TRANSIT-ORIENTED DEVELOPMENT (TOD) Plans
Train, St. Laurent, Cyrville
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1.0 BACKGROUND

In January 2010 City Council approved the functional design for Ottawa’s Light Rail Transit (LRT) 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 LRT.

The OLRT 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. The project’s preliminary engineering work concluded in the fall of 2011 and the final design phase will be undertaken over the next few years with opening day scheduled for the spring of 2018.

In anticipation of land development projects in proximity to the LRT stations, City 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 LRT 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 a future LRT station. Their preparation followed an expedited time frame and may not include all of the components of a CDP, as outlined by Section 2.5.6 of 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.

If a conflict in application arises, where there is more precise information as part of an approved TOD plan, it will take precedence. Development proponents and 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 a Public Open House 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 over the long term communities surrounding new light rail transit (LRT) stations. The target density range is approximately 200 to 400 people (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 Ottawa 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 summarised later in this Plan.

2.3 OTTAWA TRANSPORTATION MASTER PLAN

The Ottawa 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” policies 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 alternative 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 that all streets are designed and maintained that considers the needs of cyclists along with other road users. 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 triple the annual number of person-trips made by bicycle in the city from 4,500 (2001) to 12,000 by 2021.

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 light rail transit (LRT) 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 population targets to support transit within those walking distances varied. The target average population density selected for the TOD Plans is a range of
200 to 400 people 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 realising 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 land use types to occur 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 boundaries are greater than the 600 metre walking distance identified in the Ottawa TOD Guidelines. The increase from 600 to 800 metres is due to a combination of factors including the existence of the Highway 417 corridor that bisects the TOD Plan areas and the nature of the land use pattern. The TOD Plan areas are each approximately 100 hectares in size.

### 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 “people 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. Approximately 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 red) and redevelopment land as long term (in blue). 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 (jobs and residents) per hectare of land in the community immediately surrounding rapid transit stations. The target range for “people density” in the Ottawa TOD Plan areas is 200 to 400 people 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 density per gross hectare in the TOD Plan areas in 2012 ranges from 50 to 60 people per gross hectare.

To determine if transit-supportive densities could be achieved through infill and redevelopment of the TOD Plan areas, three people density estimates were prepared. The first estimate determined total target 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 projected population in the TOD Plan areas and is used in the TOD Servicing Overview to determine ultimate infrastructure needs. The second estimate determined the density possible on all vacant, infill and underdeveloped parcels. This scenario demonstrates projected
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.

Appendix A demonstrates that the upper end of the 200 to 400
people 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 of approximately
10,000 additional people 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
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 are not factored into the transit-supportive “people”
estimates above, as some uses (e.g. VIA station, baseball stadium)
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 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 living and working within the TOD Plan area. The transit-
supportable density target is expressed therefore as the number of
people 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 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 per net hectare range to
achieve the overall 200 to 400 people per gross hectare density

It is anticipated that some site densities will be lower or higher than
the target net density range to respond to the context. In particular,
densities may be higher on properties closer to the LRT 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

Implementing 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 LRT stations, and lower density and height on the
periphery.

The TOD zoning minimum density ranges would achieve transit-
supportive density in the TOD Plan areas even if all properties were
developed at the minimum permitted density. The estimated
minimum density (residents and employees) under TOD zoning is
approximately 200 to 250 people per gross hectare.
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 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 density.

<table>
<thead>
<tr>
<th>Land Use Type</th>
<th>People Density Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office</td>
<td>1 employee per 20 square metres</td>
</tr>
<tr>
<td>Retail</td>
<td>1 employee per 45 square metres</td>
</tr>
<tr>
<td>Apartments</td>
<td>1.62 residents per unit</td>
</tr>
<tr>
<td>Stacked Townhouse</td>
<td>2.06 residents per unit</td>
</tr>
</tbody>
</table>

Table 1: Sample Land Use People Densities

The TOD illustrations are not prescriptive in terms of guiding building height, form 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.

4.0 VISION FOR TRANSIT-ORIENTED DEVELOPMENT

Transit-Oriented Development (TOD) areas in Ottawa are intended to evolve into important people places set in urban environments that are attractive, compact, 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 population 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 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 population 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 nearest existing low-density, low-rise neighbourhoods should maintain 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 new LRT 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. Certain walking and cycling routes have been identified on the plans as being “subject to the LRT design”. Finalization of these routes is to be undertaken in cooperation with the final LRT design process. Network Plans do not necessarily have to align as illustrated in the TOD plans but should demonstrate how they follow the 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 sustainable option for the high volumes of pedestrian traffic envisioned by the TOD plans. The Pedestrian Networks outlined in the TOD plans aim to formalize these desire lines and complete the pedestrian system.

Pedestrian facilities outlined in the TOD plans will primarily be public sidewalks within the road right-of-way, but may also be City-owned pathways (e.g. multi-use pathways) or formalized routes on private lands. For public and private roadways, sidewalks shall be developed on both sides of the street. In all contexts, sidewalks shall be connected to existing or planned infrastructure and shall be linked to support movement to and from the LRT stations.

Private lands will be planned and designed in a collaborative effort between City staff and private developers during the development review phase of the municipal planning process. These facilities may be located on private surface parking lots, private aisleways, in shopping malls and plazas, university campuses, etc. They form critical connections within Pedestrian Networks and, ultimately, provide pedestrians with formal “short-cut” opportunities to LRT 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 improves on the planned facilities and connections outlined in the OCP due to direction that came out during stakeholder consultation.

For example, the TOD plans may identify a future “on-street bicycle lane” for a particular area where the OCP may identify a future “shared-use lane”. These necessary upgrades are proposed due to the changes in context; the TOD Plans now envision these areas as having relatively large populations, occasional road widenings, new network connections and a new LRT system. Thus, TOD cycling facilities were upgraded in some circumstances from what was proposed in the OCP to reflect the change in context and to enhance the safety and accessibility of these routes.

The TOD Servicing Overview transportation study area map identifies a cycling capture area boundary for the LRT stations. This capture area is the area that “non-commuter” cyclists may cycle to and park at the LRT stations. People who live beyond the 10 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 set out in Section 11.4, Future Projects and Financing.

5.3 STREET NETWORK

The Street Network plans show the existing roadways and potential roadways that help form the basic mobility skeleton of the TOD plan areas. In conjunction with the proposed Pedestrian and Cycling Networks plans, the Street Network aims to break-up large development blocks to make 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, Aisleway 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 aisleways 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 aisleway 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 will be reduced along select roads and at key locations. The maximum posted speed limit for Coventry, Tremblay and Cyrville roads will be reduced from 60 km/h to 50Km/hr to 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 used.

5.4 TRANSIT

The LRT 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 LRT 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.

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 LRT 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 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 require 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. Preferable activities include shops, cafes, and restaurants at grade. Servicing and loading is not permitted along 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.

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 Plan aims to 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 are also Active Frontage Streets, defined in Section 6.3, 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 a 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 payment of cash-in-lieu of parkland at the time of development through Subdivision and Site Plan
approval. The funds collected though this method will be used to acquire and to develop public park spaces.

Existing and potential future green spaces are identified on the “Green Plans” for each TOD Plan area (refer to Section 10). 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 review. The number of public park spaces will be determined in the future by monitoring the type and density of development within the district and determining 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. Parks could be established, for example, in areas of higher residential density. 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.

7.3 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 TOD 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 applies 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 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 tree 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.

