LaSalle INVESTMENT MANAGEMENT®

1560 Scott Street

Confederation Line LRT Proximity Study

August 2022

PARSONS

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1.0 Introduction

Parsons has been retained by LaSalle Investment Management to complete a Confederation Line Proximity Study (LRT Proximity Study) in support of Site Plan Control approval for a proposed development at 1560 Scott Street. The proposed development is assessed in terms of its risk to the LRT infrastructure according to the Confederation Line Proximity Study Guidelines (2013). As the proposed development is adjacent to, but outside of the Development Zone of Influence (DZI), this report will demonstrate that there is minimal to no risk. The property parcel is across Scott Street from the DZI but the proposed site location is in the southeast corner of the property at approximately 120 m from the LRT trench and approximately 160 m from Tunney's Pasture Station.

1.1 Proposed Development

The proposed development is for a 25-storey residential tower which includes a 7-storey mixed-use podium base, for the southeast corner of the existing Holland Cross mixed-use development. The development proposal includes the following aspects and site modifications:

- Single 25-storey tower building to be added to existing podium (southeast corner) including 281 dwelling units;
- Reconfigured below-grade parking that includes no new resident vehicle stalls, 30 required visitor stalls, resident storage space, and resident bicycle stalls (at least 1 stall per dwelling unit);
- Scaled and articulated podium; and
- Improved pedestrian environment and amenity space.

1.2 Site Plan Control Application

LaSalle Investment Management has retained Stantec Inc. as planning consultants to put forward a Site Plan Control Application which is currently under review by the City of Ottawa. This Proximity Study is one aspect of the Site Plan Control package. The development application for Site Plan Control approval is supported by previously approved amendments to the Official Plan and Zoning By-law (OPA 270 and By-law 2021-409).

The Site Plan Control application package includes plans and reports which have been reviewed to complete this LRT Proximity Study report, including the following:

- Pedestrian Level Wind Study (prepared by Gradient Wind)
- Transportation Noise Assessment (prepared by Gradient Wind)
- Planning Rationale (prepared by Stantec Inc.)
- Design Brief (prepared by N45 Architecture Inc.)
- Site Plan and Elevations (prepared by N45 Architecture Inc.)

1.3 LRT Proximity Study

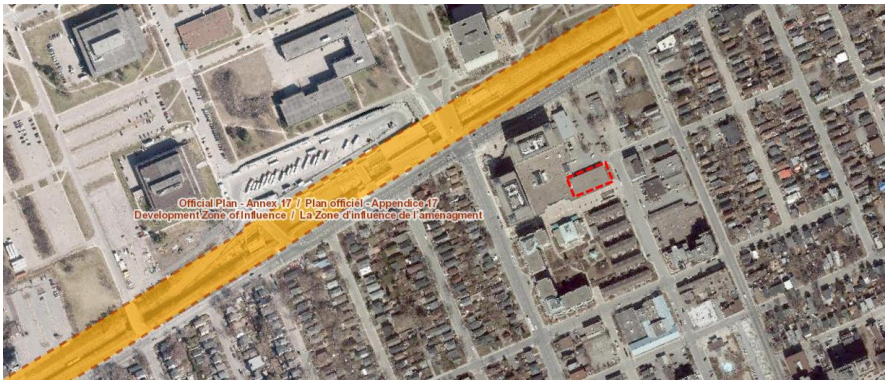
A Proximity Study involves the comprehensive review of the development proposal and how it relates to the Confederation Line's assets, infrastructure, utilities and operations. This report presents a Level 1 Proximity Study according to the current 2013 Confederation Line Proximity Study Guidelines. This report also briefly reviews the development according to the draft 2022 O-Train System Proximity Study Guidelines.

According to the 2013 Proximity Study Guidelines, a Level 1 Proximity Study level of review entails "development within Development Zone of Influence, minimal impact on Confederation Line structures anticipated". Based on the distance of the development site from the Confederation Line station and tracks, as well as confirmation from City of Ottawa staff, this report puts forward a Level 1 level of review.

