REPORT FOR ACTION

Development in Proximity to Rail: Draft Official Plan Amendment and Proposed Zoning Amendment Approach

Date: November 24, 2020
To: Planning and Housing Committee
From: Chief Planner and Executive Director, City Planning
Wards: All

SUMMARY

This report proposes a draft amendment to the Official Plan and a proposed approach for an amendment to the City-wide Zoning By-law 569-2013 for public consultation in order to establish a city-wide approach to public safety for new development of sensitive or high occupancy land uses in proximity to rail infrastructure.

Rail infrastructure within the City of Toronto consists of more than 200 linear kilometres of rail corridors, spurs and yards. Railways in the City are owned and operated by Canadian National Railway, Canadian Pacific Railway, and Metrolinx (See Attachment 1), which are regulated by federal or provincial governments.

Interprovincial railways, and those that carry both passengers and goods, in Canada are Federally regulated, while light rail and public transportation systems, such as the Toronto Transit Commission (TTC) lines and new Metrolinx light rail lines (Eglinton Cross Town and the proposed Ontario Line) run on a different gauge of rail, and fall under Provincial jurisdiction. Light rail and provincially regulated rail are not the subject of this report. The City has jurisdiction for regulating land uses, including on lands that are adjacent to rail infrastructure and has authority to require public safety and hazard condition mitigation measures through its land use planning instruments.

The Federation of Canadian Municipalities and Railway Association of Canada Guidelines for New Development in Proximity to Railway Operations ("Guidelines") are meant to assist municipal governments and railways on matters related to land use decisions. (The Guidelines recommend a standard 30 metre setback from the property line of the rail property to the nearest sensitive or high occupancy use, and a 2.5 metre high earthen berm within the setback, to address accident and derailment risk mitigation). In recognition of smaller parcels that can be found in developed, urban settings in Canada's major cities, the Guidelines suggest that alternative mitigation measures may be considered if physical constraints of a proposed development site prevent the implementation of the recommended standard mitigation measures.

The City's current development review practice is to request a Rail Safety and Risk Mitigation study on a site by site basis in support of a development application. The draft Official Plan and Zoning By-law Amendments would establish a city-wide planning framework and provide clarity and certainty regarding requirements and expectations for applications in proximity to rail infrastructure.

The draft Official Plan Amendment would incorporate the requirement for applicants to submit a Rail Safety and Risk Mitigation Study as part of a complete application for development within 30 metres of rail infrastructure. The purpose of the study would be to identify how rail safety and risk mitigation measures would be addressed in the context of site specific conditions, and provide for the consideration of alternative or equivalent measures.

The proposed approach for the draft Zoning By-law Amendment outlined in this report would introduce a holding permission to limit (sensitive or high occupancy) land uses within 30 metres of rail infrastructure pending the completion of a Rail Safety and Risk Mitigation Study that satisfactorily demonstrates a set of rail safety and risk mitigation measures have been created for the site and supported through peer review. This holding permission would be applied only to those properties within 30 metres of a rail line and infrastructure and would apply to the as of right zoning in proximity to rail infrastructure across Toronto.

This report recommends that planning staff undertake public and stakeholder consultations on the proposed Official Plan Amendment and Zoning By-law Amendment approach. The results of the consultation along with final recommended amendments to the Official Plan and Zoning By-law 569-2013 are targeted to be brought to the Planning and Housing Committee in the spring of 2021.

RECOMMENDATIONS

The Chief Planner and Executive Director, City Planning recommends that:

1. The Planning and Housing Committee request the Chief Planner and Executive Director, City Planning to hold one public open house and consult with key stakeholder groups, including Metrolinx, Canadian Pacific and Canadian National Railways, throughout the winter of 2021 to obtain feedback on the Official Plan and the proposed approach for an amendment to Zoning By-law 569-2013 which are included as Attachments 2 and 3 of this report.

2. The Planning and Housing Committee request the Chief Planner and Executive Director, City Planning to report back to Planning and Housing Committee with the results of the open house and stakeholder consultations and final recommended Official Plan and Zoning By-law Amendments in the spring of 2021.

FINANCIAL IMPACT

The City Planning Division confirms that there are no financial implications resulting from the recommendations included in the report in the current budget year or in future years.

DECISION HISTORY

Dupont Street Regeneration Area Study

In 2014, City Planning staff undertook a Regeneration Areas study of the Dupont Street corridor between Kendal Avenue and Ossington Avenue to determine appropriate land uses, built form and streetscape details, and to review setbacks and mitigation measures from the rail corridor that abuts the study area.

The City retained a consultant to provide recommendations on appropriate separation distances from the rail corridor and mitigation measures for the study area. In the context of the Dupont Street Regeneration Area Study, the consultant concluded that the City should only consider permitting sensitive land uses with a large number of occupants if they were set back a minimum of 30 metres from the rail corridor and protected by an earthen berm. This recommended approach is consistent with Federation of Canadian Municipalities and Railway Association of Canada's 2013 Proximity Guidelines ("Guidelines") best practice for mitigation. The consultant study also evaluated alternative mitigation measures of deflection berms and deflection walls, but did not recommend any specific alternative measures. Consideration of alternative mitigation measures are identified as possible in the Guidelines.