8.0 URBAN DESIGN DIRECTION

TOD areas will evolve as compact urban environments that accommodate intense uses and a growing population. 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 in these neighbourhoods 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 Low Density Zone Low will have a minimum density of 150 units per net hectare or a minimum Floor Space Index (FSI) 0.5, respectively, depending on land use. Buildings in this Zone shall range in height from two storeys to six storeys, and will be stacked dwellings, townhouses, apartment dwellings, mixed-use and commercial buildings. New single and semi-detached dwellings are not permitted. The Low Density Zone is strategically-located adjacent to existing low-profile, low-density neighbourhoods to regulate the height and minimum density in these areas. 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 Medium Density Zone will have a minimum density of 250 units per net hectare or a minimum FSI of 1.0, respectively, depending on 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 High Density Zone will have a minimum density of 350 units per net hectare or a minimum FSI of 1.5, depending on 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 High Density Zone is strategically-located nearest to future LRT 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 of a building 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 right-of-way.

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 Section 4.6.4 and Schedule I of the Official Plan. Scenic Entry Routes in the TOD areas include Highway 417 and Highway 174. 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 creates 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 percent for art program. 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.

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 Crossings. 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.
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, 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”.

13. **Design Guidance for Public Parks:** Public parks will meet or exceed the basic minimum standard of 0.4 hectares in size or greater, where possible. These spaces must be highly visible, safe, accessible, functional, flexible and central to the neighborhood. Public parks should be easily recognizable and located in places of prominence, not on leftover or undevelopable land.

Public parks must meet the acceptable size requirements to allow flexibility in programming and design for the potential recreational amenities therein. In TOD plan areas they may not be designed to accommodate full sized play fields; however, public parks must have the potential to accommodate skating rinks, basketball and tennis courts, water spray features, outdoor classrooms, and community meeting spaces, etc. Pathways and corridors leading to and from public parks should be integrated into development plans.

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 roadway 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 densify 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 located in Appendix C. Highlights of the findings and recommendation in the TOD Servicing Overview are as follows:

### 9.1 WATER SUPPLY

The main findings and recommended upgrades are as follows:

- An existing 1220mm diameter watermain runs easterly through the three TOD study areas south of Hwy 417 from the Hurdman Bridge Pumping Station.
- 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 service all lands east of the Rideau River.
- To service 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 existing 1220mm Rideau River crossing watermain will need to be 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 ultimate growth levels in the east end of Ottawa. The timing for replacing the pipe is contingent on many factors, which includes the pipe condition, the TOD and other development in the east end of Ottawa, the upcoming Highway 417 works, and other local construction. These and other issues will be addressed in a separate Environmental Assessment by the City to determine the optimal timing. For the purposes of this assessment, it is projected that the crossing will be constructed within 20 years (by 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 main findings and recommended upgrades are as follows:

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

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

- Partial replacement/upgrade of 860m of 762mm diameter 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 1050mm diameter interceptor sewer (Coventry Road Sewer to Tremblay Road Sewer)
  - 460m of new 900mm diameter interceptor sewer (Tremblay Road Sewer to Industrial Road Sewer)

No upgrades are recommended for the Cyrville Trunk Sewer within the 20 year planning horizon, however, the sewer flows be monitored to ensure ongoing capacity will be available. Given the capacity constraints of the Rideau River Collector during wet weather conditions, for development to proceed within the Train TOD and the St. Laurent TOD (west of St. Boulevard), it may be expected that the first 500m of the proposed interceptor sewer will be required. If the Tremblay Road area remains as a partially separated system, the 860m of the Tremblay sewer will require replacement shortly after redevelopment proceeds. The existing Rideau River Collector and the Tremblay sewer will be monitored to establish capacity levels. No upgrades are recommended for the Cyrville Trunk Sewer within the 20 year planning horizon.

9.3 STORM WATER SEWER SERVICES

The main 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 the Train and St. Laurent TOD’s unless pipe condition assessments indicate the need for replacement or rehabilitation.

- The Cyrville TOD Study Area may require enlargement of the existing Cyrville Artificial Wetlands pond, erosion control work on the Cyrville Drain and a new storm sewer in Cyrville south.

Servicing requirements for the 20 year horizon are dependent on the location of development. Development in the Train and St. Laurent 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 on-going capacity will be available within the Tremblay Road Trunk Sewer in the Train area, 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.

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.
- Circuit capacity will have to be upgraded by addition of new lines, especially Russell, and to a lesser extent, Riverdale and Moulton.

Assuming a slightly lower build-out rate of 25% of eventual build-out within 20 years, the Hydro Ottawa substation build-out plans are not significantly altered. It may only delay the trigger points where additional circuit capacity must be added for development loading. Most of the developer related circuit build-out costs are triggered within the first 10 years using initially proposed build-out rates plans.

9.5 TRANSPORTATION

The main findings and recommended upgrades are as follows:

- 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 required road improvements to accommodate the proposed land uses of the TOD Study Areas.

- 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 occurs.

- 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 Coventry Road, Tremblay Road, and Cyrville Road.
9.6 NOISE AND VIBRATION

The main findings and recommended upgrades are as follows:

- Potential noise attenuation issues are primarily focused on future residential development. It can be expected that even future non-residential uses (e.g. office use) will also be required to have regard to noise/vibration sources, particularly when adjacent to the future LRT and VIA passenger lines.

- Noise sources identified were:
  - Train 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, Highway 174, Cyrville Road, Ogilvie Road, Cummings Avenue, and Star Top Road.

- Future development adjacent to or in proximity to identified noise or vibration sources (e.g. rail) will be required to undertake the appropriate noise attenuation and vibration studies as part of the development review 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 TRAIN TRANSIT-ORIENTED DEVELOPMENT PLAN AREA

The Train 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 LRT 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 Train TOD Plan area is located approximately four kilometers from downtown Ottawa.
Figure 5: Train TOD Plan Area

Train TOD Plan Area
Secteur d’AATC Train

LRT Station Area Transit-Oriented Development Study
Études sur les aménagements axés sur le transport en commun dans les secteurs de station de TLR
August 20th, 2012 / 20 Août 2012

- Future LRT Station / Future station de TLR
- Future LRT / Futur tracé du TLR
- Future Pedestrian Crossing / Future passeville pour piétons
- Future Coventry Road / Trajet futur du chemin Coventry
- Areas Not Under Consideration For Intensification / Secteurs non pris en compte pour une densification de l'utilisation du sol
10.1.1 TRAIN EXISTING LAND USE CONTEXT

The Train 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.

10.1.2 TRAIN PEDESTRIAN NETWORK

The Pedestrian Network plan (Figure 7) 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 shown on a particular side of a right-of-way indicates its required location. Where a sidewalk is shown as a single line in the centre of an existing right-of-way or following a future connection route, a sidewalk on both sides is required. 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 7: Train Pedestrian Network
10.1.3 TRAIN BICYCLE NETWORK

The Bicycle Network Plan (Figure 8) 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 8: Train Bicycle Network
10.1.4 TRAIN STREET NETWORK

The Street Network plan (Figure 9) 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 LRT station. The intent and general design requirements of these connections are set out in Section 5.3.
Figure 9: Train Street Network
10.1.5 TRAIN GREEN PLAN

The Green Plan (Figure 10) 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 Section 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 10: Train Green Plan
10.1.6 TRAIN LAND USE FRAMEWORK

The Land Use Framework (Figure 12) 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 11: View looking east on Terminal Avenue – streetscape showing comfortable street environment with wider sidewalks and trees.
Train TOD Plan Area
Secteur d’AATC Train

LRT Station Area Transit-Oriented Development Study (TOD)
Études sur les aménagements axés sur le transport en commun (AATC)
dans les secteurs de station de TLR

Land Use Framework
Cadre d’utilisation des terrains

November 2012 / Novembre 2012

Stable Residential Neighbourhood / Voisinage résidentiel actuel
Mixed Use / Utilisation polyvalente
Existing Parks & Open Space / Parcs et espaces verts existants
Active Frontage / Façade active

Future LRT Station / Future station de TLR
Future LRT / Futur tracé du TLR
Areas Not Under Consideration For Intensification / Secteurs non pris en compte pour une densification de l’utilisation du sol
TOD Plan Boundary / Limite du plan d’AATC
Property Boundary / Limite de propriété
Building Footprint / Empreinte de l’immeuble

Figure 12: Train Land Use Framework
10.1.7 TRAIN BUILDING HEIGHTS AND DENSITY TARGETS

The Train 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 10,000 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 14 and 15 for the Train 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.
Figure 15: Image of Train TOD area, looking north.
10.2 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 16: St. Laurent TOD Plan Area
10.2.1 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 Train 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.

