

King-Liberty Pedestrian/Cycle Bridge Class Environmental Assessment Study

Date:	October 17, 2011
To:	Public Works and Infrastructure Committee
From:	General Manager, Transportation Services
Wards:	Ward 19 Trinity-Spadina
Reference Number:	P:\2011\Cluster B\TRA\TIM\ pw11009tim

SUMMARY

The City of Toronto undertook the “Toronto West-Central Area Strategic Transportation Network Review” in 2006 and identified the need to better integrate the communities north and south of the CN/GO railway corridor between Atlantic Avenue and Strachan Avenue. At its meeting of February 13, 2007, Toronto and East York Community Council in considering a further report on a proposed pedestrian link at this location (TE3.45) recommended that Transportation Services undertake an Environmental Assessment (EA) study for a Pedestrian Link between King Street West and Liberty Village.

An EA study was therefore undertaken to identify the location, design, and function of a pedestrian/cyclist crossing that would best and most cost-effectively meet City and community objectives. Tunnel and bridge alternatives were investigated at several locations. A bridge is recommended to span the rail corridor between the west end of Douro Street and the west end of Western Battery Road. In order for the bridge to be fully accessible to all users, stairs and an elevator are recommended at each end.

The EA study was carried out in full consultation with the community and technical stakeholders, and there is widespread support for the recommended plan.

Pending Council endorsement of the recommended plan, a Notice of Study Completion must now be issued and the Environmental Study Report filed in the public record for a minimum 30-day review period in accordance with the Municipal Class Environmental Assessment.

RECOMMENDATION

The General Manager, Transportation Services recommends that City Council:

1. Grant authority to the General Manager, Transportation Services to issue a Notice of Study Completion and to file the Environmental Study Report for the King-Liberty Pedestrian/Cycle Link Class Environmental Assessment Study in the public record for 30 days in accordance with the requirements of the Municipal Class Environmental Assessment.

Implementation Points

The recommended undertaking crosses the Metrolinx Georgetown rail corridor, currently the site of design and construction work to expand the rail capacity and create a grade separation at Strachan Avenue. Coordination with Metrolinx is required in order to construct this recommended pedestrian/cyclist crossing. For legal and safety reasons, the new crossing cannot be constructed over the rail corridor until the Metrolinx work is complete in 2014.

Financial Impact

The estimated cost of constructing the new pedestrian/cyclist link is between \$4.2 million and \$6.0 million, depending on the level of architectural design treatment (to be determined at the detail design stage). These cost estimates will be refined and finalized during the course of subsequent preliminary design, detail design, tender, property negotiations, and expropriation processes. The timing of the project implementation depends on the Metrolinx grade separation project at Strachan Avenue, scheduled for completion by 2014.

Currently no funds are available for this new crossing in the Transportation Services 2011 Capital Budget and 2012-2020 Capital Plan. Should the project proceed, funding requirements and schedules for implementation will be included as part of future year Capital Budget and 10-Year Capital Plan submissions for Transportation Services within its debt affordability targets. Other funding sources, such as Section 37 benefit receipts will be considered, including the Section 37 benefits in the amount of \$81,000 dedicated to “designing and constructing the King-Liberty pedestrian link”, already received from the 43 Hanna Avenue development, and future contributions from other adjacent developments.

The Deputy City Manager and Chief Financial Officer has reviewed this report and agrees with the financial impact information.

DECISION HISTORY

Toronto and East York Community Council, at its meeting of September 13, 2006, directed the Chief Planner, City Planning Division to report back to a future meeting of

the Community Council on a pedestrian tunnel connection (from Shaw Street south of King Street West) to the Liberty Village area, along with a work plan for achieving this pedestrian connection.

Toronto and East York Community Council, at its meeting of February 13, 2007, in considering Item TE3.45 (<http://www.toronto.ca/legdocs/mmis/2007/te/minutes/2007-02-13-te03-mn.pdf>) adopted the recommendation contained in a joint report from the City Planning Division and Transportation Services Division that the Transportation Services Division be directed to undertake an EA study for this pedestrian link.

A Request for Proposals (RFP) for consulting services for the EA study was issued in April 2009. A consulting firm (URS Canada Inc.) was retained to undertake this study in 2010.

ISSUE BACKGROUND

In the study area, the Metrolinx Georgetown / Milton rail corridor is approximately 45 metres wide. There is a gap of nearly 800 metres between pedestrian crossings at Strachan Avenue in the east and King Street West, east of Atlantic Avenue, in the west (see Figure 1).

