employ other design techniques to promote visual privacy for the residents.

5. **Building Step-backs:** A minimum step-back distance of 2.5 metres shall be used to define the building podium from the tower, having subsequent floors of a building stepped-back away from the first floors to reduce its mass and allow more light to reach the ground. The step-back requirement applies to all building facades within 10 metres of a public road.

6. **Tower Development:** Mid rise and high rise buildings will incorporate towers. For the TOD Plans, a tower is the part of the building over six storeys in height. The tower is the main body of the mid or high rise and extends up from the podium to the building top. The floor plate of towers may vary, depending on the land uses that are accommodated in the building. Residential towers are typically more slender than office or mixed-use towers.

7. **Separation Distance of Towers:** Towers in mid and high rise buildings shall maintain a minimum separation distance of 24 metres between one another (either across different sites or within the same site) and towers must be set back a minimum of 12 meters from side and rear property lines. The separation distance applies to the portion of the building above six storeys in height.

   Maintaining separation distances reduces the impact of towers on the ground and against the skyline. Specifically, separation distances allow for adequate light, solar exposure, views and privacy for people in the building, as well as people on the street.

   Sites which cannot meet the minimum tower separation requirements are not appropriate for tall buildings.

8. **Parking Structures:** Ensuring the proper design and location of parking structures in TOD areas helps achieve an attractive pedestrian-oriented urban environment. Parking structures are generally permitted in TOD areas; however, they must follow specific locational and design criteria.

   Parking structures are not permitted within 10 metres of any public street, unless they are integrated into a residential, commercial or mixed-use building that employs a podium with active uses. The architectural treatment used in the design of the building (e.g. glazing, windows, stone, brick, etc.) should be used to camouflage parking structures that are integrated into these buildings.

   Stand-alone parking structures are only permitted in TOD areas if they are a minimum of 10 metres away from a public right-of-way. Stand-alone parking structures may be screened by other buildings such that their facades do not front onto public rights-of-way.

   Parking structures are not permitted within 6 metres of a lot line abutting Scenic Entry Routes, as designated by the Official Plan. Stand-alone parking structures that can be viewed from Scenic Entry Routes must have enhanced architectural design and be screened from view through use of landscape architectural treatment.

9. **Public Art:** Public Art makes a significant contribution to the public realm by adding interest and variety to the human experience and by creating a sense of place. Public art also assists in wayfinding by placing publicly identifiable elements within the community. Public Art can be stand-alone or integrated into architectural or landscape elements and feature works from local and national artists in a variety of mediums. Public art will be provided as part of major street reconstruction projects in the TOD Plan areas under the Ottawa's Public Art Policy. All private development, in particular those projects along Active Frontage Streets, are encouraged to include public art installations as part of building forecourt and quasi-public interior space designs.

10. **Key Crossings:** Key Crossings are identified in the TOD Plans for both pedestrians and cyclists (refer to Section 10). Key Crossings are located in areas that: represent a potentially inhospitable environment for pedestrians and cyclists; may have a higher probability for conflict due to the presence of other modes of transportation; follow a logical extension of an existing or planned pedestrian or cycling route across a roadway; require a more direct pedestrian or cycling route across a roadway and/or may accommodate higher volumes of users.

    Careful design treatment of Key Crossings is required for the success of the TOD areas because they facilitate active transportation, fill-in missing gaps in the active transportation network and promote the use of transit. Key Crossings signify the need for increased planning, design and investment in key locations to ensure safe, accessible and attractive crossings for pedestrians and cyclists. Wayfinding signage should be located at all Key Crossing locations.

    Key Crossings for pedestrians and cyclists may be signalized or unsignalized, depending on context and detailed design. Performance standards and pedestrian volumes should be assessed when designing Key Crossing locations. For pedestrians, use design elements that shorten pedestrian crossing distances, increase pedestrian and vehicle visibility, simplify the crossing task, control vehicle speeds and control vehicle paths. For cyclists, use design elements that enhance the safety and re-prioritize cycling over cars, such as the addition of traffic signal actuation, distinct pavement markings (e.g. cross rides), traffic signal for cyclists, and timing of traffic signals.

11. **Multi-use pathways:** Multi-use pathways (MUPs) are found through TOD areas and help make up comprehensive pedestrian and cycling networks. The design of MUPs is critical to achieving safe, attractive and accessible routes. In general, multi-use pathways should be 3 to 4 metres wide, depending on anticipated peak volumes.

    Lighting has a significant impact on how safe users feel when using cycling facilities, and also whether facilities are used at night. Off-road bicycle pathways in TOD areas provide important access routes to transit and should be lit on one or both sides using human-scale lighting. Lighting is used to illuminate signage, pavement markings, general direction, other users and obstacles along the route.

    Wayfinding signs, signals and markings shall be used to increase the legibility of the bicycle network as well as to locate nearby destinations and attractions. These enhancements should be located at decision-making points along the bicycle route.

    Landscaping along the pathway network shall be used to enhance the comfort and visual appeal of the active transportation system. Trees should be planted along pathways and in rest areas to define property limits or spaces, provide natural shade for users, provide a sense of legibility to the network and enhance the attractiveness of the overall system. Adequate clearance space is required from the landscaping and the pathway/trail.

    Fences along pathways should be used to define spaces, ensure privacy of residential neighbours, prevent short-cuts,

prevent encroachment between private and public lands, and provide screening from cars and parking. Adequate clearance space is required from the fence and the pathway/trail. Fences may be constructed of varying materials (e.g. landscaping, wood, wrought-iron), but should be high-quality and durable. The entrance of pathways should be well-connected in the cycling and pedestrian network and may be marked using barriers, bollards, and signage and/or pavement markings. These may be used to control access and/or provide general information about the route (e.g. identify key routes or destinations, user instructions, etc.).

Street furniture and rest areas may be established along the pathway network to enhance comfort and usability of the active transportation system. Street furniture such as benches, waste receptacles, shelters and bicycle parking may be appropriate in areas where natural pauses along the network occur (e.g. at scenic look-outs) or where there are areas of concentrated activity or amenity (e.g. at commercial/institutional/recreational attractions and destinations).

An appropriate clearance distance between elements along the pathway and the pathway itself should be maintained to enhance network safety and user visibility. Elements that require a clearance distance from the pathway include lighting, signs, signals, landscaping, fences and furniture.

12. **Pedestrian "Short-cuts":** Sites that make use of surface parking lots should provide safe, visible pedestrian "short-cuts" from buildings to nearby sidewalks or pathways, and destinations such as transit stations/stops, Active Frontage Streets or open space. These "short-cuts" may be diagonal through parking lots or use other appropriate design configurations. Minimum dimensions and standards established by the City for sidewalks or pathways should be followed in the design of pedestrian "short-cuts".

9.0 TOD SERVICING OVERVIEW

The TOD Servicing Overview is a high-level assessment of the capacities of major infrastructure services within and adjacent to the TOD Plan areas. It analyses existing capacity conditions, future capacity requirements and upgrades required for municipal water supply, sanitary sewers, storm water sewers, hydro and transportation. Potential noise and vibration impacts of development in proximity to major transportation corridors were also evaluated at a high level. The various TOD Plan maps (street network, pedestrian network, cycling network, etc.) were prepared in keeping with the TOD Servicing Overview recommendations.

The main objectives of the TOD Servicing Overview analysis are to determine the current state of the major infrastructure system capacities and the improvements necessary to support short-term and long-term projected development density conditions in the TOD Plan areas. The TOD Servicing Overview also establishes new transportation capacity standards commensurate with TOD Plan areas functioning as small downtown areas as they increase in density over the long-term.

The TOD Servicing Overview estimates the costs of related improvements and recommends the timing and phasing of works needed to support eventual increasing development densities. The study analysed the infrastructure works required for the ultimate long-term development of the TOD Plan areas as well as for the development expected over the next 20 years. In general, most services are required to be upgraded within the next 20 years to handle both the short and long-term levels of development. Phasing details are contained in the TOD Servicing Overview report.

The TOD Servicing Overview analysis and recommendations are to be used in the future to:

- Provide initial guidance for the preparation of the necessary detailed infrastructure studies required by the City at the time of development approval.

- Guide the City in establishing appropriate capital budgets to carry out future transit-supportive works within the TOD Plan areas.

- Assist in establishing funding sources necessary to pay for the growth component of infrastructure needed for TOD areas.

The TOD Servicing Overview document is Appendix C, but provided under separate cover, to this document. Highlights of the findings and recommendations in the TOD Servicing Overview are as follows:

9.1 WATER SUPPLY

The primary findings and recommended upgrades are as follows:

- An existing 1220mm diameter watermain runs easterly from the Hurdman Bridge Pumping Station south of Hwy 417 through four of the TOD Study Areas (Tremblay, St. Laurent, Cyrville and Blair) east of the Rideau River.

- An existing 1067mm diameter watermain south of Hwy 417 will be replaced with the new Orleans Watermain Link north of Hwy 417 (scheduled for 2013/14 construction).

- A new (future) 1372mm diameter river crossing is recommended in the future to improve the service to all lands east of the Rideau River (existing lands, TOD areas and other growth).

- To service the individual TOD areas, 305mm and 406mm looped internal distribution watermains will likely be required as development intensifies and older watermains need to be replaced. The Hurdman TOD Study Area will require a new 406mm looped feed.

The existing 1220mm Rideau River crossing watermain will need to be relocated and replaced in the future, as it nears the end of its service life. It is recommended that the crossing be up-sized to 1372mm to accommodate increased growth levels in the east end of Ottawa. The timing for replacing the pipe is contingent on many factors, which includes the pipe condition (life cycle replacement needs), the TOD and other development in the east end of Ottawa, the upcoming Highway 417 works, and other local construction constraints. These and other issues will be addressed in a separate Environmental Assessment (EA) by the City to determine the optimal timing for this work. For the purposes of this assessment, it is projected that the new crossing will be constructed within approximately 20 years (by say 2032). The timing for the crossing replacement is unlikely to be significantly affected by growth rates in the short and medium terms.

9.2 SANITARY SEWER SERVICES

The primary findings and recommended upgrades are as follows:

- The Cyrville TOD and St. Laurent TOD (east of St. Laurent Boulevard) are serviced by the Cyrville Collector Sewer which appears to have no capacity constraints.

- The Blair TOD is serviced by the Maxime Relief Sewer which appears to have no capacity constraints.

- The Lees TOD is serviced by the Rideau River Interceptor which occasionally experiences surcharging during wet weather conditions.

- The St. Laurent TOD (west of St. Laurent Boulevard), Tremblay, and Hurdman TOD are serviced by the Rideau River Collector sewer which occasionally experiences surcharging during wet weather conditions.

- Partial replacement/upgrade of 860m of 600mm diameter to a 750 sewer on Tremblay Road will be required.

- Construction of a new interceptor sewer to parallel the Rideau River Collector. The new interceptor would be comprised of the following:

- 125m of new 1350mm diameter interceptor sewer (Wright Street to Coventry Road Sewer)
- 375m of new 1200mm diameter interceptor sewer (Coventry Road Sewer to Tremblay Road Sewer)
- 460m of new 1060mm diameter interceptor sewer (Tremblay Road Sewer to Industrial Road Sewer)
- 250m of new 675mm diameter interceptor sewer (Hurdman extension south of Industrial road)

No upgrades are recommended for the Cyrville Trunk (Cyrville TOD) or Maxime Relief (Blair TOD) sewers within the 20 year planning horizon. It is recommended nonetheless that the sewer flows be monitored to ensure ongoing capacity will be available.

The existing conditions in the Rideau River Interceptor which services the Lees TOD show local capacity constraints. We recommend a hydraulic grade line (HGL) level verification assessment be completed using the 2014 wastewater IMP collection model while considering the findings of the recently completed (2013 season) flow monitoring program to confirm available capacity.

Given the capacity constraints of the Rideau River Collector during wet weather conditions, for development to proceed within the Tremblay TOD, the St. Laurent TOD (west of St. Laurent Boulevard), and the Hurdman TOD, limited phasing opportunities are available. If the Hurdman TOD is developed first, the entire interceptor sewer will be required unless a temporary connection to the Rideau River Collector is allowed. If the Tremblay and St. Laurent TODs are developed before Hurdman, the first 500m of the interceptor could proceed assuming sufficient space is available within the right of way. Furthermore, if the Tremblay Road area remains as a partially separated system, the 860m of the Tremblay sewer will require replacement shortly after redevelopment proceeds. It is recommended that the existing Rideau River Collector and the Tremblay sewer be monitored to establish capacity levels.

9.3 STORM WATER SEWER SERVICES

The primary findings and recommended upgrades are as follows:

- The existing trunk storm sewers are of sufficient capacity to convey flows at the TOD build-out level.
- Stormwater management will occur on the site of proposed development projects to provide 100 year level-of-service by containing storage volume on-site. Current City stormwater management criteria for redevelopment are sufficient and should continue to be implemented.
- Weeping tile and roof tops will be directed to a storm sewer during redevelopment.
- Potential upgrades are not required in the Lees, Tremblay, St. Laurent, and Blair TOD's unless pipe condition assessments indicate the need for replacement or rehabilitation.
- The Cyrville and Blair TOD Study Area may require enlargement of the existing CAW pond, erosion control work on the Cyrville Drain and a new storm sewer in Cyrville south, within the Cyrville TOD Study Area.
- The Hurdman TOD Study Area may require new sewer infrastructure with 5-year level of service in the currently undeveloped area.

Servicing requirements for the 20 year horizon are dependent on the location of development. Development in the Lees, Tremblay, St. Laurent and Blair TOD Study Areas can proceed without any additional improvements for stormwater infrastructure. It is recommended that flows in older sewers be sporadically monitored

under the City's temporary flow monitoring program to ensure that ongoing capacity will be available within the Tremblay Road trunk sewer in the Tremblay and St. Laurent areas, the St. Laurent sewers south of Highway 417, and the Transitway sewers north of Highway 417 in the Cyrville area.

Construction of the storm sewer in the Cyrville Industrial area would be required prior to development - a detailed erosion assessment of the Cyrville Drain would also be required. If development were to occur in areas tributary to the Cyrville Artificial Wetlands (CAW) facility, a detailed assessment of the CAW should be performed to check quantity and quality storage requirements for future background growth in all tributary areas, as well as the impact of the proposed TOD intensification plans. The detailed erosion assessment of the Cyrville Drain would also be required.

Development within the Hurdman TOD may require the installation of new storm sewers in the currently undeveloped area in order to provide a five year level of service to all areas of the TOD.

9.4 HYDRO SERVICES

The main findings and recommended upgrades are as follows:

- Substation spare capacity is currently limited, especially at Overbrook, Russell, and Moulton.
- Overbrook, Russell, and Moulton are already planned to be enlarged by Hydro-Ottawa/Hydro-One at their cost.
- Circuit capacity will have to be increased by either upgraded existing lines or adding new lines, especially within the Lees, Hurdman, and Tremblay areas, and to a lesser extent, the St. Laurent and Blair areas.

9.5 TRANSPORTATION

The main findings and recommended upgrades are as follows:

- To accommodate proposed land use density of the TOD Areas, the transportation assessment focuses on identifying the level of increased modal share for sustainable transportation modes including public transit, cycling and walking in order to promote more sustainable forms of travel and to minimize the requirement for road widening.
- To support sustainability, the majority of the future residents and employees of the TOD Study Areas will commute by public transit, cycling and walking. This approach recognizes the need to reduce trips made by motor vehicles as redevelopment of the area occurs, and will result over the long-term in travel patterns for the TOD areas which are similar to downtown Ottawa.
- The sustainable modal share targets for the busiest peak periods in the TOD area assumes that public transit will account for at least 65% of all trips with an additional 15% made by "active" transportation modes which includes cycling and walking. The residual 20% of the peak period trips are expected to be made by private automobiles (15% driver, 5% passenger). Improvements to the cycling and walking infrastructure in the TOD areas to support trips made by active transportation modes, will be undertaken as stand-alone capital projects and incrementally over time as redevelopment occur.
- The assessment identifies the need for protecting increased road right-of-way allowances within the TOD areas. The increased right-of-way allowances will give the City sufficient space to provide various design elements that promote sustainable forms of transportation such as bicycle lanes, wide sidewalks, on-street parking and/or vehicle travel lanes. These roads include Tremblay Road, and Cyrville Road.

9.6 NOISE AND VIBRATION

The main findings and recommendations are as follows:

- Noise sources identified were:
    - Lees TOD: Future LRT, Highway 417, Lees Avenue, Nicolas Street, King Edward Avenue, Greenfield Avenue, Colonel By Drive, the future Alta Vista Parkway and Mann Avenue.
    - Hurdman TOD: VIA passenger line, future LRT line, Highway 417, Riverside Drive, Industrial Avenue, the future Alta Vista Parkway, Terminal Avenue and the Bus Rapid Transit / Southeast Transitway.
    - Tremblay TOD: VIA passenger station and line, future LRT line, Highway 417, Riverside Drive, Vanier Parkway, Coventry Road, Industrial Avenue, Tremblay Road, Belfast Road and Terminal Avenue.
    - St. Laurent TOD: VIA passenger line, future LRT line, Highway 417, St. Laurent Boulevard, Coventry Road, Ogilvie Road and Tremblay Road.
    - Cyrville TOD: Future LRT, Highway 417, Aviation Parkway, Cyrville Road, Ogilvie Road, Cummings Avenue, Star Top Road and Algoma Road.
    - Blair TOD: Future LRT, Regional Road 174, Blair Road, Ogilvie Road, City Park Drive and Meadowbrook Road.
- Potential noise attenuation issues primarily focused on future residential development. City of Ottawa Environmental Noise Control Guidelines (May 2006) outline the study requirements for noise mitigation along residential developments. It can be expected however that even future non-residential uses, for example office use, will also be required to have regard to noise/vibration sources, particularly when adjacent to the future LRT and VIA passenger lines.
- Future development adjacent to or in close proximity to identified noise or vibration sources (rail) will be required to undertake the appropriate noise attenuation and vibration studies as part of the development approval process. Guidelines for New Development in Proximity to Railway Operations (May 2013) provides a framework for the study requirements, mitigation and approvals process.

10.0 TRANSIT-ORIENTED DEVELOPMENT PLANS: CONCEPTS AND POLICIES

The following section provides the details for each of the TOD Plan areas. It includes plans, illustrations, density targets and discussion unique to each Plan area.

10.1 LEES TRANSIT-ORIENTED DEVELOPMENT PLAN AREA

The Lees TOD study area is 81.6 ha in size and includes approximately 350 properties that range in size from large institutional and transport-related parcels to small townhouse lots. The area is bisected by two transportation corridors: the east-west Highway 417 corridor and the north-south Nicholas/planned Alta Vista corridor, the northern half of which also contains the light rail corridor, the Confederation Line. The boundaries of the study area are: to the north, Mann Avenue, to the south and east, the Rideau River and to the west, a complex line that runs between properties from the Mann/Nicholas intersection to the Rideau River.

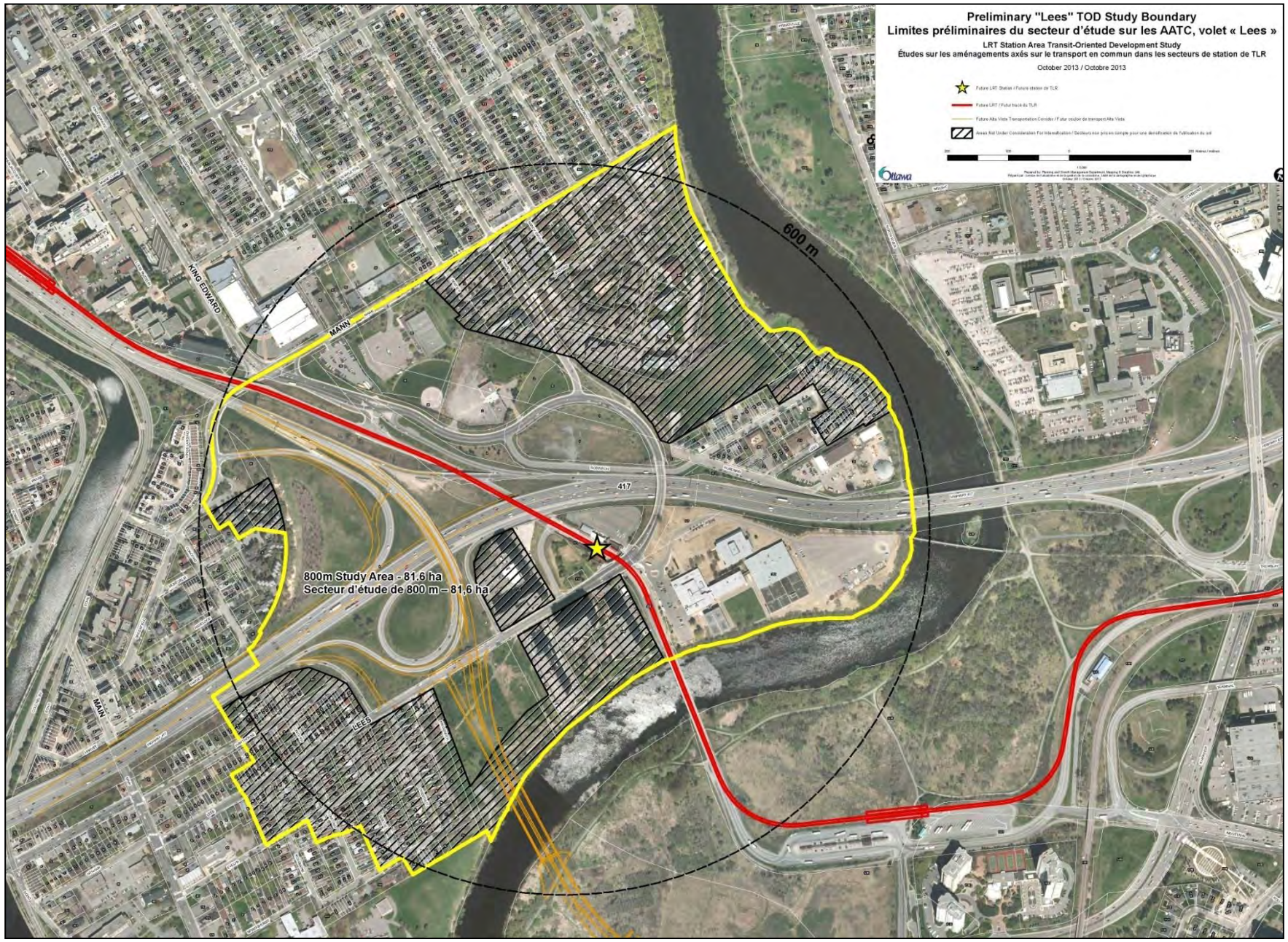

Figure 8: Lees TOD Plan Area

10.1.1 LEES EXISTING LAND USE CONTEXT

To assist in better understanding the planning area, the land use and forthcoming sections will look at properties based on the numbered sub-areas shown on the map below (Figure 9).

Figure 9: Lees Properties Key Map

1. **The Sandy Hill Arena Lands** contain the arena itself, the parking lot used by the arena, the baseball field and a corner parking lot owned by the University of Ottawa. The property is 2.74 hectares. The Arena and the baseball field are mainly owned by the National Capital Commission with a boomerang sliver of land (referred to as the Home Plate lands) owned by the City. All of these lands are the subject of a Memorandum of Understanding between the University of Ottawa and the City concerning their long-term use mainly for recreational purposes.
2. **The Mobin Lands** at 2 Robinson Avenue contain a one-storey maintenance building that has formerly been used as an NCC Works building and an Iranian Cultural Centre. The property is 2.27 hectares. At the present time, the building is not being used. The property contains two parking areas and grassed open spaces.
3. **The "Bowl" Lands** (1 Robinson Avenue) are the vacant semi-circular parcel of land bounded by Highway 417 and Lees Avenue. The property is 1.57 hectares. It was used by the City as a snow storage area. Ownership of the land is being transferred from the City to the University of Ottawa.
4. **Robinson Village West** is the existing low to medium density residential area that is not part of the stable residential area (described below) and is served by Robinson Avenue, Hurdman Road and Lees Avenue. It contains 48 parcels, most of which are small individually-owned lots. There is also at least two commercial properties and a recently-approved 6-storey, 37-unit condominium redevelopment at 19 Robinson Avenue.
5. **The City Works Yard** at 29 Hurdman Road is 1.7 hectares in size. It contains a public works yard with four buildings, two parking areas and materials and vehicle storage areas. It is bounded by Highway 417, the Rideau River, Lees Avenue and Hurdman Road.
6. **The Station Lands** at 171-197 Lees Avenue are 1.86 hectares in size. These lands contain the transitway and two environmental buildings abutting the transitway on the northeast side. The remainder of the lands are vacant. These

lands are subject to a Memorandum of Understanding between the City and the University of Ottawa regarding the ownership and development of these lands after the light rail line is complete. The University of Ottawa will be undertaking a review of these lands as part of a campus master plan update.

7. **Lees Campus** at 200 Lees Avenue is 7.2 hectares in size. It contains four large, low-rise institutional buildings, parking areas and a sports field with stands. It is bounded by Highway 417, the Rideau River, the Transitway and Lees Avenue/Overpass. The present use is a post-secondary educational facility. The University of Ottawa will be undertaking a review of these lands as part of a campus master plan update.

8. **The Northern Open Space Lands at 160 Lees Avenue** (including 166 Lees) are approximately two-thirds of the total area or around 2.4 hectares. Presently these lands are used as open space. The Lees Avenue community garden is located on this property.

9. **The Triangular Lands** at 56 Greenfield and 4 Mann Avenue contains approximately 1 hectare of development land on two pieces separated by the access ramp to Highway 417. Presently both properties are publically owned and vacant open space.

10. **The Crescent-Shaped Highway Lands** also at 4 Mann Avenue are approximately 2.5 hectares in size. These lands are publically-owned and vacant.

11. **Robinson Field and Dutchie's Hole Park** is approximately 2.5 hectares in size and is used as a park and open space. It presently contains a sports field, a community garden, a field house, a wading pool, a parking lot and a playground. The property is owned by the City.

12. **The Southern Open Space Lands at 160 Lees Avenue** (including 166 Lees) are approximately 1.2 hectares in size. They are vacant open space owned by the City. These lands are along the shore of the Rideau River and are east of Springhurst Park.

13. **Strathcona Heights** is a 7.5 hectare medium-density residential area developed around Chapel Crescent, Wiggins Private, Sentier Private, Goulbourn Crescent and Nancy Smith Private. The Youville Centre, a school/day care and community health and resource centre, is also located in Strathcona Heights at 150 Mann Avenue.

14. **Robinson Village East** is approximately 0.8 hectares in size. It is exclusively residential, with mainly townhouses along the river and two medium density buildings at 35 Robinson Avenue and 233 Lees Avenue.

15. **The Lees Apartments** refer to the five existing high-rise residential buildings at 169, 170, 180 and 190 Lees Avenue. The buildings range in height from 13 to 21-storeys. The buildings are located on either side of Lees Avenue and together the properties are approximately 4 hectares in size.

16. **Ottawa East** is the low to medium density portion of Old Ottawa East from Rosemere to Chestnut streets up to the open space at 160 Lees Avenue. This area also contains two parks, Parkland at 185 Hawthorne Avenue and Springhurst Park. The latter contains a playground, a t-ball field, a basketball court, horseshoe pits and a canoe launch on the shore of the Rideau River.

17. **The Greenfield Neighbourhood** is approximately 1 hectare in size and is accessible via Montcalm Street and the semi-circular driveway off of Greenfield just south of the signalized Highway 417 access ramp. The lands are used for townhouses and small apartment buildings.

10.1.2 LEES PEDESTRIAN NETWORK

The Pedestrian Network Plan (Figure 11) shows existing and planned sidewalks, multi-use pathways, river and highway crossings and vertical connections (stairs and ramps) in the Lees TOD area. The basis for this plan is to make it easy and safe to access Lees Station and to provide alternatives to car use. The plan identifies key pedestrian crossings which will require special design consideration to ensure safe and expedient crossing movements including wider and textured crossing routes, signalization and consideration of longer walk signal time. Pedestrian overpasses/underpasses should embody *Crime Prevention through Environmental Design* principles.

In relation to the existing multi-use pathway that runs along the south side of Highway 417 from Lees Station to the Rideau River, it may be re-located to a new pathway that would run in the same east-west direction and would link with the same starting and ending points.

The future multi-use bridge over the Rideau River would assist over the long-term in improving access between the south and east transit corridors and Lees Campus. While transit patrons can always access Lees Station, those heading south and southeast will have to disembark at Hurdman, the very next station, and change modes from rail to bus. The new multi-use footbridge would provide a more logical choice - for patrons to walk directly from Lees Campus to Hurdman via the new footbridge and avoid the need for a transfer between modes. Since it is not an essential component of the pedestrian network, it is viewed as a long-term project that would require strategic funding partnerships.

The future multi-use bridge over Highway 417 would assist in improving pedestrian access between the future development at the “Bowl” lands and the Station Lands. It will also provide a more direct link between the Sandy Hill community via Chapel and Lees Station. It is not an essential component of the pedestrian network and is viewed as a long-term project. The need to construct the multi-use bridge is, therefore, dependant on the extent of development on the surrounding Station and Bowl lands and is subject to further discussion at the time of development.

Figure 10: Image of Pedestrian Crossing Location at Lees Station

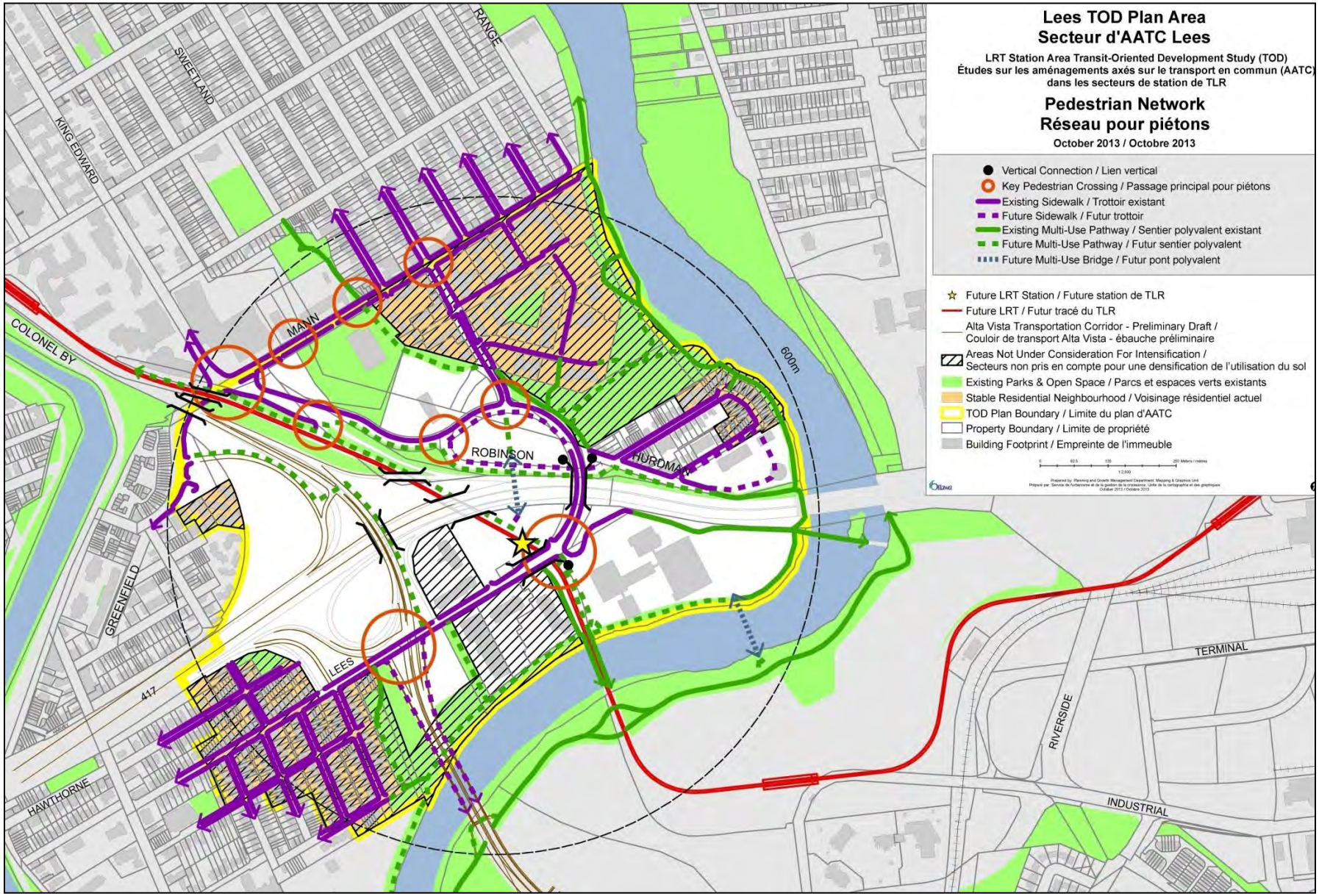

Figure 11: Lees Pedestrian Network

10.1.3 LEES BICYCLE NETWORK

The Bicycle Network Plan (Figure 12) shows existing and required cycling routes as well as future cycling crossings in the Lees TOD area. The plan, when implemented, will enhance connections between Sandy Hill, Ottawa East and the Lees and Hurdman areas. The function or type of the corridor facilities is defined by different line symbols. The detailed design will be in accordance with City standards at the time the facility is built.