10.2.2 ST. LAURENT PEDESTRIAN NETWORK

The Pedestrian Network Plan (Figure 18) 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 LRT 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 LRT station. This is due to the fact that the LRT 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.

![Image of Boulevard and Highway on-ramps]

**Figure 17: Key Crossing Sample at St.Laurent and Lemieux St.**

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.
Note:
In 2018, the Transitway will be replaced by the LRT line. At that time, the pedestrian tunnel may be closed to non-transit customers.
Remarque :
En 2018, le Transloco sera remplacé par la ligne du TLR. Il se pourrait que le tunnel piétonnier soit alors réservé aux clients du transport en commun.

Figure 18: St. Laurent Pedestrian Network
10.2.3 ST. LAURENT BICYCLE NETWORK

The Bicycle Network Plan (Figure 19) 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 LRT 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 LRT 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 LRT station and Cyrville LRT station is envisioned for the area. This multi-use pathway would run alongside the LRT 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 LRT 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 19: St. Laurent Bicycle Network

10.2.4 ST. LAURENT STREET NETWORK

The Street Network Plan (Figure 20) 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 detail 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 LRT station. Two connections are shown to reflect the future realignment of Coventry Road.
Figure 20: St. Laurent Street Network

10.2.5 ST. LAURENT GREEN PLAN

The Green Plan (Figure 21) 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 G.
Figure 21: St. Laurent Green Plan
10.2.6 ST. LAURENT LAND USE FRAMEWORK

The Land Use Framework Plan (Figure 22) 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 6.3. 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 LRT station. The building façade and southern edge of the St. Laurent Shopping Centre that abuts the LRT station area should incorporate high quality urban design. Station entrances should be integrated into buildings where possible.

![Figure 22: Active Frontage Street, St. Laurent Example](image)

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 H 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 LRT 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 LRT 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 24: St. Laurent Land Use Framework
10.2.7 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 10,000 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 25 and 26 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.
Figure 25: Image of St. Laurent on the north side looking south.
Figure 26: Image of St. Laurent on the south side looking north.
Figure 26: St. Laurent Density Range and Maximum Building Height
10.3 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 LRT 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 27: Cyrville TOD Plan Area
10.3.1 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.

10.3.2 CYRVILLE PEDESTRIAN NETWORK

The Pedestrian Network Plan (Figure 29) shows existing and required sidewalks and multi-use pathways as well as future pedestrian crossings for the Cyrville TOD Plan area. Sidewalks shown on a particular side of a right-of-way, indicates the required location of the sidewalk. Where a sidewalk is shown as a single line in the centre of an existing right-of-way or following a future connection route a sidewalk on both sides is required. 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 28: Cyrville Pedestrian Network

Cyrville TOD Plan Area
Secteur d’AATC Cyrville

LRT Station Area Transit-Oriented Development Study (TOD)
Études sur les aménagements axés sur le transport en commun (AATC)
dans les secteurs de station de LRT

Pedestrian Network
Réseau pour piétons

November 2012 / Novembre 2012

Key Pedestrian Crossing / Passage principal pour piétons
- Existing Sidewalk / Trottoir existant
- Future Sidewalk / Futur trottoir
- Existing Multi-Use Pathway / Sentier polyvalent existant
- Future Multi-Use Pathway / Futur sentier polyvalent
- Subject to LRT design / Sous réserve du design du TLR

Future LRT Station / Future station de TLR
- Future LRT / Futur tracé du TLR
- Areas Not Under Consideration For Intensification / Secteurs non pris en compte pour une densification du sol
- TOD Plan Boundary / Limite du plan d’AATC
- Stable Residential Neighbourhood / Voisinage résidentiel actuel
- Property Boundary / Limite de propriété
- Building Footprint / Emprise de l’immeuble
10.3.3 CYRVILLE BICYCLE NETWORK

The Bicycle Network Plan (Figure 31) 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 LRT 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 30: Cyrville Bicycle Network
10.3.4 CYRVILLE STREET NETWORK

The Street Network Plan (Figure 32) 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 on direct and safe routes to/from the LRT 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 31: Cyrville Street Network
10.3.5 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 35) 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 Rd. The design requirements of Active Frontage Streets are discussed in Section 6.2.

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 LRT 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 34: Cyrville Land Use Framework
10.3.6  CYRVILLE GREEN PLAN

The Green Plan (Figure 37) 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 35: Cyrville Green Plan
Figure 36: Image of Cyrville Road at Cummings Ave and Labelle St – view of public plaza, looking east.
10.3.7  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 10,000 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.

Figure 38 and 39 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 (63 ha) were assumed to be developed or redeveloped.
Figure 37: Image of Cyrville on the south side, looking northwest.
Figure 38: Image of Cyrville on the north side, looking southeast.
Figure 39: Cyrville Density Range and Maximum Building Height
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 an exception zone 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. 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 new TD zones 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 TD zone uses and performance standards apply to the property, or portion of the property, within the TD zone and the exception zone no longer applies.

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 does not comply with the performance standards (setbacks, height, etc.) of the exception zone. At that time, the new TD zone uses and performance standards apply to the property, or portion of the property, within the TD zone and the exception zone no longer applies.

**j) Future Zoning**

Future rezoning of property within the TOD Plan areas that is not within one of the new TD zones shall be zoned to the appropriate TD zone in accordance with the density locations shown on the Density Range and Maximum Building Height plans. This approach is to support achievement of transit-supportive “people” densities in each TOD Plan area. Variation is subject to the merits of the application and may require amendment to this Plan in accordance with Section 11.3, TOD Plan Monitoring and Change.
k) Density

Proponents of development should be encouraged to provide higher than the minimum densities required in the applicable TOD zone to bolster transit supportability.

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 update process. 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.

Certain other improvements to the pedestrian and cycling facilities have been identified and prioritized as necessary works to be undertaken as stand-alone capital projects by the City prior to opening day of the LRT system in 2018. The intent is to provide a guideline for the approximate timing of these projects to assist staff in establishing capital budgets in future years. The list of projects
may change over time depending upon budget approvals and if projects are undertaken as part of other capital works or by private developers. A summary of infrastructure costs by TOD Plan area is in Appendix D. Detailed 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. The TOD Plan illustrations, density tables and the TOD Servicing Overview are based on achieving a density within the upper end of the target range for transit supportability (200 to 400 people per gross hectare). 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. 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 TOD 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 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).
### APPENDIX A: DENSITY TABLES

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Train</strong></td>
<td>6,100 (=60 people/ha)</td>
<td>10,000 = 25% of long-term population estimate, as shown in column F).</td>
<td>16,100 = 41% of long term population estimate, as shown in column F). (=160 people/ha)</td>
<td>25,500 =65% of long term population estimate, as shown in column F). (=255 people/ha)</td>
<td>39,500 (=390 people/ha)</td>
</tr>
<tr>
<td><strong>St. Laurent</strong></td>
<td>6,160 (=50 people/ha)</td>
<td>10,000 = 23% of long-term population estimate, as shown in column F).</td>
<td>16,160 = 38% of long term population estimate, as shown in column F). (=135 people/ha)</td>
<td>23,300 = 54% of long term population estimate, as shown in column F). (=195 people/ha)</td>
<td>42,800 (=355 people/ha)</td>
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<tr>
<td><strong>Cyrville</strong></td>
<td>5,190 (=55 people/ha)</td>
<td>10,000 = 25% of long-term population estimate, as shown in column F).</td>
<td>15,190 = 38% of long-term population estimate, as shown in column F). (=155 people/ha)</td>
<td>14,100 = 35% of long-term population estimate, as shown in column F). (=145 people/ha)</td>
<td>40,500 (=410 people/ha)</td>
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## APPENDIX D: SUMMARY OF INFRASTRUCTURE COSTS

