FUNCTIONAL SITE PLAN

Exhibition GO Station Area

February 6, 2018

METROLINX URBAN STRATEGIES INC. WSP

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1. Introduction

This report outlines the components of the Functional Site Plan to improve the Exhibition GO Station Area.

Following the Background and Needs Assessment Report (November 6, 2017) which included a review and analysis of issues and opportunities, a series of draft options for improving the Exhibition GO Station were prepared. These options were presented to a Technical Advisory Committee composed of staff from Metrolinx, the City of Toronto, and the TTC for feedback. Based on their comments and further technical review, a preferred option has been developed.

The preferred option aims to distribute flows of people across the corridor and along the station platforms to ease issues of crowding and ultimately connect users with key destinations north and south of the station area. The option is supported by a series of public realm and station improvements aimed at enhancing user experience and level of amenity at the station.

The Functional Site Plan illustrating the preferred option seeks to maximize flexibility and preserve opportunities to integrate planned TTC and Exhibition Place improvements and initiatives over time. To support implementation, improvements have been grouped into three discrete investment packages. Investment packages A, B, and C are summarized in Figure 1-1 and described in more detail on the following pages.

In addition to the core Metrolinx-related investment packages intended to improve station function, a series of additional investment opportunities (**supportive investments**) have been identified and are detailed in the report. These are dependent upon the timing of other studies and initiatives and could be implemented when necessary studies are completed and as opportunities and funding arise. Different stakeholders will be involved in the implementation of these investments. None of the supportive investments are prioritized over others and all support the main objectives for the station.

The addition of a new track along the north side of the northern platform will eliminate the current access to the corridor from Atlantic Avenue, therefore new access points are required to support maintenance (See Background Needs and Assessment Report). Section 6 - Service Access Considerations identifies several opportunities for new track maintenance access points.

The City is currently studying the extension of the streetcar line west from the existing Exhibition Loop, parallel to the Gardiner Expressway, to Dufferin Street (See Background Needs and Assessment Report). In the long term, it would continue west to Roncesvalles Avenue. Section 7 - Future TTC Extension Considerations, describes conditions/considerations required to support the future streetcar extension and maintain safe and functional TTC service. The details of investments required to support the TTC extension are the subject of an ongoing study.