Figure 1: 1560 Scott Street – Proposed Development Location, Approximate Distance to Confederation Line Infrastructure

As shown in **Figure 1**, the proposed building footprint is approximately 120 m to the LRT trench (tracks) and 160 m to the Tunney's Pasture station (LRT platform area). As shown in **Figure 2**, the Development Zone of Influence (DZI) is at the north side of the Scott Street property line. The DZI is shown in Annex 17 of the Ottawa Official Plan (and Annex 2 of the New Ottawa Official Plan).

Figure 2: Development Zone of Influence (DZI) - Excerpt from City of Ottawa GeoOttawa, proposed building footprint added.



2.0 Context and Site

The development site is within "Holland Cross", a mixed-use development at the southeast corner of Scott Street and Holland Avenue. Holland Cross is at the "west end" of downtown Ottawa, about 4 kilometres from the downtown core, roughly part of the Hintonburg/Parkdale/Wellington Village neighbourhoods.

2.1 Context

The Planning Rationale completed by Stantec and dated December 2021 features a comprehensive review of the surrounding context and land uses. **Figure 3** is a rough general orientation to the predominant adjacent land uses to the site.

Figure 3: 1560 Scott Street – Surrounding Land Use General Context

To the west (across from Holland Avenue) and to the south (across from the pedestrian promenade) of the site is existing residential development, with examples of this shown in **Photo 1**. Much of the adjacent residential development to the west and south is currently low-rise single detached buildings, with some mid- and high-rise apartment buildings as well as townhouses south of the site.

Photo 1: Left: Existing residential land uses to the west. Right: Existing residential townhouse development to the south.

To the north and east of the site is existing commercial and mixed use development. The surrounding commercial development exists in a wide range of form from low-rise buildings with ample surface parking lots to podiums of high-rise buildings. Much of the existing commercial land uses to the north of the site are mixed use.

2.1.1 Area Development

The City of Ottawa development application website database was searched in August 2022 and there are a number of Site Plan Control and Zoning By-law Amendment applications south of Spencer Street, such as at 260 and 262 Armstrong, 83 Hinton, 91 and 93 Hinton, and 1249 and 1193 Wellington. There is an active Zoning By-law Amendment and Site Plan Control application for an adjacent property at 1546 Scott Street. This application is also for a 25-storey building. North of Scott Street and Tunney's Pasture Station is the Tunney's Pasture Redevelopment Site which is slated for construction in the coming years per the Tunney's Pasture Master Plan.

2.2 Site

Holland Cross is an existing mixed-use development (predominantly office and commercial) directly across Scott Street from Tunney's Pasture station and redevelopment site. Holland Cross includes existing mid-/high-rise buildings atop commercial podiums as shown in **Photo 2 (left)**. The development proposal tower would be 'behind' the two towers shown in **Photo 2 (left)**.

Photo 2: Left: Holland Cross, facing southeast. Right: Existing podium, promenade at southeast corner (development site).

The development site includes an existing pedestrian mall/promenade area as shown in **Photo 2 (right)**. The development proposal includes active transportation improvements to this pedestrian area. The existing podium that is to be demolished is to the north of this pedestrian mall and is partially shown in **Photo 2 (right)**. Development plans are to reconstruct this podium to suit the future high-rise tower.