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<tr>
<th>ITEM</th>
<th>TRAIN</th>
<th>ST.LAURENT</th>
<th>CYRVILLE</th>
<th>Totals</th>
</tr>
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<td>950,000</td>
<td>860,000</td>
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<td>Sanitary</td>
<td>2,580,000</td>
<td>1,160,000</td>
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<td>3,740,000</td>
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<td>12,500,000</td>
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<tr>
<td>Hydro</td>
<td>5,200,000</td>
<td>1,000,000</td>
<td>1,500,000</td>
<td>7,700,000</td>
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<td>Roads</td>
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<td>14,754,500</td>
<td>10,030,000</td>
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<td>Totals</td>
<td>12,534,500</td>
<td>17,864,500</td>
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**APPENDIX E: PEDESTRIAN FACILITY PROJECTS**

Sidewalk = $240/m (includes removals, concrete)

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<tr>
<th>TOD Area</th>
<th>Sidewalk Project</th>
<th>Target Year</th>
<th>Cost Estimate</th>
<th>Running Total</th>
<th>Type of Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Cyrville</td>
<td>Cyrville, north side between 250m east of Startop and 200m east of Transitway</td>
<td>2015</td>
<td>$318,750</td>
<td>$318,750</td>
<td>Stand alone sidewalk (temporary sidewalk) Potential opportunity to coordinate with overlay</td>
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<td>2 Cyrville</td>
<td>Cyrville, south side between 250m east of Startop and 200m east of Transitway</td>
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<td>3 Cyrville</td>
<td>Cyrville, north side between Ogilvie and 100m east of Michael</td>
<td>2015</td>
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<td>Stand alone sidewalk (temporary sidewalk) Potential opportunity to coordinate with overlay</td>
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<td>5 Cyrville</td>
<td>Cummings, west side portion north of Cyrville</td>
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<td>$69,063</td>
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<td>Stand alone sidewalk</td>
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<td>6 Cyrville</td>
<td>Labrie, east side between Kenaston and Cyrville</td>
<td>2015</td>
<td>$116,875</td>
<td>$1,089,063</td>
<td>Stand alone sidewalk</td>
</tr>
<tr>
<td>7 Cyrville</td>
<td>Comstock, east side between Algoma and north end</td>
<td>2016</td>
<td>$117,000</td>
<td>$1,206,063</td>
<td>Stand alone sidewalk</td>
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<td>8 Cyrville</td>
<td>Michael, east side between Cyrville to 150m s of Cyrville</td>
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<td>$63,750</td>
<td>$1,269,813</td>
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<tr>
<td>TOD Area</td>
<td>Sidewalk Project</td>
<td>Target Year</td>
<td>Cost Estimate</td>
<td>Running Total</td>
<td>Type of Project</td>
</tr>
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<td>---------------</td>
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</tr>
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<td>9</td>
<td>Cyrville, west side between Cyrville to Transitway</td>
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<td>$1,418,563</td>
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<td>Cyrville, east side, between Cyrville and Algoma</td>
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<td>11</td>
<td>Cyrville, west side between Cyrville and Algoma</td>
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<td>Stand alone sidewalk</td>
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<td>Cyrville, Beaulieu, east side between Ogilvie and round-about 150m south of Ogilvie</td>
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<td>13</td>
<td>Cyrville, Algoma, north side between Star Top and Kenaston</td>
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<td>$318,750</td>
<td>$2,085,313</td>
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<td>Cyrville, north side between 250m east of Startop and 200m east of Transitway</td>
<td>Long Term</td>
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<td>City Standard Sidewalk as part of Road Reconstruction</td>
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<td>City Standard Sidewalk as part of Road Reconstruction</td>
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<td>City Standard Sidewalk as part of Road Reconstruction</td>
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<td>Cost Estimate</td>
<td>Running Total</td>
<td>Type of Project</td>
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<td>Cyrville Cummings, west side segment south of Ogilvie</td>
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<td>Future developer cost</td>
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<td>Cyrville Beaulieu Private, east side round-about and existing sidewalk</td>
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<td></td>
<td>Future developer cost</td>
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<td>Cyrville Villeneuve Private, east side, between Beaulieu and Beaulieu</td>
<td>With developm’t</td>
<td>$148,500</td>
<td></td>
<td>Future developer cost</td>
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<td></td>
<td>Future developer cost</td>
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<td>Cyrville Future Private walkway between Cummings and Ogivlie</td>
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<td>Future developer cost</td>
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<td>26</td>
<td>Cyrville Future Algoma extension north of Kenaston, east side</td>
<td>With developm’t</td>
<td>$99,000</td>
<td></td>
<td>Future developer cost</td>
</tr>
<tr>
<td>27</td>
<td>Cyrville Future Algoma extension north of Kenaston, west side</td>
<td>With developm’t</td>
<td>$99,000</td>
<td></td>
<td>Future developer cost</td>
</tr>
<tr>
<td>TOD Area</td>
<td>Sidewalk Project</td>
<td>Target Year</td>
<td>Cost Estimate</td>
<td>Running Total</td>
<td>Type of Project</td>
</tr>
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</tr>
<tr>
<td>28</td>
<td>Cyrville Future road between future Algoma extension and Michael Stret, south side</td>
<td>With developm’t</td>
<td>$67,500</td>
<td>Future developer cost</td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>Cyrville Future Comstock extension, east side between Algoma and north end</td>
<td>With developm’t</td>
<td>$45,000</td>
<td>Future developer cost</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Cyrville TOD area total:</strong></td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td>Total value of sidewalks in TOD</td>
<td>$4,051,900</td>
<td>$2,316,938</td>
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<tr>
<td>30</td>
<td>Train Belfast, west side between Coventry and Hwy 417 Overpass</td>
<td>2015</td>
<td>$106,250</td>
<td>$106,250</td>
<td>Stand alone sidewalk</td>
</tr>
<tr>
<td>31</td>
<td>Train Tremblay, north side between Riverside and Transitway</td>
<td>2015</td>
<td>$225,000</td>
<td>$331,250</td>
<td>Stand alone sidewalk</td>
</tr>
<tr>
<td>32</td>
<td>Train Terminal, north side between Trainyards and Riverside (Hurdman Station)</td>
<td>2016</td>
<td>$675,000</td>
<td>$1,006,250</td>
<td>Stand alone temporary sidewalk (future standard sidewalk as part of future transit expansion)</td>
</tr>
<tr>
<td>33</td>
<td>Train Terminal, south side between Riverside (Hurdman Station) and Trainyards (short segments existing)</td>
<td>2016</td>
<td>$486,000</td>
<td>$1,492,250</td>
<td>Stand alone temporary sidewalk (future standard sidewalk as part of future transit expansion)</td>
</tr>
<tr>
<td>34</td>
<td>Train Industrial, south side between Trainyards and Alta Vista</td>
<td>2017</td>
<td>$348,750</td>
<td>$1,841,000</td>
<td>Stand alone sidewalk</td>
</tr>
<tr>
<td>35</td>
<td>Train Pickering, west side between Tremblay and end</td>
<td>Long Term</td>
<td>$75,650</td>
<td></td>
<td>Stand alone sidewalk or reconstruction</td>
</tr>
<tr>
<td>TOD Area</td>
<td>Sidewalk Project</td>
<td>Target Year</td>
<td>Cost Estimate</td>
<td>Running Total</td>
<td>Type of Project</td>
</tr>
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</tr>
<tr>
<td>36 Train</td>
<td>Industrial, south side between Trainyards and 230m west of Russell Rd</td>
<td>Long Term</td>
<td>$247,500</td>
<td></td>
<td>Stand alone sidewalk or reconstruction</td>
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<tr>
<td>37 Train</td>
<td>Belfast, east side between Tremblay and Trainyards</td>
<td>timed with rd recon as per LRT</td>
<td>$139,200</td>
<td></td>
<td>Requires detail design in conjunction with LRT reconstruction of Belfast</td>
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<tr>
<td>38 Train</td>
<td>Avenue K, west side between Tremblay and end</td>
<td>With developm’t</td>
<td>$42,500</td>
<td></td>
<td>Future developer cost</td>
</tr>
<tr>
<td>39 Train</td>
<td>Avenue L, west side between Tremblay and end</td>
<td>With developm’t</td>
<td>$63,750</td>
<td></td>
<td>Future developer cost</td>
</tr>
<tr>
<td>40 Train</td>
<td>Future street, between Avenue L and Pickering</td>
<td>With developm’t</td>
<td>$96,750</td>
<td></td>
<td>Future developer cost</td>
</tr>
<tr>
<td>41 Train</td>
<td>Future street, between Belfast and Coventry Stadium</td>
<td>With developm’t</td>
<td>$162,000</td>
<td></td>
<td>Future developer cost</td>
</tr>
<tr>
<td>42 Train</td>
<td>Future street, between new street above and Coventry Rd</td>
<td>With developm’t</td>
<td>$45,000</td>
<td></td>
<td>Future developer cost</td>
</tr>
<tr>
<td>43 Train</td>
<td>Railmarket Private between Trainyards and future extension</td>
<td>With developm’t</td>
<td>$144,000</td>
<td></td>
<td>Future developer cost</td>
</tr>
<tr>
<td>44 Train</td>
<td>Future Railmarket Private extension, between existing Railmarket and Steamline</td>
<td>With developm’t</td>
<td>$141,750</td>
<td></td>
<td>Future developer cost</td>
</tr>
<tr>
<td>TOD Area</td>
<td>Sidewalk Project</td>
<td>Target Year</td>
<td>Cost Estimate</td>
<td>Running Total</td>
<td>Type of Project</td>
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</tr>
<tr>
<td>45 Train</td>
<td>Future Steamline Priv Extension between existing Sandford Fleming and Riverside Dr</td>
<td>With developm’t</td>
<td>$69,750</td>
<td>Future developer cost</td>
<td></td>
</tr>
<tr>
<td>46 Train</td>
<td>Future N/S Priv connection between Railmarket and Terminal</td>
<td>With developm’t</td>
<td>$69,750</td>
<td>Future developer cost</td>
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</tr>
<tr>
<td>47 Train</td>
<td>Future N/S Priv connection between future Railmarket ext and Terminal</td>
<td>With developm’t</td>
<td>$56,250</td>
<td>Future developer cost</td>
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<tr>
<td>48 Train</td>
<td>Future N/S Priv connection between Steamline and Terminal</td>
<td>With developm’t</td>
<td>$56,250</td>
<td>Future developer cost</td>
<td></td>
</tr>
<tr>
<td>49 St Laurent</td>
<td>Hardy, south between pathway and Bernard</td>
<td>2015</td>
<td>$22,500</td>
<td>$22,500</td>
<td>Stand alone sidewalk</td>
</tr>
<tr>
<td>50 St. Laurent</td>
<td>St Laurent Blvd, east side between Hwy 417 e/b on-ramp at Tremblay</td>
<td>2015</td>
<td>$85,000</td>
<td>$107,500</td>
<td>Stand alone sidewalk</td>
</tr>
<tr>
<td>51 St. Laurent</td>
<td>Cyrville, west side between St. Laurent and Ogilvie</td>
<td>2015</td>
<td>$59,500</td>
<td>$167,000</td>
<td>Stand alone sidewalk</td>
</tr>
<tr>
<td>52 St. Laurent</td>
<td>Parisien, north side between Triole and Michael</td>
<td>2015</td>
<td>$80,750</td>
<td>$247,750</td>
<td>Stand alone sidewalk</td>
</tr>
<tr>
<td>53 St. Laurent</td>
<td>Tremblay, north side between St. Laurent and Triole</td>
<td>2015</td>
<td>$51,000</td>
<td>$298,750</td>
<td>Stand alone sidewalk</td>
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</table>