As per the Pedestrian Network, important cycling crossing points of roadways are highlighted by red circles. These require special design consideration to ensure safe and expedient crossing movements. Textured or painted crossing routes and signalization for cycling should also be considered.

The on-street Bicycle Lanes and the Shared-use lanes apply to Lees Avenue/Chapel Street, to the planned Alta Vista Parkway corridor from Lees to the River and to Robinson Avenue between the Lees overpass and the River.

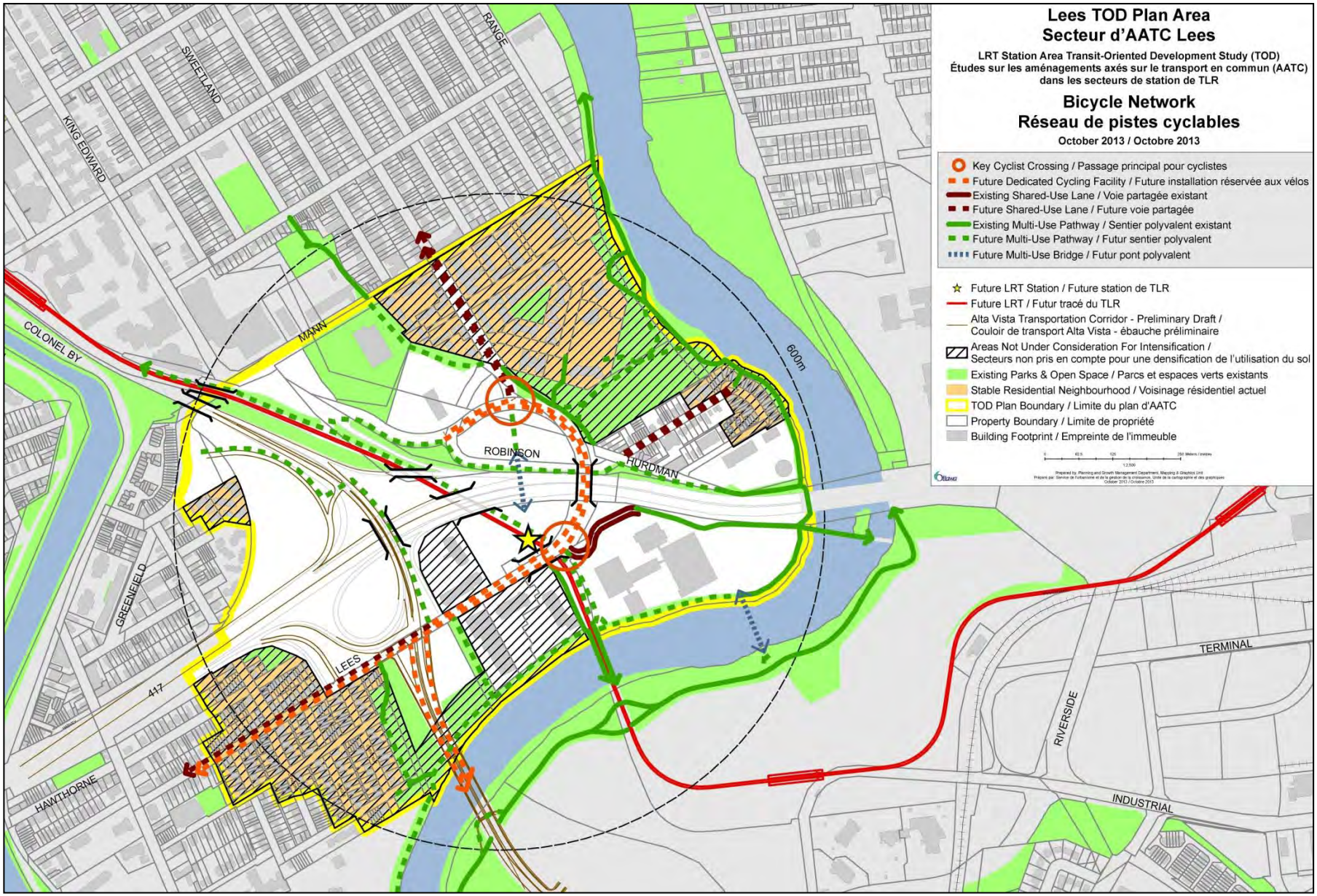

Figure 12: Lees Bicycle Network

10.1.4 LEES STREET NETWORK

The Street Network Plan (Figure 14) shows existing and future streets in the Lees Station area. The primary purpose of these various connections is to give pedestrians and cyclists direct and safe routes to and from Lees Station and to support the City's other street network and mobility objectives. These streets are also required to provide support infrastructure and servicing either underground or on poles within the street right-of-way.

Highway 417 will be widened in 2013-14 to provide an extra two lanes, one in each direction. As part of this work, the Lees overpass will be rebuilt using a slightly wider arc. This work will also affect Robinson Avenue in that a portion of it near the Lees overpass will have to be shifted to the north to accommodate the highway widening.

Robinson Avenue is classified as a local road with an existing right-of-way allowance of approximately 20m but varies along its length. The cross-section elements for this road when reconstructed should include the following: a sidewalk on the north side @ 2.4 m, a boulevard space for a row of trees on the north side @ 3 m, a parking lane @ 2.6 m, 2 travel lanes @ 3.5 m or 7m total and a multi-use pathway on the south side @ 3 m. In addition, a second row of trees is to be planted on the north side, on private property, to help create a highway buffer and a more pedestrian-friendly environment. This will be implemented through zoning and site plan. This cross-section tapers down to the constrained Robinson Underpass which is targeted to be 13.5 m wide with: a 2 m sidewalk, a 1 m buffer, 2 travelled lanes at 7 m, and a 3.5 m multi-use pathway. It has been determined that all of the above can be provided in the existing right-of-way.

Consideration should be given to straightening and narrowing the portion of Lees Avenue between Mann Avenue and Robinson Avenue. The purpose of this is to consolidate some of the unused land on the west side to the east side for development purposes.

Figure 13: Future Lees Avenue Conceptual Streetscape

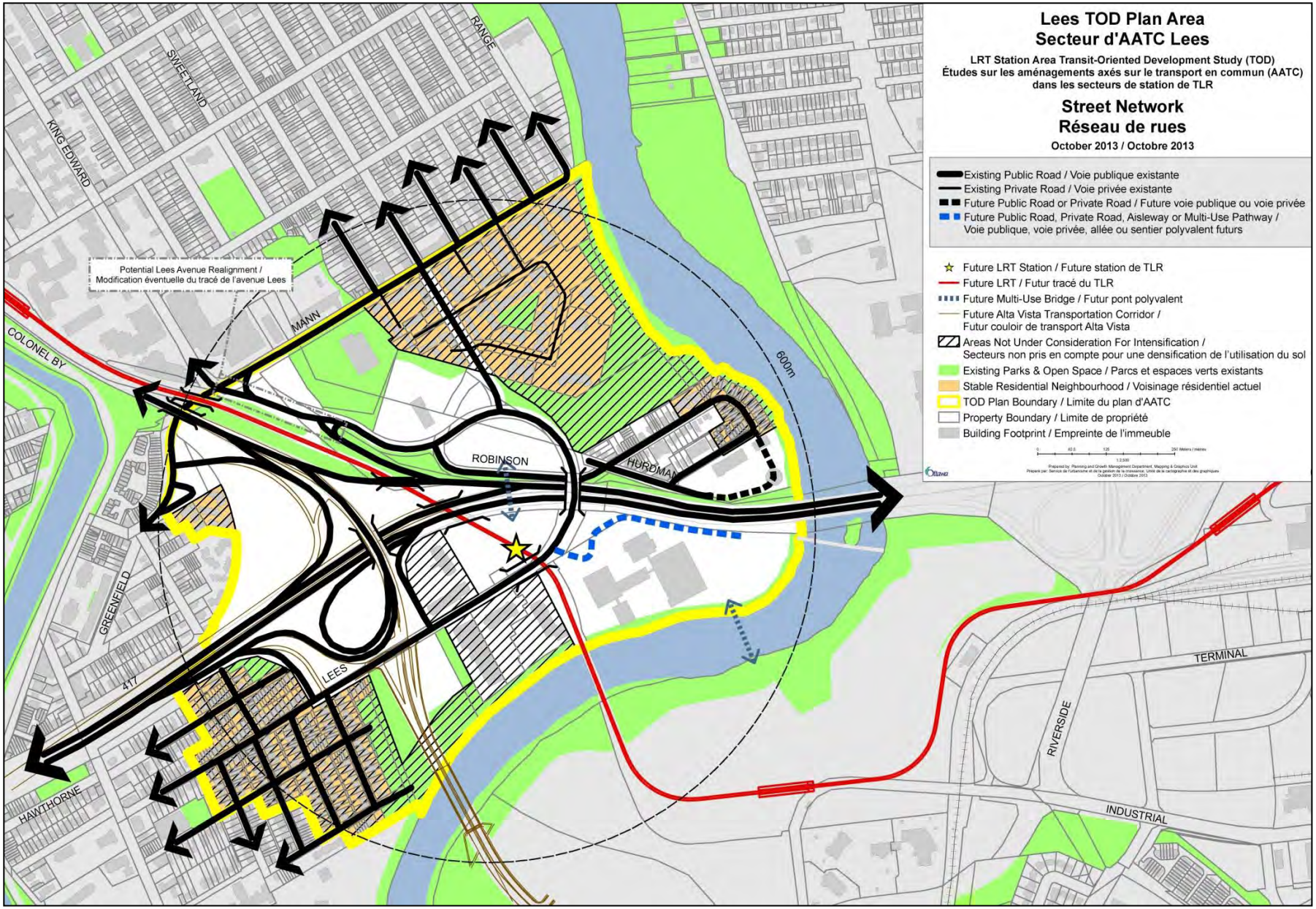

Figure 14: Lees Street Network

10.1.5 LEES GREEN PLAN

The Green Plan (Figure 16) shows existing and future parks, open space, public/private amenity space and priority streetscapes.

Springhurst Park shall be expanded at least up to the line of the proposed Alta Vista Corridor.

Regarding the Sandy Hill Arena Lands, it is recognized that the Sandy Hill Arena and its associated parking are important community facilities that should continue to be located on these lands. However, it is also recognized that large at-grade parking lots are not appropriate long-term facilities near a transit station. Hence, the associated parking for this facility may be re-positioned to above, below or at-grade locations in association with a larger shared recreational/institutional facility. The permitted uses for the portions of the Sandy Hill Arena lands, other than the arena itself, shall include a community centre, community garden, day care, emergency service, library, municipal service centre, park, recreational and athletic facility and sports arena anywhere on the site and all other TD uses above the first floor. This will ensure that:

- These lands can be better integrated into the urban fabric as described in this Plan
- There will be some form of recreational use on these lands over the long-term and
- The existing recreational/parks uses may continue if desired by the City in association with the landowner.

The Open Space corridor along the shoreline of the Rideau River at Lees Campus will be considered as University Open Space which will remain in the ownership of the University of Ottawa. That being said, these lands shall be publicly accessible and the provisions of the City's Official Plan and the Greenspace Master Plan shall continue to apply and the pathway must be built and maintained at least to City standard.

There are two community gardens in the Plan area, one at Robinson Field and the other in the open space corridor beside the open space at 160 Lees. Land for both facilities shall remain in the open space areas as shown on the Green Plan.

Figure 15: Future Lees Avenue Conceptual Streetscape at Lees Station

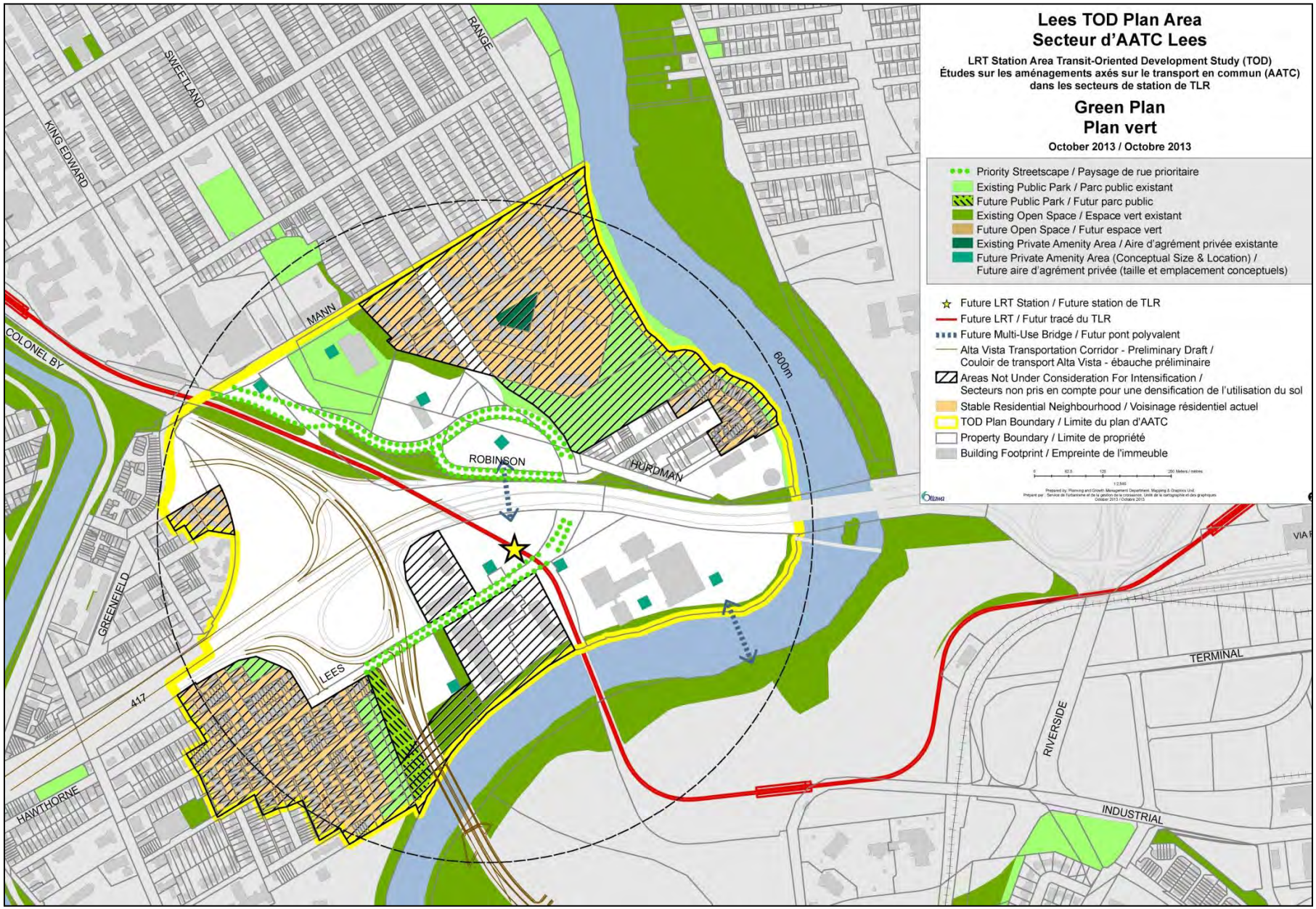

Figure 16: Lees Green Plan

10.1.6 LEES LAND USE FRAMEWORK

The Land Use Framework Plan (Figure 17) shows the land use and the general location of Active Frontage Streets.

Mixed Use: The Mixed Use Area in this Plan includes: the western portion of the Sandy Hill Arena lands (1) owned by the National Capital Commission and the University of Ottawa, the Mobin Lands (2), The “Bowl” lands (3), the Station Lands (6), Lees Campus (7), the eastern portion of the Open Space lands at 160 Lees Avenue (8) and the Lees Apartment lands (15). The Mixed Use Centre lands in the Official Plan shall be amended to include the area mentioned above including all of the Sandy Hill Arena lands. These are added to make the Centre a continuous and logical area and because parks and community recreation and leisure centres are permitted in this designation.

Residential Area: Three areas which are within the 600 m radius of Lees Station have been designated as such because they are mainly suited to residential purposes. These areas include Robinson Village West (4), the City Works Yard (5) which appears as one area and a portion of the Triangular Lands (9).

In relation to the City Works Yard lands, a Works Yard as an existing use shall be permitted.

Since the Crescent-Shaped Highway Lands (10) are only considered as very long-term development lands, they are not designated on the Land Use Map.

Parks and Open Space: These include the portion of the Sandy Hill lands in which the arena is located (1), Robinson Field and Dutchie’s Hole Park (11), a privately-owned open space in Strathcona Heights (13) and buffer lands running parallel to the light rail and the Highway 417 corridors, open space lands at 160 and 166 Lees Avenue (8 & 12), Springhurst Park and the Parkland at 185 Hawthorne Avenue (16), the shoreline lands abutting the Rideau River and the Strathcona Escarpment.

Active Frontage Streets: There are two such streets each with an exception to the normal requirements. The first Active Frontage Street is Lees Avenue north of the Highway extending from Mann Avenue to Robinson Avenue. While this is considered an active frontage, it is not an ideal location for the traditional at-grade retail uses, so the at-grade activities will likely involve institutional, residential or some other use.

The second is the upside down U-shaped street that extends from Lees Avenue around the Light Rail Station. While this is designated as an Active Frontage, it would only apply if the road is a public street so the abutting lands will not be zoned as active frontage until such time as it is determined that this access will be a public street.

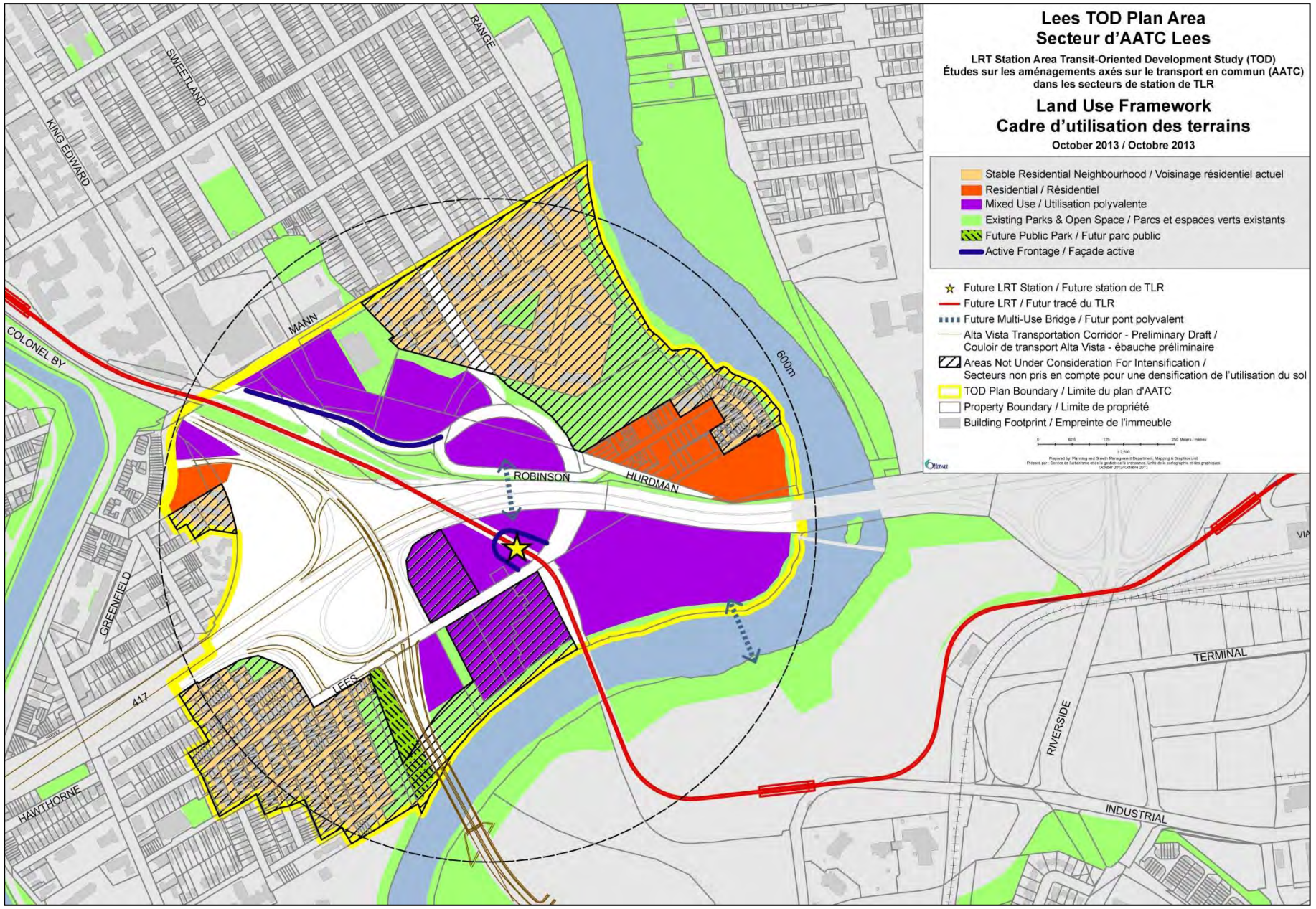

Figure 17: Lees Land Use Framework

10.1.7 LEES BUILDING HEIGHTS AND DENSITY TARGETS

The entire Lees TOD area is 81.6 hectares, but it is estimated that only 21 hectares, or about a quarter of the total land area, is available for future development at transit-supportive densities. The long-term minimum density under TOD zoning is estimated to be approximately 175 jobs and people per gross hectare. However, since the University of Ottawa is planning future campus buildings at higher than the minimum TD zone densities, the minimum density in the Lees area is likely to be approximately 250 jobs and people and jobs per gross hectare. The estimated maximum density is approximately 330 jobs and people per gross hectare.

Given the proximity of some of the Potential Development Areas to the Lees Light Rail Station and the distance between these lands and established neighbourhoods, it is deemed appropriate to have tall and very dense buildings on these sites, some of which could be very tall landmark buildings with a density above 550 units per hectare. These areas include the Station Lands (6), the Bowl Lands (3) and the west half of Lees Campus (7). These areas are therefore designated as TD3 with a maximum height of 30-storeys with exceptional spot heights of 35 and 45-storeys assigned as shown on the Density Range and Maximum Building Height Map. Buildings taller than 30 storeys, if proposed as part of future development, would be subject to a special design review process under the Urban Design Review Panel. The building design should demonstrate how it contributes positively:

1. To the experience of streets and public/open spaces with finely-detailed, grade-level and mid-rise sections (including podiums).
2. To the Ottawa skyline with attractive and distinctive building tops for tall buildings.
3. To the downtown entryway experience at Lees Station.
4. To the Rideau River edge condition with massing, articulation and, where appropriate, stepbacks from the River.

Other areas which are close but not as close to the Lees Light Rail Station are deemed appropriate for tall and dense buildings but not as tall or dense as the TD3 areas mentioned above. These areas include: the western portion of the Sandy Hill Arena Lands (1), the south-western half of the Mobin Lands (2), the City Works Yard lands except a narrow portion abutting Lees Avenue (5), the eastern portion of Lees Campus (7) and the eastern portion of the Open Space Lands at 160 Lees Avenue, shown as Potential Development Area (8). These areas are designated as TD2 with a maximum height of 14-storeys and a density range between 400 and 1,000 units per hectare. The Crescent-Shaped Highway Lands (10) are best suited to a TD2 designation.

The remaining Development Areas that are furthest away from the Light Rail Station and closest to stable residential areas are deemed appropriate for mid-rise and mid-density buildings in the range of 6-storeys and between 250 and 500 units per hectare. These areas include: the north half of the Mobin Lands (2), Robinson Village West (4) the narrow portion of the City Works Yard lands (5) and the Triangular Lands (9). These areas are designated as TD1 with a maximum building height of six storeys. Robinson Village West (4) is shown as TD1 only to address height, not density or use.

Figure 18: Lees TOD Plan Area at transit-supportive density, looking southeast from above Nicholas Avenue

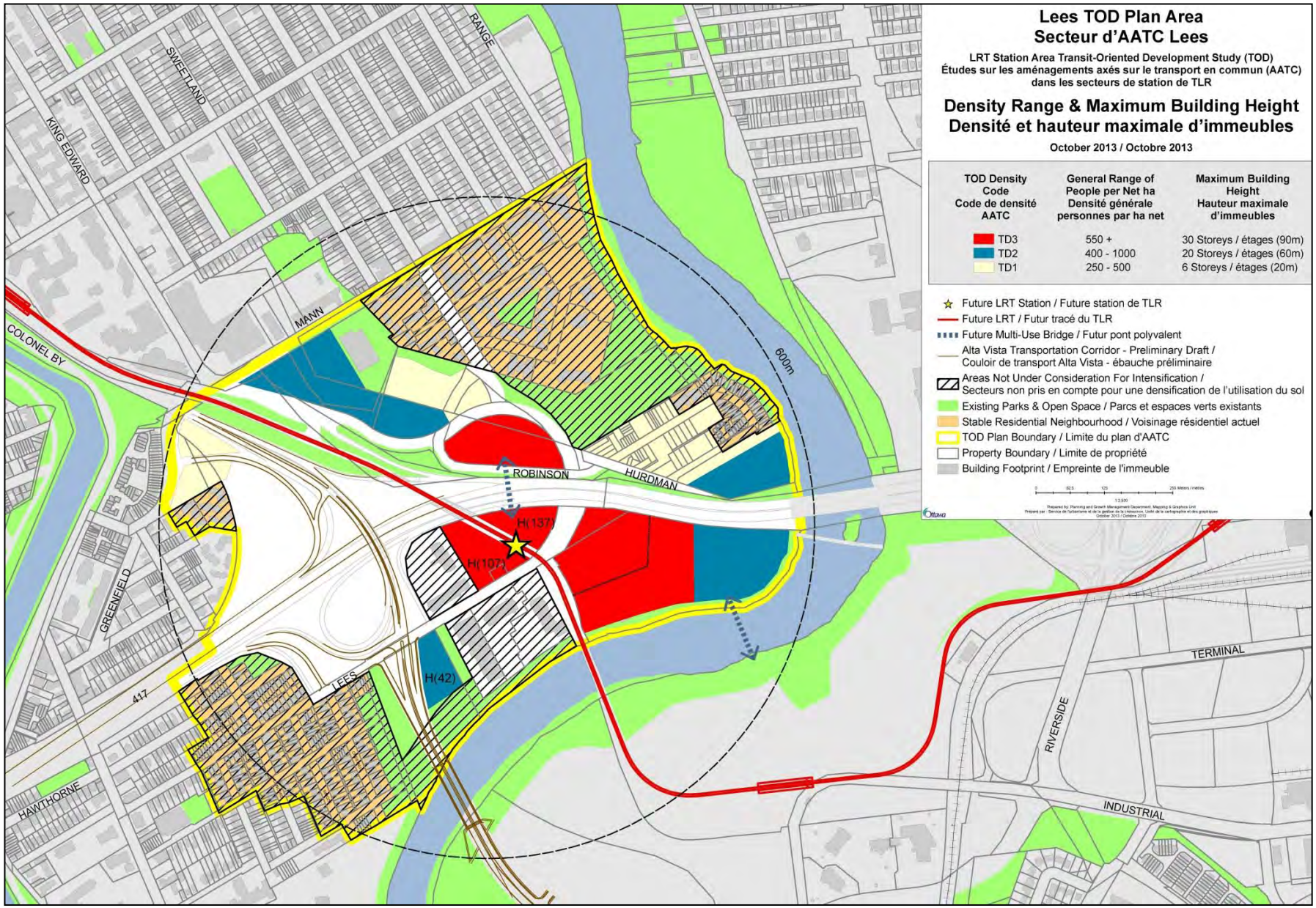

Figure 19: Lees Building Heights and Density Targets

Figure 20: Lees TOD Plan Area at transit-supportive density, looking northwest from above Rideau River

Figure 21: Lees and Hurdman TOD Areas at transit-supportive density, looking east from above the Rideau River

10.2 HURDMAN TRANSIT-ORIENTED DEVELOPMENT PLAN AREA

The Hurdman TOD area is approximately 68 hectares located between the Lees and Tremblay TOD areas and south and east of the Rideau River. To the north, it is bordered by the river and Highway 417; to the east by Riverside Drive and the VIA rail corridor. To the west, the boundary follows the future alignment of the Alta Vista Transportation Corridor (AVTC). To the south, the study area extends approximately 800 metres south of Hurdman Station.

The Hurdman TOD area is comprised of 12 properties, most of which are vacant and part of former landfill areas. The area is bisected by a number of transportation corridors. The northern portion of the study area is traversed by the curving route of the existing bus rapid transitway (BRT) corridor. The east part is divided into long, linear segments by both new and old Riverside Drives and by the Southeast Transitway bus rapid transit corridor. A small section of the VIA rail line crosses part of the study area in the northeast. The Hurdman TOD Plan Area has a number of unique features including excellent proximity to, and views of the Rideau River, and to major open space lands, and is within 3 kilometres of downtown Ottawa. Most notably, it is the only station east of downtown with remaining large expanses of vacant land.

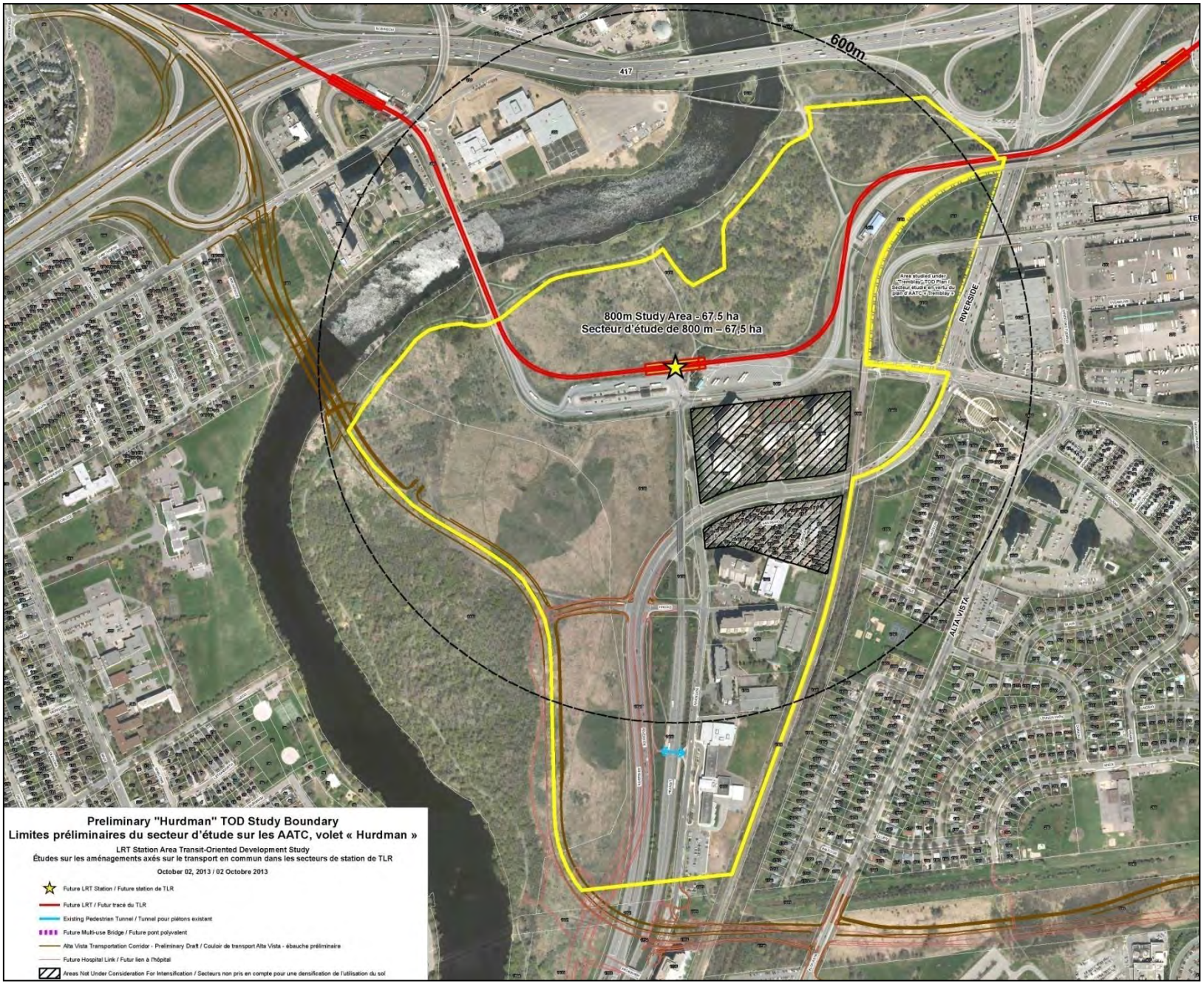

Figure 22: Hurdman TOD Plan Area

10.2.1 HURDMAN EXISTING LAND USE CONTEXT

With the exception of the Riviera apartment complex and Hurdman BRT Station, all land west of Riverside Drive is currently vacant or open space. The majority of this land is owned either by the National Capital Commission (NCC) or the City. The current state of these lands can be largely explained by historical land uses, which included former landfill areas. This is still evident by the large grassy mound south and west of Hurdman Station and higher ground west of Riverside Drive. To the west of this mound, adjacent to the river is a woodlot designated as Urban Natural Feature in the City's Official Plan, and zoned for environmental protection in the City's comprehensive zoning by-law.