The Council adopted Site and Area Specific Policy # 212 ("SASP") for the Dupont Study (OPA 271) included a policy that requires a 30 metre setback and a 2.5 metre earthen berm for any sensitive or high density use. The SASP also included a policy that provides for an applicant to propose an alternative rail safety mitigation measure through a Zoning By-law Amendment application where the policy cannot be met due to topographical, geographical or other physical constraints. Alternative mitigation measures are to provide at least the same level of rail safety as the Guideline recommended approach of a 30 metre set back and a 2.5 metre high berm, are subject to submission of a report and peer review and review and acceptance by the City and Canadian Pacific Railway. The OPA along with Council's actions can be found at this link: http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2014.PG35.6

OPA 271 was appealed in its entirety to the former Ontario Municipal Board, which is now the Local Planning Appeal Tribunal (LPAT). The City was successful at the LPAT (Order dated January 20, 2017) and no changes were made to the rail safety policies endorsed by Council as part of OPA 271. The LPAT Order can be found at this link: https://www.toronto.ca/wp-content/uploads/2017/08/979a-OMBDecisionDupont_Jan_20_2017.pdf

In adopting OPA 271 Council also directed staff to report back on the inclusion of a setback from any rail corridor for any sensitive or high density (also referred to as high occupancy) use city-wide in Zoning By-law 569-2013, and the development of a framework for studying the appropriate separation and mitigation requirements for developments along the passenger rail corridors in the City. City Planning undertook a study on Guidelines for Development Close to Rail Corridors and Yards (Rail Study) which is summarized in the Comments section below.

Freight and Goods Movement Strategy

At its meeting of September 22, 2020 Executive Committee adopted the Freight and Goods Movement Strategy (the "Strategy"). The Strategy sets out 24 strategic actions to address the unique characteristics, needs, and impacts of freight mobility. The Strategy provides a framework to support the current networks and operations of goods movers, shippers, carriers and manufacturers.

The Strategy recognises that increased demands for goods and services, commerce and economic development and urban growth have led to mounting pressure on the freight and goods movement industry and its supporting infrastructure and institutional networks. While the Strategy does not include discussion of rail transportation directly, it does recognize the importance of region wide movement of goods, and links between ports, rail and freight corridors across jurisdictions in the Greater Toronto and Hamilton Area (GTHA). The Decision History can be accessed at this link: http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2020.IE16.1

ISSUE BACKGROUND

1. Planning Policy Framework

Planning Act, Section 2 - Provincial Interest

Under Section 2 of the Planning Act, the council of a municipality are required to have regard to matters of provincial interest which include: the orderly development of safe and healthy communities (h); the protection of public health and safety (o); and the appropriate location of growth and development (p). The following sections on policies, zoning by-laws, and guidelines describe the framework under which the draft amendments are created. These all have the intent and purpose to implement matters of provincial interest.

Provincial Policy Statement, 2020

The Provincial Policy Statement (PPS) 2020 provides policy direction on matters of Provincial interest related to land use planning and development. The PPS sets the policy foundation for regulating the development and use of land. The key objectives include: building strong communities; wise use and management of resources; and, protecting public health and safety.

One of the objectives of the PPS (2020) is to ensure that sensitive uses are either not introduced into areas where they may be incompatible with adjacent land uses and as such experience adverse effects. Policy 1 of Section 1.2.6 of the PPS (2020) states:

"Major facilities and sensitive land uses shall be planned and developed to avoid, or if avoidance is not possible, minimize and mitigate any potential adverse effects from odour, noise and other contaminants, minimize risk to public health and safety, and to ensure the long-term operational and economic viability of major facilities in accordance with provincial guidelines, standards and procedures."

In addition to the above, Policy 3 of Section 1.6.8 of the PPS (2020) states:

"Planning authorities shall not permit development in planned corridors that could preclude or negatively affect the use of the corridor for the purpose(s) for which it was identified.

New development proposed on adjacent lands to existing or planned corridors and transportation facilities should be compatible with, and supportive of, the long-term purposes of the corridor and should be designed to avoid, mitigate or minimize negative impacts on and from the corridor and transportation facilities."

In addition to policies addressing compatibility between sensitive land uses and major facilities, the PPS (2020), Policies 1.2.4 and 1.2.5 further directs municipalities to identify density targets in areas adjacent or in proximity to major transit corridors (existing or planned). Additionally, Policy 1.4.3, of the PPS (2020) further instructs planning authorities to provide for an adequate range and mix of housing options and densities by requiring transit-supportive development and prioritizing intensification, including potential air rights development, in proximity to transit, including corridors and stations.

As these policies encourage development in close proximity to, or even above, transportation corridors and stations, the application of rail safety and risk mitigation measures is important to protecting public safety. Major transit corridors in Toronto include highways, and passenger transportation by Metrolinx and Via Rail, in addition to services provided by the Toronto Transit Commission, and goods transportation by Canadian Pacific and Canadian National Railways.

The *Planning Act* requires City Council's planning decisions to be consistent with the PPS.

A Place to Grow: Growth Plan for the Greater Golden Horseshoe, 2020

The Growth Plan for the Greater Golden Horseshoe (Growth Plan 2020) provides a framework for managing growth in the Greater Golden Horseshoe including: directions for where and how to grow; the provision of infrastructure to support growth; and protecting natural systems and cultivating a culture of conservation.

Policy 3 of Section 2.2.4 of the Growth Plan (2020) states:

"Upper- and single-tier municipalities will undertake integrated planning to manage forecasted growth to the horizon of this Plan, which will:

c) provide direction for an urban form that will optimize infrastructure, particularly along transit and transportation corridors, to support the achievement of complete communities through a more compact built form;"

This policy reinforces the need for development adjacent to transit and transportation corridors to be designed and approved in such a way as to support the effective and ongoing use of these corridors without introducing compatibility issues or other potential conflicts that would otherwise negatively impact transportation uses in municipalities.