Train TOD area total: Total value of sidewalks in TOD $3,251,100 $1,841,000
<table>
<thead>
<tr>
<th>TOD Area</th>
<th>Sidewalk Project</th>
<th>Target Year</th>
<th>Cost Estimate</th>
<th>Running Total</th>
<th>Type of Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>54</td>
<td>54 St. Laurent Labelle, south side between Michael and Lemieux</td>
<td>2016</td>
<td>$74,375</td>
<td>$373,125</td>
<td>Stand alone sidewalk</td>
</tr>
<tr>
<td>55</td>
<td>55 St. Laurent Lemieux, south side between Labelle and St. Laurent</td>
<td>2016</td>
<td>$78,625</td>
<td>$451,750</td>
<td>Stand alone sidewalk</td>
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<tr>
<td>56</td>
<td>56 St. Laurent Parisien, north side between Michael and Marchand</td>
<td>2016</td>
<td>$128,250</td>
<td>$580,000</td>
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<tr>
<td>57</td>
<td>57 St Laurent St Laurent Blvd, east side between Tremblay and Belfast</td>
<td>2016</td>
<td>$298,000</td>
<td>$878,000</td>
<td>Stand alone sidewalk</td>
</tr>
<tr>
<td>58</td>
<td>58 St. Laurent Michael, west side, between Parisien and Belfast</td>
<td>2017</td>
<td>$318,750</td>
<td>$1,196,750</td>
<td>Stand alone sidewalk</td>
</tr>
<tr>
<td>59</td>
<td>59 St. Laurent Joseph Cyr, west side between Lemieux and Cyrville</td>
<td>2017</td>
<td>$97,750</td>
<td>$1,294,500</td>
<td>Stand alone sidewalk</td>
</tr>
<tr>
<td>60</td>
<td>60 St. Laurent Parisien, south side between Triole and Michael</td>
<td>2017</td>
<td>$80,750</td>
<td>$1,375,250</td>
<td>Stand alone sidewalk</td>
</tr>
<tr>
<td>61</td>
<td>61 St. Laurent Triole, east side between Parisien and end</td>
<td>2017</td>
<td>$191,250</td>
<td>$1,566,500</td>
<td>Stand alone sidewalk</td>
</tr>
<tr>
<td>62</td>
<td>62 St. Laurent Triole, west side between Parisien and end</td>
<td>2017</td>
<td>$191,250</td>
<td>$1,757,750</td>
<td>Stand alone sidewalk</td>
</tr>
<tr>
<td>63</td>
<td>63 St. Laurent Coventry, north side between St Laurent and 180m west of St Laurent</td>
<td>timed with rd recon project</td>
<td>$43,200</td>
<td></td>
<td>City Standard Sidewalk as part of ISD Integrated Road Reconstruction</td>
</tr>
<tr>
<td>64</td>
<td>64 St. Laurent Coventry Rd, north side between Belfast and Coventry realignment 500m east of Belfast</td>
<td>timed with rd recon project</td>
<td>$120,000</td>
<td></td>
<td>City Standard Sidewalk as part of ISD Integrated Road Reconstruction</td>
</tr>
<tr>
<td>TOD Area</td>
<td>Sidewalk Project</td>
<td>Target Year</td>
<td>Cost Estimate</td>
<td>Running Total</td>
<td>Type of Project</td>
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<td>----------------</td>
</tr>
<tr>
<td>65 St. Laurent</td>
<td>Coventry Rd Realignment, west side between Coventry and Coventry</td>
<td>timed with rd recon project OR with development</td>
<td>$120,000</td>
<td>City Standard Sidewalk as part of ISD Integrated Road Reconstruction OR Development Condition</td>
<td></td>
</tr>
<tr>
<td>66 St. Laurent</td>
<td>Coventry Rd Realignment, east side between Coventry and Coventry</td>
<td>timed with rd recon project OR with development</td>
<td>$120,000</td>
<td>City Standard Sidewalk as part of ISD Integrated Road Reconstruction OR Development Condition</td>
<td></td>
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<tr>
<td>67 St. Laurent</td>
<td>Tremblay Rd Realignment, north side between Tremblay and St Laurent</td>
<td>timed with development</td>
<td>$225,000</td>
<td>Future developer cost</td>
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<tr>
<td>68 St. Laurent</td>
<td>Tremblay Rd Realignment, south side between Tremblay and St Laurent</td>
<td>timed with development</td>
<td>$225,000</td>
<td>Future developer cost</td>
<td></td>
</tr>
<tr>
<td>69 St. Laurent</td>
<td>Future N/S Private east of Ave U, west side, between Tremblay and south limit</td>
<td>timed with development</td>
<td>$90,000</td>
<td>Future developer cost</td>
<td></td>
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<tr>
<td>70 St. Laurent</td>
<td>Future N/S Private east of Ave U, east side, between Tremblay and south limit</td>
<td>timed with development</td>
<td>$90,000</td>
<td>Future developer cost</td>
<td></td>
</tr>
<tr>
<td>71 St. Laurent</td>
<td>Future Avenue P extension, between Avenue S and Future Private (above)</td>
<td>timed with development</td>
<td>$96,750</td>
<td>Future developer cost</td>
<td></td>
</tr>
<tr>
<td>72 St. Laurent</td>
<td>Avenue P, south side, from Avenue S to walkway</td>
<td>timed with rd recon project</td>
<td>$108,000</td>
<td>City Standard Sidewalk as part of ISD Integrated Road Reconstruction</td>
<td></td>
</tr>
<tr>
<td>TOD Area</td>
<td>Sidewalk Project</td>
<td>Target Year</td>
<td>Cost Estimate</td>
<td>Running Total</td>
<td>Type of Project</td>
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<tr>
<td>73</td>
<td>St. Laurent</td>
<td>Avenue N, west side, from Tremblay to park.</td>
<td>timed with rd recon project</td>
<td>$54,000</td>
<td>City Standard Sidewalk as part of ISD Integrated Road Reconstruction</td>
</tr>
<tr>
<td>74</td>
<td>St. Laurent</td>
<td>Avenue O, west side, from Tremblay to walkway</td>
<td>timed with rd recon project</td>
<td>$81,000</td>
<td>City Standard Sidewalk as part of ISD Integrated Road Reconstruction</td>
</tr>
<tr>
<td>75</td>
<td>St. Laurent</td>
<td>Future Private link between Tremblay and Future N/S Private</td>
<td>timed with development</td>
<td>$27,000</td>
<td>Future developer cost</td>
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<tr>
<td>St Laurent TOD area total:</td>
<td></td>
<td>Total value of sidewalks in TOD</td>
<td></td>
<td>$2,914,700</td>
<td>$1,757,750</td>
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<tr>
<td>TOTAL</td>
<td></td>
<td>Total value of sidewalks in ALL TODs</td>
<td></td>
<td>$10,217,700</td>
<td>$5,915,688</td>
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</table>