The southeast part of the TOD area is developed with a range of land use including medium and higher density residential and the École Lycée Claudel school campus. There is an existing BRT station located across from the school in the south part of the TOD area that also provides pedestrian access to Riverside Drive to the west.

10.2.2 HURDMAN PEDESTRIAN NETWORK

The Pedestrian Network Plan (Figure 24) shows existing and required sidewalks and multi-use pathways as well as future pedestrian crossings for the Hurdman TOD Plan area. Sidewalks are shown on both sides of public streets indicating the requirement for two sidewalks on every street in the future. The exception to this requirement is permitted if a MUP is constructed in place of a sidewalk on one side of the road. Many of the proposed pathways will provide linkages to the NCC's multi-use path that runs along the east and south sides of the Rideau River.

A section of the "Poets' Pathway" (a 31 km path network that starts at Britannia Beach and ends at Beechwood Cemetery) runs through the northeast part of the Hurdman TOD Plan Area. The path follows the existing NCC pathway network, north of the BRT corridor, and continues to the south side of the Rideau River. When considering future development proposals, it is the City's intent that these existing linkages either remain in their existing locations or be relocated. If relocation is required, the new pathways will be done in such a manner that a natural area in proximity to both sides of the pathway will be enhanced, where possible, with additional tree planting and / or under-storey shrubbery.

Key pedestrian crossing points of roadways are highlighted by red circles on the plan. These locations require special design consideration to ensure safe and expedient crossing movements for pedestrians. These include wider and textured crossing routes, signalization and consideration of longer walk signal times. Signage and pedestrian scale lighting at appropriate junctions and locations will help with way-finding to and from the station platform, and to other points of interest within and beyond the TOD Plan area.

Pedestrian over/underpass facilities and approach route designs must embody *Crime Prevention through Environmental Design* principles. A future multi-use bridge over the Rideau River would assist over the long-term in improving access between the south and east transit corridors and Lees Campus allowing patrons to walk directly from Lees Campus to Hurdman and avoid the need for a transfer. However, since it is not an essential component of the pathway network, it is viewed as a long-term project that would be funded, at least in part, by proponents of adjacent development.

Another river crossing is shown to connect with the community in Old Ottawa East. This future bridge crossing is not shown as a Multi-Use Pathway in the Ottawa Cycling Plan and Pedestrian Plan and, like the crossing above, is not essential to TOD mobility within the Hurdman area.

A future link is shown to connect the existing community east of the VIA tracks to future development west of the tracks. It is envisaged that this link would be in the form of a pedestrian underpass under the VIA tracks. While its location is conceptual, the City's intent would be to negotiate for such a connection at the time of future redevelopment proposals for any lands located between Old Riverside Drive and the VIA tracks. Such a link is desirable for community connectivity with long-range desire lines connecting west, first to the potential Rideau River crossing described above, and

eventually to a future pedestrian bridge at Clegg over the Rideau Canal to Lansdowne Park.

Impact on private property must be addressed and consensus with the land owner would be a requirement. Consideration would need to include establishing either a right-of-way over private lands with a maintenance agreement or through dedication of a public block for a multi-use pathway to accommodate movement of people.

Figure 23: Conceptual Pedestrian Connection to Hurdman LRT Station

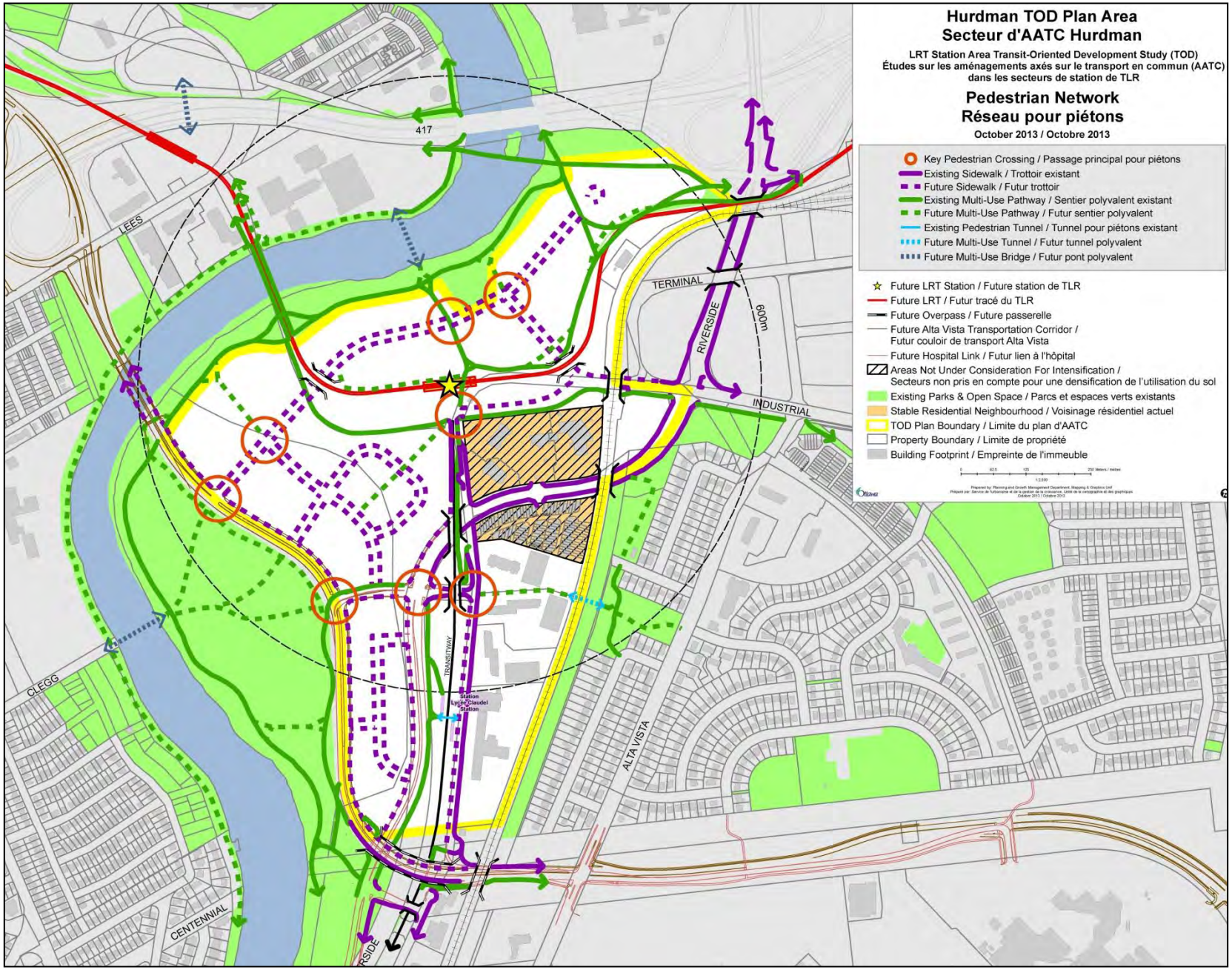

Figure 24: Hurdman Pedestrian Network

10.2.3 HURDMAN BICYCLE NETWORK

The Bicycle Network Plan (Figure 26) shows existing and required cycling routes as well as future cycling crossing points in the Hurdman TOD plan area. The type of cycling facility is defined by different line types on the plan and the key crossings are highlighted by red circles. These key crossing points of roadways require special design consideration to ensure safe bicycle circulation and turning movement. These include accommodation for priority or advanced signalization for cyclists.

Figure 25: Conceptual Hurdman TOD Area Streetscape

On-street bicycle lanes are proposed for the remaining portion of Riverside Drive north of Hincks Lane and for many of the future roads in this area. A future multi-use pathway is proposed along the west side of the future AVTC Hospital Link adjacent to the TOD Plan area to provide an alternate north-south route for pedestrians and cyclists. This would be in addition to the on-street bicycle lanes along the full length of the AVTC and the urban-edge wide sidewalk envisioned for along the east side of the future road. The initial Hospital Link phase of the AVTC includes shared-use lanes as an interim condition. Cycling over and underpass facilities and approach route designs must embody *Crime Prevention through Environmental Design* principles and accommodate bicycle access in design.

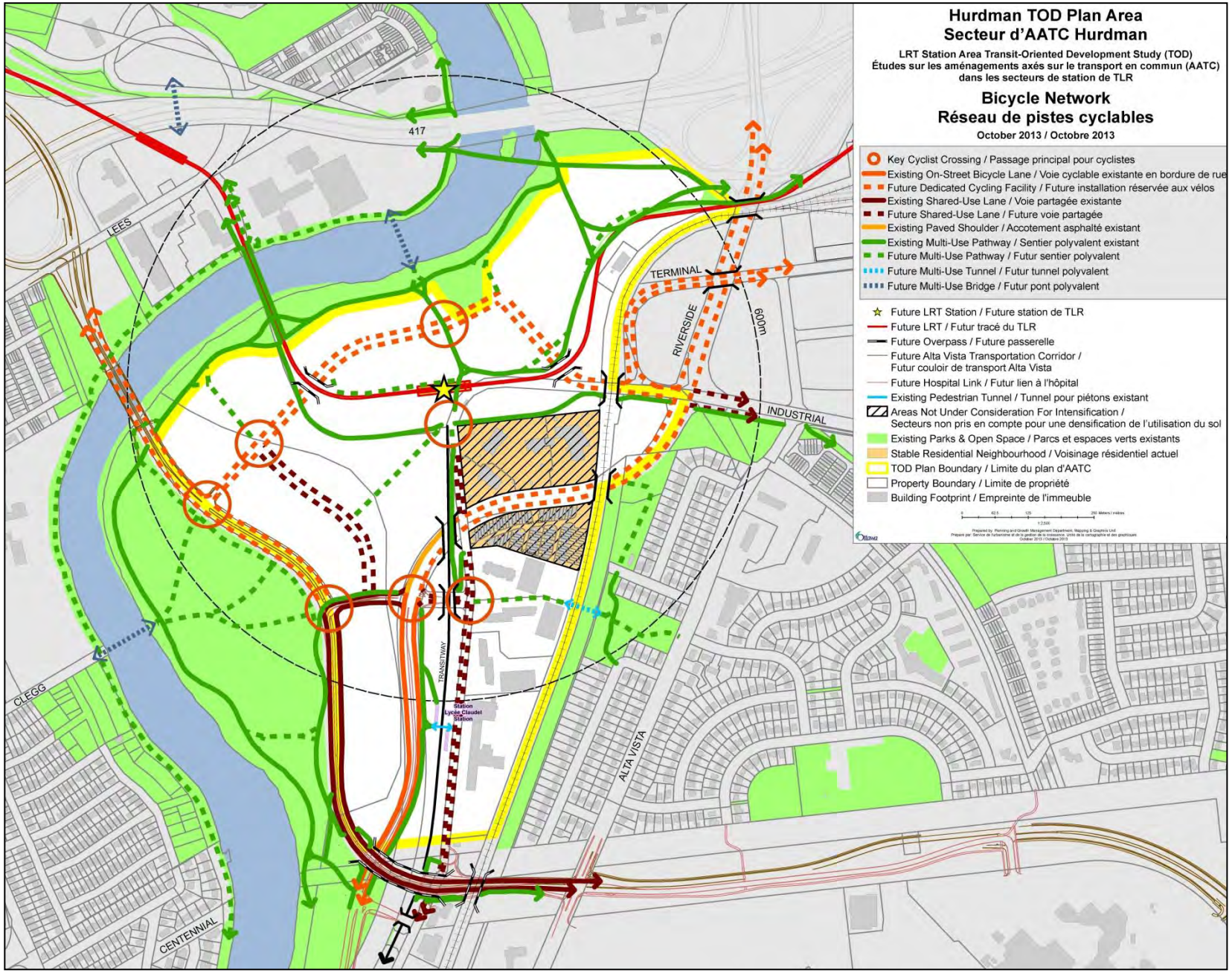

Figure26: Hurdman Bicycle Network

10.2.4 HURDMAN STREET NETWORK

The Street Network Plan (Figure 27) shows existing and future streets in the TOD Plan area. Riverside Drive, Old Riverside Drive, and Hincks Lane are the only existing streets within the study area, leaving very large blocks of land to be divided in the future by new streets. Alignments for three types of connections are shown, the first being a private road; the second, either a required future public or private road; the third type being a required future public road, private road, aisle way or multi-use pathway. The third type of connection is much more flexible for developing large blocks of land, such as found within the Hurdman area. Where public roads are deemed to be required by City staff, they will be conveyed to the City through the development review process. The primary purpose of these various connections is to convey pedestrians and cyclists on direct and safe routes to/from the station. The intent and general design requirements of these connections are set out in Section 5.3.

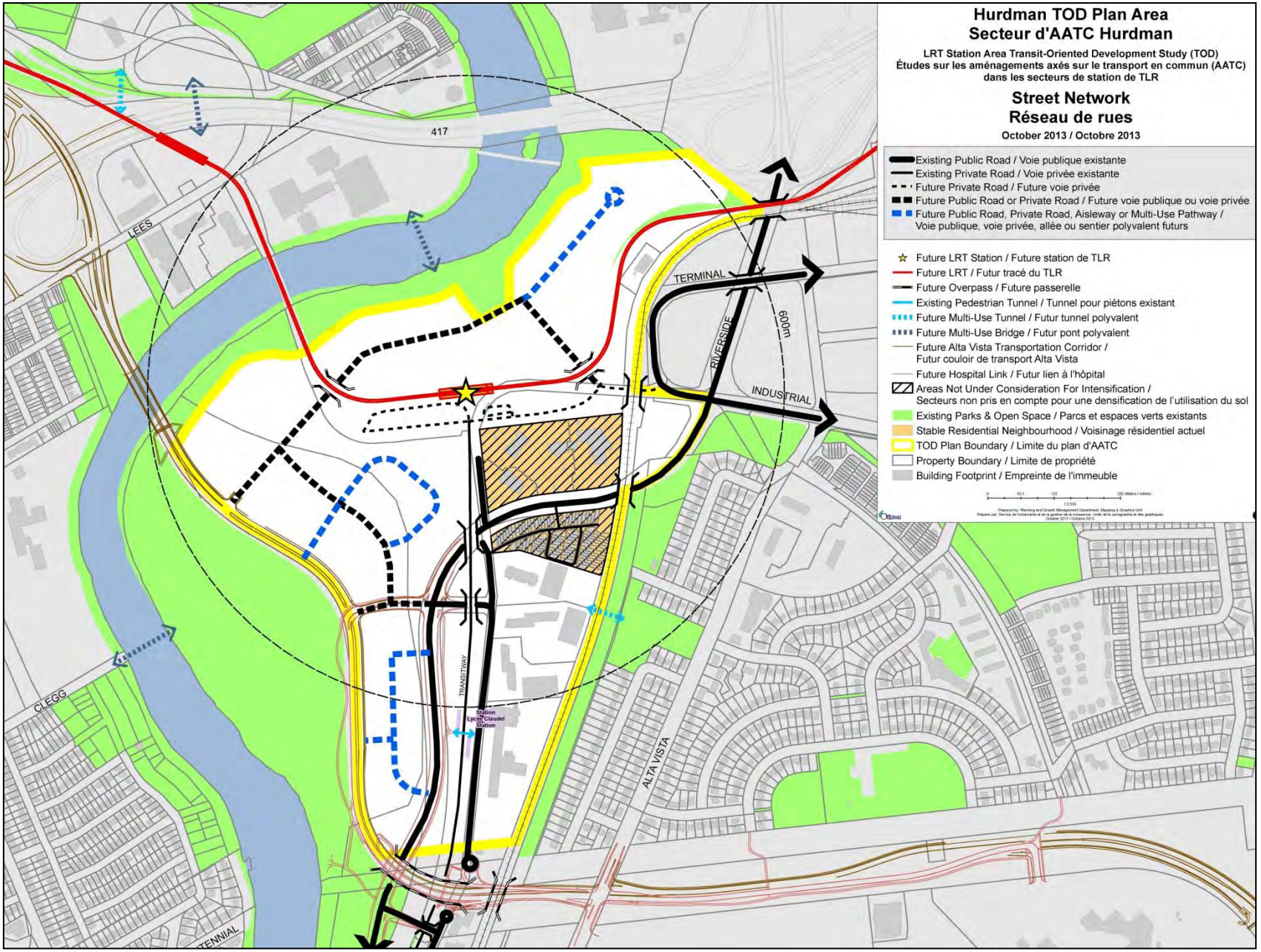

Figure 27: Hurdman Street Network

10.2.5 HURDMAN GREEN PLAN

The Green Plan (Figure 29) shows existing and future parks, open spaces, private outdoor amenity areas as well as 'priority streetscapes' for the Hurdman TOD plan area. The location of the priority streetscape coincides with the Active Frontage Street (refer to Section 6.2 and 7.1). The purpose of identifying a priority streetscape is to specify where additional streetscape tree planting is required, reinforcing the enhanced nature of Active Frontage Street design.

A unique feature of the Hurdman TOD area is the mound of earth located to the southwest of the Hurdman station. This mound of earth constitutes a former landfill area. Although it could be remediated and used for high density land uses in the future, it will likely remain in its existing state for many years. As such, the area has been designated as "Mixed Use (Interim Passive Open Space)" to recognize the long-term nature of its eventual redevelopment.

Districts requiring a future public park are also shown on this Plan. The intent and process for establishing the location of a public park in these districts are set out in Section 7.2. The Plan also illustrates conceptual size and locations for private outdoor amenity areas. The implementing TOD zone requires a minimum of two per cent of the land area of the project to be constructed as outdoor communal amenity space. The final size, location and design will be decided at the time of development approval.

Also unique to the area around the Hurdman station is the amount of existing open space and the station's proximity to the Rideau River. Today, the former landfill areas north and west of the station are undeveloped. Once the station is built on its elevated track, the upper platform will offer the potential for views of the river. Currently all the land north of the station is zoned for open space. This zoning is being maintained in a narrow corridor north of the platform to accommodate a future park connection to the Rideau River. The conceptual plans show an urban plaza immediately north of the station which will lead to a green urban park connecting to the Major Open Space lands abutting the Rideau River.

Figure 28: Conceptual Public Square Park

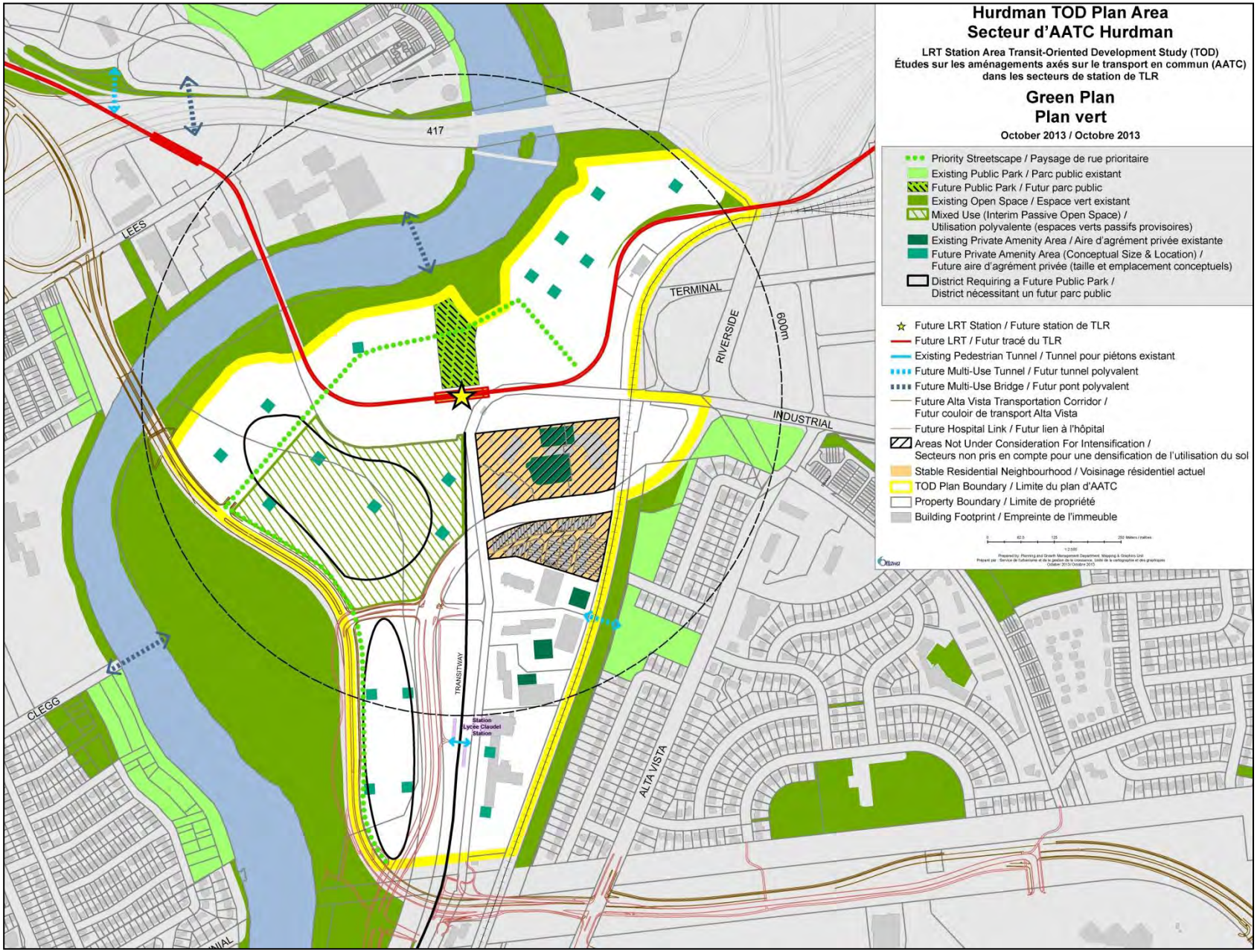

Figure 29: Hurdman Green Plan

10.2.6 HURDMAN LAND USE FRAMEWORK

The Land Use Framework Plan (Figure 30) provides a graphic representation of land use locations and shows the general location of the "Active Frontage Street" that applies to the future east-west road in the northerly part of the Plan area and a portion of the future AVTC. The design requirements of Active Frontage Streets are discussed in Section 6.2.

The Hurdman TOD area will evolve over time into a compact, dense, mixed-use urban precinct with valuable physical and visual access to the Rideau River. Due to the contaminated nature of much of the vacant land in the area it may take many years for development to commence. However, some areas, including lands north of the Hurdman station, will be somewhat easier to remediate and may be subject to development pressure in the shorter-term.

Since a considerably large amount of land in this Mixed Use Area was formerly used for landfill purposes many years ago, there are potentially a number of properties with some significant contamination challenges. The City specifically encourages the redevelopment of such properties through the Ottawa Brownfields Community Improvement Plan (BCIP).

The BCIP places the highest priority for brownfield redevelopment in the Central Area, Mixed Use Centres, along Mainstreets and within 600 metres of existing or planned rapid transit stations. Therefore, large parts of the Hurdman area may qualify to become excellent candidates to take advantage of the various incentive options the program provides. Because the City and the NCC are the current owners of most of this land, the BCIP would only apply once the ownership is transferred to a non-government body. Other properties within the designated Mixed Use Centre with potential contamination issues may do the same, if qualified.

The Rehabilitation Grant Program component of the BCIP, for example, can provide funds to a maximum of 50% of eligible cleanup costs through a variety of grant options. More detail about these options is provided on the City's BCIP website: http://ottawa.ca/en/brownfields-redevelopment-program This TOD Plan encourages the use of the City's comprehensive Brownfields Program in conjunction with other development incentive mechanisms to make desirable development feasible and a reality.

With a few exceptions, the entire TOD area is designated as Mixed Use. The mound area, shown as a darker purple colour, is designated as Mixed Use (Interim Passive Open Space) to recognize the long-term nature of its eventual development. Another parcel of land located immediately south of Hincks Lane between Riverside Drive and the Southeast Transitway also has this dual designation. This is due more to its location and difficulty in addressing the change in topography and its tight configuration between the major transportation corridors of Riverside Drive and the Transitway. An area immediately north of the LRT station is designated as "Future Parks and Open Space" to capitalize on the station's proximity to the Rideau River. This will represent the parkland dedication for a future park for lands north of the station.

A new "passenger pick up and drop off" (PPUDO) area will be located south of the new station. This public area will be maintained by OC Transpo. The remaining parcel of land to the east, currently used for a bus staging area, is designated as Mixed Use and is planned to accommodate a building with a maximum of six storeys. Development of this parcel is dependent upon the relocation of the PPUDO to an area north of the Confederation Line.

The existing Riviera apartments, the Corsica and San Remo Private townhouses to the south are designated as Stable Residential Area and are not planned for future intensification in this Plan.

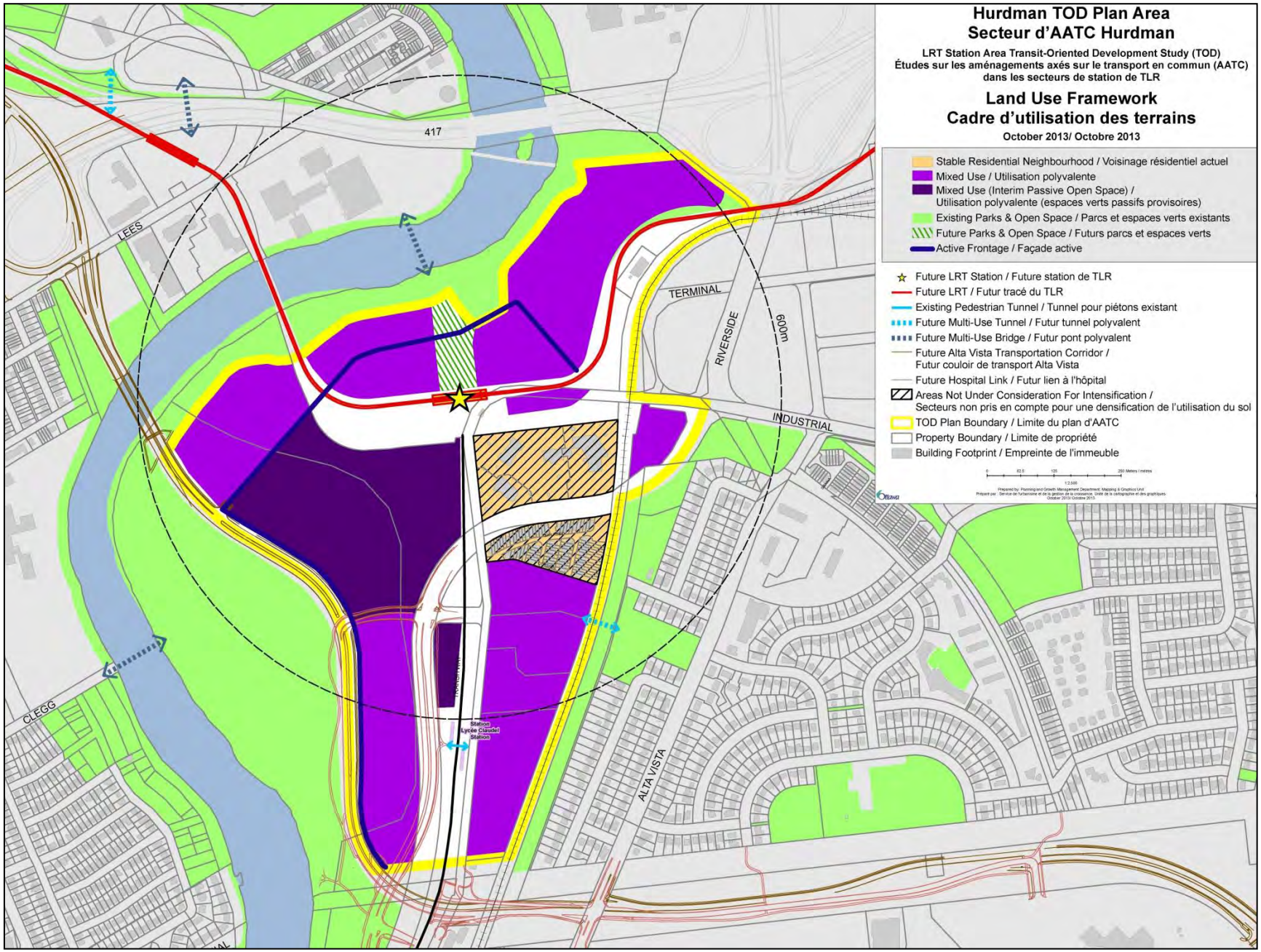

Figure 30: Hurdman Land Use Framework

10.2.7 HURDMAN BUILDING HEIGHTS AND DENSITY TARGETS

The Hurdman TOD Plan area is approximately 68 hectares. After excluding transportation and utility corridors, about 38 “net” hectares (or 56 per cent of the Plan area) is available for future development capable of achieving transit-supportive densities. Of the net area for the Hurdman TOD Plan, approximately 10 hectares (26 per cent of the total land available for development) is estimated to be available in the shorter-term. The “short-term” lands can accommodate approximately 8,300 combined residents and jobs. The projected increase of about 1,000 people living and/or working in the TOD Plan area over the next 20 years can therefore easily be accommodated within the shorter-term development area. The balance of development area (28 hectares) is considered to be longer-term land.

The long-term minimum density under TOD zoning is estimated to be approximately 200 jobs and people per gross hectare. The estimated maximum density is approximately 365 jobs and people and jobs per gross hectare.

Figures 32 and 33 demonstrate one potential development scenario that includes approximately 110 multiple attached dwellings; 90 stacked dwellings; 10,500 apartment dwellings and 147,600 square meters of non-residential building area. This assumed land use mix is expected to vary since TOD zoning provides flexibility for the future market to guide decisions on land use. Building heights will range from 2-30 storeys. For estimating long-term TOD densities, all properties in the total net area (38ha) for the Hurdman TOD Plan were assumed to be developed or redeveloped.