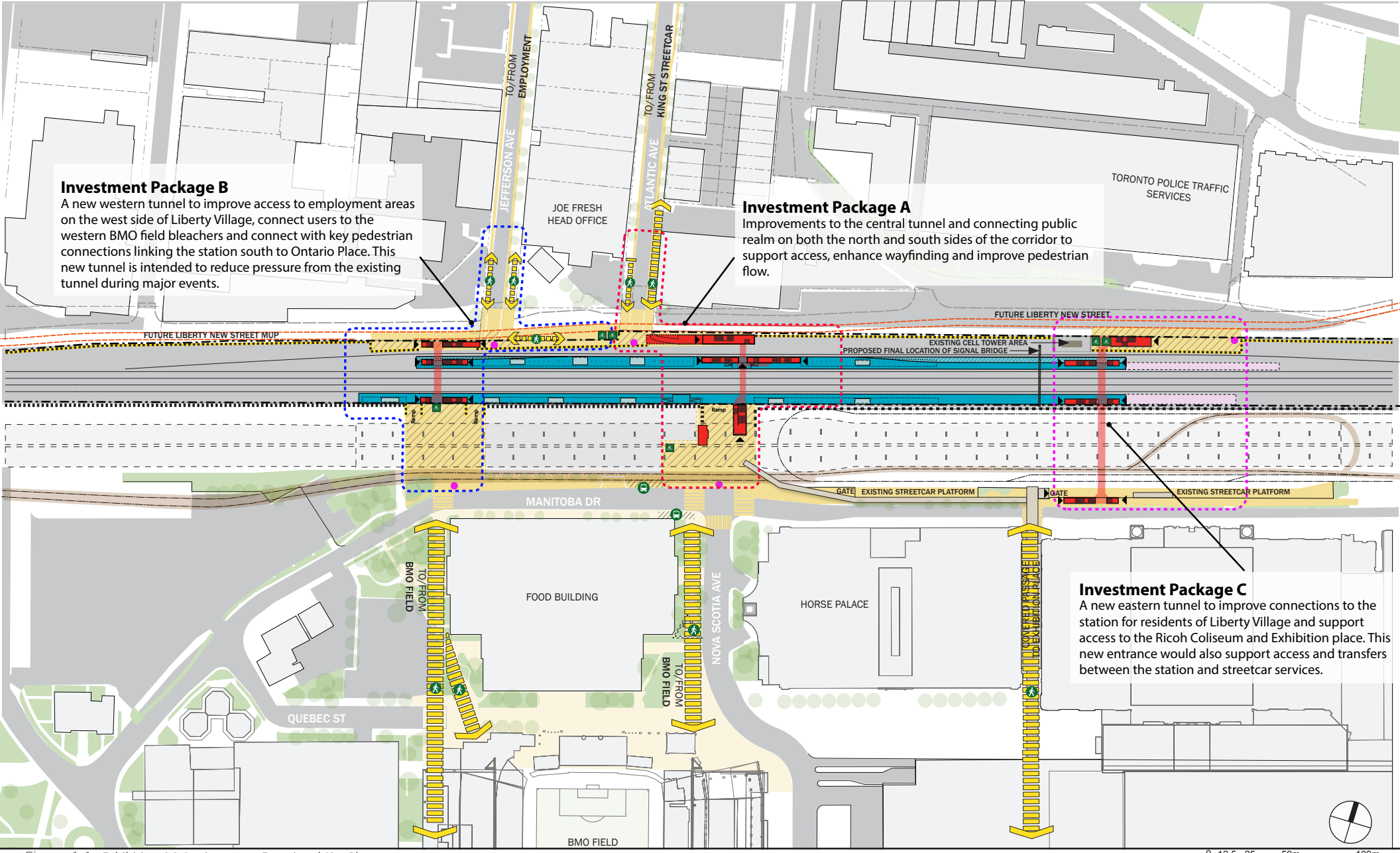


Figure 1-1 Exhibition GO Station area - Functional Site Plan

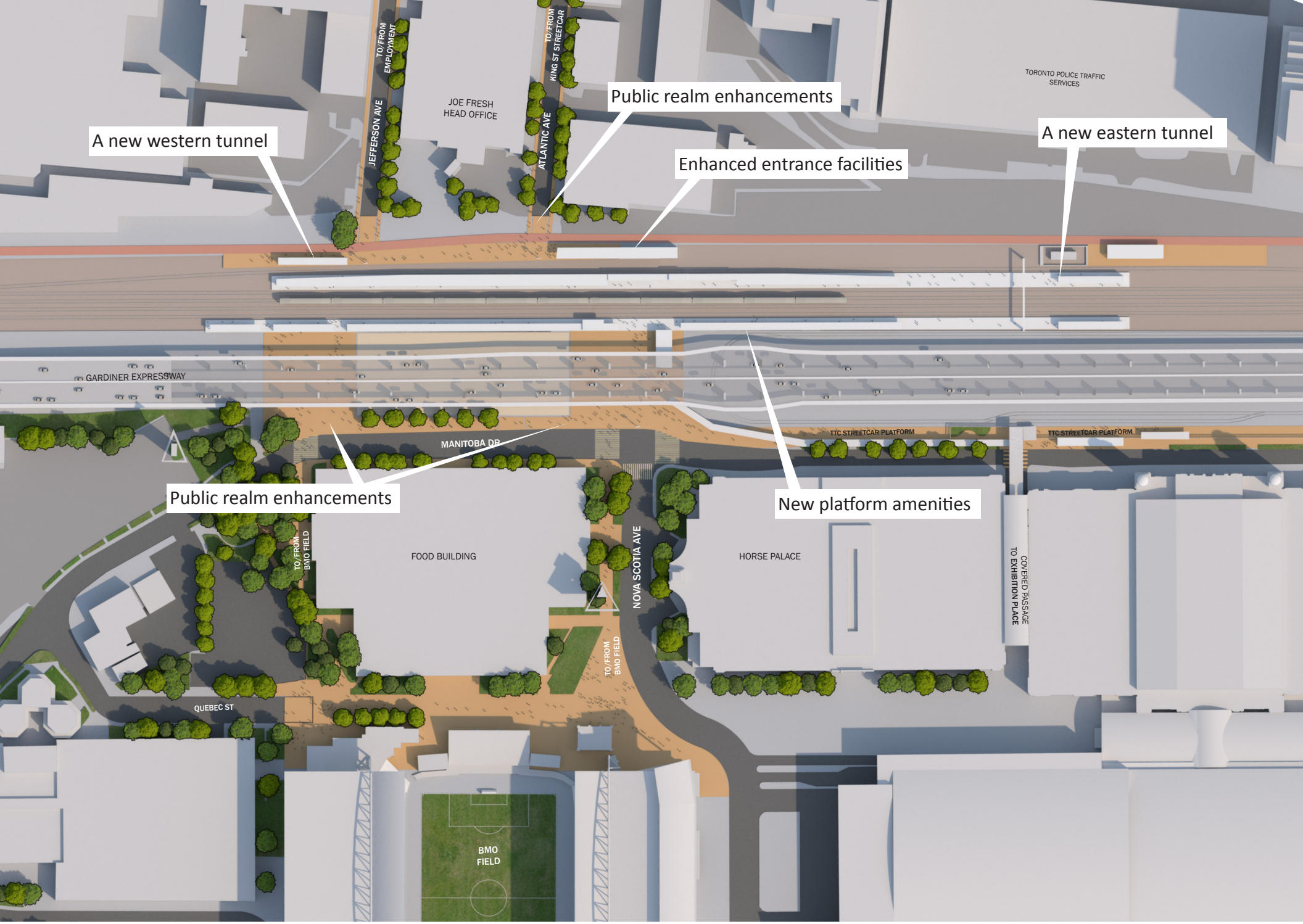


Figure 1-2 Illustration of Functional Site Plan

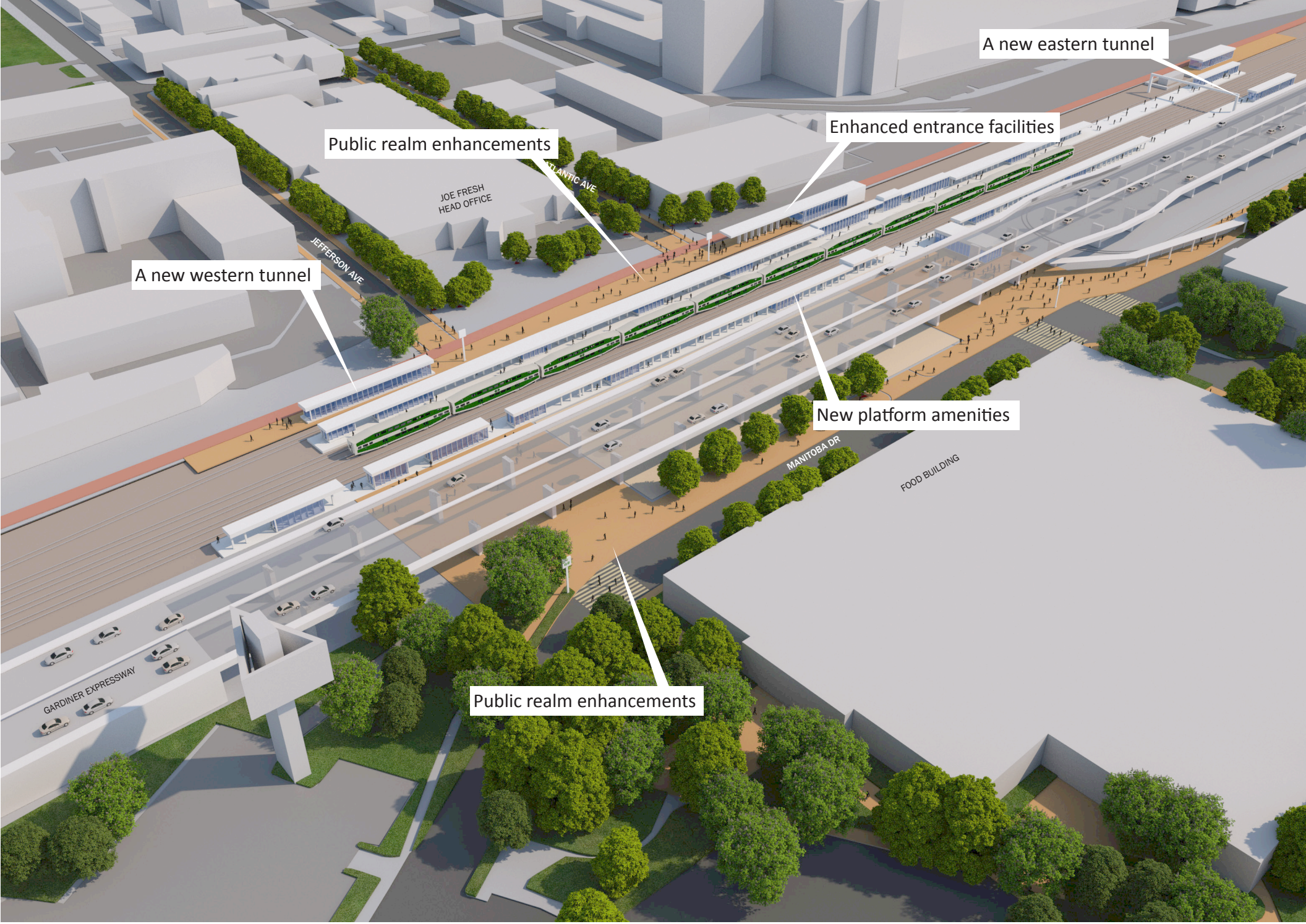


Figure 1-3 Illustration of the vision for Exhibition GO station area

2. Investment Package A

Investment Package A focuses on "quick wins" with a lower capital investment and few barriers to implementation. The improvements are aimed at enhancing pedestrian flow, wayfinding and user experience.

Currently, the new north station building is not visible from Atlantic Avenue. A new terminus point should be created by creating a new canopy to connect the station to Atlantic Avenue and a more generous hardscaped station plaza. While there is currently a canopy and tunnel entrance building, the canopy's columns, and the narrow pathway leading to and from the entrance, will constrain pedestrian flows. A new canopy designed to support a free and clear pedestrian throughway between the entrance and station plaza should be provided. Next train arrival signage in the tunnel should be moved to avoid disrupting the flow of pedestrians to the station plaza.

The terminus of Atlantic Avenue should be anchored by highly legible GO signage with clear wayfinding directing users to the appropriate point of access. In addition to indicating the direction to platforms, this signage should include clear directions for access to destinations south of the tracks so that approaching users would, for example, know to use the western tunnel "to the right" (see Investment Package B) to access Ontario Place and BMO Field gates 4 and 5.