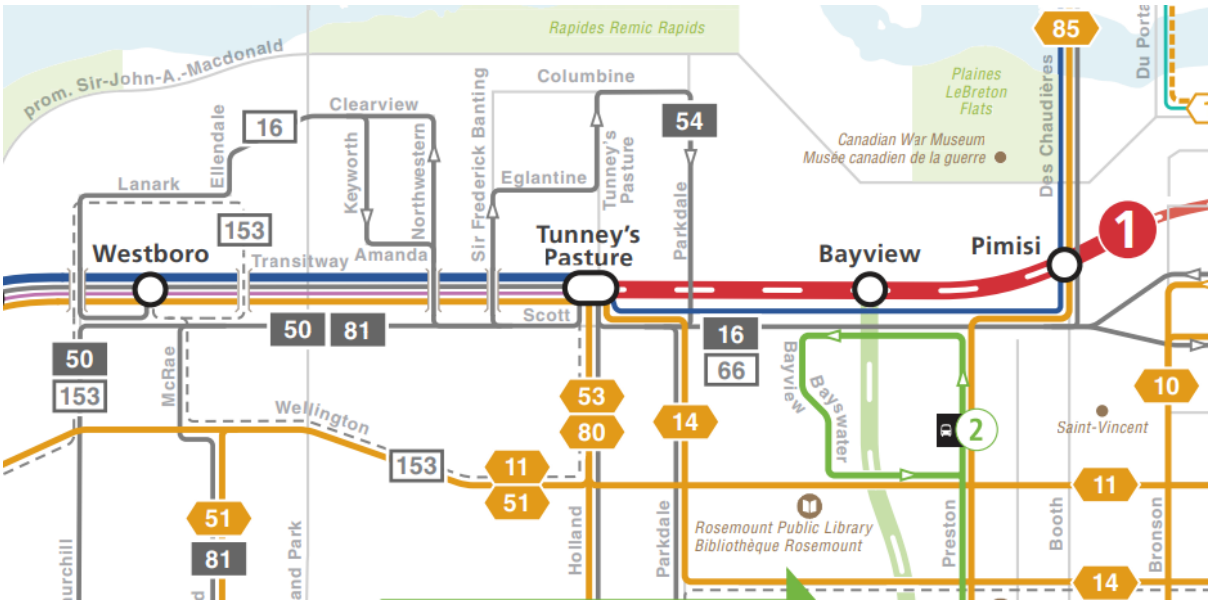
There are existing accesses to the underground parking at the east and west of the site as shown in **Photo 3**. These accesses will remain in these general locations but the accesses themselves and the below-grade levels will be reconstructed as part of the development proposal.

Photo 3: View of existing underground parking access to development site. Left: facing west. Right: facing east.