The Planning Act requires City Council's planning decisions to conform with, or not conflict with, as the case may be, the Growth Plan (2020).

Official Plan

The City's Official Plan contains several policies which include consideration of compatibility and mitigation in relation to employment areas, transportation corridors and major facilities. Major facilities are defined in the PPS (2020) to include rail facilities. Policy 3.4.21 of the Official Plan requires sensitive land uses and major facilities such as airports, transportation/rail infrastructure, corridors and yards, waste management facilities and industries be appropriately designed, buffered and/or separated from each other in order to prevent adverse effects from noise, vibration, odour and other contaminants and to promote safety.

In August of 2014, Council adopted OPA 274, which contained revised Official Plan transportation policies, which added policy 4 to Section 2.2 of the Official Plan as follows:

"Require new development on lands adjacent to existing or planned transportation corridors and facilities to be compatible with, and supportive of, the long-term purposes of the corridors and facilities and be designed to avoid, mitigate or minimize negative impacts on and from the transportation corridors and facilities."

The Amendment was approved without amendment by the Minister of Municipal Affairs and Housing on December 31, 2014 and is now in full force and effect.

Zoning By-law

The City's Zoning By-laws do not include rail specific setbacks or other zoning standards to specifically address the relationship of properties to rail infrastructure.

2. Regulation of Railways

Rail Transportation Statistics

The 2019 Transportation Safety Board of Canada Statistical Summary of Rail Transportation Occurrences indicates 1,246 rail accidents were reported across Canada in 2019, a 17% increase from the 10 year average (2009-2018) of 1,064 accidents. Of those accidents, freight trains accounted for only 33%, with only 3% (47 accidents) involving passenger trains. The largest number of accidents (48%) were off of main tracks, "occurring during switching operations at speeds less than 10 mph".

The risk of a derailment or accident that may cause a train to leave its tracks has the potential to result in property damage, personal injury and, depending on cargo being transported, may cause a spill of dangerous materials. While derailment events are infrequent when compared to the number of trains moving across the country, any incident which places public safety at risk is significant. In 2019, there were 17 main track, and 134 non-main track derailments in Ontario, compared to 93 main track, and 601 non-main track derailments across Canada. (Transportation Safety Board of Canada Rail Transportation Occurrences in 2019: https://www.bst.gc.ca/eng/stats/rail/2019/sser-ssro-2019.html#3.0)

Regulation of Railway Operations

Railway operations are federally regulated under the *Canada Transportation Act (CTA)*, the *Transportation of Dangerous Goods Act (TDGA)*, and the *Railway Safety Act* and its associated guidelines (the Guidelines). Improvement of Canada's railway safety regime is an ongoing issue and continues to be a priority of the Government of Canada. Recent actions including responding to the Railway Safety Act review in 2019, and continued work to reduce fatigue in the railway industry and publishing final regulations that would require voice and video recorders in locomotives.

Inherent in rail transportation are the risk of accidents and derailments that may impact the safety of people, property and the natural environment. As the City has grown, transportation along these rail corridors (now owned and operated either by Canadian Pacific (CP) Rail, Canadian National (CN) Rail or Metrolinx) increased in both frequency and volume of people and goods transported. Rail transportation in Toronto and across the country, grew without consideration of land use impacts and the need to create separation between development in the communities served by rail and this important transportation infrastructure. As a result, both residential and non-residential development occurred in close proximity to or on lands adjacent to the City's rail infrastructure, including corridors.

All rail lines in Toronto can be used for both passenger and freight transportation without notification to the City. Passenger trains are lighter than freight trains, and do not carry dangerous goods or other freight, but run more frequently and travel at greater speeds. Despite these general distinctions between passenger trains and freight trains, accidents within rail corridors may put public safety at risk and therefore this Report and the attached draft planning instruments for consultation do not make any distinction between passenger and freight trains.

Municipal Role in Rail Transportation Regulation

Under Federal railway regulations, each rail operator has a responsibility regarding public safety and to ensure that a safety management system is implemented and functioning. Rail operations, including the type of freight carried by a rail company, is also federally regulated. Municipalities have no ability to restrict where and when rail traffic is directed or the type of freight carried. However the City and the Federation of Canadian Municipalities have made many recommendations and requests to the Government of Canada to improve the country's railway safety regime.

The City is responsible for regulating land uses adjacent to rail infrastructure, including corridors, and has authority to require public safety and hazard condition mitigation measures through its land use planning instruments.

Federation of Canadian Municipalities and the Railway Association of Canada Guidelines for New Development in Proximity to Railway Operations Initiative

The Federation of Canadian Municipalities (FCM) and Rail Association of Canada (RAC) recognize that it is in Canada's economic and public safety interests to promote proper land-use planning practices between railways and municipalities. Given that Canadian municipalities have no role in the regulation of railway management or railway safety, a Memorandum of Understanding (MOU) was developed between FCM and RAC, resulting in the FCM/RAC Proximity Initiative. This initiative resulted in the development of the Guidelines, which were first completed in 2003 and updated in 2013.

The Guidelines are intended for use by municipalities and provincial governments, municipal staff, railways, developers and property owners when developing lands in proximity to railway operations. They are meant to assist municipal governments and railways in reviewing and determining general planning policies when developing lands in proximity to railway operations, as well as to establish a process for making site-specific recommendations and decisions to reduce land-use incompatibilities for developments in proximity to railway operations.

The Guidelines summarize the issue of new development in proximity to railway operations, and are intended to apply to communities across Canada, are general in nature and reflect the largely rural or suburban planning context and land use fabric in proximity to rail infrastructure throughout Canada.