There is significant amount of redevelopment and land use intensification on both sides of the rail corridor. The City of Toronto undertook the “Toronto West-Central Area Strategic Transportation Network Review” in 2006 and identified the need to better integrate the communities north and south of the Metrolinx railway corridor between Atlantic Avenue and Strachan Avenue. The potential to provide a pedestrian link was also identified through the planning process for the Liberty Village neighbourhood, which is located south of the rail corridor, west of Strachan Avenue. The need for connectivity has been reiterated by members of the local communities on both sides of the rail corridor, along with the Liberty Village Business Improvement Area.

There are attractions for pedestrians, residents, and employees on both sides of the rail corridor, including shopping, commercial and residential uses, as well as transit services. Access between Liberty Village residential and employment areas and the King streetcar is lengthy and indirect, as is access between the residential community north of the tracks and the retail services (including the area’s largest grocery store) in Liberty Village.

The EA study has confirmed the need for a fully accessible pedestrian / cyclist link across the rail corridor in this area, and has demonstrated that such a link is physically feasible, can be built at reasonable cost and without unacceptable disruption to rail operations, can be done in such a way as to support urban design and public realm objectives, and would meet the needs of its intended users.

COMMENTS

Study Process

A Class Environmental Assessment (EA) Study was initiated to identify the location, design, and function of a pedestrian-cyclist crossing that would best and most cost-effectively meet City and community objectives. The EA study has been completed in accordance with the requirements for a Schedule “C” project under the Municipal Class Environmental Assessment (The Class EA). The Class EA process requires that the City confirm the need (i.e. define the problem/opportunity), identify feasible solutions, evaluate the impact of the alternative solutions on the natural, social and economic environments, and select an alternative for construction.

As a requirement of Schedule “C” projects, if City Council endorses the recommendations of this Study, the Environmental Study Report (ESR) will be filed in the public record for a minimum 30-day review period. During this period, members of the public, and any other interested individual, interest group, or government agency, may request that a Part II Order be issued. A Part II Order, if granted by the Minister of the Environment, elevates the status of the project from a Class EA Study to an Individual Environmental Assessment. If this occurs, the project cannot proceed until the City completes an Individual Environmental Assessment Study and receives approval from the Minister. If a Part II Order is not granted or if no requests or objections are received during the filing period, the project is approved under the Environmental Assessment Act and may proceed to design and construction.

The ESR describes in detail the first three phases of the five-phase environmental planning process set out by the Class EA:

Phase 1 – identification of the problem or opportunity;

Phase 2 – identification and evaluation of alternative solutions; and

Phase 3 – identification and evaluation of alternative design concepts for the preferred solution.

The preparation of the ESR itself and the filing of the document in the public record constitute Phase 4 of the environmental planning process. Phase 5 is the construction and operation or implementation of the project, and monitoring of impacts, in accordance with the terms of the EA approval. The King-Liberty Pedestrian/Cycle Bridge Class Environmental Assessment Study is currently at Phase 4 of the process.

The Class EA Study was carried out with the assistance of technical consultants and supported by a Technical Advisory Committee comprised of staff from Transportation Services, City Planning, Technical Services, and GO Transit.

User Survey

A total of 506 pedestrians and 44 cyclists were surveyed in the study area in October 2009. The majority used the Strachan Avenue rail crossing, but 83% of those surveyed were in favour of a new crossing midway between Strachan Avenue and Atlantic Avenue / King Street. More than three quarters of those surveyed preferred a bridge rather than a tunnel, citing concerns with safety / security, cost, and lighting associated with a tunnel.

Need and Justification

The EA Problem / Opportunity statement provides the basis for the need and justification for this project:

- The only existing opportunities to cross the Georgetown / Milton rail corridor in the King Liberty and King West area are at Strachan Avenue in the east and King Street West in the west (just to the east of Atlantic Avenue). The separation of approximately 775 metres between the two crossings is inconvenient for residents and employees. As a result, unsafe and illegal crossings currently occur between these two locations.
- A direct and exclusive pedestrian / cyclist link across the rail corridor between Strachan Avenue and Atlantic Avenue would provide a safer pedestrian and cyclist environment that is convenient to the King Liberty and King West communities to the north and south of the rail corridor.
- Provision of a new pedestrian / cyclist link in the study area would better integrate the communities on the north and south sides of the rail corridor which would facilitate economic activity in the area, provide increased business opportunities, and enhance the attractiveness of the area to visitors.
- Various planning policies promote the re-development of lands in the area in an urban form which would include the provision of safe, direct, comfortable, attractive and convenient pedestrian conditions (safe walking routes to schools, recreational areas, and transit that encourages and supports walking).