2.3 Tunney's Pasture LRT Station

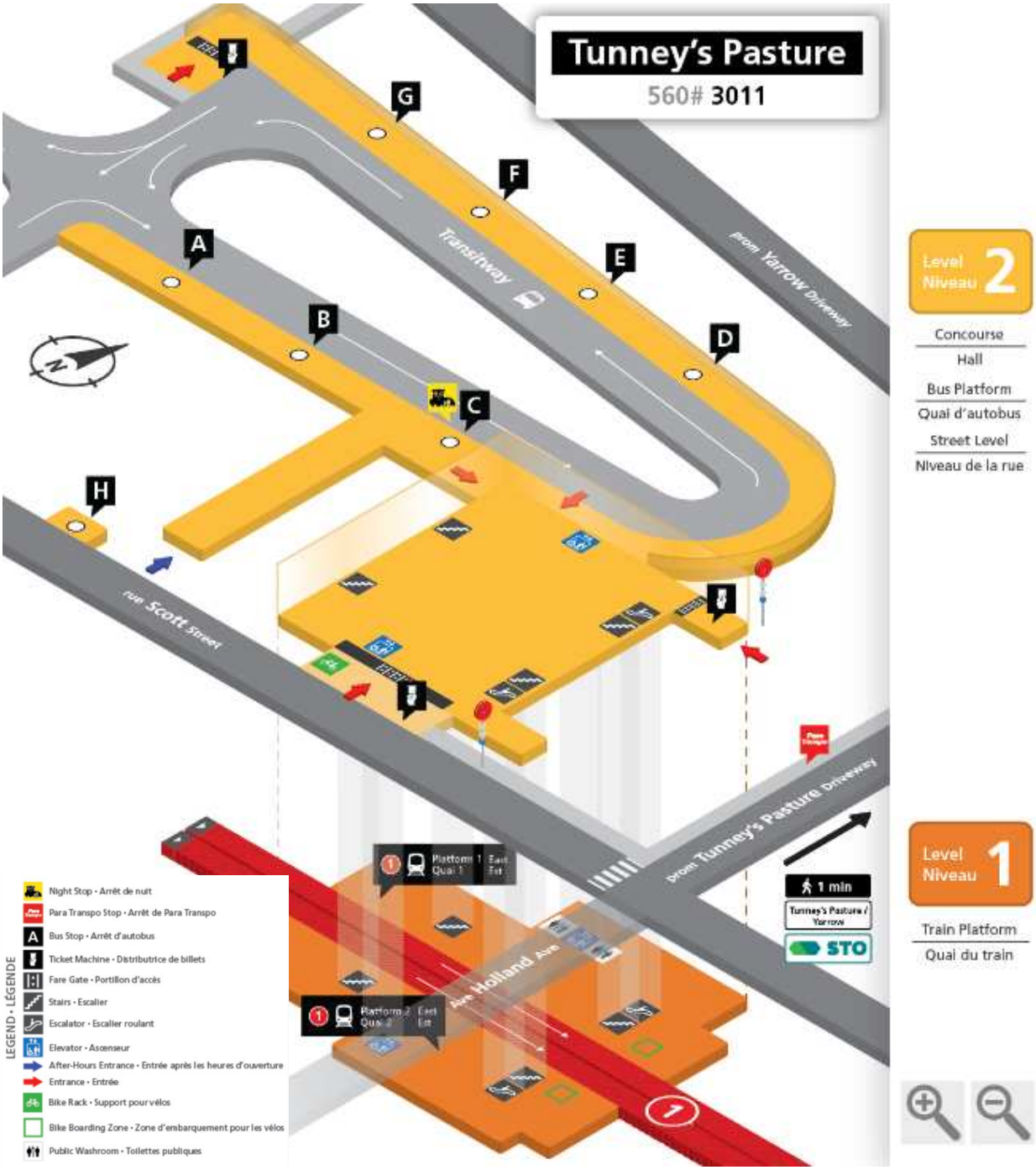
Tunney's Pasture LRT station has been operational since the Confederation Line opened in September 2019. It is currently the western terminus of the Confederation Line (Line 1). Transit users can connect from the LRT to multiple bus lines at Tunney's Pasture as shown in **Figure 4**. Future extension west to Moodie Drive/Algonquin Station is currently under construction with revenue service anticipated to commence in 2026.

Figure 4: Tunney's Pasture - Transit Network (Excerpt from OC Transpo Network Map).



As shown in **Figure 5**, Tunney's Pasture station is at two levels. The LRT trench and platforms are below-grade. Transit users must exit/enter the LRT to/from street level using stairs, escalators, or an elevator. At street level, the bus bay connections are northwest of the LRT accesses.

Figure 5: Tunney's Pasture - Station Layout (OC Transpo)



2.3.1 Infrastructure

The Confederation Line in the vicinity of the site includes the following notable infrastructure:

- LRT trench and associated overhead catenary system wires;
- Below-grade LRT station/platform and associated exits and entrances (including stairs, elevators, escalators);
- Traction Power Substation/TPSS (in the LRT trench);
- Holland Avenue/Tunney's Pasture Driveway bridge (over the LRT trench);
- Bus bay/loop northwest of the LRT station at street level; and
- Pedestrian plaza area with street furniture on the northwest corner of the Scott Street/Holland Avenue intersection.

Some of this infrastructure is presented below in site visit photos taken in July 2022. The purpose of this LRT Proximity Study is to review the development proposal in relation to this infrastructure.