**Capital Budget Request**

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<tr>
<th>Year</th>
<th>Capital Budget Request</th>
<th>Rounded Value</th>
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<tbody>
<tr>
<td>2015</td>
<td>$1,719,063</td>
<td>$1,750,000</td>
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<tr>
<td>2016</td>
<td>$2,417,750</td>
<td>$2,450,000</td>
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<tr>
<td>2017</td>
<td>$1,778,875</td>
<td>$1,800,000</td>
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<tr>
<td>Total</td>
<td>$5,915,688</td>
<td>$6,000,000</td>
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</tbody>
</table>
## APPENDIX F: CYCLING FACILITY PROJECTS

**Multi-use Pathway (MUP) Unit Price** = $500/m (includes removals, pavement, illumination, way-finding signage)

**New On-Road Facility** = $2,000/m (includes removals, curb, pavement, sub-drain, topsoil, new catchbasin placement, illumination, way finding signage)

<table>
<thead>
<tr>
<th>TOD Area</th>
<th>Project</th>
<th>Target Year</th>
<th>Cost Estimate</th>
<th>2015 TOD</th>
<th>2016 TOD</th>
<th>2017 TOD</th>
<th>Running Total</th>
<th>Cost Estimate Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Train</td>
<td>Link U3, east of Riverside – upgrade (resurface) existing 20 year old MUP leading from Riverside to Train to city standard (500 m segment from the Riverside Transitway O/P to Train).</td>
<td>2016</td>
<td>$125,000</td>
<td>$125,000</td>
<td></td>
<td></td>
<td>$125,000</td>
<td>New 500m MUP : $250,000 subject to NCC’s approval and cost-sharing arrangement (50/50)</td>
</tr>
<tr>
<td>Train</td>
<td>Link C3 – Bike lanes on Coventry from Lola to Vanier Parkway</td>
<td>2016</td>
<td>$50,000</td>
<td></td>
<td>$50,000</td>
<td></td>
<td>$175,000</td>
<td>Long term: new 600m on-road facility: $1,200,000; short term sharrows: $50,000</td>
</tr>
<tr>
<td>Train</td>
<td>Link R6 – Bike lanes on Neighbourhood</td>
<td>OCP 2031</td>
<td>$300,000</td>
<td></td>
<td>$50,000</td>
<td></td>
<td>$225,000</td>
<td>New 150m on-road facility: $300,000; sharrows $50,000</td>
</tr>
<tr>
<td>TOD Area</td>
<td>Project</td>
<td>Target Year</td>
<td>2015 TOD</td>
<td>2016 TOD</td>
<td>2017 TOD</td>
<td>Running Total</td>
<td>Cost Estimate Notes</td>
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</tr>
<tr>
<td>Train</td>
<td>Link R2 – New Coventry Footbridge over Queensway to VIA / LRT stations.</td>
<td>2015</td>
<td>$8,400,000</td>
<td></td>
<td></td>
<td></td>
<td>$8,400,000 (approved in previous budgets) to be implemented as part of the Ottawa LRT initiative.</td>
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</tr>
<tr>
<td>Train</td>
<td>Link U4 – MUP from eastern terminus of U3 to existing U6 that begins at northeast quadrant of intersection of Train Station Driveway/Tremblay.</td>
<td>2015</td>
<td>$135,000</td>
<td></td>
<td></td>
<td>$360,000</td>
<td>New 150m MUP : $75,000 Signal Work / Cross-ride : est. $60,000</td>
<td></td>
</tr>
<tr>
<td>Train</td>
<td>Link R1a – MUP from north end of R2 to Coventry Road/Hampton Inn signalized intersection along perimeter of stadium west parking lot</td>
<td>2015</td>
<td>$250,000</td>
<td></td>
<td></td>
<td>$360,000</td>
<td>New 500m MUP : $250,000</td>
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</tr>
<tr>
<td>Train</td>
<td>Link R1b – MUP from north end of R2 to Coventry Road along</td>
<td>2015</td>
<td>$125,000</td>
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<td></td>
<td>$360,000</td>
<td>New 250m MUP : $125,000 – covered by Coventry</td>
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<tr>
<td>TOD Area</td>
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<td>Cost Estimate 2015</td>
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<td>Cost Estimate 2017</td>
<td>Cost Estimate Notes</td>
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<tr>
<td>Train</td>
<td>Link R1c – MUP from R1C to intersection at Lola and Coventry (110m)</td>
<td>2015</td>
<td>$250,000</td>
<td>$250,000</td>
<td>610,000</td>
<td>New 110m MUP: $250,000 to allow cyclist access to Coventry footbridge from residential area north of Lola</td>
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<tr>
<td>Train</td>
<td>Link R3 – provides connectivity from northern terminus of the tunnel (R4) to Coventry Road foot bridge (R2)</td>
<td>With development</td>
<td>$75,000</td>
<td></td>
<td></td>
<td>New 150m MUP : $75,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Train</td>
<td>Link R4 – Tunnel will be designed to accommodate bicycles. Enables link from communities surrounding Hospital lands to new pedestrian/cycling bridge over</td>
<td>With development</td>
<td>Long term</td>
<td></td>
<td></td>
<td>Tunnel to be constructed by adjacent developer as part of existing subdivision conditions</td>
<td></td>
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<tr>
<td>TOD Area</td>
<td>Project</td>
<td>Target Year</td>
<td>Cost Estimate</td>
<td>2015 TOD</td>
<td>2016 TOD</td>
<td>2017 TOD</td>
<td>Running Total</td>
<td>Cost Estimate Notes</td>
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<tr>
<td>Queensway</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Train</td>
<td>Link R5 – new N/S MUP / on road link between industrial/Neighbourhood and Terminal partially on private lands. Requires crossing an arterial and a collector. Ties in to Link R4. Note: A crosswalk/crossride is required.</td>
<td>With development</td>
<td>$300,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>New 400m MUP: $200,000 Cross-Ride: est. $100,000 Cost covered by adjacent development at time of approval. Signalized intersection will be City’s cost.</td>
</tr>
<tr>
<td>Train</td>
<td>Link S3 – Shared lane facility by repainting or sharrows and signs (check cross section), with crossrides at Belfast and Train Yards.</td>
<td>2015</td>
<td>$50,000</td>
<td>$50,000</td>
<td></td>
<td></td>
<td>$660,000</td>
<td>Short term: road markings, sharrows, remediation of catch basins. Long term part of ISD rebuild – include bike lanes or MUP</td>