These statements are founded on the Official Plan policies of the City of Toronto, which are directly applicable to the King – Liberty project.

Alternatives Considered

Bridge vs. Tunnel

The geometry of the area offers both bridge and tunnel alternatives. It should be noted that an at-grade signalized crossing of this busy rail corridor is not considered viable, safe, or acceptable to either the City or the railway operators.

For reasons of construction cost, conflict with rail operations, visibility, personal security concerns, and property impact (a straight, wide tunnel cannot be contained within the available public rights-of-way on either side of the rail corridor), the initial staff and public preference strongly favoured a bridge crossing.

However, First Capital Corporation (owners of 1071 King Street West development site and the Metro plaza opposite on the south side) signalled their interest in supporting a public tunnel or bridge crossing between their two sites, which was close to the public desire line. Due to the grades involved, a tunnel was physically better than a bridge and a concept plan was developed for stakeholder and public review accordingly. When presented at the second PIC, the direct tunnel link found considerable public support, and it is staff's view that an attractive, comfortable, secure environment could be created for a tunnel in this location. However, ultimately Metro remained opposed to any crossing – tunnel or bridge – that would affect its access and parking on the south side of the corridor. With no feasible south portal, the 1071 King crossing location had to be set aside and only bridge locations using public rights-of-way could be considered.

Road vs. Pedestrian / Cyclist Link

Although not proposed in area planning documents, a road crossing of the rail corridor was tested as an alternative. It was found to be physically infeasible (in terms of grade and alignment), and would feature significant property impacts, high cost, and little incremental benefit to the community. The road concept was therefore not pursued further.

Location

Several potential locations for a new pedestrian / cycle bridge were identified: in line with Crawford Street; Shaw Street; west of Shaw Street; the west end of Douro Street; and opposite Sudbury Street (see Figure 2). The study area features considerable scatter of desired crossings, reflecting varied origins and destinations. On balance, the optimum crossing location, and one preferred by the majority of the public, is one that is closest to the midpoint between the current crossings (Atlantic Avenue and Strachan Avenue) and is close to the major trip generator of the Metro plaza; this midpoint is near the west end of Douro Street.

However, due to the clearance requirements of a bridge over the rail line, either elevators or lengthy ramps (between 110 m and 150 m in length) would be needed to provide unhindered access for disabled users and cyclists. If ramps were used, even with the use of switchback ramps, the “touchdown” point of an access ramp could be some distance away from the bridge itself. For example, a crossing at the west end of Douro Street might entail a ramp that began at Shaw Street. The location of the crossing is therefore related to the access mode(s) selected.

Access

Three alternative access strategies were considered at each end of the crossing: stairs, ramp, or elevator. The vertical distance to be covered is between 3.6 m and 6.9 m on the north side of the crossing, and 1.0 - 4.2 m on the south side. The farther east the crossing location, the lower the bridge elevation is required to be due to the grade of the rail line.

Given that the majority of users prefer the most direct route, stairs (with a side channel to allow cyclists to bring their bikes on the stairs) were taken as a basic feature. Provision for access by disabled users, however, requires stairs to be supplemented with either a ramp or an elevator.

Ramps have the advantage of being visible (and hence perceived as safer than elevators), requiring conventional and relatively low maintenance. There are numerous similar applications throughout Toronto. In this situation, however, a ramp even at the maximum grade (1 in 12) would be over 100 m long (particularly on the north side of the crossing) and hence unattractive to its users, visually obtrusive (conflicting with the urban design objectives for the area), and difficult to keep clear of ice and snow at all times. A large ramp structure would impinge on Douro Street and require removal of trees, while hampering future efforts to introduce a multi-use pathway along the rail corridor.