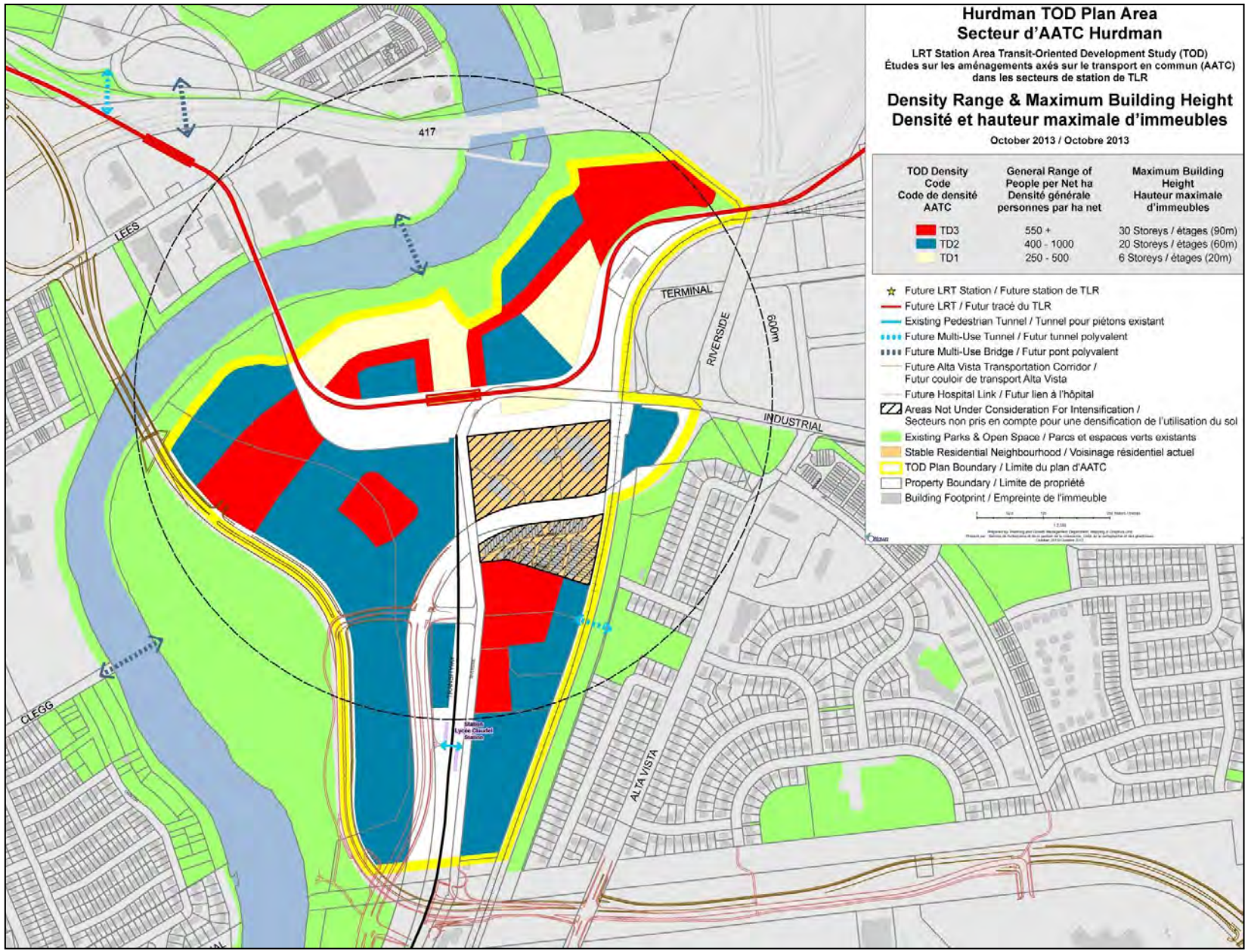

Figure 31: Hurdman Building Heights and Density Targets

Figure 32: Image of Hurdman TOD Area at transit-supportive density, looking south from above Rideau River

Figure 33: Image of Hurdman TOD Area at transit-supportive density, looking east from above Rideau River

10.3 TREMBLAY TRANSIT-ORIENTED DEVELOPMENT PLAN AREA

The Tremblay TOD Plan area is approximately 100 ha and includes approximately 40 properties. It is bounded generally on the west by the VIA main line and the Vanier Parkway, on the south by Industrial Avenue, on the east by Belfast Road and on the north by Coventry Road. It is a unique area given the central location of the VIA Rail terminal which is located adjacent to the future Confederation Line station. It enjoys excellent proximity to the Rideau River open space area to the west, has a major community baseball stadium facility and a large retail shopping area. The Tremblay TOD Plan area is located approximately four kilometers from downtown Ottawa.

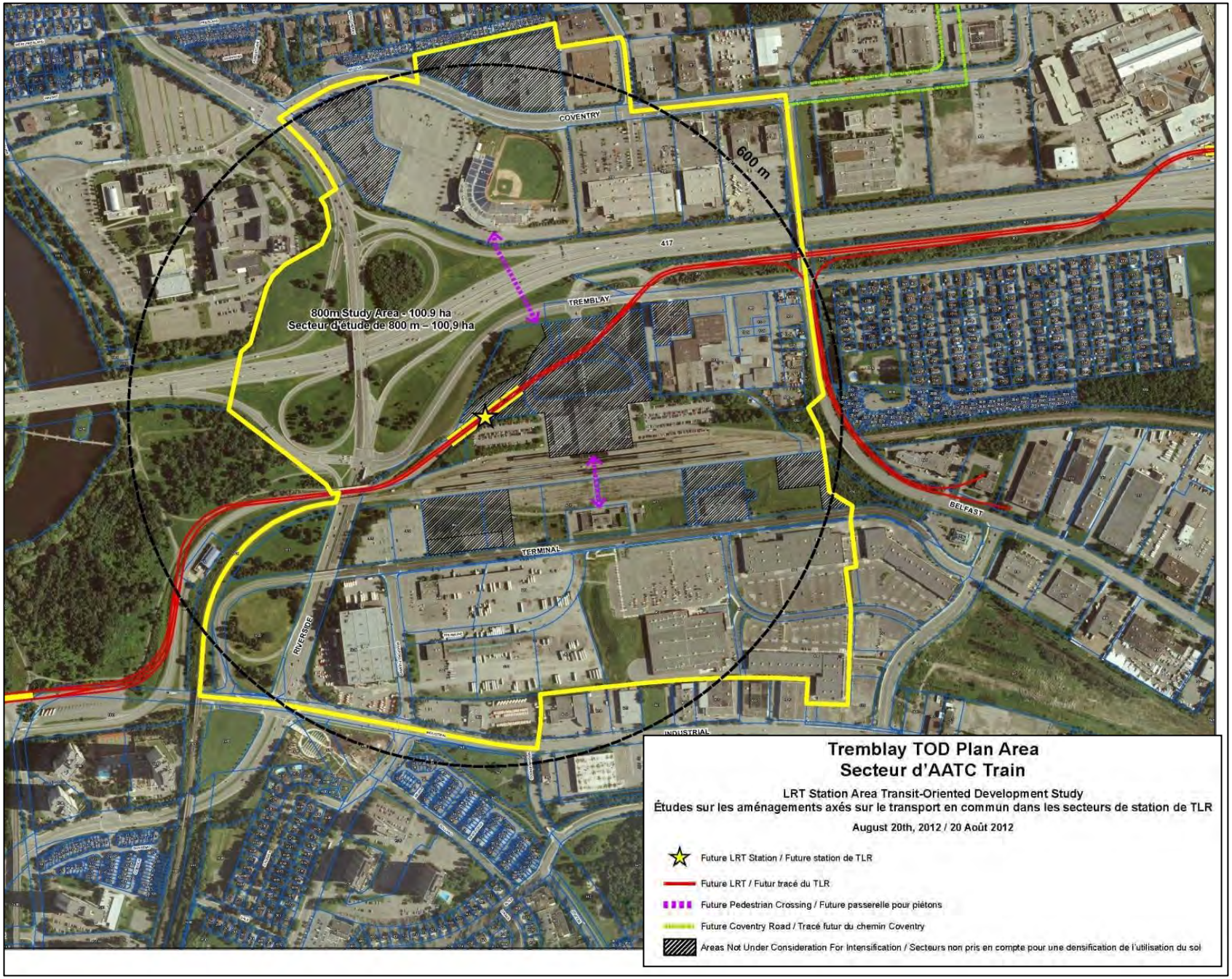

Figure 34: Tremblay TOD Plan Area

10.3.1 TREMBLAY EXISTING LAND USE CONTEXT

The Tremblay TOD Plan area is divided into three districts (northerly, central, southerly) by the east-west orientation of Highway 417 and the VIA rail main line. The northerly district has two newer densely developed areas – the Hampton Hotel and the Department of National Defence office buildings. The balance of the area is comprised of a baseball stadium and newer retail and office buildings. The central district is home to the VIA Rail terminal, a newer densely developed office building and older but viable industrial uses. The southerly district houses the newer Trainyards retail area, offices, a large Canada Post facility, older warehouse buildings and two large vacant properties to the west.

Two future pedestrian connections, one over Hwy 417 and a second under (or over) the VIA rail main line will connect the three districts in terms of forming a walkable TOD Plan area. The lot fabric of the planning area is generally composed of larger developed properties. It is comprised almost entirely of employment uses, with only one residence located on Tremblay Road.

10.3.2 TREMBLAY PEDESTRIAN NETWORK

The Pedestrian Network plan (Figure 36) shows existing and required sidewalks and multi-use pathways (MUPs) as well as future pedestrian/cycling crossings of Highway 417 and the VIA Rail main line. Sidewalks are shown on both sides of public streets indicating the requirement for two sidewalks on every street in the future. An exception to this requirement is permitted if a MUP is constructed in place of the sidewalk.

Key pedestrian crossing points of roadways are highlighted by red circles on the plan. These locations require special design consideration to ensure safe and expedient crossing movements. These include wider and textured crossing routes, signalization and consideration of longer walk signal times.

Pedestrian over- and underpass facility and approach route designs must embody *Crime Prevention through Environmental Design* Principles.

Figure 35: Key Crossing Sample Image, Terminal Avenue

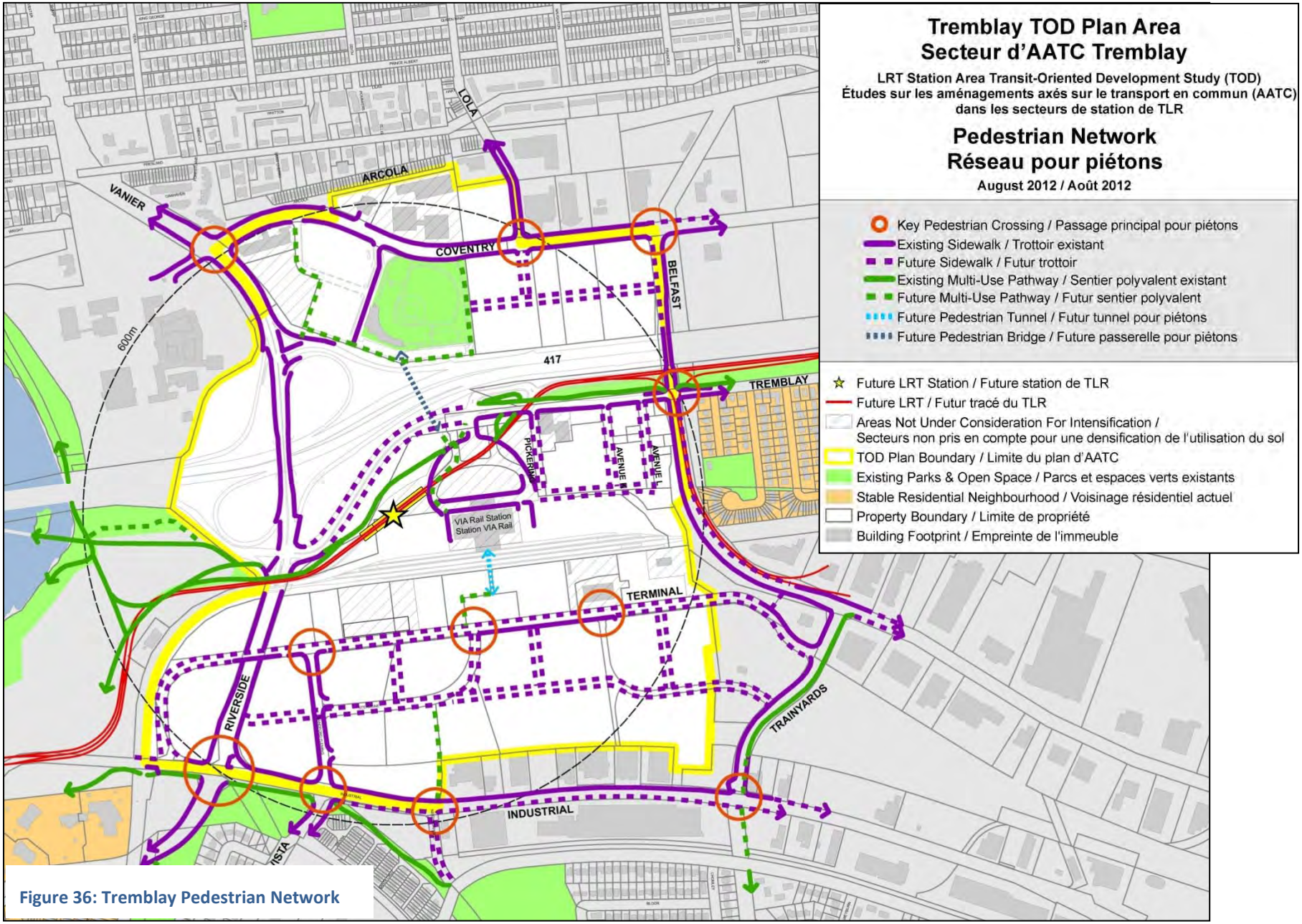

Figure 36: Tremblay Pedestrian Network

10.3.3 TREMBLAY BICYCLE NETWORK

The Bicycle Network Plan (Figure 37) shows existing and required cycling routes as well as future pedestrian/cycling crossings of Highway 417 and the VIA Rail main line. The type of cycling facility is defined by different line types on the plan. Designs will be in accordance with City standards at the time the facility is established.

Key cycling crossing points of roadways are highlighted by red circles. These locations require special design consideration to ensure safe bicycle circulation/turning movements.

Pedestrian/cycling over- and underpass facility and approach route designs must *embody Crime Prevention through Environmental Design (CPTED)* principles and accommodate bicycle access in the design.

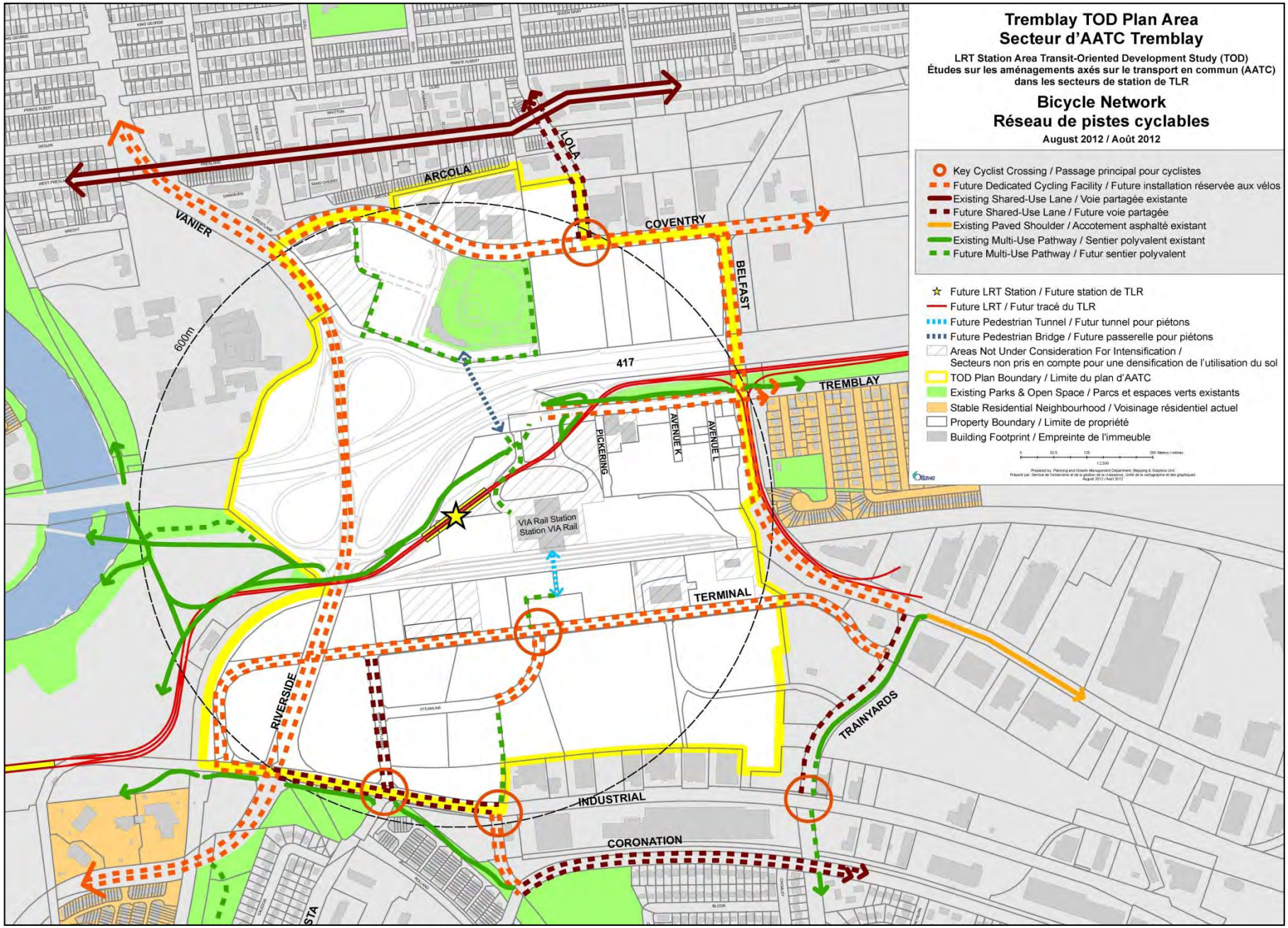

Figure 37: Tremblay Bicycle Network

10.3.4 TREMBLAY STREET NETWORK

The Street Network plan (Figure 38) shows existing and future streets in the TOD Plan area. Alignments for two flexible types of connections are also shown, including: a) required future public or private roads; and b) required future public roads, private roads, aisleways or multi-use pathways. The primary purpose of these various connections is to convey pedestrians and cyclists in direct and safe routes to/from the station. The intent and general design requirements of these connections are set out in Section 5.3.

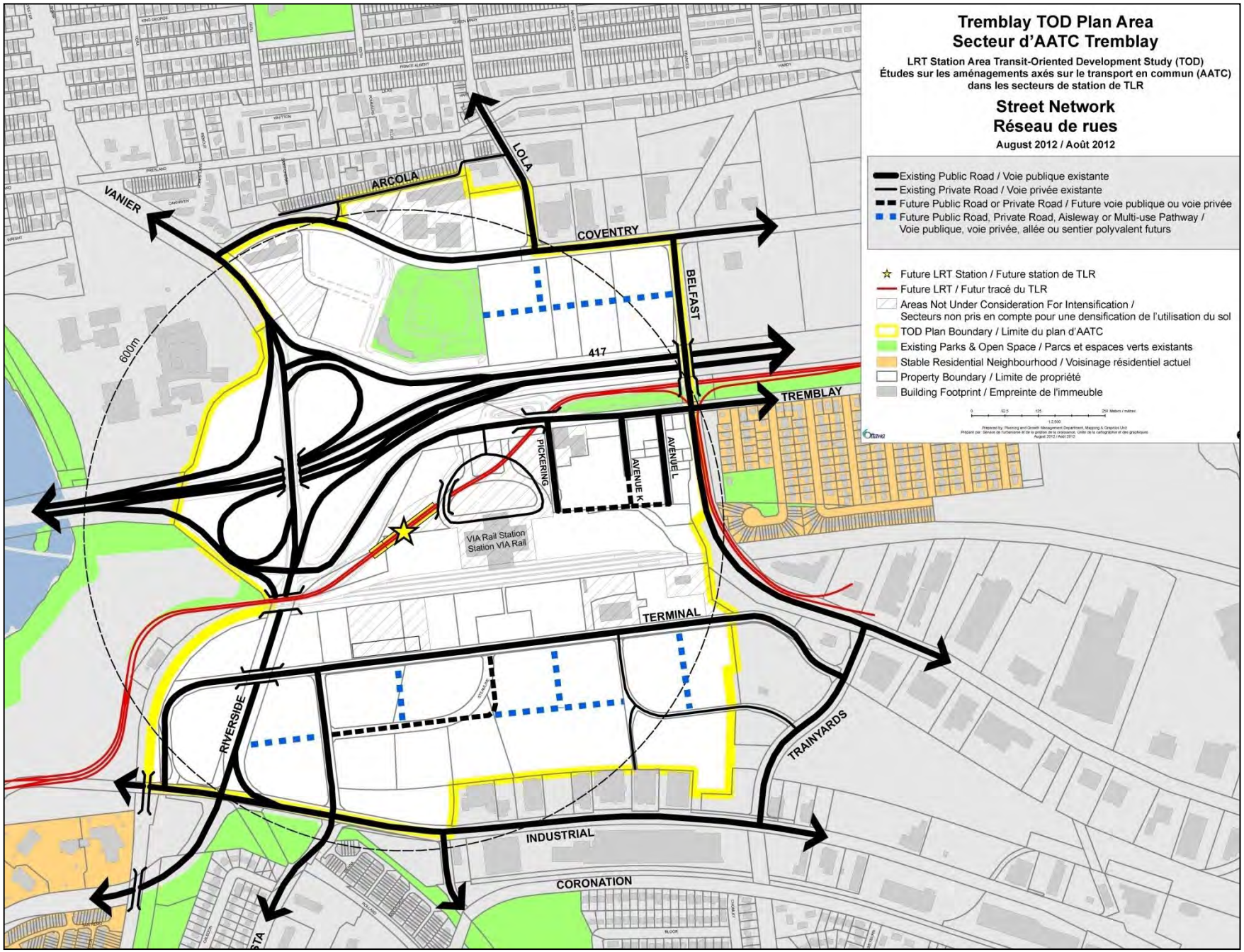

Figure 38: Tremblay Street Network

10.3.5 TREMBLAY GREEN PLAN

The Green Plan (Figure 39) shows existing and future parks, open spaces, playgrounds and “priority streetscape”. The plan illustrates conceptual size and locations for private outdoor amenity areas. The implementing TOD zone requires a minimum of 2% of the project land area to be constructed as outdoor communal amenity space. The final size, location and design will be decided at the time of development approval.

Also shown are districts requiring a future public park. The intent and process for establishing the location of a public park in these districts is set out in Section 7.2. The location of the Priority Streetscape coincides with the Active Frontage Streets (refer to Sections 6.2 and 7.1). A priority streetscape is where additional streetscape tree planting is required, reinforcing the enhanced nature of Active Frontage Street design.

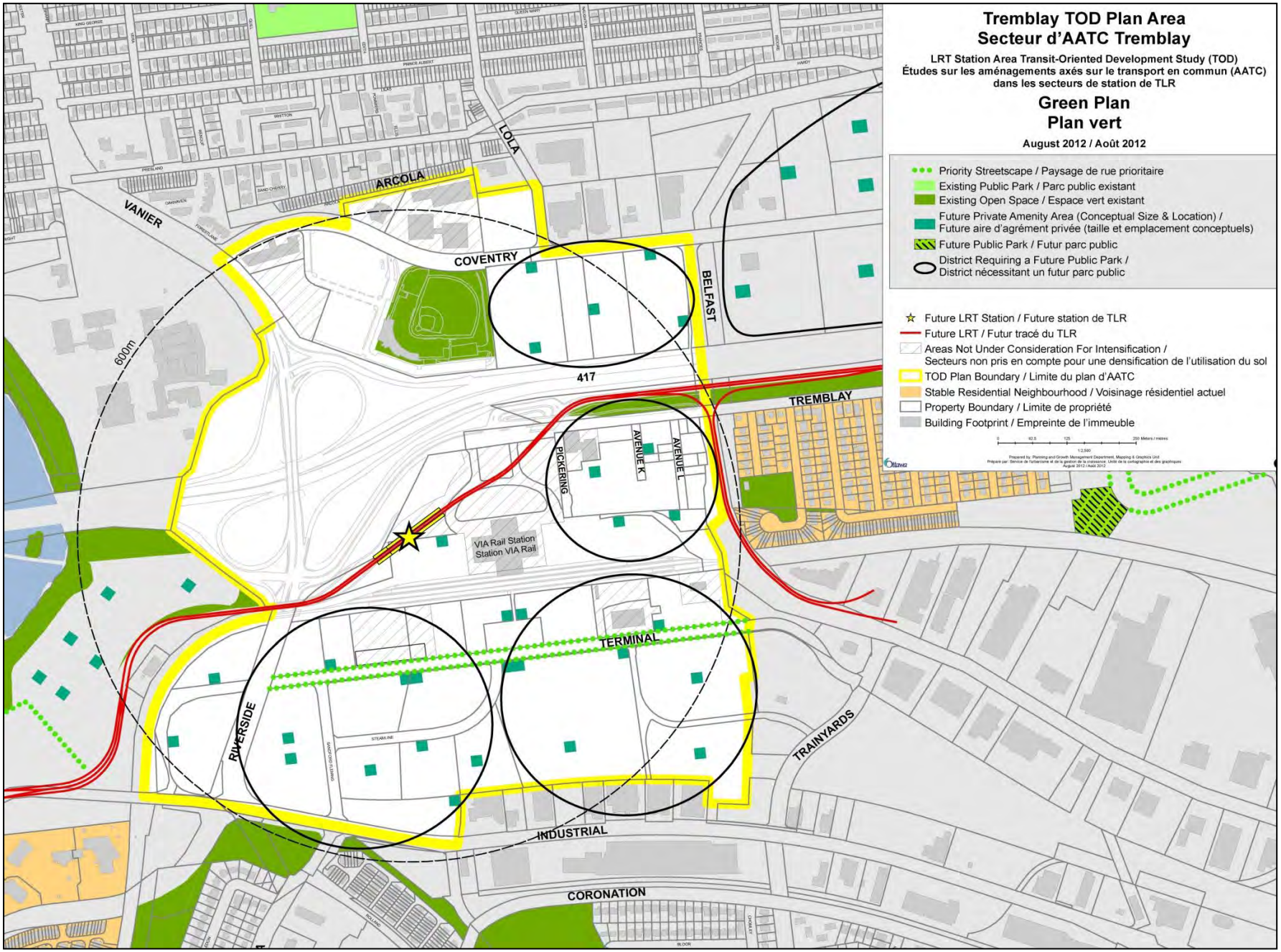

Figure 39: Tremblay Green Plan

10.3.6 TREMBLAY LAND USE FRAMEWORK

The Land Use Framework (Figure 41) provides a graphic representation of land use locations and shows the general location of the “Active Frontage Street” that applies to a portion of Terminal Avenue. The design requirements of Active Frontage Streets are discussed in Section 6.2.

Figure 40: View looking east on Terminal Avenue – streetscape showing comfortable street environment with wider sidewalks and trees.

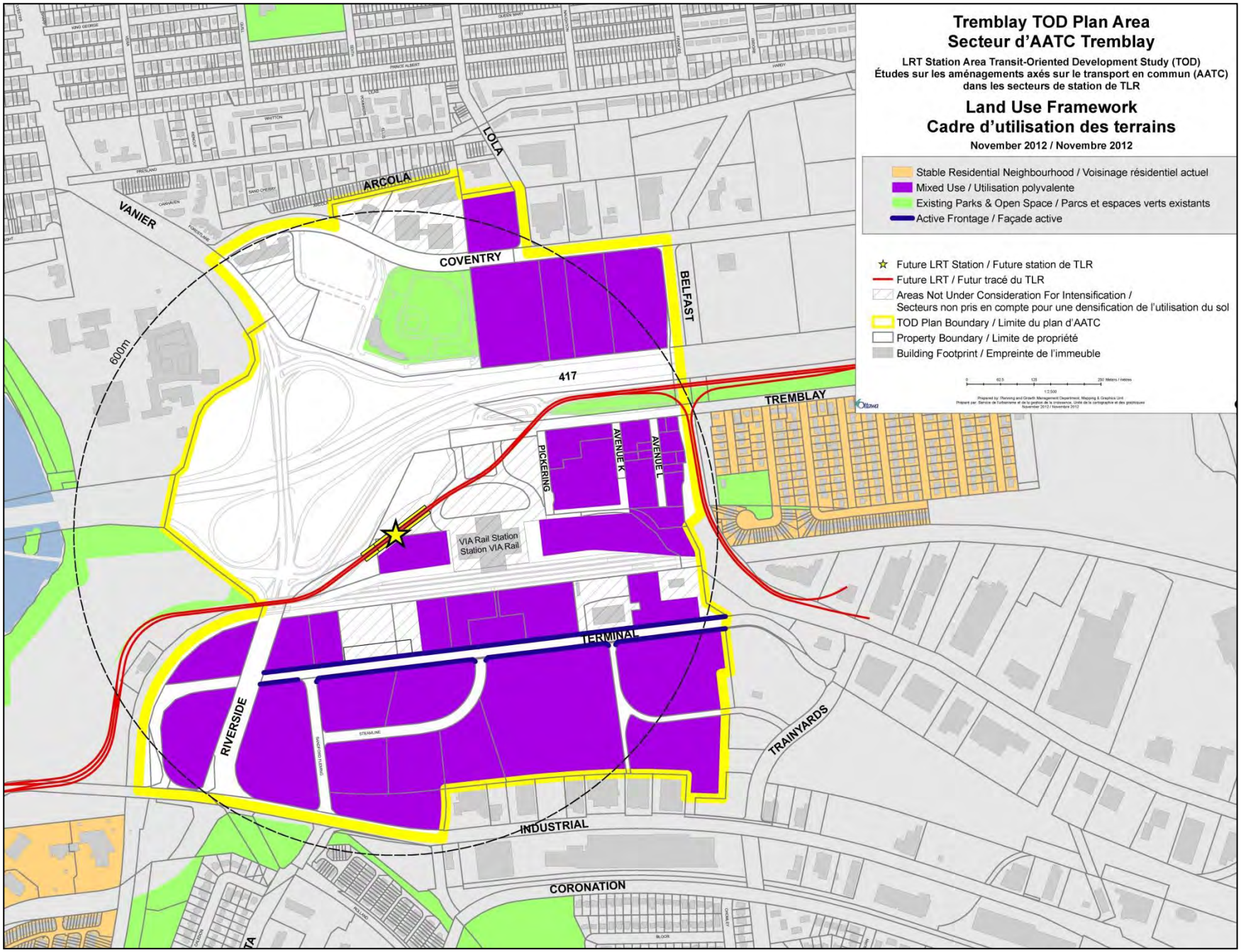

Figure 41: Tremblay Land Use Framework

10.3.7 TREMBLAY BUILDING HEIGHTS AND DENSITY TARGETS

The Tremblay TOD Plan area is 100 hectares in size. Less than one-half (approximately 44 ha), is estimated to be available for future development or redevelopment to transit-supportive densities. Of this 44 ha, about 32 ha are vacant, infill and underdeveloped land considered to be available in the shorter-term. All of the projected increase of approximately 12,500 people living and/or working in the TOD Plan area over the next 20 years can be accommodated within the shorter-term development area. The balance of approximately 12 ha, is comprised of existing buildings at generally lower densities that would likely require demolition and reconstruction in order to accommodate uses at transit-supportive densities. These areas are considered to be longer-term redevelopment areas.

Figures 43 and 44 for the Tremblay TOD Plan area show, for demonstration purposes, one TOD development scenario with a total of approximately 4,800 apartment units and 672,000 square meters of non-residential building area. This assumed land use mix is expected to vary since TOD zoning provides flexibility for the future market to guide decisions on land use. Building heights range from 4 to 28 storeys. For estimating long-term TOD densities, all properties in the 44ha area were assumed to be developed or redeveloped.

The long-term minimum density under TOD zoning is estimated to be approximately 250 jobs and people per gross hectare. The estimated maximum density is approximately 383 jobs and people per gross hectare.