The 2017-2018 Railway Safety Act Review noted that rail safety is a shared responsibility, including between governments and stakeholders "as land use planning falls under provincial/territorial, Indigenous and municipal jurisdictions, whereas Canada’s main railways and their rights-of-way are regulated by the federal government". Transport Canada in responding to the review noted the need for continued dialogue while encouraging use of the Guidelines in more jurisdictions.

Three key components of the Guidelines relate to area of influence, best practices and equivalent standard:

- Area of Influence - Rail Infrastructure

The Guidelines establish an overall area of influence of 300 metres from the property line of the rail right-of-way. Derailment and accident safety considerations are to be considered for those new developments proposed within 30 metres of the rail right-of-way. Noise and vibration impacts are additional impacts that rail infrastructure may have on nearby properties (up to 300 metres, or in the case of Freight Rail Yards up to 1,000 metres).

- Recommended FCM/RAC Guidelines Best Practices

The Guidelines recommend a best practice approach to rail safety and risk mitigation when reviewing development applications in proximity to rail infrastructure in municipal contexts. The best practices are proposed to be a 30 metre setback between the rail infrastructure property line and proposed sensitive or high occupancy uses proposed, and the construction of a 2.5 metre high earthen berm to be accommodated on the property to be developed.

The Guidelines acknowledge that implementation of the standard mitigation measures package is easier to achieve in a greenfield setting rather than a fully urbanised setting where new development is the redevelopment of the existing urban fabric or infill development typically on small parcels of land.

- Equivalent Standard

In recognition that some redevelopment sites in a City may have physical or topographical constraints that could preclude the introduction of rail risk mitigation best practices as outlined in the Guidelines, the guidelines introduce the opportunity for an equivalent standard to be used should a Rail Safety Risk Assessment Study be developed and successfully peer reviewed showing equivalent risk mitigation as outlined in the Guidelines. Rail safety and risk mitigation measures, both the best practice of a 2.5 metre earthen berm and 30 metre setback are intended to address the risks of physical impact due to derailment (slowing and redirecting derailed cars and engines) as well as to provide sufficient space to mitigate the impact of explosions or leaks of hazardous materials. A proposed equivalent standard for risk mitigation would be required to provide an equivalent risk mitigation level to all noted hazards.

The Guidelines refer to alternative mitigation measures in an acknowledgement that the best practice is to be applied across the country albeit in differing contexts. Alternatives to the recommended best practice are not intended to be applied everywhere. Alternative mitigation should be considered only where the preferred mitigation measures are not technically or physically feasible due to physical constraints on proposed development sites. The alternative approach is to apply where there is insufficient space to accommodate the recommended 2.5 metre high earthen berm or the required 30 metre setback or both.

COMMENTS

Transportation of people and goods by rail has been central to the success of Canadian communities and the national economy for over 150 years. In Toronto, more than 200 km of linear rail infrastructure was largely developed between 1853 and 1911. The most recent addition to this network occurred in 1965 when Canadian National Railway introduced a bypass line which re-routed freight lines owned by that company to north of Steeles Avenue.

Conformity and Consistency with Provincial Policies and Plans

Both the PPS (2020) and Growth Plan (2020) contain policies that identify the objectives of land use compatibility between different uses, while addressing the need for complete communities in municipalities. The draft amendments to the Official Plan and Zoning By-law are intended to address the balance that municipalities must make when considering development in an urban context to ensure the protection of public safety. It is staff's opinion that with the Province's introduction of PPS (2020) policies related to potential air rights development in proximity to corridors and transit stations, the draft amendments (once approved) will enable the City to apply a public safety lens when reviewing future development applications proposed over corridors and transit stations. It is staff's opinion that the draft amendments for consultation are consistent with the PPS (2020) and conforms to the Growth Plan (2020).

Sensitive and High Occupancy Uses

Sensitive land uses are defined in the PPS (2020) as buildings, amenity areas, or outdoor spaces where routine or normal activities occurring at reasonably expected times would experience one or more effects from contaminant discharges generated by a nearby major facility, (including rail corridors.. Sensitive land uses may be a part of the natural or built environment. Sensitive uses e may include, but are not limited to: daycare centres, and educational and health facilities. This definition is reflected in a sidebar of section 4.6 of the Official Plan.

The Guidelines define low occupancy podiums as a building podium containing non-sensitive uses such parking, retail, or the common elements of a condominium, but which will never contain residential uses. While the Guidelines do not include a definition of high occupancy uses, a definition of was developed as part of the City's Rail Study discussed below.

Guidelines for Development Close to Rail Corridors & Yards Study (Rail Study)

In 2017, City Planning initiated the Guidelines for Development Close to Rail Corridors & Yards Study (Rail Study). A consultant was retained to undertake the study in two phases:

Phase 1: Involved an Inventory Assessment which identified and created rail typologies based on geographic, land use and operational contexts of rail infrastructure across the

city. This phase included consultation with industry organizations (i.e. BILD), rail operators (CN, CP and Metrolinx), and public open houses. See Attachment 1.

Phase 2: Involved Contextual Risk Management Approaches which evaluated all relevant Federal Acts, Regulations and guidelines, and made recommendations for how to adapt the Guidelines to a City of Toronto context.