An elevator is more costly both to build and to operate and maintain, has a higher risk than a ramp of being out of service, and generates greater concern about personal safety and misuse. These concerns can be addressed somewhat by use of security cameras, lighting, emergency buttons, and a contracted maintenance agreement. There are numerous examples of unmanned public elevators in the Toronto area, including a similar one at the nearby Exhibition GO station. An elevator would be more comfortable, attractive, and efficient for disabled users, would clearly identify the crossing location, and be integrated with a stair structure, hence having a significantly smaller “footprint” on the area than a long or switchback ramp structure.

On balance, the constraints and issues in this study area, combined with a locational preference for the most westerly (and hence highest) crossing, led the Project Team to select a stairs + elevator combination for bridge access.

Public Consultation

Public involvement is an integral and ongoing part of the EA Study process. The public consultation requirements of the Class EA were met and exceeded in this study. The public consultation program included two Public Information Centres (PICs), held at key decision points during the study, and a pedestrian survey. The City of Toronto’s website provided a link to all pertinent information related to the Study as well as contact information (see http://www.toronto.ca/involved/projects/king_liberty/index.htm).

Public Information Centre #1 was held in the Liberty Village Market building on March 9, 2010. The background information, screening of options, and a variety of bridge alternatives were presented. Public comments were unanimously in favour of a new crossing, and a strong preference for a bridge rather than a tunnel was evident. There was a range of support for the various crossing locations; the most popular one was Option 4 (Shaw Street) due largely to its proximity to the greatest number of residents; alternatives 2 and 3 also garnered considerable support.

A second Public Information Centre was held on March 1, 2011, at the Liberty Noodle restaurant. The concept of a tunnel linking the 1071 King Street West site with the Metro Plaza was put forward as being technically preferred, with the proviso that it was still subject to landowner agreement and that the previously preferred bridge crossing at Douro Street would remain a viable "second choice" if the tunnel could not be accomplished.

Reaction to the content of the King Liberty Pedestrian/Cyclist consultation activities in March 2011 followed some distinct trends:

- **Support for Link:** Practically all submissions show continued support for the need for a pedestrian/cyclist link of some form in the study area. Many expressed the priority of expediency of construction over location or design.
- **Location is Acceptable:** With only a few exceptions (5 of 31 comment forms), most stakeholders have communicated support or at least acceptance of the preferred link location from 1071 King St. West to Metro plaza.
- **Tunnel vs. Bridge:** Expressed support was evenly split between a tunnel versus a bridge.
- **Strong Personal Safety Concerns about a Tunnel:** Many submissions expressed concerns about tunnels being uninviting, e.g. isolated, dark, scary, dirty, etc. Some women stated they would not use a tunnel, especially at night.
- **Ramps Preferred:** There was a consistent view that elevators are expensive to build and maintain and are often unreliable, and therefore, ramps were preferable. However, some comments were made about the visual intrusion of long high ramps on Douro Street.

Recommended Plan

The recommended plan is for a 5 m wide pedestrian / cycle bridge spanning the entirety of the 45 m wide CN / GO right-of-way, aligned with the western leg of Douro Street and the western leg of Western Battery Road. At each end of the bridge, vertical movement is to be provided by an open staircase with a bicycle channel, as well as an enclosed elevator.

The design provisions are as follows:

- Bridge with a 5-metre wide deck;
- Bridge span with a vertical clearance of 7.4 metres above the top of the future lowered Georgetown / Milton Line Rail Corridor (part of Metrolinx's planned grade-separation under Strachan Avenue by 2014);
- Stairs (with bicycle channels) plus barrier-free access (via elevator) will be provided at both ends of the bridge;
- Elevators will be designed to accommodate bicycles;
- Design of the elevators will be reviewed during detail design, and it is intended that the elevator enclosures be kept appropriately scaled and as visible as possible;
- All stairs to be at least 2.2 metres wide;
- All bridge piers/abutments to be located outside the rail right-of-way;
- Protect for potential future multi-use path along Douro Street;
- Bridge deck and the connections will be illuminated with sufficient lighting;
- Bridge deck will be enclosed per GO Transit/Metrolinx's requirements;
- Requirements for security measures (such as closed-circuit security cameras) will be reviewed during detail design; and
- Provision of way-finding signage at key gateways to the bridge (i.e. on King Street at Douro Street, and at East Liberty Street / Western Battery Road).

The design of the stair/elevator features at either end will be subject to further discussion with adjacent property owners at the detail design stage. The opportunity remains, on the First Capital site on the north end in particular, for potential integration / coordination between the development plans and the bridge. The plans shown in Figure 3 are conceptual only.