Photo 4: View of LRT trench and Holland Avenue bridge, facing southwest towards Scott Street and Holland Cross.

Photo 4 demonstrates the relative depth of the LRT trench compared to the existing Holland Cross towers in the background. It also shows the portion of Holland Avenue that is a bridge over the LRT trench. The LRT trench and tracks are opposite Scott Street from the development site. The property parcel extends to the south side of Scott Street, but the portion of the parcel that is slated for redevelopment is the southeast corner of this parcel, so there is approximately 120 m between the site plan area and the LRT tracks and approximately 160 m between the site plan area and the LRT station/platforms. These are sufficient distances to mitigate impacts to LRT infrastructure as outlined in Section 3 of this report.

Photo 5: Left: View of TPSS (arrow added), facing northeast. Right: LRT access to street level (Scott St.), facing southeast.

There is a Traction Power Substation (TPSS) on the north side of the LRT tracks north of Scott Street as shown in **Photo 5 (left)**. TPSS's convert high voltage power from the City's electricity grid to supply electricity to the overhead catenary system (OCS) which powers the LRT vehicles. These are critical components to the LRT system and are located approximately every 1.5 km along the Confederation Line.

3.0 Level 1 Proximity Study (2013 Confederation Line Proximity Study Guidelines)

The purpose of this Proximity Study is to demonstrate that the proposed development at 1560 Scott Street:

- Supports protection of the Confederation Line asset (properties and structures) and current and future operations; and
- Supports the City's transit focused development objectives for development in proximity to the Confederation Line.

To review whether these objectives are supported by the development application, this report reviews the geotechnical studies available at the time of writing and analyzes the site in terms of multimodal connectivity through review of the site plan and an area site visit in July 2022.

3.1 Geotechnical Review

The geotechnical review of the development is based on the Geotechnical Report (Geotechnical Engineering Design Input – Holland Cross Expansion) prepared by Golder dated May 2020 as well as a review of the material by a structural engineer at Parsons.

The Geotechnical Report notes that the proposed building will be constructed within a portion of the existing building footprint. Considering that both the proposed building and the existing building have two below-grade levels, the Geotechnical Report notes that excavations are anticipated to be limited mainly to new footing areas and only extend 1-2 m below the level of existing excavation limit of the 2 storey underground parking garage.

Subsurface conditions in the area are bedrock at a shallow depth (e.g. between 1.6 and 2.5 m below ground surface). Therefore, the new building foundations are anticipated to be within limestone bedrock. Due to the nature of bedrock, there are few to no long term impacts anticipated on the LRT infrastructure from the existence of the proposed building. The hard bedrock is anticipated to provide a buffer between the LRT infrastructure and the proposed building. If the subsurface conditions were softer, there could potentially be minor long term vibration impacts to consider. There is a small chance of minor vibration impacts on the LRT due to hoeramming and line drilling into the bedrock during the construction phase only. These can be addressed by Standard City of Ottawa Conditions of Site Plan Approval with respect to vibration monitoring during the construction phase.