The Phase 1 and Phase 2 reports are available on the City's website: https://www.toronto.ca/city-government/planning-development/planning-studies-initiatives/guidelines-for-development-close-to-rail-corridors-yards/

Pilot on Rail Safety and Risk Mitigation ("Pilot")

Based on the work completed through the Rail Study, City Planning developed a Terms of Reference for a city-wide Rail Safety and Risk Mitigation Study to be piloted on applications in proximity to rail infrastructure (corridors, spurs, and yards) as part of the City's Development Review process. Consistent with the FCM/RAC Guidelines the Terms of Reference established the minimum 30 metre setback and 2.5 metre high berm as best practice and provided for consideration of an alternative equivalent standard of rail safety.

The Pilot included project staff working with industry experts (rail report preparation/peer review consultants), applicants, rail operators, and community planners to gain a process based understanding of the rail safety study preparation, peer review and its impacts on the City's development review processes. Additionally, Planning staff worked with Canadian Pacific Railway (CP) and Metrolinx to increase rail operators and rail safety technical experts understanding of the City's processes, as well as City staff's understanding of key issues of concern to rail operators. City staff also engaged CN which moves freight through Toronto by rail, however CN did not participate in the consultation process.

Collaboration with CP and Metrolinx resulted in City Planning gaining a greater understanding of the complexity of rail safety implementation, clarifying the jurisdictional balance between the City and rail operators, as well as how to best apply the information and technical recommendations derived from the Rail Study to ensure timely review of development applications, and effectively undertake specialist review of proposed risk mitigation. ..

- Examples of Equivalent Standards Approved

Since the launch of the Pilot in 2017, 45 site specific Rail Safety and Risk Mitigation (RSRM) studies have been initiated, with approximately 14 completed, and 31 still active. RSRM studies submitted under the Pilot were for sites across the city and primarily associated with Official Plan and/ or Zoning By-law Amendment applications for rail safety design for mid-rise and tall buildings with residential permissions, offices and one community centre.

Of the 45 RSRM studies that were peer reviewed, 4 proposed implementation of the Guidelines' best practice approach, as the sites in question were large enough to

accommodate minimum recommended setbacks. The majority of the RSRM studies proposed an alternative engineered solution (a combination of a minimum setback distance that is less than the best practice approach with a crash structure) equivalent to the best practice approach to address risk mitigation. Each engineered solution that was proposed was site specific given each site had unique characteristics, use permissions, and rail infrastructure uses (train speeds, number of tracks, and type of rail transportation). All applications involve the engineering design of a crash structure, and related acceptable setback distance.

Examples of sites where an alternative engineered solution was proposed include 168-184 Clonmore Drive and 1071 King Street West, both of which proposed reduced setback distances and site specific crash structure designs. The crash structures and set back distances differed between these in response to site specific constraints, proposed uses, and built form.

For 168-184 Clonmore Drive, the rail safety measures supported through the peer review process included a setback distance of 25 metres to the closest sensitive, high occupancy use, and the installation of a 3 metre high berm.

The 1071 King Street West example reflects a more complex set of equivalent standards developed as part of the RSRM study and peer review process. The design of the RSRM measures involved several rail safety and risk mitigation measures being incorporated into the building design. First was the placement of loading and parking uses on the ground floor behind a crash wall. Additionally, open space for passive amenity were placed on the portion of the building facing the adjacent rail infrastructure side of the building to contribute to the setback. Overall, the 1071 King Street West study and peer review resulted in approval of crash wall height of 7.15 metres and an 11.7 metres setback to the closest sensitive use.

Generally, the site conditions, including parcel size, shape, as well as proposed use and built form informed the design and the City's third party peer reviewer's support for the rail safety and risk mitigation measures.

There is no consistent safety equivalency that is emerging through review of the RSRM studies. Each parcel of land along rail infrastructure is different in shape and size, the proposed uses, the orientation of these uses and the buildings on their sites, as well as variations in built form result in the majority of development applications requiring the design of site specific rail safety equivalencies.

All parties involved in the Pilot (rail operators, rail safety professionals, applicants) have become familiar with the Guidelines, and their implementation through the City's peer review process. This work has led to refinements to the RSRM process and has informed the draft Official Plan and Zoning By-law amendments.

As part of the Rail Study a definition of high occupancy uses was developed to inform and guide the review of proposals in proximity to rail. High occupancy uses are considered to be those that include uses in which a high density (also referred to as high occupancy) of people live, work, sleep, shop or conduct other activities throughout the day. Examples include, but are not necessarily limited to: buildings with multiple

residential units, office buildings, major retail establishments, community centres, schools, day care centres, educational and health facilities, hotels, and others.

Properties within 30 metres of Rail Infrastructure

Rail infrastructure stretches an estimated 200 km across the city, meaning that there is a linear length of 400 km where public and private properties abut these corridors, spurs and yards. A map illustrating the City-wide nature of rail infrastructure in Toronto is provided in Attachment 1.

To determine development permissions and to weight potential risk next to rail infrastructure, staff conducted a lot-by-lot mapping analysis on nearby properties and identified each parcel's Official Plan Land Use Designation (Table 1 below). The findings demonstrate that approximately 10,000 individual properties are within 30 metres of rail infrastructure. All but one Ward of the City, Ward 18 (Willowdale), have properties within 30 metres of rail infrastructure. Of these properties, over 75% have in force zoning residential permissions on them. However, not all properties are intended or expected to accommodate intensified growth based on their Official Plan Land Use Designation (i.e. *Neighbourhoods*). Sensitive and high occupancy uses are permitted in several, but not all, of the land use designations shown in Table 1 below.