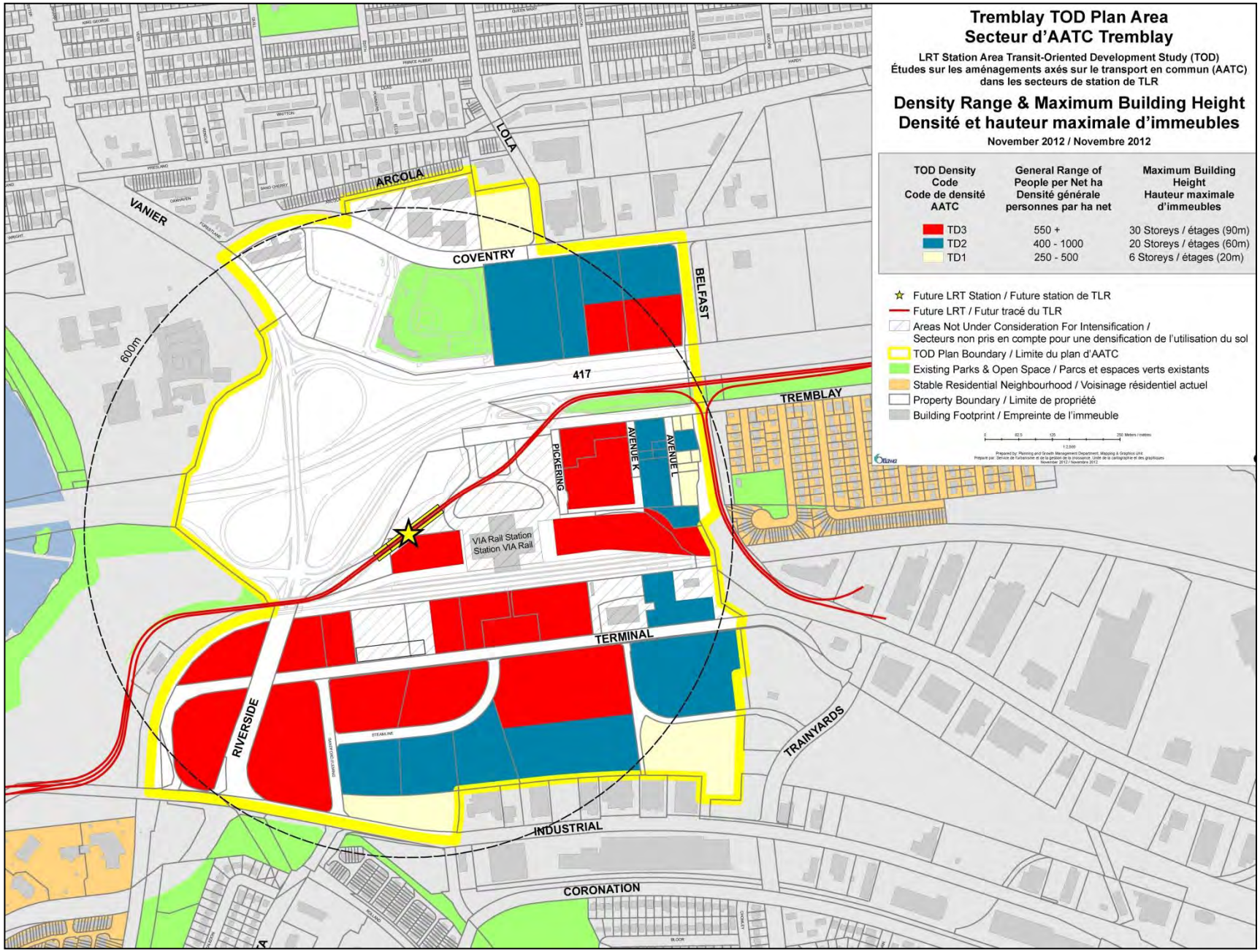

Figure 42: Tremblay Density Range and Maximum Building Height

Figure 43: Image of Tremblay TOD Area at transit-supportive density, looking south from above Highway 417

Figure 44: Image of Tremblay TOD area at transit-supportive density, looking north from Terminal Avenue

10.4 ST. LAURENT TRANSIT-ORIENTED DEVELOPMENT PLAN AREA

The St. Laurent TOD study area is 120.5 ha in size and includes approximately 225 properties that range in size from large commercial and industrial sites to single residential lots. The study area is divided into quadrants by two large transportation facilities: St. Laurent Boulevard runs north-south and Highway 417 which runs east-west. The southern boundary of the study area is the CN railway tracks. The existing development pattern of the study area generally exhibits varied setbacks, lower densities, underdeveloped lots characterized by surface parking lots and an automobile-oriented environment. The land uses are primarily large-scale commercial and employment uses, with one pocket of residential uses in the southwest quadrant.

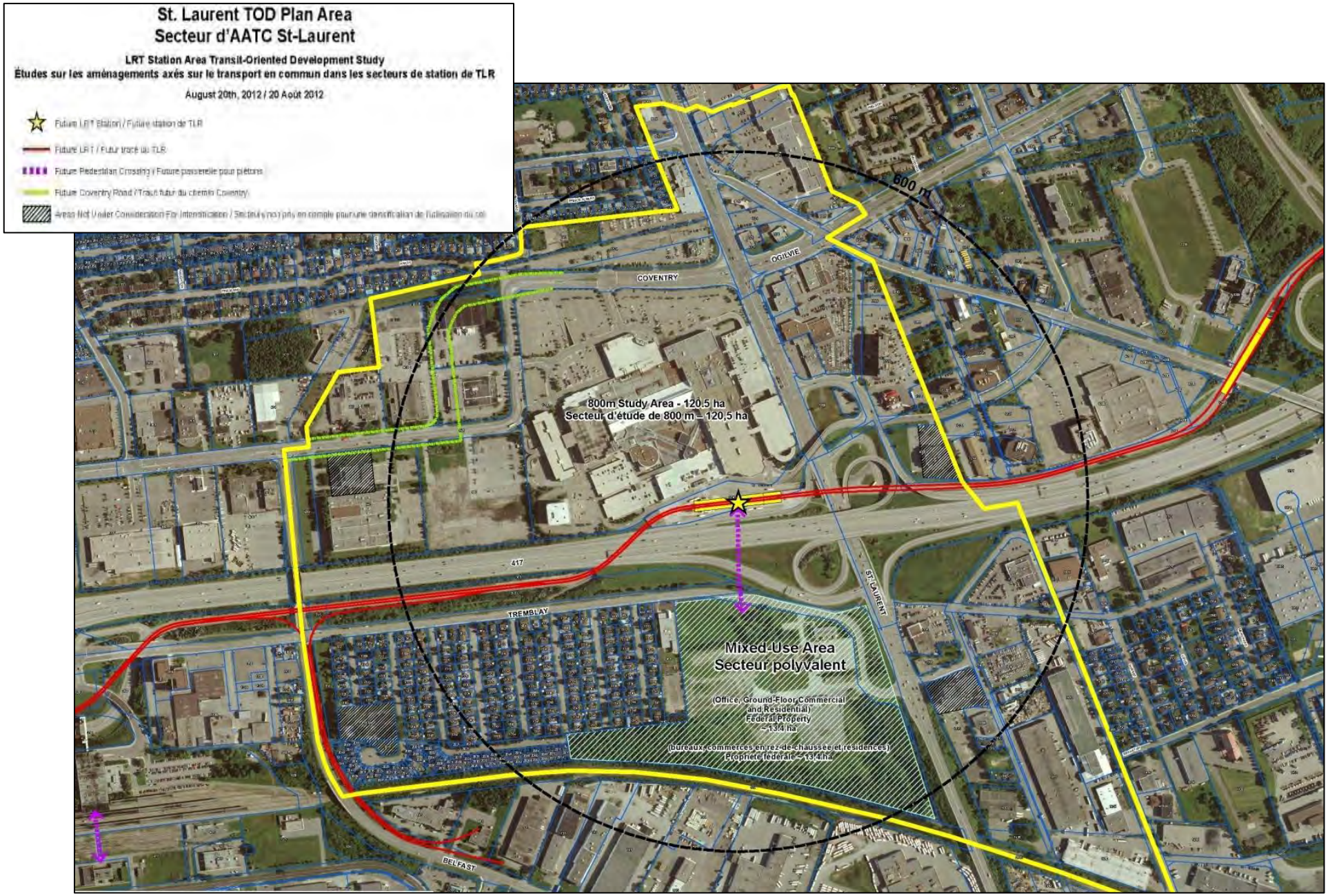

Figure 45: St. Laurent TOD Plan Area

10.4.1 ST. LAURENT EXISTING LAND USE CONTEXT

The character of the St. Laurent TOD study area varies from north to south. The northwest portion of the study area is comprised of larger lots and low-profile buildings such as the St. Laurent Shopping Centre and an Elections Canada warehouse. The existing land uses range from light industrial, office, automobile dealerships to the expansive retail centre. Coventry Road, an arterial roadway, runs east-west through this area and connects to Ogilvie Road. The northwest edge of the study area is bordered by the mature low-density neighbourhood of Overbrook. The western edge of the TOD boundary abuts the TOD boundary for the Tremblay study area, Belfast Road.

The northeast portion of the St. Laurent TOD study area abuts the Cyrville TOD study area and includes a mix of uses that currently accommodate automobile dealerships, retail along St. Laurent Boulevard as well as hotel, restaurant, office and other limited commercial uses. Although the north-eastern edge of the TOD study area boundary ends mid-block, east of Joseph Cyr Street, the natural character area extends from St. Laurent Boulevard eastward to Cyrville Road and southward to Labelle Street.

In general, the southeast portion of the study area is comprised of well-established light industrial uses that appear to have very little redevelopment potential in the short-term. These light industrial uses are housed in large-format, low-profile buildings and typically include outdoor storage. The southeast edge of the study area boundary is bordered by a small, mature, low-density neighbourhood. This mature neighbourhood includes approximately 70 dwellings and is currently surrounded by light industrial areas.

The southwest portion of the study area includes a large federally-owned site, a low-profile office building and a mature low-density residential neighbourhood (Eastway Gardens). The large federally-owned site will change dramatically in the near future in keeping with the direction of the TOD Plan. Refer to Section 10.2.6d for details of the Development Concept for 530 Tremblay Road.

In general, the St. Laurent TOD study area will evolve over time into more compact, mixed-use districts. However, due to the redevelopment potential of the properties in the study area, some properties may change more readily in the shorter-term because the land is vacant or underutilized. Other properties may redevelop in the long-term because the land currently supports active businesses and/or well-established land uses.

10.4.2 ST. LAURENT PEDESTRIAN NETWORK

The Pedestrian Network Plan (Figure 47) shows existing and required sidewalks and multi-use pathways (MUP) as well as future pedestrian crossings for the St. Laurent TOD plan area. The following provides additional detail about key features of the Pedestrian Network for St. Laurent TOD plan area:

a) **Key Pedestrian Route, St. Laurent Shopping Centre**: The St. Laurent Shopping Centre is a destination in the TOD area as well as a through-route to access the St. Laurent station. As such, private and public pedestrian connections should be developed and maintained through and around the site. The Key Pedestrian Route identified on the Pedestrian Network is conceptual.

   Since the Overbrook community generates a high volume of pedestrians that travel southward to access the shopping centre and transit, routes for these pedestrians should be maintained through the Shopping Centre as well as around the site to provide safe and direct access to transit.

b) **Key Crossings, St. Laurent Shopping Centre**: Several Key Crossings are identified around the St. Laurent station. This is due to the fact that the station is not well-integrated with adjacent buildings at the ground-floor level and transit users need to cross major roadways to access the station. These Key Crossings are generally located at large transportation facilities such as St. Laurent Boulevard and

Highway on-ramps leading to the Shopping Centre. These Crossings require enhanced design to ensure safety of pedestrians accessing transit.

Figure 46: Key Crossing Sample at St. Laurent and Lemieux Street

c) **Existing Pedestrian Tunnel:** A pedestrian tunnel exists underneath Highway 417 and connects the community of Eastway Gardens to the lower level platform of the transit station and the St. Laurent Shopping Centre. During stakeholder consultation this tunnel was identified by the adjacent community as an asset. In the future, this tunnel should remain open and continue to provide direct access to transit for the community. If a transit fare-paid zone is introduced at the end of this connection, the impact to non-transit user access should be carefully assessed.

d) **New Pedestrian Overpass:** A pedestrian overpass will be developed by Public Works and Government Services Canada as part of the first phase of redevelopment of the 530 Tremblay Road site. This pedestrian overpass is a critical component towards achieving modal splits in favour of transit for the 530 Tremblay Road site. The overpass will connect into a new building on the 530 Tremblay Road site and may connect into a new building on the St. Laurent Shopping Centre site in the future.

e) **Coventry Road Sidewalk Realignment:** Coventry Road, from Belfast Road to St. Laurent Boulevard, will be widened and realigned to support the expansion of the St. Laurent Shopping Centre and the relocation of infrastructure. Sidewalks should be developed along both sides of Coventry Road upon its reconstruction.

f) **Tremblay Road Sidewalk Realignment**: The portion of Tremblay Road located on the 530 Tremblay Road site will be widened and realigned to create more frontages along the street and re-organize the development parcels within the large site. Sidewalks must be located along both sides of Tremblay Road upon its reconstruction. Tremblay Road in this area is a Priority Street with an Active Frontage area.

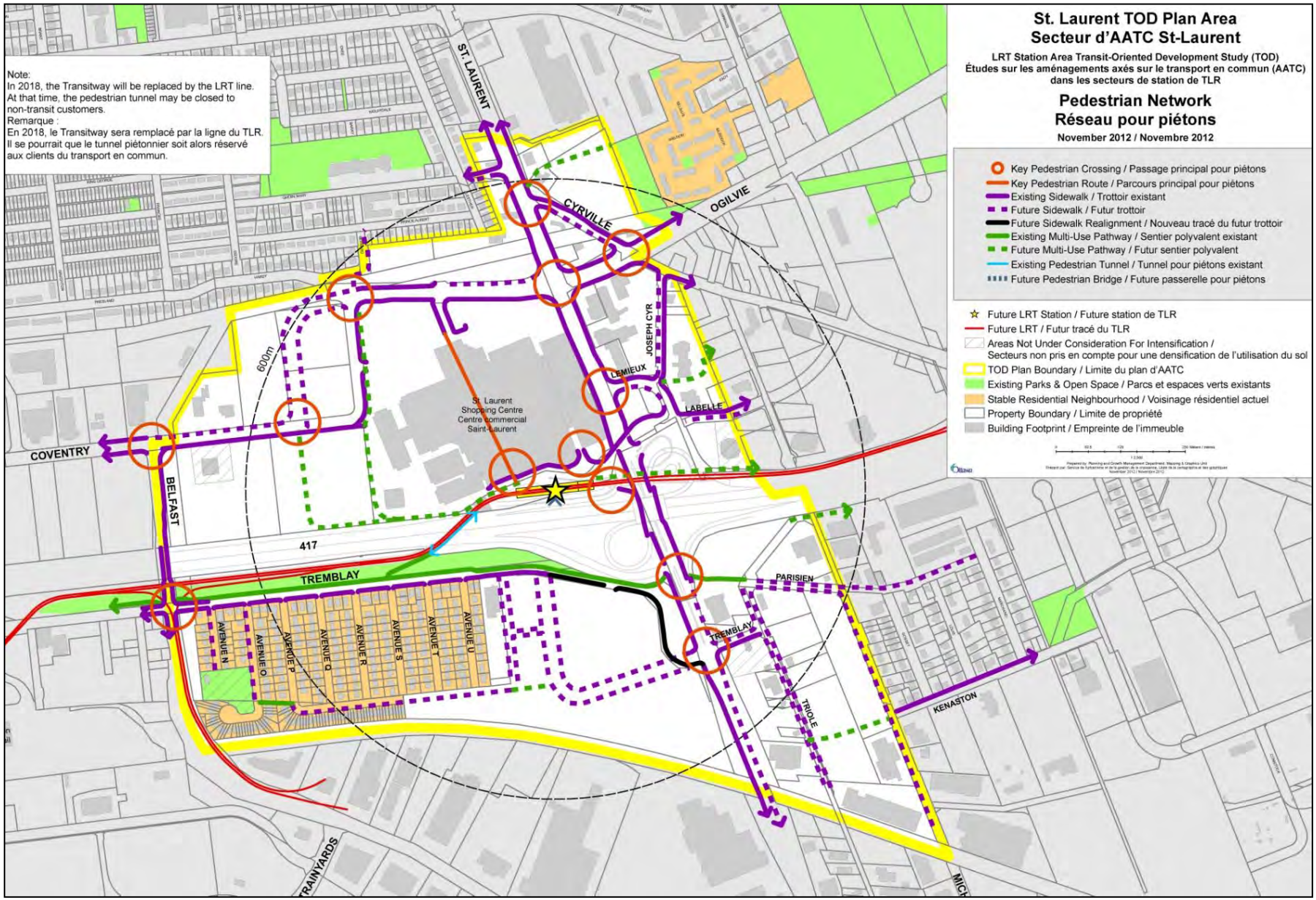

Figure 47: St. Laurent Pedestrian Network

10.4.3 ST. LAURENT BICYCLE NETWORK

The Bicycle Network Plan (Figure 48) shows existing and required cycling routes as well as future cycling crossings in the St. Laurent TOD area. The type of cycling facility is defined by different line types on the plan. The following provides additional detail about key features of the Cycling Network for St. Laurent TOD Plan area:

a) **On-Street Bicycle Lanes**: Dedicated on-street cycling lanes are envisioned for most roadways in the TOD area such as St. Laurent Boulevard, Coventry Road, Cyrville Road and Tremblay Road. For major roadways that move high volumes of traffic (e.g. St. Laurent Boulevard) these cycling lanes may be segregated to enhance the safety of users, as determined by detailed design and engineering.

b) **Hardy Avenue Portal**: A Key Crossing exists at Hardy Avenue and Coventry Road, located north of the St. Laurent Shopping Centre site. This portal connects the community of Overbrook with the TOD plan area. During stakeholder consultation this portal was identified as a high traffic area for pedestrians and cyclists. The connectivity and safety of sidewalk facilities, cycling lanes and crossing details in this area should be maintained and enhanced.

c) **Future Multi-Use Pathways, St. Laurent Shopping Centre**: A safe and direct cycling connection is required along the west side of the St. Laurent Shopping Centre site to the station. The general location of this connection may vary due to expansion plans of the Shopping Centre; however, the route should safely connect the cycling lanes along Coventry Road to the Station. The route should be well-designed, sufficiently separate cyclists from cars, and contain few breaks and crossings. Refer to Section 8.11 of this document for details regarding the design of multi-use pathways.

d) **Multi-use Pathway between St. Laurent Station and Cyrville Station**: An east-west multi-use pathway connecting St. Laurent station and Cyrville station is envisioned for the area. This multi-use pathway would run alongside the Confederation Line alignment and would facilitate the movement of cyclists between stations and different plan areas. A Key Crossing is identified at St. Laurent Boulevard for this facility. This connection would add to the pathway network that would ultimately link Confederation Line stations in the east end to downtown. Creative design and engineered solutions may be required to realize this important connection due to potential space constraints along certain areas of the proposed corridor.

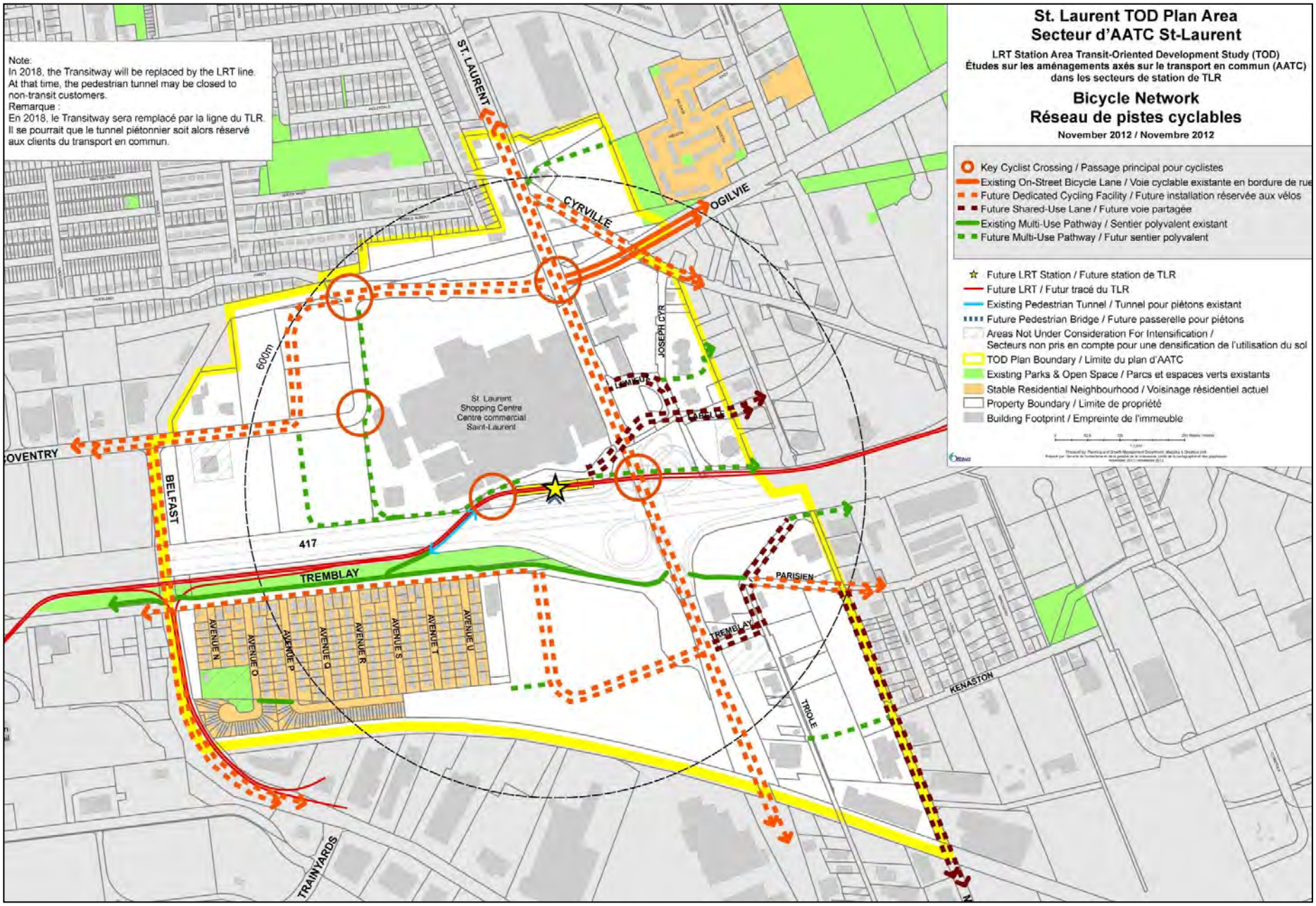

Figure 48: St. Laurent Bicycle Network

10.4.4 ST. LAURENT STREET NETWORK

The Street Network Plan (Figure 49) shows existing and future streets in the TOD Plan area. Alignments for two flexible types of connections are also shown, including: a) required future public or private roads, and b) required future public roads, private roads, aisleways or multi-use pathways. Additional details about key features of the Pedestrian Network for St. Laurent TOD Plan area include:

a) **Expansion of Highway 417:** The Ministry of Transportation is expanding Highway 417 from Nicholas Street to Ottawa Road 174. This project includes several components that will affect the street network in the St. Laurent TOD area: Highway 417 will be widened by one lane in each direction from Nicholas Street to Ottawa Road 174; a realignment of the Ottawa Road 174 to St. Laurent Boulevard off-ramp, including a new concrete barrier to preclude the movement from Highway 417 westbound to St. Laurent Boulevard; a conversion of the St. Laurent Boulevard northbound to Highway 417 eastbound on-ramp to 'Transit and Emergency Services use only'. Other components of the MTO project that may result in changes to area facilities include improvements to signage, illumination and noise attenuation.

b) **Coventry Road Realignment and Widening:** Coventry Road, from Belfast Road to St. Laurent Boulevard will be realigned and widened. The roadway realignment will result in an increase of the St. Laurent Shopping Centre site, from approximately 16 hectares to approximately 22.4 hectares. The roadway widening accommodates a right-of-way cross-section that includes four lanes for automobile traffic and bicycle lanes in both directions. The roadway realignment and widening should be coordinated with the City's plans to relocate the municipal services and utilities along Coventry Road.

c) **Tremblay Road Realignment and Widening:** A portion of Tremblay Road along the 530 Tremblay Road site will be realigned and widened. The roadway realignment will maintain the link between the existing Tremblay Road with the St. Laurent Boulevard intersection, but will also re-organize the size and orientation of development parcels within the large site.

d) **Future Public Road, Private Road, Aisleway or Multi-use Pathway, St. Laurent Shopping Centre site:** The Street Network identifies two facilities on the St. Laurent Shopping Centre site that could be developed as a public road, private road, aisleway or multi-use pathway. Only one of these connections is required. The purpose is to connect pedestrians and cyclists from the Overbrook Community (at the Hardy Avenue portal) to the St. Laurent station. Two connections are shown to reflect the future realignment of Coventry Road.

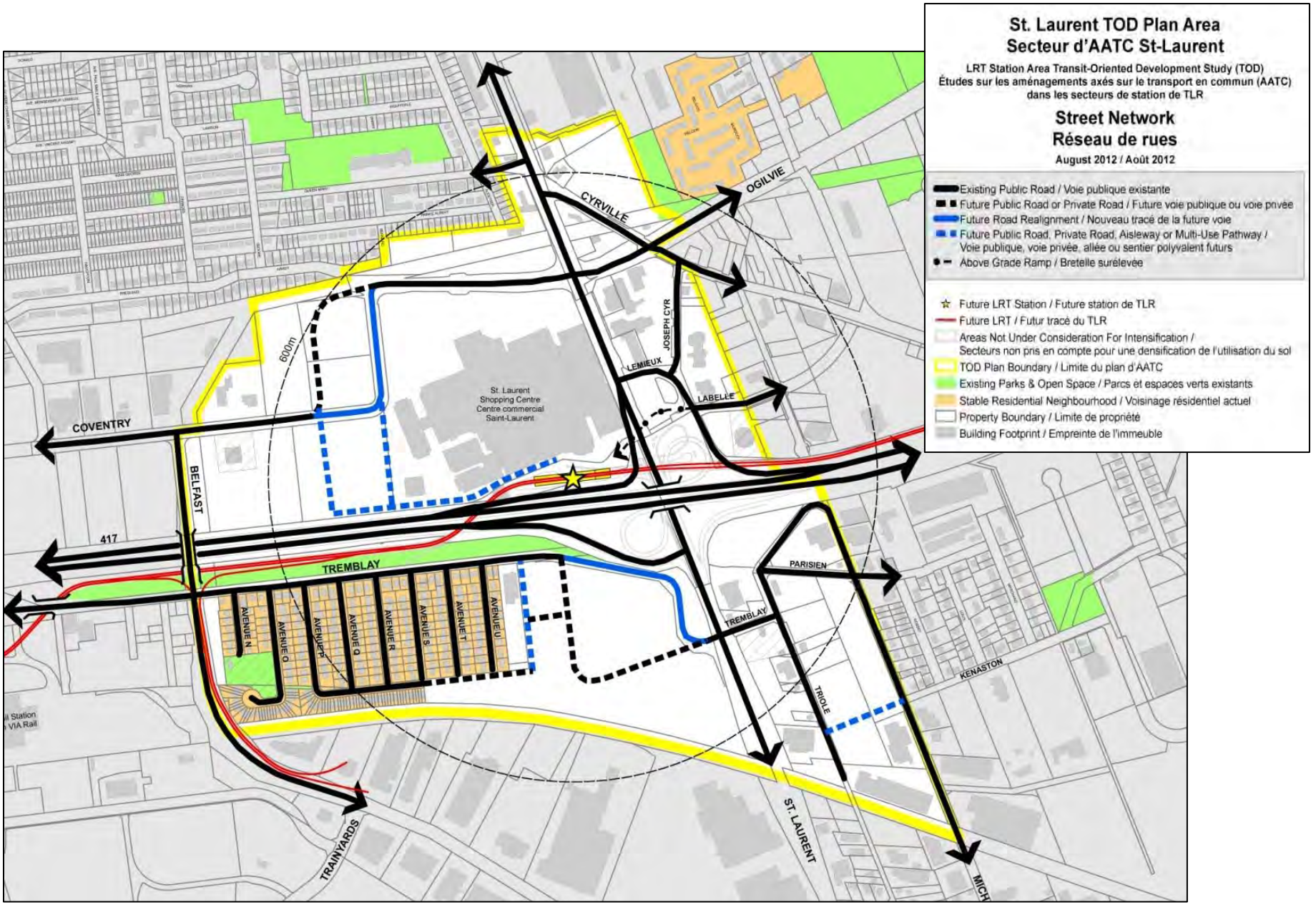

Figure 49: St. Laurent Street Network

10.4.5 ST. LAURENT GREEN PLAN

The Green Plan (Figure 50) shows existing and future parks, open spaces, playgrounds and “priority streetscape”. The process for establishing and the design intent for future parks are in Section 7.2. The Plan illustrates conceptual size and locations for private outdoor amenity areas. The following provides additional detail about key features of the Green Plan for St. Laurent TOD Plan area.

Future Park, 530 Tremblay Road: A new public open space is required at the 530 Tremblay Road site. The space should be visually and physically accessible to the surrounding communities as well as provide a sensitive transition to Eastway Gardens. The conceptual location is shown in the St. Laurent Station South-West Quadrant Station Area Plan, Appendix I.

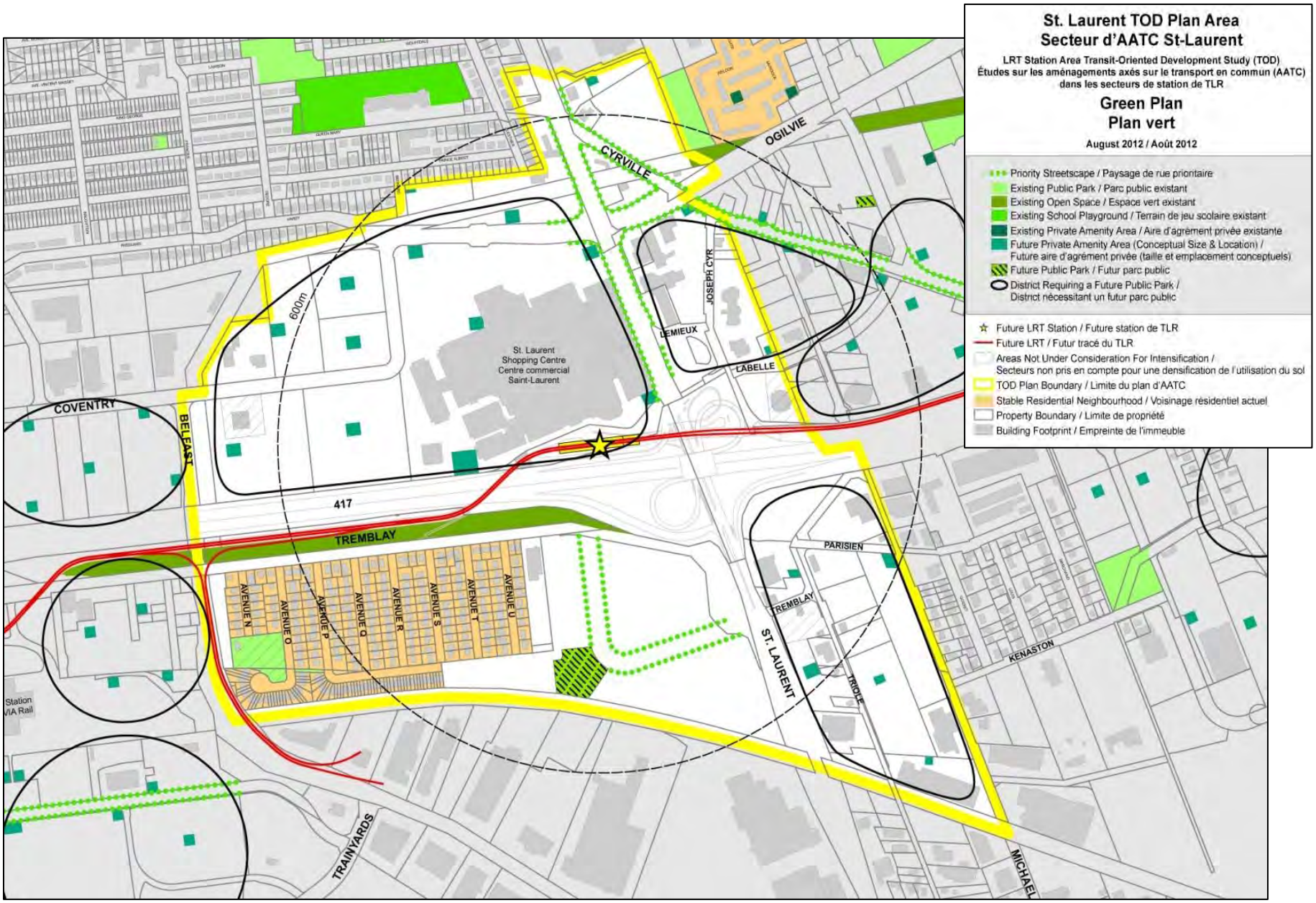

Figure 50: St. Laurent Green Plan

10.4.6 ST. LAURENT LAND USE FRAMEWORK

The Land Use Framework Plan (Figure 53) shows the land use and the general location of the "Active Frontage Street" that applies to a portion of St. Laurent Boulevard and Tremblay Road. The design requirements of Active Frontage Streets are discussed in Section 6.2. Key features of the Land Use Plan for St. Laurent TOD Plan area include:

a) **Urban Residential Areas:** Urban Residential development is envisioned for areas that are adjacent to the existing communities of Overbrook, Eastway Gardens and the small neighbourhood near the southeast quadrant of the TOD plan area.

b) **Active Frontages:** Active Frontages are identified along portions of St. Laurent Boulevard, Tremblay Road, Cyrville Road and Ogilvie Road. An Active Frontage is also identified for a portion of the St. Laurent Shopping Centre site (1200 St. Laurent Boulevard) that abuts the station. The building façade and southern edge of the St. Laurent Shopping Centre that abuts the station area should incorporate high quality urban design. Station entrances should be integrated into buildings where possible.