The architectural design of the bridge and its stair/elevator access towers will be addressed as part of the detail design stage. The aesthetic quality of the crossing is not fundamental to the selection of its location and basic design criteria, which is the subject of this EA process.

There is a wide range of pedestrian / cycle bridge precedents in the City and elsewhere, ranging from "bare bones" functionality to landmark architecture. There is a desire among staff, area residents, business owners, and potential users to create a beautiful bridge that would be a highly visible signature item for the Liberty Village area, would attract users, and would be an asset to the community. This is tempered by a realistic appraisal of the available funding for this project and consideration of where best to apply limited public funds.

A basic truss-type bridge with access provisions as specified would cost in the order of \$4.2 M. Enhanced landscaping, landmark architecture, and design amenities could increase that figure by \$1 M - \$2 M.

The timing of the project implementation is indefinite and depends on funding availability. Timing is also affected by the Metrolinx project to grade separate the rail corridor at Strachan Avenue, scheduled for completion by 2014. Due to contractor liability and rail clearance issues, it would be inappropriate to construct the new pedestrian/cyclist bridge at the same time as the grade separation project at Strachan Avenue is underway.

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ATTACHMENTS

Figure 1: Study Area
Figure 2: Alternative Crossing Locations
Figure 3: Recommended Plan

Project web site: http://www.toronto.ca/involved/projects/king_liberty/index.htm

Figure 1: Study Area

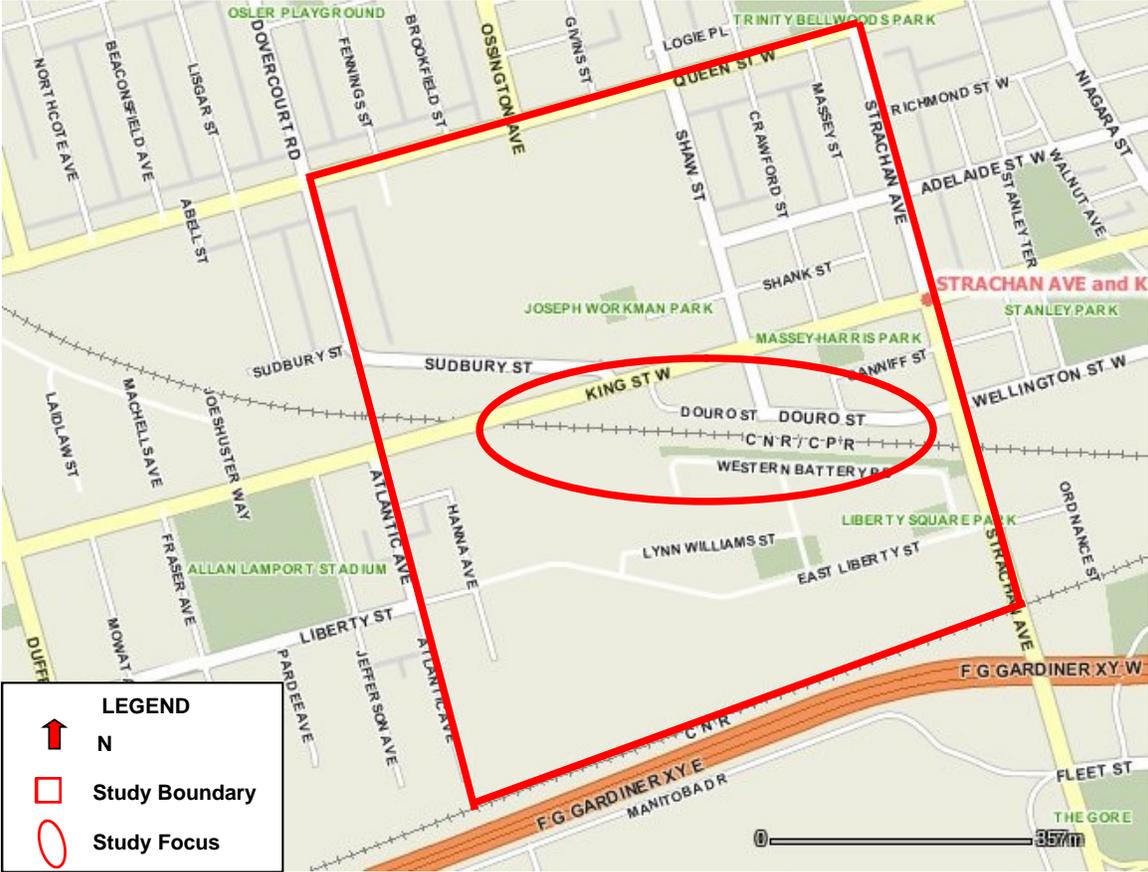


Figure 2: Alternative Crossing Locations

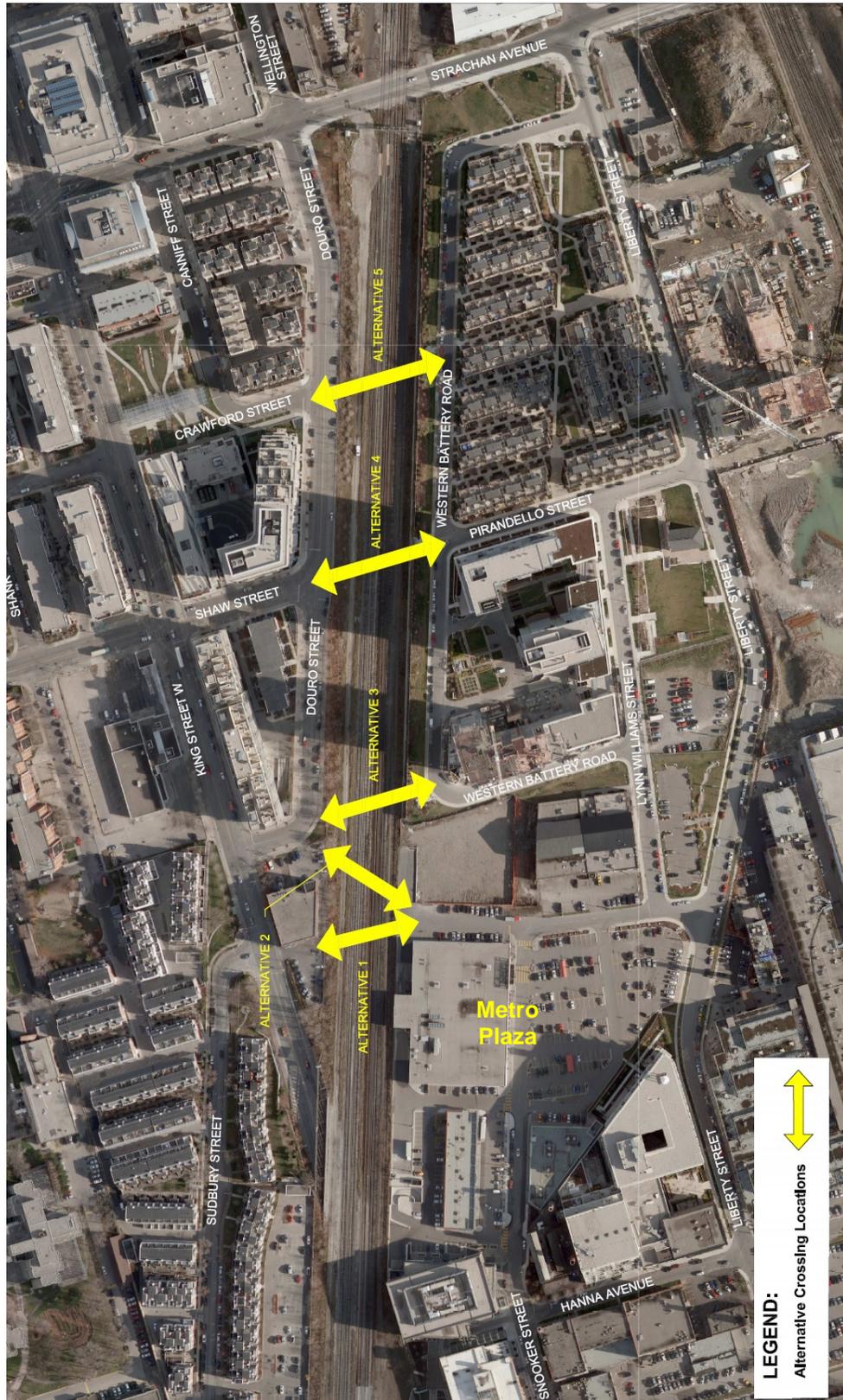


Figure 3: Recommended Plan (Alt. 3)