With the exception of office permissions in *General Employment Areas* and *Core Employment Areas*, permitted uses are largely lower occupancy and lower sensitivity than in other Land Use designations. As discussed in the proposed Zoning By-law approach below, individual residential uses (detached, semi-detached, and other small scale residential) in stable *Neighbourhoods* are not anticipated to be redeveloped in great numbers, nor is it anticipated that introduction of intermittent, narrow crash mitigation structures enhance area safety. Additionally, as many of neighbourhood renovations or home replacements would not require a planning application approval, these changes to existing structures in *Neighbourhoods* would not require a RSRM study.

The number of parcels that may be effected by the RSRM peer review process is anticipated to be much lower than the total in the table below. Generally, the peer review process would be applied to developments proposing sensitive or high occupancy uses in the following Official Plan land use designations: *Apartment Neighbourhoods, Mixed Use Areas, Institutional Areas, Regeneration Areas* (which totals approximately 1,000 parcels) and *Employment Areas* where office uses are permitted.

Table 1: Parcels, by Land Use Designation, within 30 metres of Rail Infrastructure

Official Plan Land Use Designation	Number of Parcels
Neighbourhoods	6,590
Apartment Neighbourhoods	269
Mixed Use Areas	702
Institutional	2
Regeneration Areas	118

Official Plan Land Use Designation	Number of Parcels
General Employment Areas	431
Core Employment Areas	1,333
Natural Areas	349
Parks	217
Other Open Space Areas (Including Golf Courses, Cemeteries, Public Utilities)	45
Utility Corridors	152
Total	10,208

Draft Official Plan Amendment and Proposed Approach for a Zoning By-law Amendment

To address rail safety and risk mitigation issues for development of new sensitive and high occupancy land uses within proximity to a railway right-of-way, staff propose amendments to the Official Plan and Zoning By-law 569-2013 that would apply to properties within the area influence of rail infrastructure throughout the City. It is staff's opinion that the draft Official Plan Amendment and proposed approach for a Zoning By-law Amendment, included as Attachments 2 and 3, reflect the intent of the Guidelines.

The proposed introduction of a city-wide approach to addressing rail safety and risk mitigation is intended to introduce a consistent, predictable approach to including review and consideration of risk mitigation to the development review process. Prior to the Pilot, rail safety considerations were undertaken, in an 'ad-hoc' way, when identified as being necessary. Through the Pilot, RSRM reports and their peer review were introduced in a way that has been consistently applied to applications and equivalent to other technical studies and peer review processes undertaken as part of a complete application. This report proposes to introduce an improved RSRM report and peer review process, and formalize the inclusion of these considerations in a consistent and predictable way.

Official Plan

The Official Plan includes policies which generally address the need to separate sensitive uses from employment uses, transportation uses and major facilities, but does not include a city-wide policy regulating the proximity of development to rail infrastructure.

Rail infrastructure extends across Toronto, and as such, consideration of new development proposed in proximity to these rail lands must be considered more broadly than in relation to *Employment Areas* alone.

All of the rail infrastructure lands are designated *Utility Corridors* in the Official Plan. Policies 2.2.24, 2.2.4.5, and 3.4.21 include transportation corridors and facilities and/or major facilities to encourage new development to be compatible with and not result in negative impacts on nearby transportation corridors and facilities, waste management facilitates and industries, as well as employment uses. Rail Corridors are discussed in

Section 4.4 where Policy 3 directs linear rail corridors to be primarily used for the movement of people and goods, and Policy 5 directs development of lands near or adjacent to Utility Corridors to screen and secure the property edge with measures such as setbacks, fencing, site grading, berms, landscaping, building treatment and construction techniques.

To further clarify rail safety mitigation considerations to protect sensitive and high occupancy uses in proximity to rail infrastructure, a new section is recommended in Chapter 3 - Building a Successful City. This new section, Section 3.6 Rail Infrastructure and Public Safety, recognizes the importance of rail transportation to the ongoing success of Toronto while balancing the need to protect public safety through requiring a Rail Safety and Mitigation Study to address rail safety and risk mitigation measures for new development proposing to introduce sensitive and high occupancy land uses within 30 metres from rail infrastructure.

In addition to the draft policies, non-policy text in the form of a sidebar to provide a definition of high occupancy uses, and the amended application requirements of the Official Plan is to be introduced through Schedule 3 are included. The draft OPA is attached to this report as Attachment 2.

Zoning By-law 569-2013

Zoning By-law 569-2013 does not currently address rail infrastructure, nor safety and risk mitigation requirements respecting development of nearby sensitive and high occupancy uses.

The proposed zoning approach would introduce a holding provision ('H') generally on lands located in proximity to rail corridors and that are zoned to permit high-occupancy or sensitive uses. In order for crash structures to be effective, the structures need to be larger than those that could be provided along the length of a single residential property. The holding provision would not require the implementation of rail risk mitigation in areas where it would not enhance area safety, such as those where a small residential property would install a small crash structure leading to an area of intermittent, isolated sections of crash structures.

Redevelopment that proposes to reuse an existing building within the 30 metre setback area, and which does not propose a change in use would be subject to the proposed zoning requirements for safety mitigation measures. Such development would be eligible to explore alternative mitigation measures as per the proposed Official Plan policy. Existing uses within buildings that have a setback less than 30 metres may continue within the existing setback.

As has been undertaken as part of the Pilot, rezoning applications are proposed to require an RSRM study, as proposed to be identified in Schedule 3 of the Official Plan, which would be peer reviewed by a third party to the City's satisfaction at the applicant's expense to the City's satisfaction.

Proposed Consultation

Consultation with development industry organizations, rail safety experts, rail operators and community members, regarding the proposed zoning approach is recommended for the purpose of reviewing and potentially revising the uses considered to be sensitive or high occupancy, and where implementation of rail mitigation measures is determined to be effective.