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<td>TOD Area</td>
<td>Project</td>
<td>Target Year</td>
<td>Cost Estimate</td>
<td>2015 TOD</td>
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<td>Running Total</td>
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<tr>
<td>Train TOD area total:</td>
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<tr>
<td>St. Laurent</td>
<td>Link S1 – Queensway to Coventry Road (200m). Future cycle track and short term sharrows.</td>
<td>2015</td>
<td>$50,000</td>
<td>$50,000</td>
<td></td>
<td></td>
<td>$50,000</td>
<td>Short term sharrows or painted lanes, medium term paved shoulders or MUP along west side of roadway, long term bike track with road rebuild</td>
</tr>
<tr>
<td>St. Laurent</td>
<td>Link S2 - Queensway overpass is to be investigated for the implementation of bicycle facilities.</td>
<td>2016</td>
<td></td>
<td></td>
<td></td>
<td>$5,000</td>
<td>$55,000</td>
<td>Short term sharrows Consider raised PED Priority MUP on West Side. Assess bike/ped volume over bridge</td>
</tr>
<tr>
<td>St. Laurent</td>
<td>Link C1+C2 – Bike lanes on Coventry from St. Laurent Blvd to Hardy Portal. With road relocation 2015</td>
<td>With road relocation 2015</td>
<td>$250,000</td>
<td>$250,000</td>
<td></td>
<td>$305,000</td>
<td>Coventry re-build from St. Laurent to Lola bike lanes or bikeways will be requested as part of the re-build.</td>
<td></td>
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<td>TOD Area</td>
<td>Project</td>
<td>Target Year</td>
<td>Cost Estimate</td>
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<tr>
<td>St. Laurent</td>
<td>Link H1 - New on-road facility along both sides of St-Laurent Boulevard.</td>
<td>OCP-2031</td>
<td>$3,300,000</td>
<td></td>
<td></td>
<td></td>
<td>$305,000</td>
<td>New 1500m On-Road Facility: $3,000,000 Three cross-rides are anticipated at $100,000 each. Total of $3,300,000</td>
</tr>
<tr>
<td>St. Laurent</td>
<td>Link H2a – From southern limit of H4 through development lands to the Avenues</td>
<td>OCP 2031</td>
<td>$225,000</td>
<td></td>
<td></td>
<td></td>
<td>$225,000</td>
<td>New 450m MUP : $225,000</td>
</tr>
<tr>
<td>St. Laurent</td>
<td>Link H2a - New MUP link from H3 to the Avenues subdivision.</td>
<td>With Develop-ment</td>
<td>$100,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>New 200m MUP : $100,000</td>
</tr>
<tr>
<td>St. Laurent</td>
<td>Link H3 - New MUP link from H4a to St Laurent Boulevard (Link H1).</td>
<td>With Develop-ment</td>
<td>$225,000</td>
<td></td>
<td></td>
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<td>New 450m MUP : $225,000</td>
</tr>
<tr>
<td>TOD Area</td>
<td>Project Description</td>
<td>Target Year</td>
<td>Cost Estimate</td>
<td>2015 TOD</td>
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<tr>
<td>St. Laurent</td>
<td>Link H4a – The developer (PWGSC) funded pedestrian overpass of Hwy 417. This facility will provide pedestrian connectivity between the new government facility and St. Laurent Station. This facility should be constructed such that it can accommodate Multi Use facilities (ie. bike ride through).</td>
<td>With Development</td>
<td></td>
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<td></td>
<td>Cost covered by PWGSC capital budget.</td>
<td></td>
</tr>
<tr>
<td>St. Laurent</td>
<td>Link H4b – To allow bicycle connectivity and complete the Multi Use facility across Hwy 417 ramps are to be constructed. This facility will provide a connection between route U6 (south of the 417) and route V2 (north of the 417).</td>
<td>OCP 2031</td>
<td>$850,000</td>
<td></td>
<td>$850,000</td>
<td></td>
<td>$1,155,000</td>
<td>$850K provision to add bike-through feature for proposed ped overpass. This is a key interconnect between the bikeways south and north of the LRT ROW. Key unknown is the feasibility of the ramp at St. Laurent station - to be determined with LRT review.</td>
</tr>
<tr>
<td>TOD Area</td>
<td>Project</td>
<td>Target Year</td>
<td>Cost Estimate</td>
<td>2015 TOD</td>
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<tr>
<td>St. Laurent</td>
<td>Link H5 - New MUP from Trojan Park to St Laurent Boulevard (Link H1).</td>
<td>OCP 2031</td>
<td>$100,000</td>
<td></td>
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<td>New 200m MUP : $100,000</td>
</tr>
<tr>
<td>St. Laurent</td>
<td>Link U7 – On road cycling facility along Parisien from Michael Street / U6 to Marchand. Total 450m. Short Term: Sharrows Long Term: Dedicated cycling facility</td>
<td>OCP 2031</td>
<td>$900,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Long term Cost : $900,000</td>
</tr>
<tr>
<td>St. Laurent</td>
<td>Link O2 - New MUP from Link O1 to Triole Street.</td>
<td>OCP 2031</td>
<td>$100,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>New 200m MUP : $100,000</td>
</tr>
<tr>
<td>St. Laurent</td>
<td>Link P3 - New MUP from Michael Street to Link P2.</td>
<td>OCP 2031</td>
<td>$100,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>New 200m MUP : $100,000</td>
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<tr>
<td>TOD Area</td>
<td>Project</td>
<td>Target Year</td>
<td>Cost Estimate</td>
<td>2015 TOD</td>
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<tr>
<td>St. Laurent</td>
<td>Link V1 – Ride through bypass of St. Laurent Station.</td>
<td>OCP 2031</td>
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<tr>
<td>St. Laurent</td>
<td>Link V2 – MUP from St. Laurent Station to Michael street (running north of the LRT alignment and connecting Link V3)</td>
<td>2017</td>
<td>$200,000</td>
<td></td>
<td>$200,000</td>
<td>$1,355,000</td>
<td>New 400m MUP: $200,000</td>
<td></td>
</tr>
<tr>
<td>St. Laurent</td>
<td>Link G1 – new MUP from Hardy portal south to the Hwy 417, then east to the St. Laurent station. Costs covered through site plan agreement with shopping centre.</td>
<td>With Development</td>
<td>$325,000</td>
<td></td>
<td>$30,000</td>
<td>$1,385,000</td>
<td>New 650m MUP: $325,000 Cost covered by adjacent development at the time of approval. 30k provision for cross-ride signals upgrade at the Hardy Portal</td>