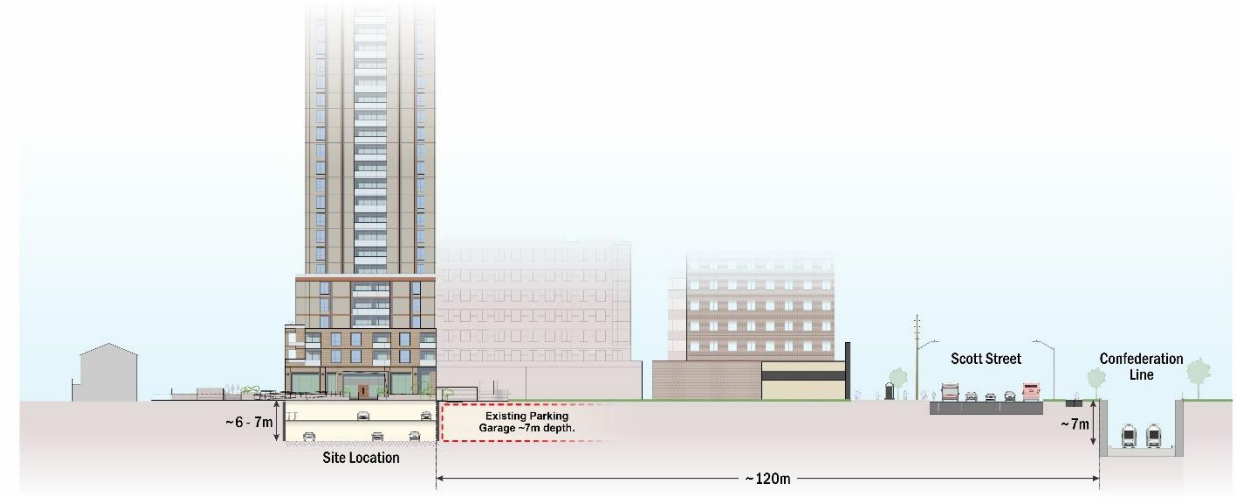
As noted, the proposed and existing building are both two levels below-grade. New excavation is expected to extend 1-2 m below the existing basement floor level for footing construction. This means that the below-grade

levels and excavation work associated with the development proposal is expected to be 6-7 m below existing grade level as shown in **Figure 6**. As indicated in **Figure 6**, there are additional existing below-grade parking levels just south of Scott Street, in between the development site and the LRT trench, that are closer to the LRT infrastructure than the proposed development site.

The Geotechnical Report also notes that the construction of the proposed building is not anticipated to result in significant permanent groundwater lowering compared to existing conditions provided similar drainage systems are used.

Due to proximity to adjoining buildings to the podium in Holland Cross as well as adjacent buildings across from Hamilton Avenue North/Bullman Avenue, the development will likely take mitigation efforts during the construction. For example, the Geotechnical Report notes that some shoring/temporary support may be needed for the excavation near the loading dock facility located immediately north of the proposed building and/or near Hamilton Avenue to prevent undermining of the roadways. As the LRT infrastructure is further from the construction site than these adjacent buildings and roadways, and due to the existing bedrock elevation, it is not considered that undermining will be an issue for LRT infrastructure. The exact construction methods will become known at a later date in the building permit and construction processes. Statements to this effect, referencing support methods, can be added as a Standard Condition or Special Condition in the Conditions of Site Plan Approval in the Site Plan Agreement.

Figure 6: 1560 Scott Street – Diagram of below-grade levels in relation to LRT trench



3.2 Support of Confederation Line infrastructure

The development is not expected to have an undue adverse impact on the adjacent LRT infrastructure (assets, properties, structures). The plans for excavation and construction support the protection of the transit infrastructure as noted in the previous section by generally keeping with the existing depth of the on-site and adjacent below-grade parking as well as due to being constructed in shallow hard bedrock.

As noted in the Guidelines, protection of current and future Confederation Line infrastructure includes:

- Fire ventilation;
- Station ventilation;
- Additional exits; and
- Accessibility for persons with disabilities.

The proposed development will not have any impact on these elements given the distance (120 m plus) from Tunney's Pasture Station.

As shown in **Photo 6**, there is a pedestrian plaza in front of the LRT station access north of Scott Street. This area features dedicated bike lanes, street furniture, and free space in the plaza area for pedestrians and active transportation users in front of the fare machines. This provides ample room for future reconfiguration for accessibility, additional exits, or other reasons and the proposed development and construction will not impact this area.