The proposed zoning is intended to implement the draft Official Plan Amendment, to direct rail risk mitigation to the most relevant properties within the area of influence of city wide rail infrastructure. On lands where Zoning By-law 569-2013 is not in force, staff will draft zoning amendments to the applicable in force zoning by-laws to consistently apply the City's approach, with the equivalent effect. The proposed approach to an amendment to Zoning By-law 569-2013 is attached to this report as Attachment 3.

CONCLUSION

The purpose of the draft Official Plan and Zoning amendments is to put in place a citywide planning framework to address and reduce the risk associated with new development that is in proximity to railway infrastructure across Toronto. The amendments are also intended to provide clear direction to the development industry. The amendments are informed by the City's Rail Study and the Pilot on Rail Safety and Risk Mitigation which enabled all parties involved in the process (applicants, consultants, and rail operators) to test out the scope of work and practice of addressing rail safety through the planning process. The draft Official Plan and Zoning By-law Amendments are recommended for public and stakeholder consultation.

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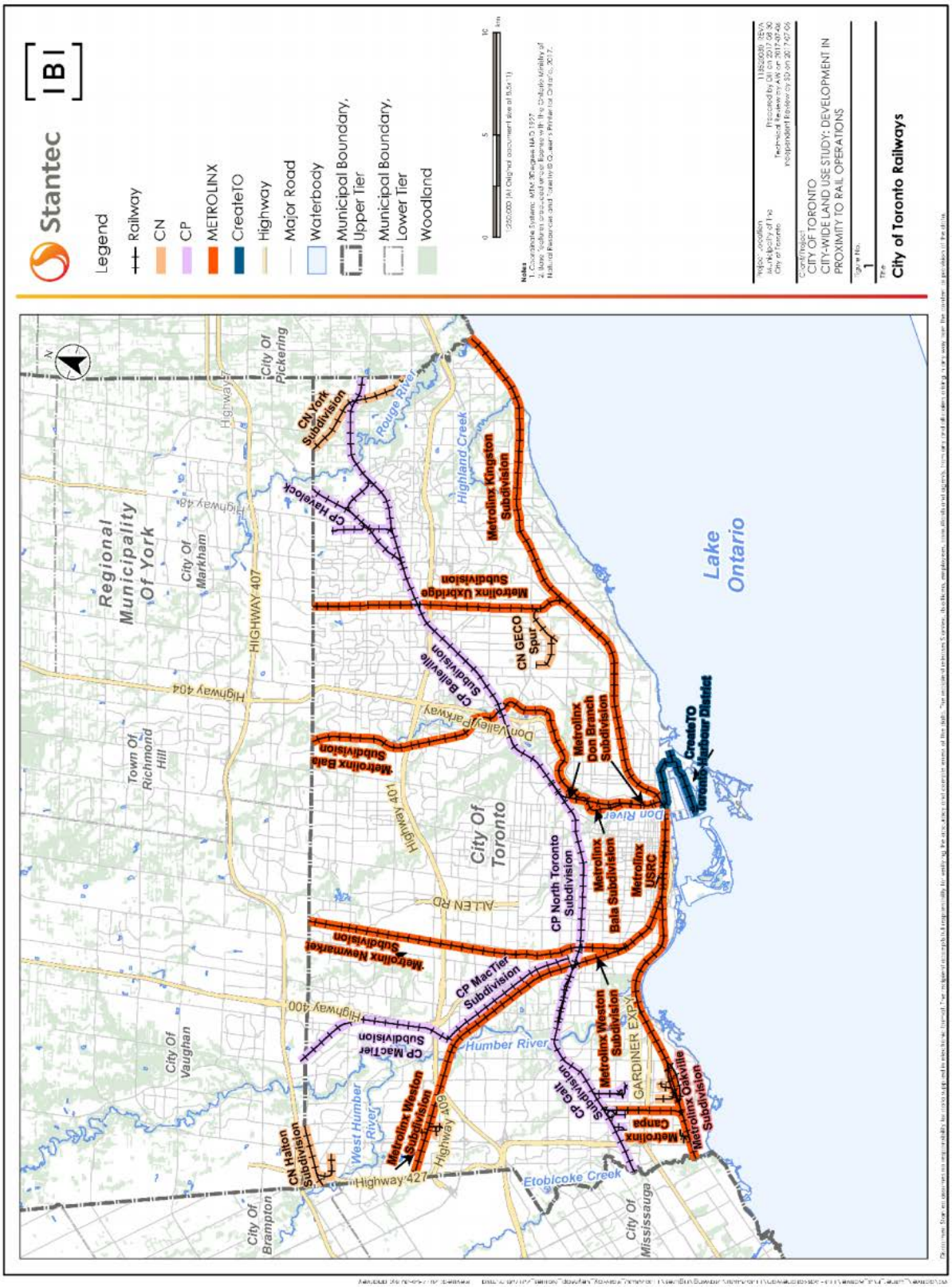
ATTACHMENTS

Attachment 1: Rail Infrastructure Map
Attachment 2: Draft Official Plan Amendment
Attachment 3: Proposed Approach for a Zoning By-law Amendment

Attachment 1: Map of Rail Infrastructure in Toronto (including Rail Operator)



Attachment 2: Draft Official Plan Amendment

[Insert new section in CHAPTER THREE - BUILDING A SUCCESSFUL CITY]

3.6 Rail Infrastructure and Public Safety

Transportation of people and goods by rail continues to be an important component of the transportation network that supports Toronto's economic health. The regulation of railways in Canada is a federal and provincial responsibility. It is the City's responsibility to regulate land uses near rail infrastructure and consider public safety issues when development is proposed in these areas.