<td></td>
</tr>
<tr>
<td>St. Laurent</td>
<td>Link G2 – Cycling facilities from G1 to Coventry. Costs covered through site plan agreement with</td>
<td>With Development</td>
<td>$200,000</td>
<td></td>
<td></td>
<td></td>
<td>Cost covered by adjacent development at the time of approval.</td>
<td></td>
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<td>TOD Area</td>
<td>Project</td>
<td>Target Year</td>
<td>Cost Estimate</td>
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<tr>
<td>St. Laurent</td>
<td>Link S5 – New MUP from intersection of Trainyards/Industrial to Coronation. Links to existing MUP or on-road cycling facilities on Trainyards (100 m). Crossride across east leg of Industrial/Trainyards – potential costs for traffic signals/geometric changes.</td>
<td>2017</td>
<td>$80,000</td>
<td></td>
<td></td>
<td></td>
<td>New 100m MUP : $50,000 Signals / Cross-ride : est $30,000 Cost covered by adjacent development at the time of approval.</td>
<td></td>
</tr>
<tr>
<td>St. Laurent</td>
<td>Bike Parking –Stn West Terminating Link G1</td>
<td>2017</td>
<td>$200,000</td>
<td></td>
<td></td>
<td>$200,000</td>
<td>$1,585,000</td>
<td></td>
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<tr>
<td>TOD Area</td>
<td>Project</td>
<td>Target Year</td>
<td>Cost Estimate</td>
<td>2015 TOD</td>
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<tr>
<td>St. Laurent</td>
<td>Bike Parking – Stn South (south side of PED bridge)</td>
<td>2015</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$200,000</td>
<td>$1,785,000</td>
</tr>
<tr>
<td>St. Laurent</td>
<td><strong>TOD area total</strong></td>
<td></td>
<td>$300,000</td>
<td>$885,000</td>
<td>$600,000</td>
<td></td>
<td>$1,785,000</td>
<td></td>
</tr>
<tr>
<td>Cyrville</td>
<td>Link E1 – New 500 m MUP from Cyrville Station to southwest quadrant of intersection of Ogilvie/Aviation Pkwy, providing access to new Aviation MUP by NCC. Should include crossride at west leg of intersection and possibly at south leg.</td>
<td>2017</td>
<td>$350,000</td>
<td></td>
<td></td>
<td></td>
<td>$350,000</td>
<td>$350,000</td>
</tr>
<tr>
<td>Cyrville</td>
<td>Link E2 – Ramps to provide access to Cyrville Station.</td>
<td>2017</td>
<td>$330,000</td>
<td></td>
<td></td>
<td></td>
<td>$680,000</td>
<td></td>
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<tr>
<td>TOD Area</td>
<td>Project</td>
<td>Target Year</td>
<td>Cost Estimate</td>
<td>2015 TOD</td>
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<tr>
<td>Cyrville</td>
<td>Link E3 – MUP from Link V4 north to link M5. 300m.</td>
<td>2017</td>
<td>$350,000</td>
<td></td>
<td></td>
<td></td>
<td>$1,030,000</td>
<td>New MUP 300m</td>
</tr>
<tr>
<td>Cyrville</td>
<td>Link U9 – New MUP running from Cyrville to Kenaston. New Half signal at Cyrville required for implementation.</td>
<td>OCP 2031</td>
<td>$50,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>New 100m MUP : $50,000</td>
</tr>
<tr>
<td>Cyrville</td>
<td>Link U10 - New MUP from Kenaston Road to Cyrville Road / Labrie Avenue intersection.</td>
<td>OCP 2031</td>
<td>$125,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>New 250m MUP : $125,000</td>
</tr>
<tr>
<td>Cyrville</td>
<td>Link V4 – MUP running north of the LRT to Link V3 through Cyrville Station to just east of the Aviation Parkway.</td>
<td>2017</td>
<td>$350,000</td>
<td></td>
<td></td>
<td></td>
<td>$1,380,000</td>
<td>New MUP 300m :</td>
</tr>
<tr>
<td>Cyrville</td>
<td>Link V5 – MUP running north of the LRT. Continues from Link V4 and extends east. May coincide with a future LRT extension.</td>
<td>OCP 2031</td>
<td></td>
<td></td>
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<td>TOD Area</td>
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<td>Target Year</td>
<td>Cost Estimate</td>
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<td>Cost Estimate Notes</td>
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<tr>
<td>Cyrville</td>
<td>Link W1 - New on-road facility along Cyrville Road from Link W2 to Link H1.</td>
<td>With roadway reconstruction</td>
<td>$1,800,000</td>
<td></td>
<td></td>
<td></td>
<td>$1,380,000</td>
<td>New 800m On-Road facility : $1,600,000 Two cross-rides are anticipated at $100,000 each. Total of $1,800,000</td>
</tr>
<tr>
<td>Cyrville</td>
<td>Link W3 / Link W4 - New on-road facility along Cyrville Road, both sides.</td>
<td>OCP 2031</td>
<td>$1,000,000</td>
<td></td>
<td></td>
<td></td>
<td>$1,380,000</td>
<td>New 500m on-road facility : $1,000,000</td>
</tr>
<tr>
<td>Cyrville</td>
<td>Link X1 - New MUP from Link W1 to Ogilvie Road.</td>
<td>OCP 2031</td>
<td>$75,000</td>
<td></td>
<td></td>
<td></td>
<td>$1,380,000</td>
<td>New 150m MUP : $75,000</td>
</tr>
<tr>
<td>Cyrville</td>
<td>Link X2 - New MUP from Link X1 to Link W1.</td>
<td>OCP 2031</td>
<td>$100,000</td>
<td></td>
<td></td>
<td></td>
<td>$1,380,000</td>
<td>New 200m MUP : $100,000</td>
</tr>
<tr>
<td>Cyrville</td>
<td>Link X3 - New MUP from Ogilvie Road to Link E1.</td>
<td>2018</td>
<td>$325,000</td>
<td></td>
<td></td>
<td></td>
<td>$1,380,000</td>
<td>New 450m MUP : $225,000 One cross-ride is anticipated at $100,000. Total of $325,000</td>
</tr>
<tr>
<td>TOD Area</td>
<td>Project</td>
<td>Target Year</td>
<td>Cost Estimate</td>
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<tr>
<td>Cyrville</td>
<td>Bike Parking – Stn West Terminating Link E2</td>
<td>2017</td>
<td>$200,000</td>
<td>$200,000</td>
<td>$200,000</td>
<td>$1,580,000</td>
<td></td>
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<tr>
<td>Cyrville</td>
<td>TOD area total</td>
<td></td>
<td></td>
<td>$0</td>
<td>$0</td>
<td>$1,580,000</td>
<td>$1,580,000</td>
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<tr>
<td>Total all</td>
<td>TOD Areas</td>
<td></td>
<td></td>
<td>$735,000</td>
<td>$1,110,000</td>
<td>$2,180,000</td>
<td>$4,025,000</td>
<td></td>
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APPENDIX I: ST. LAURENT STATION- SOUTH-WEST QUADRANT STATION AREA PLAN (UNDER SEPARATE COVER)