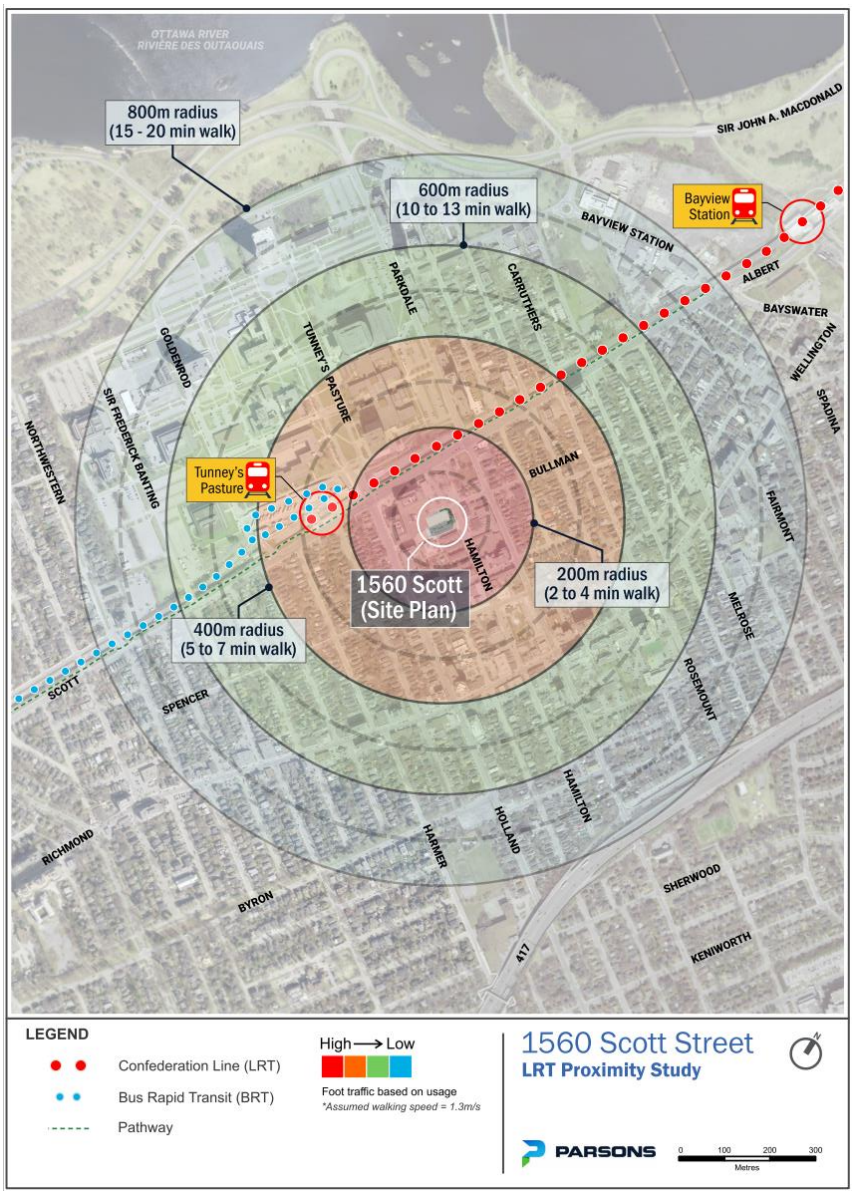
Photo 6: Pedestrian plaza area outside Tunney's Pasture Station at street level, facing southeast towards Holland Cross

3.3 Support of transit focused development

Development proposals in proximity to the Confederation Line are required to demonstrate that the development will support the City's transit focused development objectives. The City of Ottawa generally uses a 600m walking shed from rapid transit to determine areas to focus on for transit oriented development.

The development site is well within this 600 m shed as shown in **Figure 7**. As such, its location is in line with City transit-oriented development goals. As noted in the Design Brief, the development adds 281 rental units on a site just over 200 m from rapid transit. The pedestrian promenade/mall area between the proposed building and adjacent townhouse development will be redeveloped and improved in terms of active transportation circulation, and the development provides bicycle parking stalls at a 1:1 ratio.