The City must consider public safety in the review of developments proposing either a sensitive land use, as defined in Policy 2.2.4(5) or high occupancy land use near rail infrastructure. The intent of these policies is twofold: firstly, to ensure that the introduction of sensitive or high occupancy land uses are designed to be safe; and secondly, to ensure the long-term economic viability of rail corridors and facilities.

Public safety considerations in relation to rail infrastructure is necessary when new development proposes to introduce a sensitive or high occupancy uses within the area of influence of rail infrastructure. For the purpose of the Plan, rail infrastructure in Toronto is limited to existing and proposed rail corridors, spurs and yards. The intended purpose of the required Rail Safety and Risk Mitigation Study in support of development applications is to consider potential impacts of rail accidents involving dangerous goods or derailments within a minimum of 30 metres, from the shared property line with nearby rail infrastructure.

Because not every site near rail infrastructure and corridors are the same in size, orientation to rail or proposed land use, proponents must design solutions tailored to its unique local context, which may include, the proper separation of uses and design solutions such as crash walls or structures.

Policies

1. A satisfactory Rail Safety and Risk Mitigation Study is required for all developments which propose to introduce a new or intensify an existing sensitive land use or high occupancy land use within the area of influence of rail infrastructure

2. The Rail Safety and Risk Mitigation Study provided in support of a development application will:

a) be prepared by an accredited engineering professional;
b) identify and evaluate options to achieve appropriate design, buffering and/or separation distances between the proposed sensitive or high occupancy land uses and nearby rail infrastructure;
c) identify how the proposed development will meet the minimum safety standard as established under the Rail Safety Act and related implementation guidelines and/or

regulations, or the design of equivalent engineered rail safety and risk mitigation measures; and
d) be peer reviewed by the City or a qualified third party retained by the City at the applicant's expense.

Addition of a new sidebar in Section 3.5 of the Official Plan:

High Occupancy Uses: include uses in which a high density of people live, work, sleep, shop or conduct other activities throughout the day. Examples include, but are not necessarily limited to: buildings with multiple residential units, office buildings, major retail establishments, community centres, schools, day care centres, educational and health facilities, hotels, and others.

Schedule 3: Application Requirements of the Official Plan is amended by adding the following:

	Official Plan	Zoning By-law	Plan of Subdivision	Plan of Condominium	Consent to Sever	Site Plan Control Application
Rail Safety and Risk Mitigation Study – for development that is proposed within the 30 metre area of influence of rail infrastructure on sites that are sufficiently constrained as to not allow full implementation of rail safety standards and mitigation measures as established under the Rail Safety Act and related guidelines, and as set out in Section 3.6 of the Official Plan	•	•				•

Attachment 3: Proposed Approach for Zoning By-law Amendment (Holding Provision)

The following outlines a proposed approach and scope for consultation purposes.

1. The Zoning By-law would utilize a Holding Provision ('H') to secure rail risk mitigation, where required.
   - A holding provision may be placed on lands where the ultimate desired use of the lands is specified but development cannot take place until conditions set out in the Plan or by-law are satisfied.

2. Lands to which the 'H' would apply
   - The proposed zoning approach would introduce a holding provision ('H') generally on lands located partially or wholly within 30 metres of rail infrastructure, and that are zoned to permit high-occupancy or sensitive uses.
   - The proposed zoning approach is intended to be implemented generally in keeping with Toronto Municipal Code, Chapter 415, Development of Land, Section 45 Exemptions. This would exempt small scale residential uses and temporary structures as being among those to which site plan control does not apply.
   - The zones to which the 'H' is proposed to be applied are: RM (Residential Multiple); RA (Residential Apartment); RAC (Residential Apartment Commercial); CL (Commercial Local); CR (Commercial Residential); CRE (Commercial Residential Employment); EO (Employment Office); IH (Institutional Hospital); IE (Institutional Education); IS (Institutional School); and IPW (Institutional Place of Worship).
   - The holding provision would not require the implementation of rail risk mitigation in areas where it would not enhance area safety (intermittent, narrow, and isolated sections of crash structures).

3. Land uses to which the 'H' would apply
   - High occupancy land uses and sensitive land uses would require removal of the 'H'
   - Redevelopment that proposes to reuse an existing building within the 30 metre setback area, and which does not propose a change in use would not be subject to the 'H'.
   - Existing uses within buildings that have a setback less than 30 metres may continue within the existing setback.
   - Redevelopment that proposes non-sensitive and/or low occupancy land uses may proceed without removing the 'H'. These uses may include warehouses, parking structures, self-storage or other equally low occupancy, and non-sensitive uses.
   - Small-scale redevelopment that proposes detached houses, semi-detached houses, townhouses, duplexes or triplexes on existing individual lots may proceed without removing the 'H'

4. Conditions and mechanism to remove the Holding Provision:
    - Prior to the removal of the Rail Safety “H” holding symbol, an applicant must address Rail Safety and Risk Mitigation to the satisfaction of the City through the submission of a Rail Safety and Risk Mitigation Study, which is to be peer reviewed at the applicant's expense. An application to remove the 'H' may be reviewed in context of accompanying applications for Site Plan Approval or other accompanying planning applications.
    - To remove the holding provision, the Rail Safety and Risk Mitigation Study is to be deemed acceptable through peer review as having met applicable safety standards and designs, and must be deemed acceptable by the applicable rail operator as not introducing conditions which may interfere with ongoing operation of rail transportation.