Figure 51: Active Frontage Street, St. Laurent Example

c) **Eastway Gardens**: Eastway Gardens is a stable residential community located in the southwest quadrant of the St. Laurent TOD area and is currently made up of over 170 single and semi-detached dwellings and over 65 townhouses. Although the neighbourhood is within the St. Laurent TOD area it is not anticipated to change dramatically. The neighbourhood is intended to remain low-density and low-rise and, as such, it will not be rezoned as part of the St. Laurent TOD plan. Mixed use development is not envisioned for Eastway Gardens and spot re-zonings to permit a range of land uses or mid-to high-rise buildings will be generally discouraged within the neighbourhood.

Notwithstanding the above, one area of possible redevelopment to higher residential densities in Eastway Gardens is along the Tremblay Road frontage. Development proposals in this location may be considered if accompanied by a planning rationale and urban design analysis for the entire Tremblay Frontage given the context of the existing neighbourhood.

The TOD Servicing Overview report indicates that Tremblay Road should be widened by two lanes within the next 20 years to accommodate growth in the area.

d) **530 Tremblay Road**: 530 Tremblay Road is approximately 12 hectares and is located in the southwest quadrant of the St. Laurent TOD area. The site is currently underdeveloped and should change dramatically in the near future as Public Works and Government Services Canada (PWGSC) have submitted a Development Concept for 530 Tremblay Road that is consistent with the St. Laurent TOD Plan.

The 530 Tremblay Road site and immediate area is envisioned as a mixed-use, compact, transit-supportive development with a range of residential, office and retail uses. The plan proposes an infrastructure pattern for the site that creates a newly designed Tremblay Road and pedestrian connections, subdividing the large parcel into multiple sites for various developments. For Phase 1 of the development, PWGSC assumes a modal split of 45% to

55% in favour of transit, cycling and walking. The ultimate build-out scenario, which may occur in 20+ years, assumes a modal split upwards of 75% for the site. Refer to Appendix I to review the Development Concept.

A critical component to the success of the 530 Tremblay Road site and meeting its ambitious modal split targets is the development of a pedestrian linkage over Highway 417 to connect the site to the station. This pedestrian connection shall be built as part of Phase 1. A parking management strategy is also required, and should form part of any redevelopment proposal.

e) **St. Laurent Shopping Centre:** The St. Laurent Shopping Centre is over 16 hectares and is located in the northwest quadrant of the St. Laurent TOD area. It currently accommodates a two storey enclosed shopping mall, a free standing office building, multi level parking structure and surface parking areas. The property also includes several smaller sites located north and west of Coventry Road. The Shopping Centre site represents an important property in the TOD area given its proximity to the future station, which abuts the Shopping Centre to the south.

Aside from renovations and alterations to existing buildings and potential retail expansions and pad development in the near future, the Shopping Centre owners envision a more mixed-use site in the long-term. A multi-phased plan should show new uses being introduced to the site, which may include the development of free standing office buildings or towers. A master site plan is required for the shopping centre site if the use of TD zoning is triggered and multi-phased development is proposed.

f) **Existing Light Industrial Uses:** The majority of existing light industrial uses are concentrated in the southeast quadrant of the St. Laurent TOD area. These properties may redevelop over time to transit-supportive land uses within a compact built form. Height transitions from the existing low-density neighbourhood along Michael Street should be respected.

Figure 52: Height Transition along Michael Street

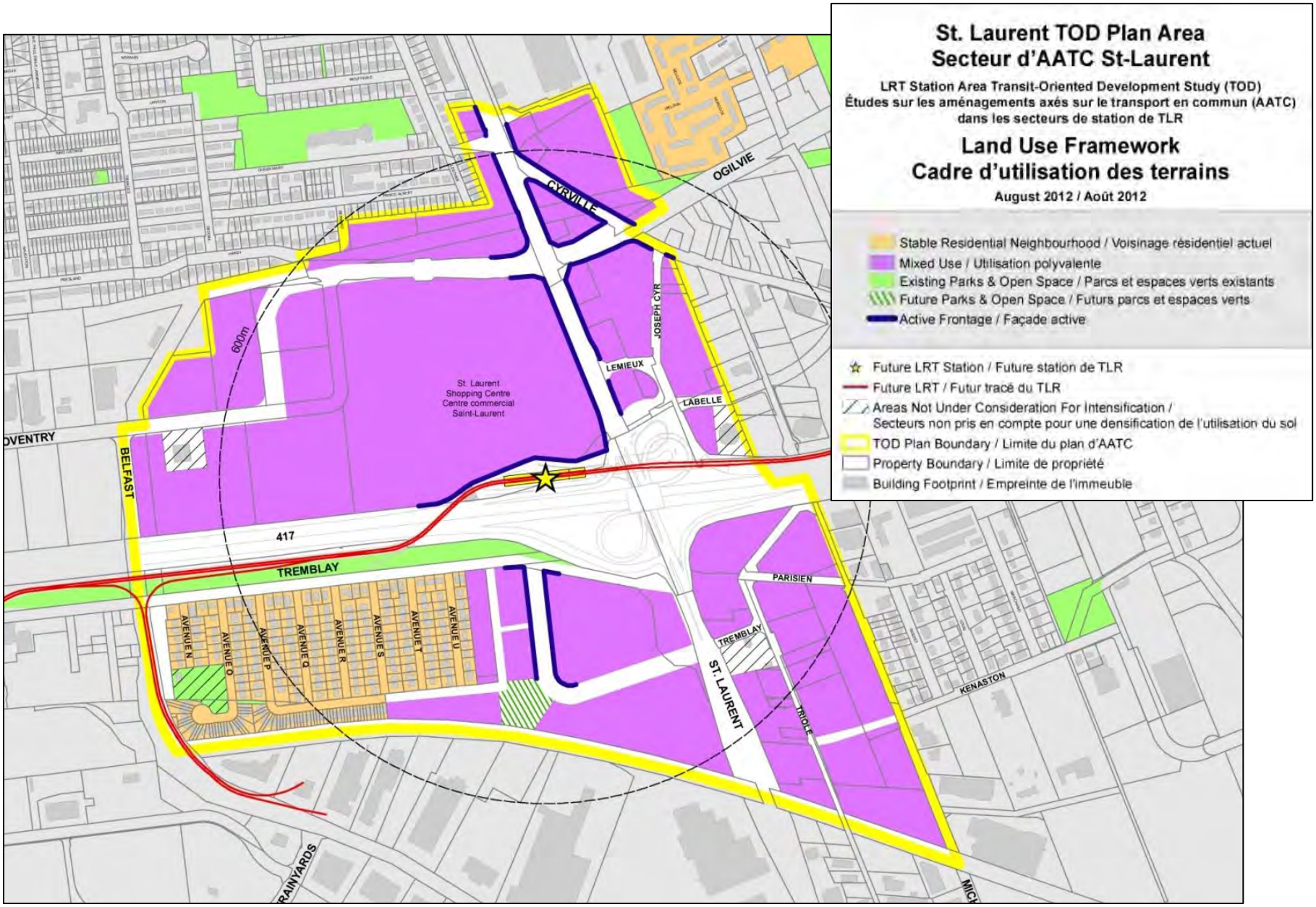

Figure 53: St. Laurent Land Use Framework

10.4.7 ST. LAURENT BUILDING HEIGHTS AND DENSITY TARGETS

The St. Laurent TOD Plan area is approximately 120 hectares. After excluding transportation and utility corridors, approximately 60% of the Plan area (roughly 72 hectares) is estimated to be available for future development or redevelopment to transit-supportive densities. Of the net area for the St. Laurent TOD Plan, approximately 30 hectares of vacant, infill and underdeveloped land (41% of the total land) is available for development in the shorter-term. The projected increase of 12,000 people living and/or working in the TOD Plan area over the next 20 years can be accommodated within the shorter-term land area. The balance of land (approximately 42 hectares) in the TOD area accommodates existing buildings at generally lower densities that would likely require demolition and reconstruction in order to accommodate uses at transit-supportive densities. These areas are considered to be longer-term redevelopment areas.

Figures 55 and 56 demonstrate one potential development scenario that includes approximately 183 existing single- and semi-detached houses, 472 townhomes, 4,800 apartment units and 674,000 square meters of non-residential building area. This assumed land use mix is expected to vary since TOD zoning provides flexibility for the future market to guide decisions on land use. Building heights range from four to 25 storeys. Estimating long-term TOD densities, all properties in the total net area for the St. Laurent TOD Plan area (72 ha) were assumed to be developed or redeveloped.

The long-term minimum density under TOD zoning is estimated to be approximately 250 jobs and people per gross hectare. The estimated maximum density is approximately 365 jobs and people per gross hectare.

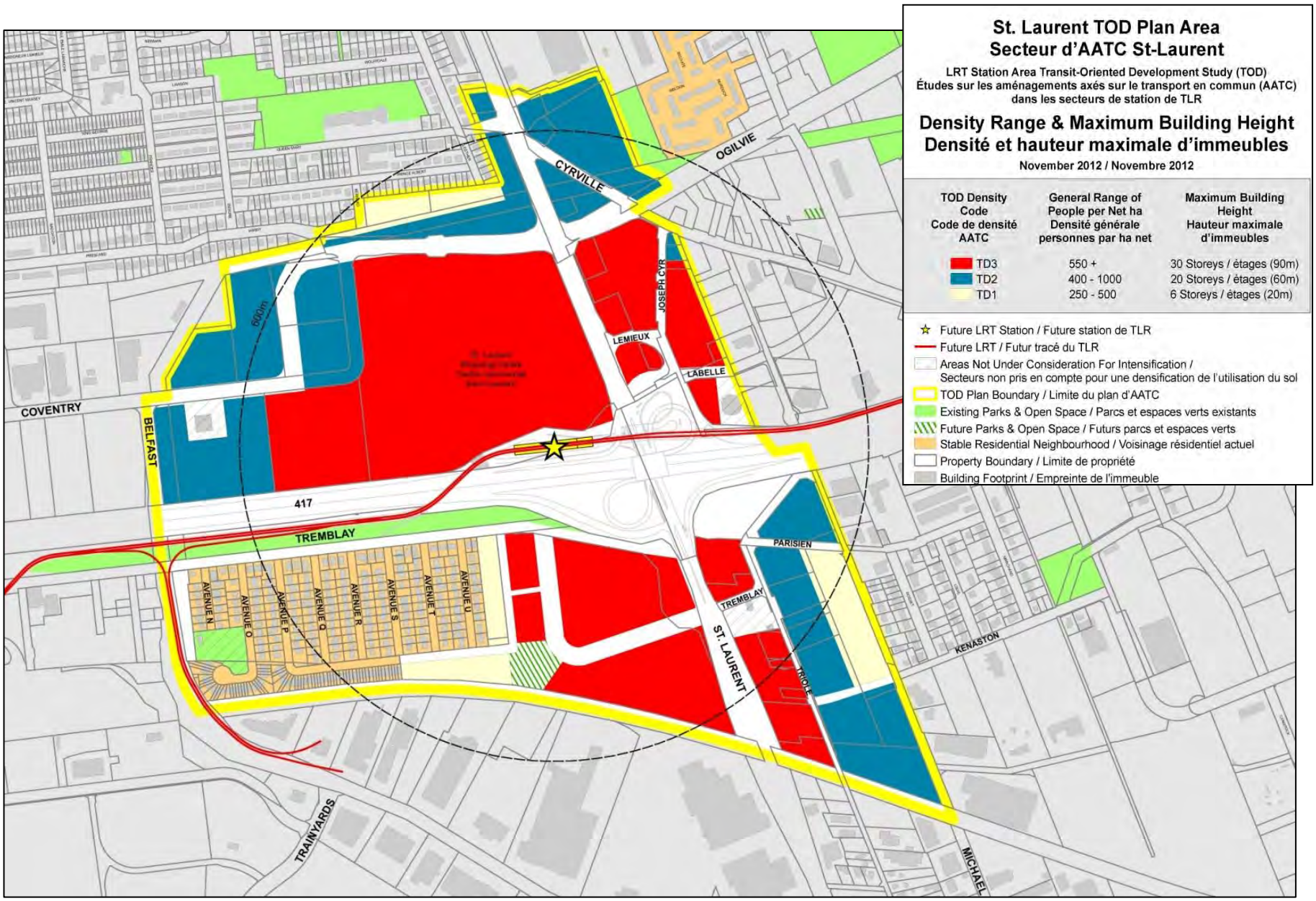

Figure 54: St. Laurent Density Range and Maximum Building Height

Figure 55: Image of St. Laurent at transit-supportive density, on the north side looking south

Figure 56: Image of St. Laurent at transit-supportive density, on the south side looking north

10.5 CYRVILLE TRANSIT-ORIENTED DEVELOPMENT PLAN AREA

The Cyrville TOD Plan area is approximately 99 ha. The study area is generally bounded by the Aviation Parkway and Highway 417 to the east, Algoma Road to the south, Michael Street to the west, and Ogilvie Road to the north. Its westerly boundary is shared with the easterly boundary of the St. Laurent TOD Plan Area. The study area is divided into two quadrants by Highway 417. The study area is centred around Cyrville Road, which runs diagonally through the study area from northwest to southeast, giving it a somewhat distinct, obtuse shape. The future light rail station will replace the existing Bus Rapid Transit (BRT) station, which is situated at grade, but is underneath the Cyrville Road overpass at Highway 417.

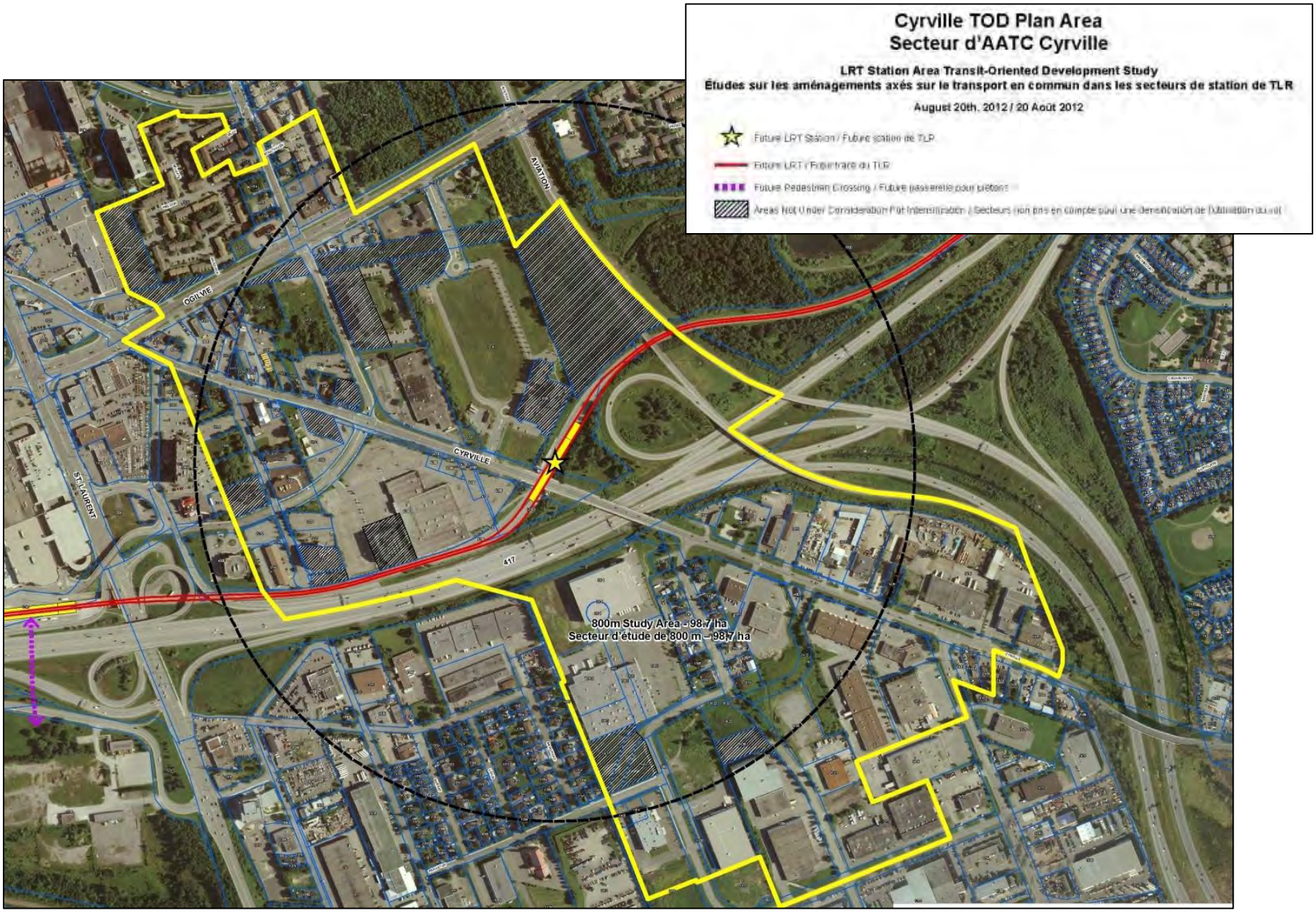

Figure 57: Cyrville TOD Plan Area

10.5.1 CYRVILLE EXISTING LAND USE CONTEXT

There are approximately 110 properties located within the Cyrville study area that vary in size from large sites with industrial and residential uses, to smaller sites with single detached homes and personal service uses. There is a clear distinction between the types of uses in the two quadrants north and south of Highway 417, with predominantly light industrial uses located south of the highway, and a mix of office, retail, personal service and residential uses north of the highway.

In the north half of the study area, retail, personal service, office, restaurant and residential uses occupy both small and large sites. A large residential site of multiple attached dwellings is located on the north side of Ogilvie Road. One of the last large vacant sites in the north half of the study area is in the process of being approved for 82 multiple attached dwellings at the corner of Ogilvie Road and Cummings Avenue. Across from this site, on the east side of Cummings Avenue is an older, eight storey apartment building. Assembly of seven individual sites is occurring on the east side of Cyrville Road for a proposed car dealership. Three, five and six storey apartment buildings occupy another site located east of Cyrville Road, immediately north of the existing BRT station. One portion of the remainder of this 7.8 ha site is currently under development with 176 stacked dwellings.

To the west of this site is another large site which currently contains two office buildings of four and five storeys, and one, single storey office building. Immediately north is a new four storey office building with frontage on the west side of Cyrville Road. A seven storey hotel is located at the most western boundary of the study area. The aforementioned apartment, office and hotel buildings comprise the tallest buildings currently located within the study area.

In the south half of the study area, only Labrie Street is occupied with some remaining detached dwellings on some of the smallest sites within the study area. A large portion of these properties have changed over the years from purely residential to a mix of uses, ranging from automotive type uses, contractors offices, plumbing services and building supplies. All of these properties are currently zoned light industrial.

A large number of light industrial uses with outdoor storage dominate the area between Cyrville Road and Highway 417, with the majority of buildings two storeys or less in height. Retail, automobile dealerships and automotive repair are quite numerous along both the east and west sides of Cyrville Road. A few restaurants, some newer office buildings, personal service businesses, warehousing and distribution centres and two large printing plants are located in the area west of Cyrville Road, with a four storey building being the tallest in this quadrant. Very few sites remain vacant and much of the area is built at very low densities.

The southwest edge of the Cyrville TOD study area boundary is adjacent to a stable, low-density, low-profile residential neighbourhood. This mature neighbourhood includes approximately 70 dwellings and is currently surrounded by light industrial uses.

10.5.2 CYRVILLE PEDESTRIAN NETWORK

The Pedestrian Network Plan (Figure 58) shows existing and required sidewalks and multi-use pathways as well as future pedestrian crossings for the Cyrville TOD Plan area. Sidewalks are shown on both sides of public streets indicating the requirement for two sidewalks on every street in the future. The exception to this requirement is permitted if a MUP is constructed in place of the sidewalk.

Key pedestrian crossing points of roadways are highlighted by red circles on the plan. These locations require special design consideration to ensure safe and expedient crossing movements for pedestrians. These include wider and textured crossing routes, signalization and consideration of longer walk signal times.

Pedestrian over/underpass facility and approach route designs must embody *Crime Prevention through Environmental Design* principles.

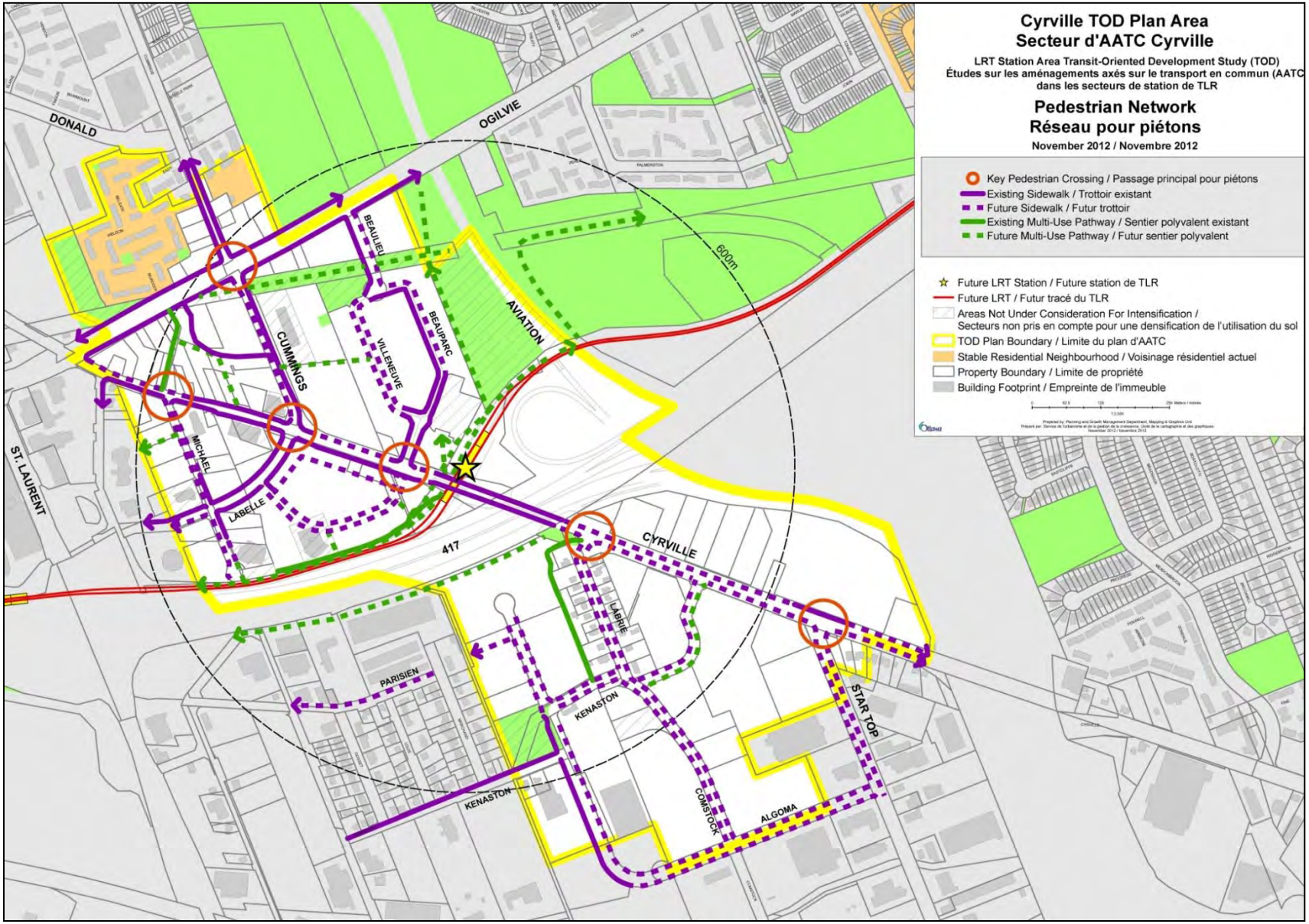

Figure 58: Cyrville Pedestrian Network

Figure 59: Office Parkette Concept

10.5.3 CYRVILLE BICYCLE NETWORK

The Bicycle Network Plan (Figure 60) shows existing and required cycling routes as well as future cycling crossing points in the Cyrville TOD plan area. The type of cycling facility is defined by different line types on the plan, and the key crossing are highlighted by red circles. These key crossing points of roadways require special design consideration to ensure safe bicycle circulation and turning movement. These include accommodation for priority or advanced signalization for cyclists.

On-street bicycle lanes are proposed for Cyrville Road, with shared lanes proposed for Cummings Avenue and Ogilvie Road. A future multi-use pathway is proposed along the north side of the Confederation Line alignment, to connect the two stations at Cyrville and St. Laurent. Cycling over/underpass facility and approach route designs must embody *Crime Prevention through Environmental Design* principles and accommodate bicycle access in design.

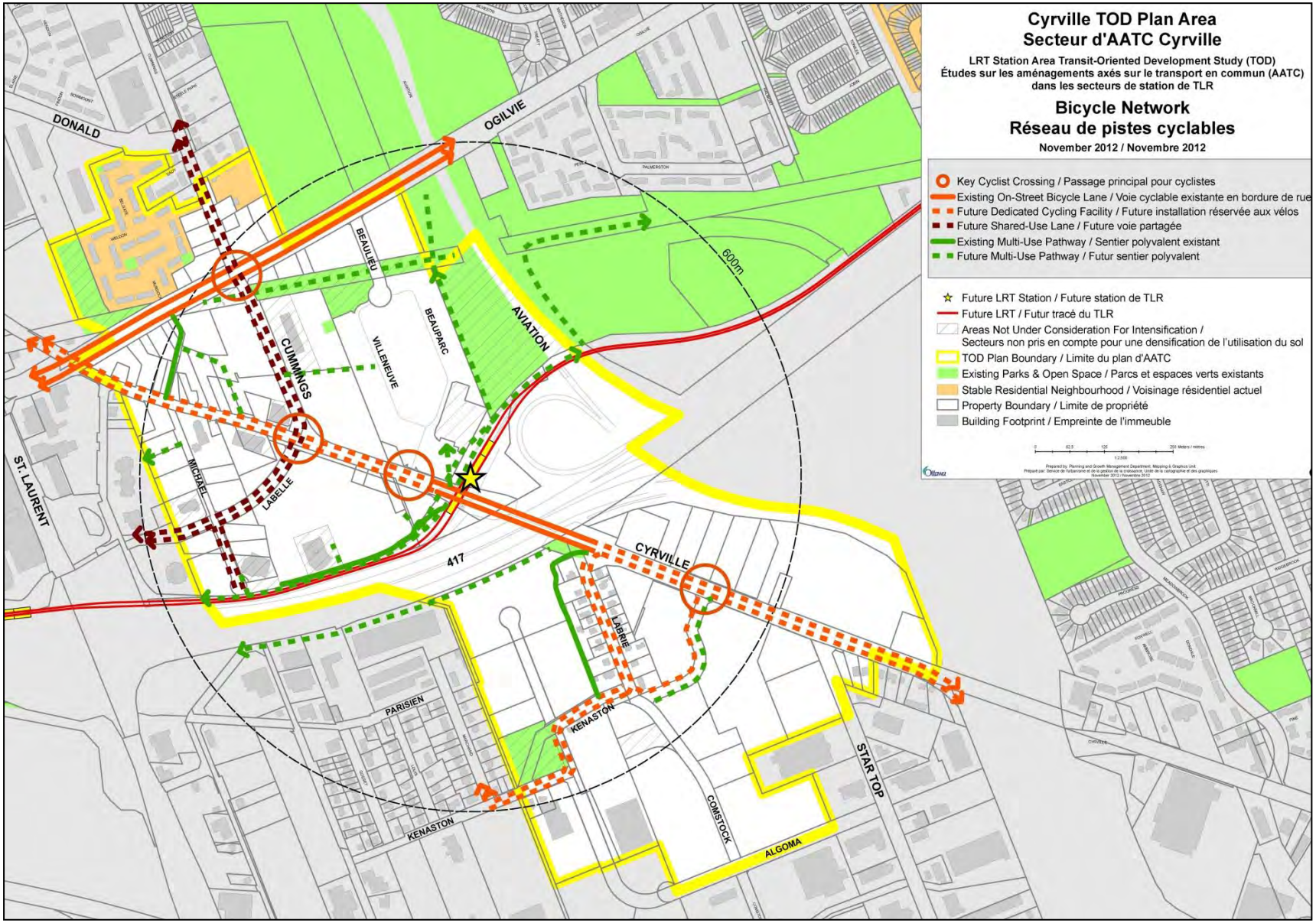

Figure 60: Cyrville Bicycle Network

10.5.4 CYRVILLE STREET NETWORK

The Street Network Plan (Figure 61) shows existing and future streets in the TOD Plan area. Alignments for two flexible types of connections are also shown, including: a) required future public or private roads, and b) required future public roads, private roads, aisle ways or multi-use pathways. The primary purpose of these various connections is to convey pedestrians and cyclists on direct and safe routes to/from the station. One street widening is proposed for Cyrville Road, north of Cummings Avenue to Ogilvie Road within the limits of the plan area boundary (but will extend beyond the plan area to St. Laurent Boulevard.) The intent and general design requirements of these connections are set out in Section 5.3.

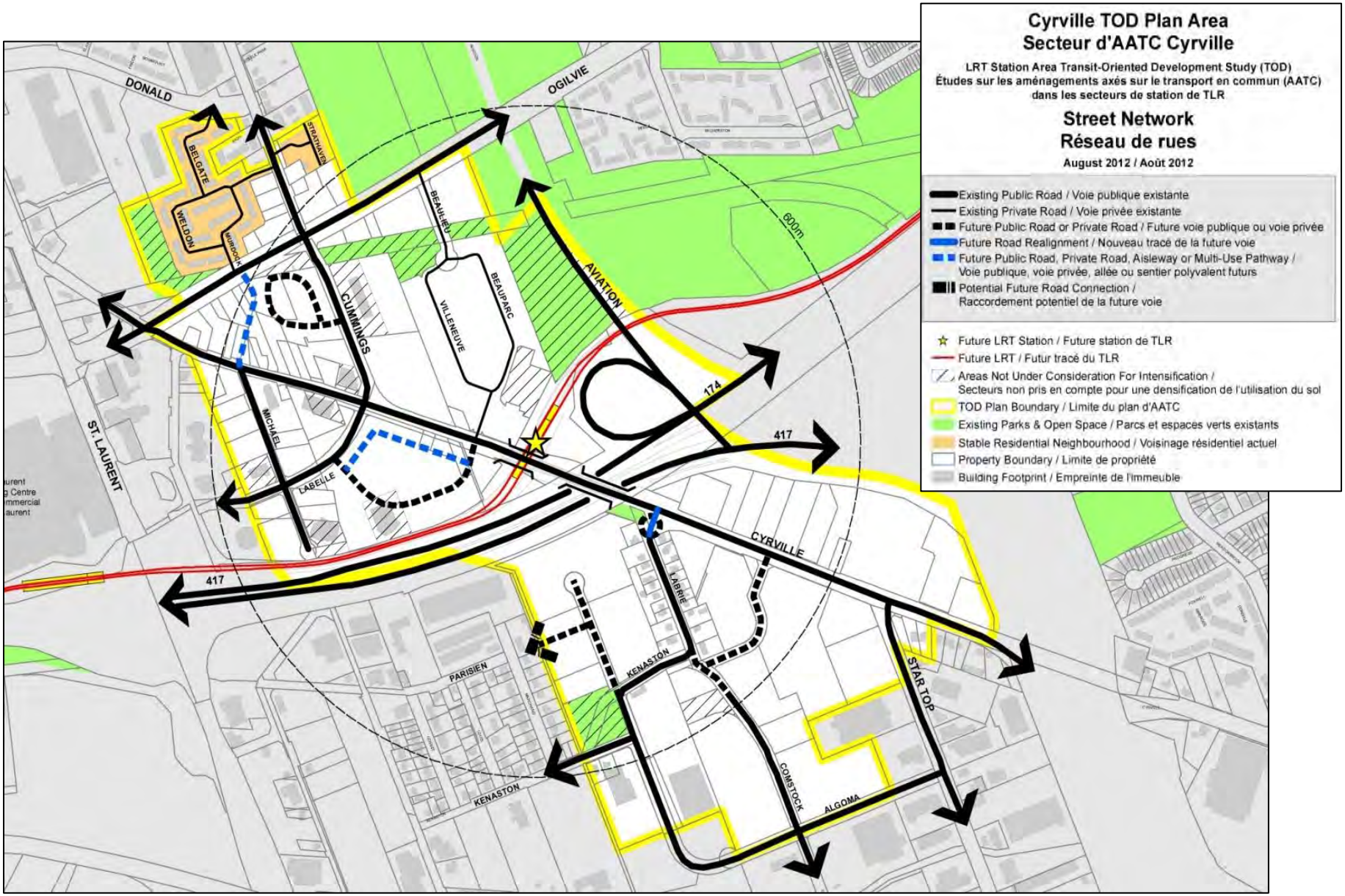

Figure 61: Cyrville Street Network

10.5.5 CYRVILLE GREEN PLAN

The Green Plan (Figure 62) shows existing and future parks, open spaces, playgrounds and 'priority streetscapes' for the Cyrville TOD plan area. The location of the priority streetscape coincides with the Active Frontage Street (refer to Section 6.2 and 7.1). The purpose of identifying a priority streetscape is to specify where additional streetscape tree planting is required, reinforcing the enhanced nature of Active Street design.