Figure 7: 1560 Scott Street – Transit-oriented Development Diagram



3.4 Potential Risk and Impact

Development proposals in proximity to the Confederation Line are required to demonstrate that there is acceptable levels of potential risk and negative impact. The following table checks the development proposal against specific risks and potential impacts mentioned in the 2013 Guidelines:

Risk/Impact	Check
The risk of structural settlement and/or damage to Confederation Line facilities	Minimal to no risk due to distance of proposed development from LRT facilities.
The risk of liability/litigation from damage to Confederation Line facilities	Minimal to no risk due to distance of proposed development from LRT facilities.
The potential impact on access to Confederation Line facilities for future maintenance of Confederation Line assets	Minimal to no risk considering the development site is already developed and that area is not used for maintenance access.

The risk of operational impacts resulting from construction	Low risk of vibration impacts during the construction period due to potential hoeramming into the bedrock. Can be addressed through standard vibration monitoring requirements.
The risk of encroaching on a location required for future Confederation Line works or operational requirements	No risk due to distance of proposed development from LRT facilities.

4.0 Level 1A Proximity Study (2022 Draft O-Train System Proximity Study Guidelines)

The draft O-Train System Proximity Study Guidelines have not been approved by Ottawa City Council at this time. The draft 2022 Guidelines are intended to update the 2013 Guidelines to reflect that the Confederation Line (Line 1) is now operational, and many other stations and alignments are under construction or have undergone Environmental Assessment approval. As such, the draft 2022 guidelines refer to "the O-Train system" instead of the Confederation Line. In anticipation of their future approval, this report reviews the proposed development at 1560 Scott Street against what has changed between these draft guidelines and the existing 2013 Guidelines.

4.1 Level 1A Requirements

Level 1A refers to the fact that the Tunney's Pasture LRT station adjacent to the proposed development is currently operational. In contrast, a Level 1B study would be for proximity to a station or alignment that is currently under construction or planned for the future. The requirements for a Level 1A proximity study under the 2022 guidelines are largely similar to the 2013 guidelines and as such have been addressed in Section 3 of this report. Some notable changes between the 2013 guidelines and the 2022 guidelines are the more explicit reference to the multimodality of the O-Train system and stations, including pedestrian, cycling, and bus transit infrastructure and connectivity. As such, the impact on these aspects is addressed in this section of the report.

4.2 Multimodal connectivity

Overall the proposed development is anticipated to have a positive impact on multimodal connectivity in the area. A construction plan is not available at the time of writing this report. If disruptions to the current multimodal circulation around the site are required during the construction period, a condition of Site Plan Approval can be added to the Site Plan Agreement with relevant mitigation measures to ensure that multimodal transit users can access Tunney's Pasture station throughout the construction period. Disruptions and mitigation measures are not anticipated to be necessary due to the proposed building's location southeast of the Holland Avenue/Scott Street corner. The Holland Avenue/Scott Street corner is the busiest corner for pedestrians, cyclists, and bus transit users to access Tunney's Pasture station. Construction disruptions to this corner are not anticipated. Construction impacts are likely to be concentrated at the pedestrian promenade area or near the Hamilton Avenue North/Bullman Avenue North corner where there are no municipal bus routes. The bus loops at Tunney's Pasture station are northwest of the LRT station, so even further removed from the development site, with no impacts expected from the development.

5.0 Conclusion

Overall, there is minimal risk to the nearby Confederation Line LRT infrastructure associated with this development. Any risk of vibration is limited to the construction period for a limited time. The development can likely utilize Hamilton Avenue North and Bullman Street during the construction period so as to reduce impacts on the busier, multimodal streets with transit such as Scott Street and Holland Avenue. Risk and liability at this time does not look to be above and beyond normal levels of risk associated with construction and should be able to be addressed with Standard clauses and Conditions in the Site Plan Agreement.