Plan districts requiring a future public park are shown on this Plan. The intent and process for establishing the location of a public park in these districts are set out in Section 7.2. The Plan illustrates conceptual size and locations for private outdoor amenity areas. The implementing TOD zone requires a minimum of two per cent of the land area of the project to be constructed as outdoor communal amenity space. The final size, location and design will be decided at the time of development approval.

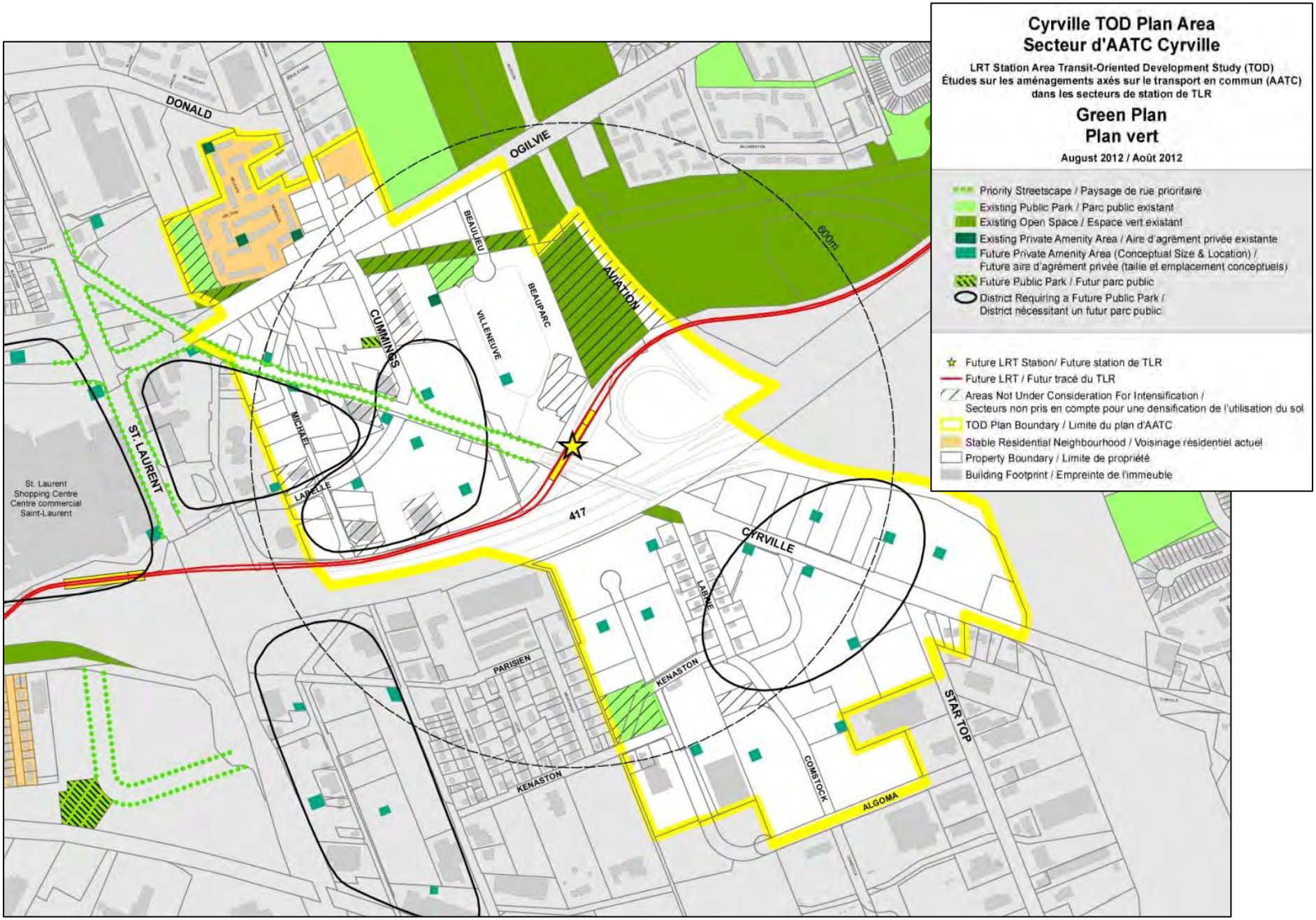

Figure 62: Cyrville Green Plan

10.5.6 CYRVILLE LAND USE FRAMEWORK

With some exception, the Cyrville TOD study area will evolve over time into a more compact, dense, mixed-use urban precinct. However, due to the redevelopment potential of the properties in the study area, some properties may redevelop in the shorter-term because the land is vacant or underutilized, and other properties may not develop until well into the longer-term because the land currently supports active businesses and/or well-established land uses.

Hence, the Land Use Framework Plan (Figure 65) provides a graphic representation of land use locations and shows the general location of the "Active Frontage Street" that applies to a portion of Cyrville Road. The design requirements of Active Frontage Streets are discussed in Section 6.2.

Figure 63: Image of Cyrville Road looking north

Figure 64: Image of Cyrville Road – streetscape showing comfortable street environment with wider sidewalks and trees.

The following provides additional detail about key features of the Land Use Plan for the Cyrville TOD plan area:

a) "Place des Gouverneurs" is identified as an *Urban Residential Area*. It is the site closest to the future station. Future plans for this roughly 7.0 hectare site include several high-rise apartment buildings, stacked dwellings, and a mixed-use residential apartment building with ground floor commercial uses. A private recreation complex is also proposed.

b) The "Queensway Corporate Campus" is identified as a *Mixed Use Area*. It is largely under developed. Two existing four and five storey office buildings will be incorporated in the future redevelopment of the site, which will be comprised of a mix of office, residential, hotel and retail uses. The existing one storey office building will be demolished.

c) Other *Urban Residential Areas* are envisioned for areas that are adjacent to existing low-density and low profile residential uses. This includes sites that are adjacent to an existing development of multiple attached dwellings abutting the north side of Ogilvie Road, and to the small residential neighbourhood near the southwest boundary of the TOD plan area.

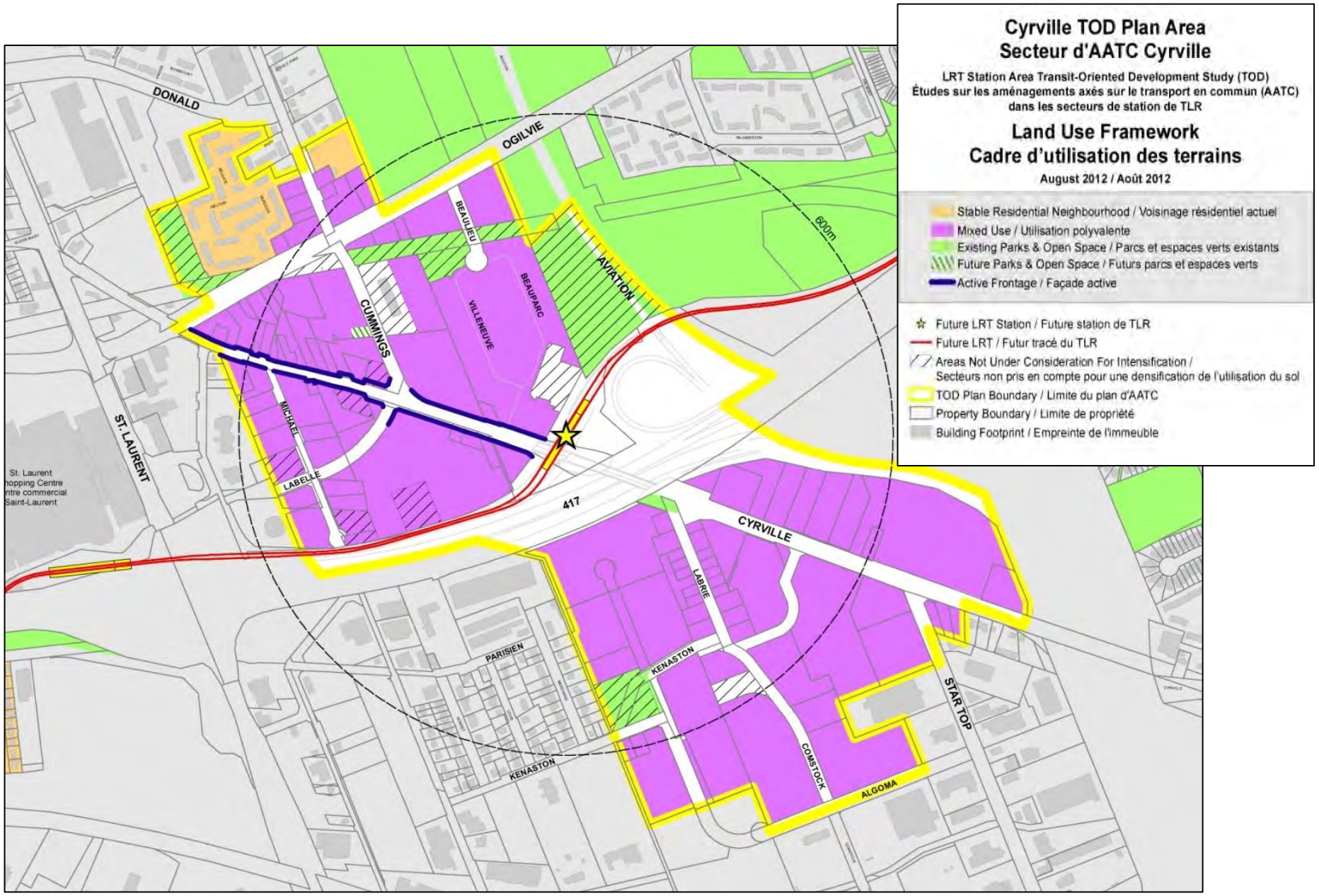

Figure 65: Cyrville Land Use Framework

Figure 66: Image of Cyrville Road at Cummings Ave and Labelle St – view of public plaza, looking east

10.5.7 CYRVILLE: BUILDING HEIGHTS AND DENSITY TARGETS

The Cyrville TOD Plan area is approximately 99 hectares. After excluding transportation and utility corridors, 64% of the Plan area (approximately 57 hectares) is estimated to be available for future development capable of achieving transit-supportive densities. Of the net area for the Cyrville TOD Plan, approximately 18 hectares of vacant, infill and underdeveloped land (32% of the total land available for development) is available in the shorter-term. The projected increase of 6,200 people living and/or working in the TOD Plan area over the next 20 years can be accommodated within the shorter-term development area. The balance of land (39 hectares) in the TOD area accommodates existing buildings at generally lower densities that would likely require demolition and reconstruction in order to accommodate uses at transit-supportive densities. These areas are considered to be longer-term redevelopment areas.

Figures 68 and 69 demonstrate one potential development scenario that includes approximately 147 multiple attached dwellings; 945 stacked dwellings; 5,390 apartment dwellings and 612,000 square meters of non-residential building area. This assumed land use mix is expected to vary since TOD zoning provides flexibility for the future market to guide decisions on land use. Building heights range from 2-30 storeys. For estimating long-term TOD densities, all properties in the total net area for the Cyrville TOD Plan area (57 ha) were assumed to be developed or redeveloped.

The long-term minimum density under TOD zoning is estimated to be approximately 200 jobs and people per gross hectare. The estimated maximum density is approximately 410 jobs and people per gross hectare.

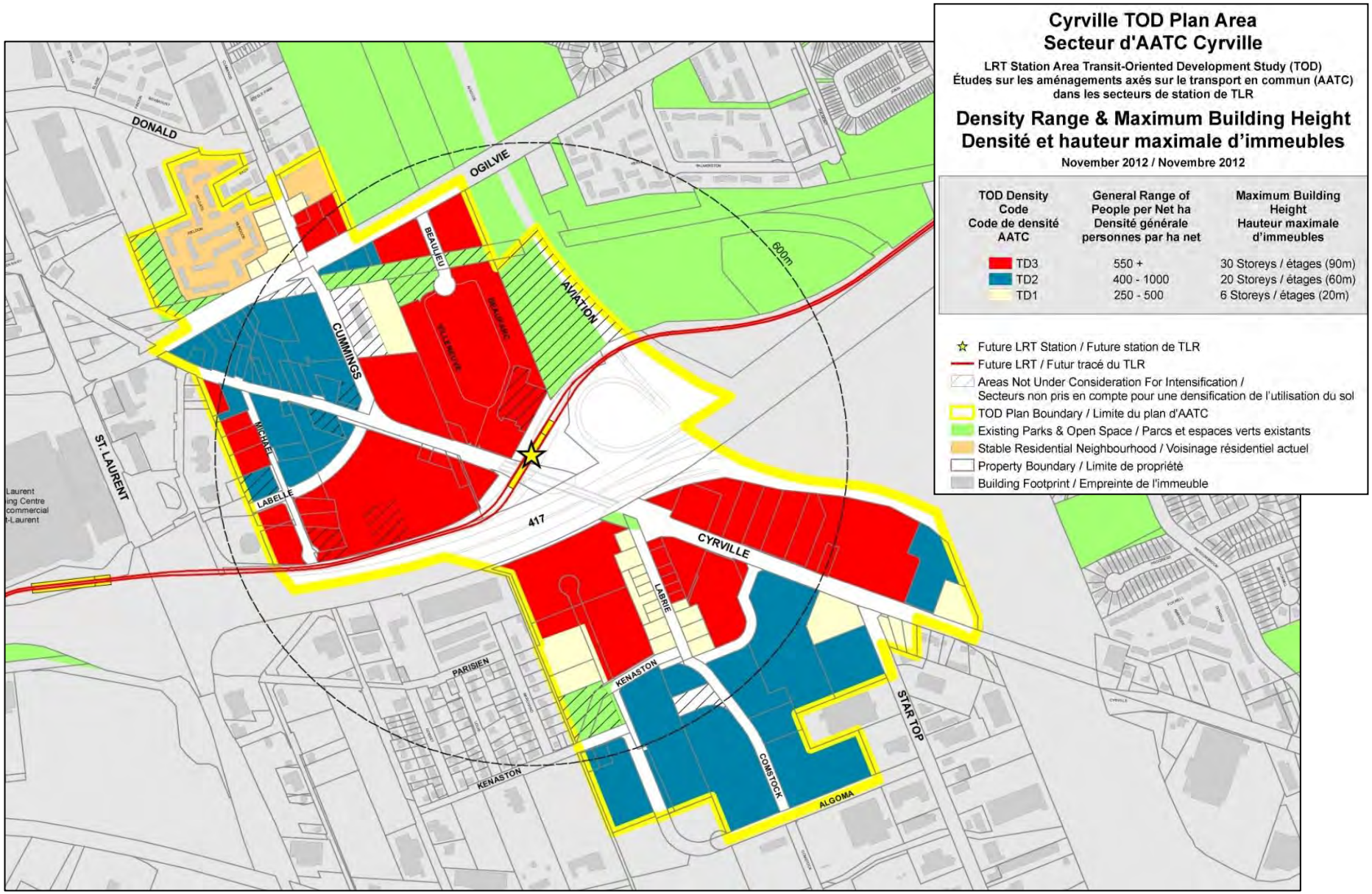

Figure 67: Cyrville Density Range and Maximum Building Height

Figure 68: Image of Cyrville on the south side, looking northwest

Figure 69: Image of Cyrville on the north side, looking southeast

10.6 BLAIR TRANSIT-ORIENTED DEVELOPMENT PLAN AREA

The Blair TOD study area is located about eight kilometres east of downtown Ottawa or approximately halfway between downtown and Orleans Town Centre. It is anchored by the future Blair light rail transit station, which will replace the existing BRT station near the meeting point of Highway 174 and Blair Road. This station is the interim eastern terminus of the Confederation Line and a major transfer point between light rail trains and buses.

The study area is 119 hectares in size, and includes properties within an 800 metre walk from the station platform. It is divided into three sectors: the northwest sector is located north of Highway 174 and west of Blair Road; the northeast sector is east of Blair Road and north of Highway 174 and the south sector is located south of Highway 174.

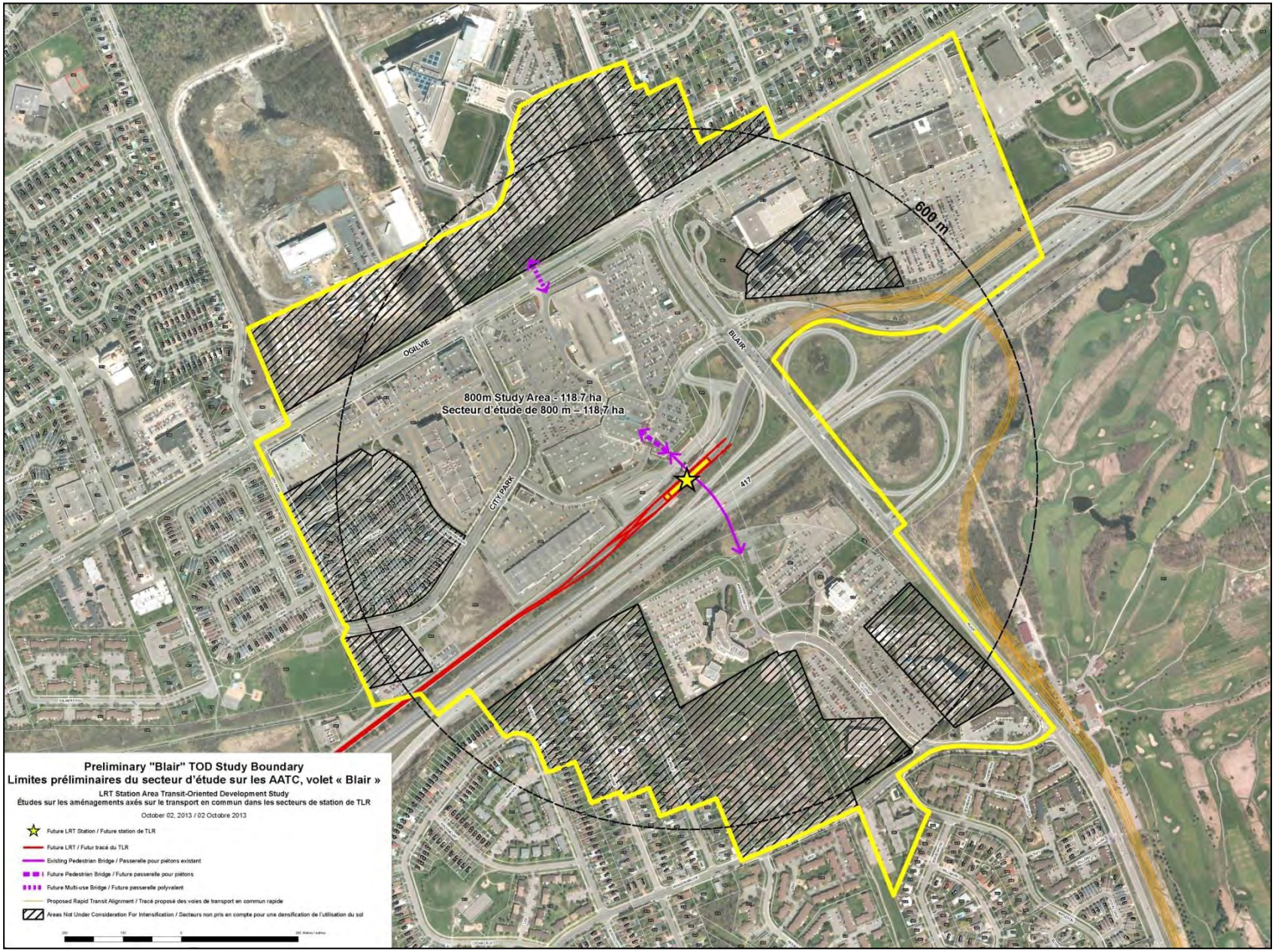

Figure 70: Blair TOD Plan Area

10.6.1 BLAIR EXISTING LAND USE CONTEXT

The Blair TOD study area is comprised of a mixture of 1960s to current day retail, office, and residential development. It benefits from convenient transportation access and proximity to the Greenbelt, yet its character is defined by auto-oriented retail and office buildings separated by wide streets and surface parking lots. The study area also includes parts of established residential communities, with Pineview to the south and south-west and Cardinal Heights to the north-east. The area acts as a neighbourhood hub for shopping and transit, and complements other nearby community amenities such as the Trillium Recreation Complex, Earl Armstrong Arena, North Gloucester Branch Public Library, and Gloucester High School.

The northwest sector of the study area is dominated by large retail facilities such as the Gloucester Centre shopping mall and SilverCity cinemas. This sector is the most diverse of the three, and also includes smaller strip retail, restaurants, a recently constructed five storey office building, and a low-rise medium density residential neighbourhood at its western edge. There is also a large and growing federal office campus north of Ogilvie Road and west of Blair Road. The federal employment area is expected to have a heavy influence on transit ridership at Blair Station and significantly increase north-south pedestrian movement through the study area. The northwest sector in general benefits from the closest proximity to Blair Station, yet faces pedestrian connectivity challenges caused by large blocks and curvilinear streets.

The northeast sector, to the east of Blair Road, shares much of the same type of character and land uses. However, it also includes a campus-style office park containing four 7-8 storey office buildings. This area contains large lots with limited north-south connections, and therefore must rely on east-west mobility along Ogilvie Road. Note that the only north-south street, Blair Place, has been identified as a street name anomaly and could eventually be assigned a new street name in order to avoid potential confusion with Blair Road. From the northeast sector, pedestrian and cycling access to Blair Station currently depends on two intersections: Blair Road at Ogilvie Road and Blair Road at the Transitway, as well as a multi-use path that runs parallel to the Transitway under Blair Road.

The south sector differs somewhat in character, with large floorplate office buildings interspersed along Telesat Court, and some strip retail and restaurants at the corner of Meadowbrook Road and Blair Road. There is also one low-rise residential apartment building at the corner of Meadowbrook Road and Appleton Drive. To the west of the hydro corridor, still within the study boundary is a portion of the Pineview residential community. The south sector holds a high concentration of jobs in four office buildings that provide views to the surrounding green space. However, the combination of the dead-end street, vast surface parking lots, and highly separated land uses results in an urban environment that relies highly on a small cluster of retail activity and on the pedestrian bridge linking this area to Blair Station and the Gloucester Centre shopping mall.

As a whole, the study area contains an assortment of retail, office, and residential land uses within walking distance of Blair Station. Until now, the area has generally been planned around automobile infrastructure, making it less convenient or appealing to arrive by foot, bicycle or public transit than by automobile. This arrangement also contributes to the lack of quality public spaces, whereby a large portion of the study area is designed as a transitory place of shopping or office work instead of spaces that are inviting for people to linger and call home. Improving this situation will require new connections, new safe routes for pedestrians and cyclists, and new development that supports transit ridership and a more pleasant public realm.

10.6.2 BLAIR PEDESTRIAN NETWORK

Despite the barriers of major roadways, this area already has some good quality pedestrian facilities, due to the multi-use paths that follow hydro corridors and a former rail corridor, as well as a pedestrian bridge over Highway 174. The proposed pedestrian network (Figure 72) builds on this existing network by adding sidewalks and paths to complete connections, shorten pedestrian routes and improve safety throughout the study area, with an emphasis on guiding people to and from Blair Station. As properties are re-developed, this plan will also guide new internal circulation routes through some of the larger private properties.

Important features of the Blair Pedestrian Network include:

a) Key Pedestrian Crossings at most existing or future intersections on the block enclosed by Blair Station, City Park Drive, Ogilvie Road, and Blair Road (Figure 71);
b) New internal circulation through properties in the northwest and northeast sectors to break up large blocks and provide more direct pedestrian routes;
c) A new east-west multi-use pathway in the northwest sector that extends the existing path that ends at City Centre Park, and follows the southern edge of 1900, 2000, and 2280 City Park Drive to connect to Blair Station;
d) A new east-west multi-use pathway linking the northwest and northeast sectors, from City Park Drive running south of Gloucester Centre, connecting to Blair Station, across Blair Road, south of Park of Commerce office buildings parallel to the Transitway, and along the south edge of the Shoppers City East property;
e) A new north-south multi-use path in the northeast sector just east of the Shoppers City East site on City property connecting the new east-west path along the Transitway to Ogilvie Road to provide a shorter route between Blair Station and institutional facilities on Ogilvie Road just east of the study area, such as Gloucester High School and the North Gloucester Branch Public Library;
f) A new east-west multi-use path in the south sector, roughly from the south approach to the pedestrian bridge linking to Blair Road, across 1350 Blair Road and/or 1591 or 1595 Telesat Court;
g) The potential for a pedestrian bridge over Ogilvie Road, connecting the federal office campus to the Gloucester Centre property, pending all agreements and financing from the two landowners;
h) A new pedestrian bridge linking Blair Station directly to the Gloucester Centre Shopping mall.

Figure 71: Example of Key Pedestrian / Cyclist Crossing

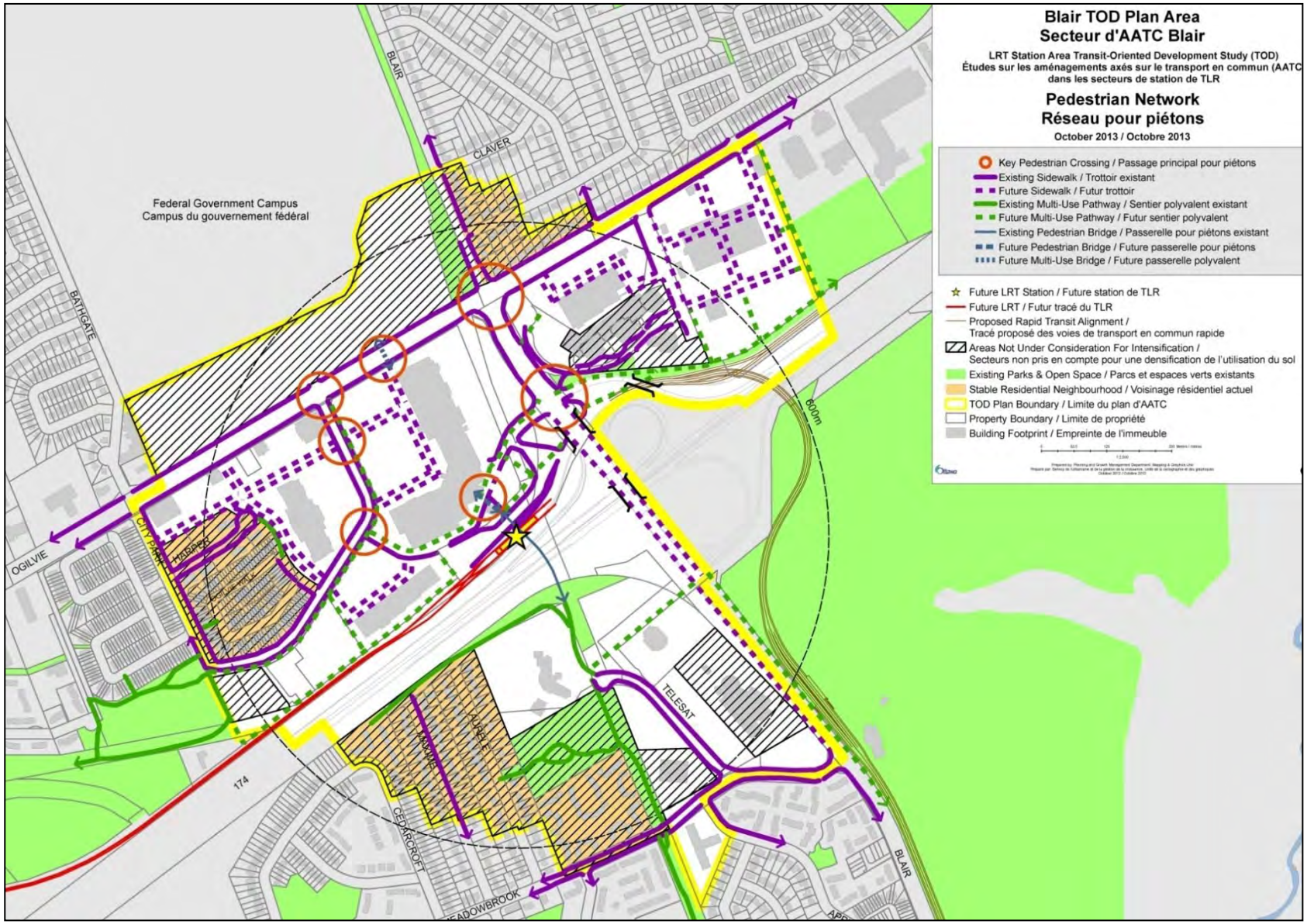

Figure 72: Blair Pedestrian Network

10.6.3 BLAIR BICYCLE NETWORK

The Blair Bicycle Network (Figure 73) illustrates opportunities to complete a disconnected assortment of cycling facilities in order to provide safe and convenient cycling access to Blair Station and throughout the study area.

The network relies on existing and planned multi-use paths (e.g. City Park Drive), plus adds bike lanes where they are currently incomplete (e.g. Ogilvie Road, east of Blair Road) and where they do not currently exist.

Some additions to the network can be done relatively quickly and inexpensively. For example, the vehicular lanes on City Park Drive are already sufficiently wide enough to accommodate on-street cycling lanes. Other parts of the network depend on major infrastructure upgrades that may take many years before implementation, such as the cycling lanes on Blair Road over Highway 174 that will occur only when the bridge deck is replaced with a wider structure. Some of these improvements will be up-front investments to support the opening of the Confederation Line. Other improvements will be implemented over time through future road re-construction or site-by-site re-developments.

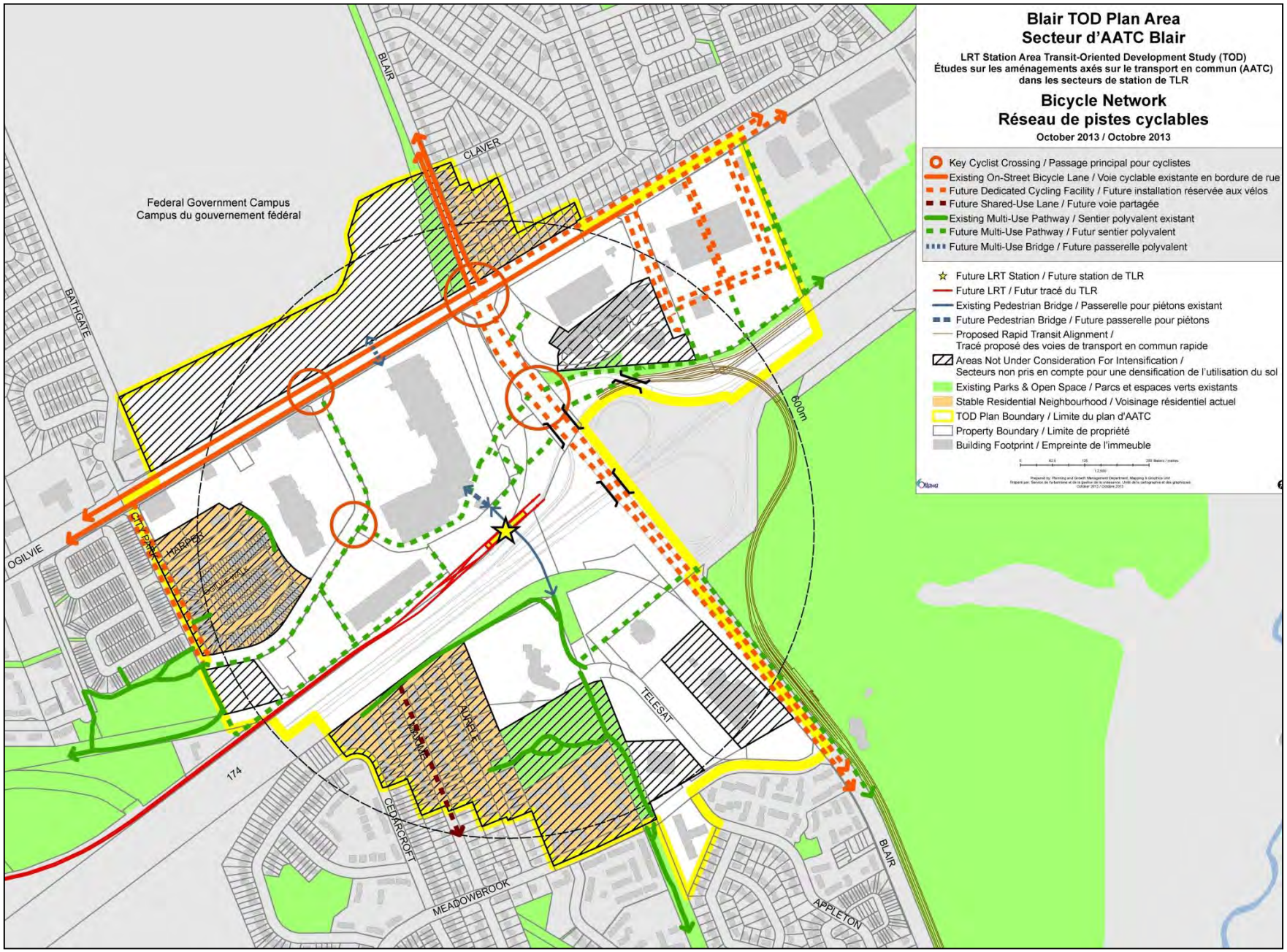

Figure 73: Blair Bicycle Network

10.6.4 BLAIR STREET NETWORK

The primary purpose of the Blair Street Network (Figure 75) is to provide new and improved connections that will strengthen pedestrian and cycling access to Blair Station. It will create a finer block pattern and formalize existing routes or short-cuts through large properties. This will result in shorter pedestrian and cycling routes and more street frontages to better set the stage for future intensification.

All new connections are on private property. They are identified as routes that could be public or private roads, aisleways through parking lots or multi-use pathways. Regardless of final design, these connections will accommodate active transportation modes.

Figure 74: Future Telesat Court Conceptual Streetscape

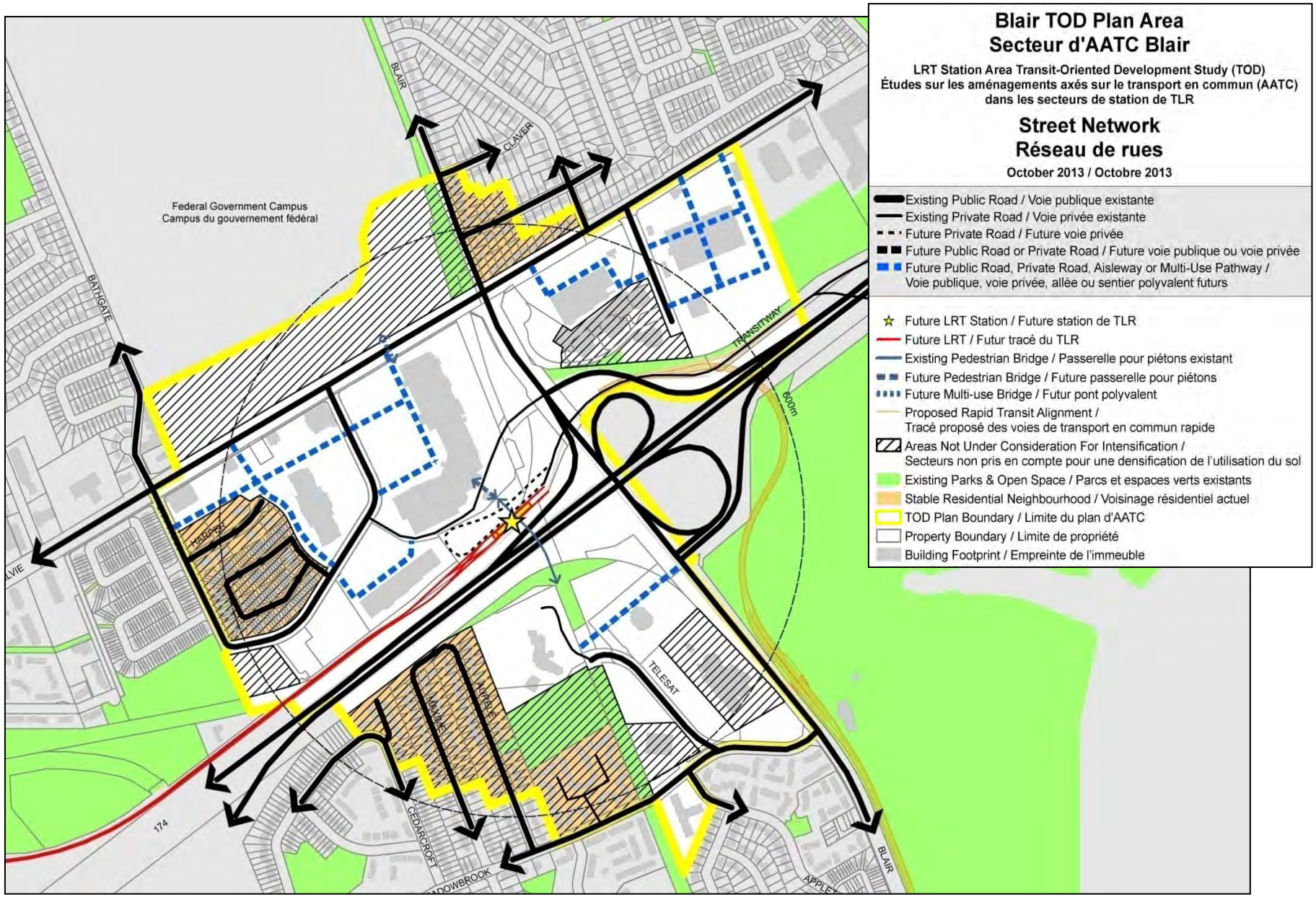

Figure 75: Blair Street Network

10.6.5 BLAIR GREEN PLAN

The Blair Green Plan (Figure 77) builds on a strong existing foundation of parks and open spaces that are found in, or adjacent to, each of the three sectors of the Blair TOD study area. Each of these three areas contains a district within which a public park could be required, depending on the use and scale of future development. The Green Plan also identifies the general location of future outdoor private amenity areas, such as landscaped seating areas. The location of parks and private amenity areas is conceptual in the TOD Plan and therefore will be more precisely determined through the development review and site plan approval process.

The Green Plan also notes the location of priority streetscapes, along Ogilvie Road and the eastern half of City Park Drive These streets will feature enhanced streetscaping requirements that will be implemented over time as properties along these streets are re-developed.

Figure 76: Conceptual Urban Public Park

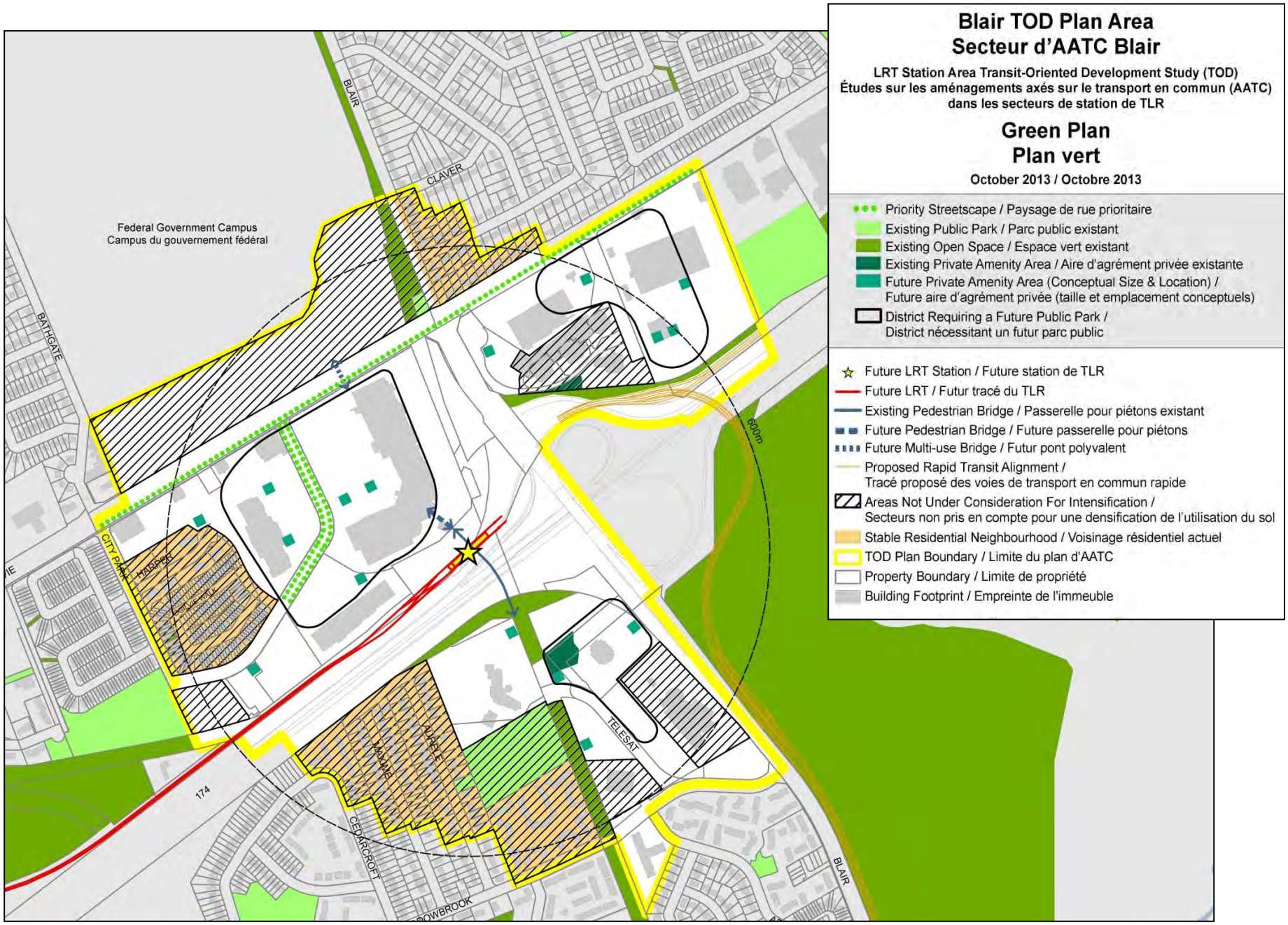

Figure 77: Blair Green Plan

10.6.6 BLAIR LAND USE FRAMEWORK

The Blair Land Use Framework (Figure 79) shows the distribution of land uses throughout the study area. Most of the area is designated mixed use, which could host a wide range of land uses. The three residential neighbourhoods are identified as stable residential areas and therefore will not see any changes to their planning policies. Similarly, the federal office campus north of Ogilvie Road is excluded from any changes. The property at the south end of the study area, at 1400 Appleton Drive, also keeps its residential designation, meaning it is not contemplated for mixed use.

The Land Use Framework also identifies the location of Active Frontage Streets on Ogilvie Road (Figure 78) and the eastern half of City Park Drive, which coincide with the priority streetscapes in the Blair Green Plan.

Figure 78: Conceptual future development on an Active Frontage Street and Priority Streetscape – view looking east along Ogilvie Road

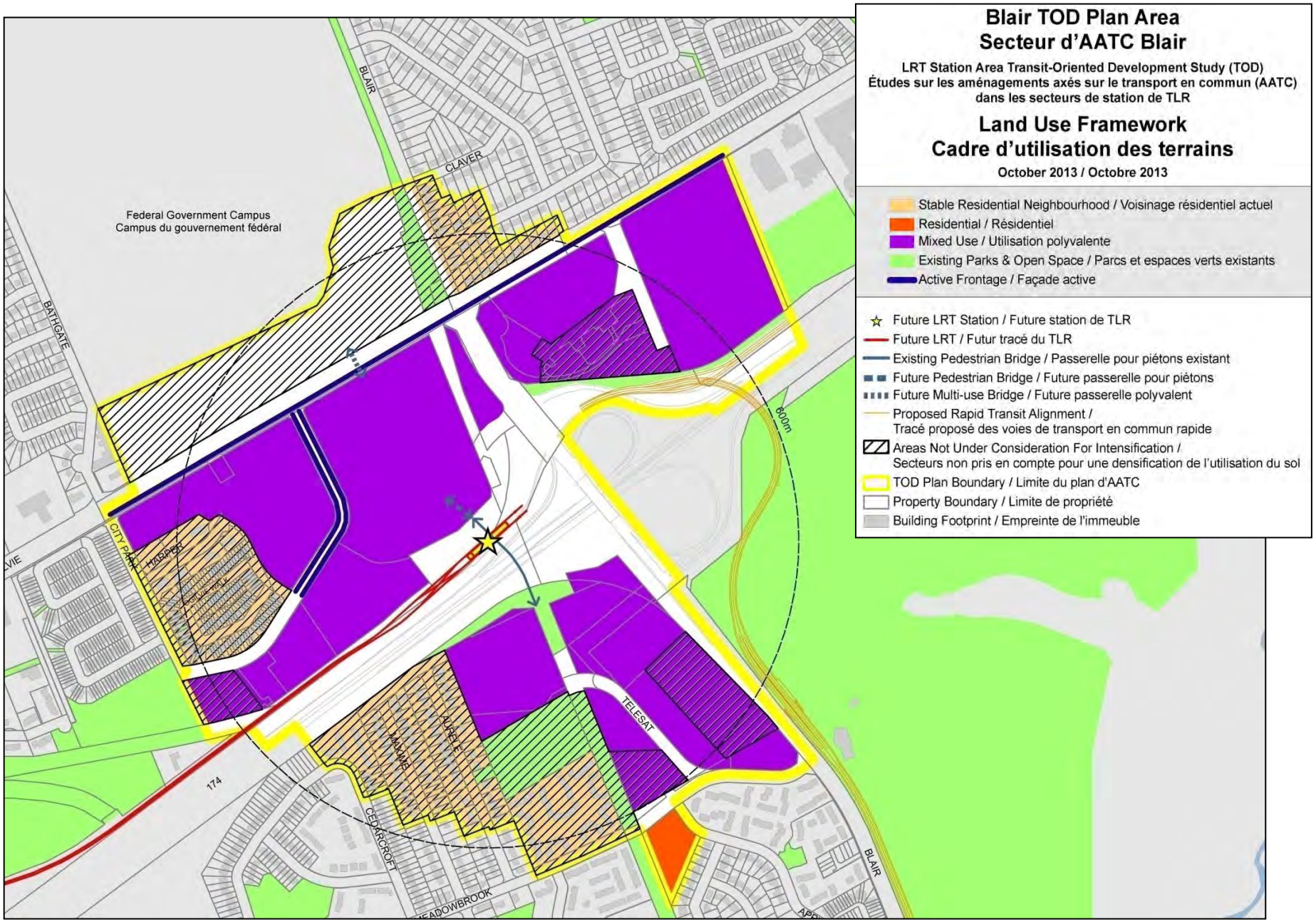

Figure 79: Blair Land Use Framework

10.6.7 BLAIR BUILDING HEIGHTS AND DENSITY TARGETS

The entire Blair TOD area is 119 hectares, but it is estimated that only 59 hectares, or about half of the total land area, is available for future development at transit-supportive densities. Of these lands, it is estimated that roughly 24 hectares, or 20% of the study area, could potentially see development in the short-term or next 20 years.

There are close to 8,700 jobs and residents combined in the Blair TOD study area today. Over the next 20 years, current projections foresee the addition of approximately 2,300 jobs and residents combined over this time period. Over the longer-term, well beyond the next 20 years, there is capacity for close to 28,900 jobs and residents combined if fully built to transit-supportive densities. It is expected that this scenario would bring a shift in land use from the retail-dominated landscape of today to a more diverse and office-dominated land use mix. This long-term scenario is expected to include over 2,200 residential units – most of which would be condominium or rental apartments.

The long-term minimum density under TOD zoning is estimated to be approximately 200 jobs and people per gross hectare, while the estimated maximum density is approximately 245 jobs and people per gross hectare.

The Blair TOD plan includes changes to maximum building heights on most mixed use properties. Those areas adjacent to residential communities are intended to maintain relatively low building heights, with TD1 density areas that limit buildings to no taller than 20 metres or six storeys. The majority of the lands in the study area would see a change to TD2, which could allow buildings up to 60 metres or 20 storeys. Existing zoning for most of these lands already allows buildings up to 48 meters in height. Land close to the transit station, as well as the southern part of the Shoppers City East site closest to Highway 174, is within the TD3 density area, which permits buildings up to 90 metres or 30 storeys (Figure 80).

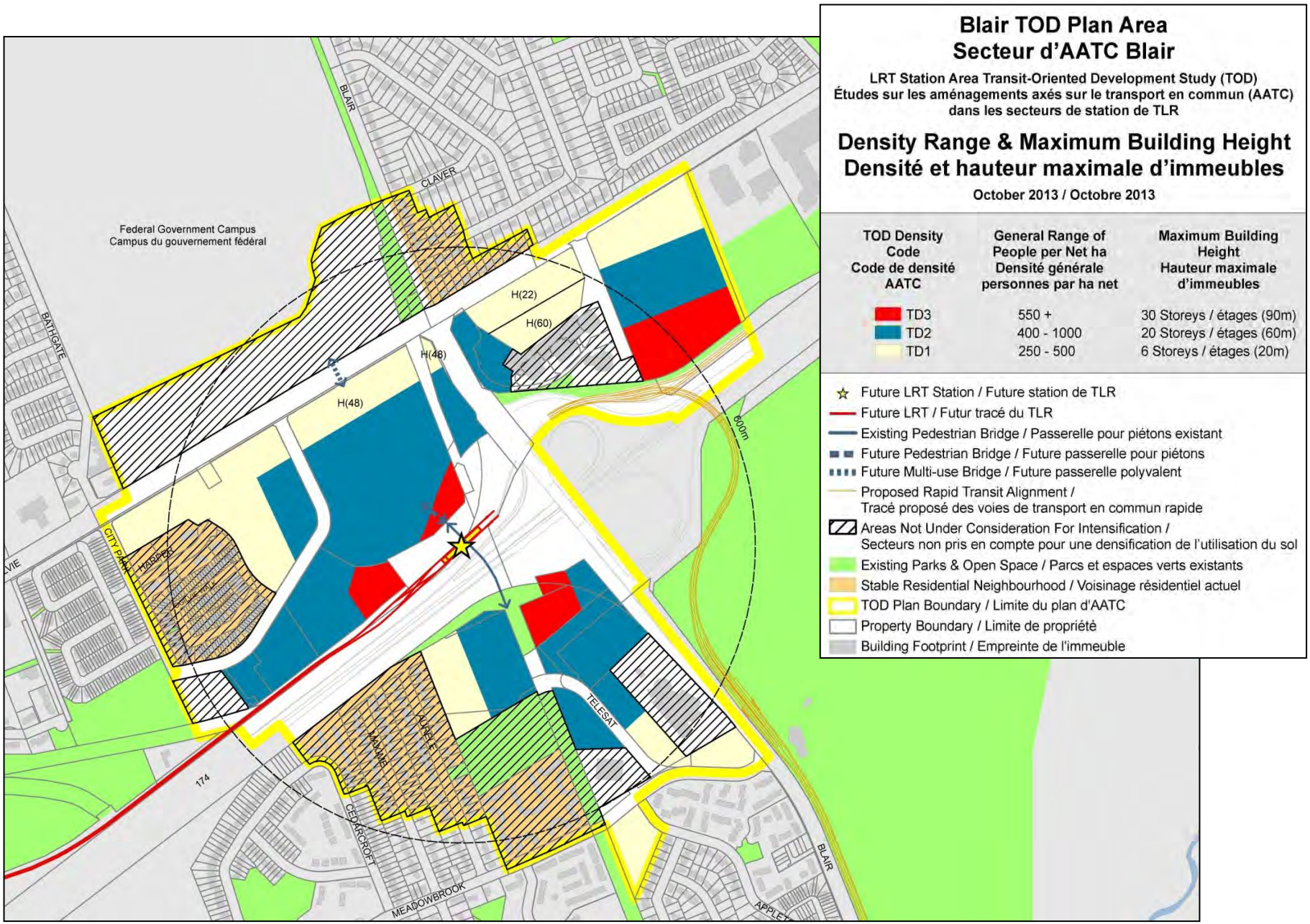

Figure 80: Blair TOD Maximum Heights and Densities

Figure 81: Conceptual image of Blair TOD Area at transit-supportive density, looking southeast from above Ogilvie Road

Figure 82: Conceptual image of Blair TOD area at transit-supportive density, looking south-west from above Ogilvie Road

11.0 IMPLEMENTATION

This TOD Plan will guide the form and character of the individual TOD areas. It will also guide the subdivision and site plan control processes, as well as capital expenditures to support development intensification. Building styles and densities will differ from the various plans contained within this document. However, over the long-term, the TOD communities will achieve transit-supportive densities with enhanced community design. This section sets out additional development review parameters and guidelines for monitoring and Plan changes.

In the future, as new TOD Plans are prepared, the new Council approved TOD Plans and related design requirements can be added to this document. This approach will avoid duplication of basic principles of TOD development in multiple documents. Also, it provides the opportunity to prepare a single composite TOD Plan document that enables potential analysis of "corridors" of TOD development along definable sections of light rail corridor and stations.

11.1 DEVELOPMENT APPROVAL

The following provides clarity on the intent of application of some of the requirements of this Plan to the development design and review process.

a) Site Design and Building Architecture

The TOD Plan does not guide review of general site design and building architecture. For these and other design elements reference should be made to existing City design review guidelines, policies and processes.

b) TOD Illustrations, Plans and Tables

Landowners are not required to develop their lands precisely as shown on the TOD illustrations, land use plan and tables since they represent only one option for TOD supportable design and are not prescriptive. The implementing TOD zoning requires minimum densities and certain specific design requirements. The intent is to permit flexibility in land use mix and built form architectural expression to respond to the market requirements of the day.

c) Studies Supporting Development

The TOD Plan including the TOD Servicing Overview does not replace the need for the proponent to undertake the usual detailed studies and reports at the time of development review. The high-level recommendations in the TOD Servicing Overview study are to be used as a starting point and for background purposes only. The higher mode shares and reduced roadway Levels of Service approved as part of the TOD Plan are to be used in transportation impact analysis reports prepared for TOD Plan area developments.

d) Flexible Pedestrian and Cycling Connections

The "Street Network" plans have two types of required but flexible future connection alignments. Ones that can be either a public road or private road, and others that can be either a public road, private road, aisleway through parking lots or a multi-use pathway. The main objective of these flexible connections is to convey pedestrians and cyclists in reasonably direct, safe and accessible routes to/from transit stations. The final alignment locations are to be similar to those on the Street Network plans, but may vary to suit minor adjustments necessitated by future development site plan designs.

e) Pedestrian & Cycling Infrastructure

Reference must be made to the "Pedestrian Network" and "Bicycle Network" plans at the time of development design and review to ensure that related necessary pedestrian and

cycling infrastructure is constructed at the same time as the development proposal.

f) Design Priority Area

All TOD Plans are within a Design Priority Area as defined in the Official Plan. All public and private development projects are therefore subject to the enhanced design parameters and requirements of this designation, as well as review by the City's Urban Design Review Panel.

g) Development Along Active Frontage Streets

Development adjacent to Active Frontage Streets is to provide a very urban landscape treatment between the building face and the right-of-way. Designs should have a high percentage of hard surfaces to accommodate outdoor patios, seating areas and lighting and include accenting shrub and tree planting. The hard/soft landscape designs should be coordinated with the abutting existing or future enhanced streetscape design.

h) Phased Development Zoning Compliance

Implementing TOD zoning permits phased development provided that all phases are shown in the registered site plan agreement. All phases are required to be stand-alone in terms of site function and by-law requirements. Importantly, each phase must meet or exceed the minimum density set out in the zone.

i) Flexible Zoning Approach to TOD Development

Land rezoned to one of the TD zones at the time of approval of this Plan was also given a zone exception with most of the original zone performance standard permissions. The purpose of the exception zones is to provide flexibility by permitting uses of land existing as of the date of passing of the by-law to legally remain, expand and/or build new under the applicable TD zone regulations but without having to provide the density minimum requirement until a new use in a new building is added or the maximum building height or maximum FSI from the original zone is exceeded, as described below. Also permitted is the introduction of a new use that is part of the list of permitted uses in the TD zone, provided that such new use is located within a building existing as of the date of passing of the by-law.

The full TD zone requirements take effect when:

1. A new use permitted in the TD zone (including uses in the TD zone that are a duplicate of uses permitted in the original zone) is added to the site as part of a new building or expansion of an existing building on the property. At that time, the full TD zone requirements apply to the property, or portion of the property, within the TD zone.

2. Expansion of an existing building or construction of a new building for a use existing as of the date of passing of the by-law in a way that exceeds the maximum FSI and/or maximum height of the exception zone, as may apply. At that time, the full TD zone requirements apply to the property, or portion of the property, within the TD zone.

j) Density

The TOD Plan area densities shown in the TOD secondary plans are not required to be implemented until the full TD zone requirements take effect as described above in subsection i) of this Plan.

Uses permitted in the TD zones that as stand-alone development cannot achieve the required minimum densities are intended to form part of mixed-use development that meets or exceeds the required minimums. Proponents of development should be encouraged to provide higher than the minimum densities required in the applicable TOD zone to bolster transit supportability.

k) Future Zoning

Property within the TOD Plan areas that is not within one of the new TD zones shall be zoned in the future at the time of development approval, if a rezoning is needed to permit development to proceed, to the appropriate TD zone in accordance with the density locations shown on the Density Range and Maximum Building Height plans and implementing Secondary Plans. This approach is to support achievement of transit-supportive "people and jobs" densities in each TOD Plan area. Variation is subject to the merits of the application at the time and may require amendment to this Plan in accordance with Section 11.3, TOD Plan Monitoring and Change.

l) Private Outdoor Amenity Spaces

Development proponents should be encouraged to provide more than the minimum 2% required for Private Outdoor Amenity Spaces, and for those spaces to be coordinated in location and design with such spaces in abutting development or future phases of development on the same property.

m) Air-Rights Development

Although air-rights development was not shown in the conceptual TOD illustrations, such form of development integrated with the design of the light rail stations is encouraged as part of any development with appropriate proximity.

11.2 FUTURE CAPITAL PROJECTS AND FINANCING

Key capital projects and major infrastructure upgrades required to support growth, mobility options and access to transit are identified in this Plan and in the accompanying TOD Servicing Overview. The TOD Plans also assume some infrastructure upgrades from private developers.

The TOD Servicing Overview describes the trunk infrastructure requirements and estimated timing of improvements to support anticipated development in the TOD Plan areas. These include phased upgrades to water services, sanitary sewers, storm sewers, hydro and transportation. The transportation improvements include road upgrades internal to the TOD areas primarily to support streetscape improvements and walking and cycling facilities.

The forecasted timing and costs for the trunk infrastructure upgrades are detailed in the TOD Servicing Overview (Appendix C). Many are contingent on the location, timing and intensity of development in the TOD areas which is unknown at this time, and therefore is subject to monitoring by the City to determine optimum timing of the necessary upgrades.

The financing mechanism(s) for the major infrastructure works is to be established as part of the City's Development Charges By-law. The cost of local improvements related to development applications is to be paid for by the proponent(s).

The TOD Servicing Overview has estimated costs for improvements to the local pedestrian and cycling facilities identified on the maps for each TOD Plan area. The City has also prepared a list detailing costs and timing for capital improvements to support walking and cycling access to transit that includes works within and adjacent to the TOD Plan areas. These projects include, for example, improvements to cycling facilities within the Cycling Capture Area (refer to Appendix G).

Some of the improvements to pedestrian and cycling facilities will be undertaken as part of future road construction and reconstruction projects as well as part of stand-alone capital projects, such as the Coventry Footbridge project. Other improvements will be undertaken as part of private development projects, including for example walkway links (mixed-use pathways) that are dedicated post-construction to the City. A summary of infrastructure costs by TOD

Plan area is in Appendix D. Costing for walking and cycling facilities is in Appendix E and F respectively.

11.3 TOD PLAN MONITORING AND CHANGE

The Official Plan supports land use intensification around rapid transit stations. The minimum densities required by the TOD zoning will achieve the lower target range for transit supportability. Since the zoning densities are stated as minimums, development on some properties could provide higher densities that elevate the average TOD Plan density to above the upper end of the target range. Development activity must be monitored and tested against recommended TOD infrastructure improvements as well as the ability of the City to afford to undertake the improvements.

Full reviews of the TOD Plans and supporting TOD Servicing Overview should be undertaken by Planning and Growth Management staff at the time of the five-year review of the Official Plan as may be deemed necessary by the General Manager, Planning and Growth Management. The purpose of the five year review is to determine if the TOD Plan and TOD Servicing Overview along with the Official Plan, supporting Master Plans and Development Charges By-law require change and/or alignment as a result of growth in the TOD Plan areas.

On-going monitoring of development projects in the TOD Plan areas by Planning and Growth Management staff at the time of development review is required to determine the incremental rate of growth, site specific and TOD Plan area density, land use type and location. The purpose of the on-going monitoring is to:

a) Determine if the growth trends are significantly higher or lower than anticipated overall and in specific locations of the TOD Plan areas, undertake appropriate changes to the timing and/or location of recommended infrastructure upgrades, and

b) Determine if a public park may be required in any identified district, based on land use mix and density as approved over time.

Land use mix variation, increases in density compared to the minimum required by TOD zoning, as well as densities above the transit-supportive range targeted in this Plan, are permitted and expected. Significant variations to the anticipated densities in this Plan require approval by Council. Minor variations are to be tracked as part of on-going Plan monitoring by staff. The following also applies to on-going TOD Plan monitoring:

c) Development or redevelopment of individual properties that were not anticipated in this Plan to change, does not require an amendment to this Plan in order to proceed. Development of such properties should be encouraged to be at transit-supportive densities and be sensitive to the context of the community. Any related re-zoning is to be to the appropriate TD zone. The land use type and density is to be tracked as part of on-going TOD Plan monitoring.

d) Development or redevelopment of groups of properties, areas or neighbourhoods that were not anticipated in this Plan to change and that is significant in the opinion of the General Manager, Planning and Growth Management will require approval by Council of an amendment to the relevant TOD Plan.

e) Development or redevelopment of properties at less than the densities outlined in the TOD zones may require an amendment to the relevant TOD plan. If the density reduction is minor and dealt with through a minor variance process, the resulting changes to density are to be tracked only as part of on-going TOD Plan monitoring. If the change is significant enough to require a rezoning and if in the opinion of the General Manager, Planning and Growth Management a related amendment to this Plan is necessary, the Plan amendment is to be presented to Council concurrent with the Zoning By-Law Amendment.

f) The TOD demonstration illustrations are not required to be updated to reflect approved development plans.

g) If in the opinion of the General Manager, Planning and Growth Management, variation to the density targets in this plan are a result of a single or coordinated joint development proposal, related costs to update the TOD Servicing Overview are to be paid for by the developer(s).