Atlantic Avenue is a significant connection to the station and users would benefit from street improvements including reducing road widths to create larger sidewalks and extending the sidewalk on the west side. There is already pedestrian-oriented lighting along the eastern side of Atlantic Avenue and widening the adjacent sidewalks would help to create a more generous and legible pedestrian connection between the station, Liberty Village, the 504 King Streetcar and planned Liberty Village GO station. Sidewalks along the western side of Atlantic Avenue should be extended south to the station plaza.

Opportunities to declutter the entrance area through the removal or consolidation of poles, utilities and parking signage should be pursued. The design and implementation of Liberty New Street should consider elements to support street crossings and make them highly visible, including development of a pedestrian table top to alert drivers and integration of a signalized intersection or three-way stop to improve safety.

On the south side of the tracks, there is a need to enhance wayfinding to the station, reduce clutter and improve the user experience beneath the Gardiner Expressway. The area at the front of the southern tunnel and platform entrance is currently doubling as a place for vehicular parking. The obstruction and clutter that results is amplified by visible storage areas located on either side of the plaza. Shifting parking to another dedicated location away from the entrance and implementing more opaque fencing to conceal storage on either side of the station plaza would help to create a more generous and comfortable space for users during larger events and improve visibility.

Construction related to the maintenance of the Gardiner Expressway currently creates a cluttered and unfinished look at the station entrance. Opportunities should be explored to enhance the underside of the Gardiner through the application of panels that would help to create a clean face along the underside of the structure and improve its appearance. The integration of lighting to the bottom of the structure, if feasible, would also help to support the removal of light poles which obstruct users during major events. Moving the light poles to the side should also be considered as part of the plaza improvements.

During major events the south entrance receives large crowds of people. To support wayfinding during these events, prominent signage should be implemented at the top of Nova Scotia Avenue where it can be easily read by users approaching the station from across Manitoba Drive. In addition to indicating the direction to the platforms, this signage should include clear directions for access to destinations north of the tracks and to streetcar services so that approaching users would, for example, know to go to the right to access streetcar services. This signage should be raised so as not to obstruct views or flows to the entrance building.

Finally, the user experience at the station would be improved by adding sheltered waiting areas and seats along the length of both the north and south platforms. In Figure 1-5 the shelters are illustrated as continuous canopies. This would eliminate the need for passengers to stand under the Gardiner Expressway during inclement weather and help to encourage the spread of users along the platforms.

This study has shown that the current station building on the south side of the tracks has a number of deficiencies. It is too small to support the needed functions of the station including maintenance and ticketing requirements, lacks adequate washrooms for staff and public, and lacks sufficient space to accommodate additional staff during major events. Improvements to the station building are not addressed within this report, but should be identified and incorporated in a future design package.

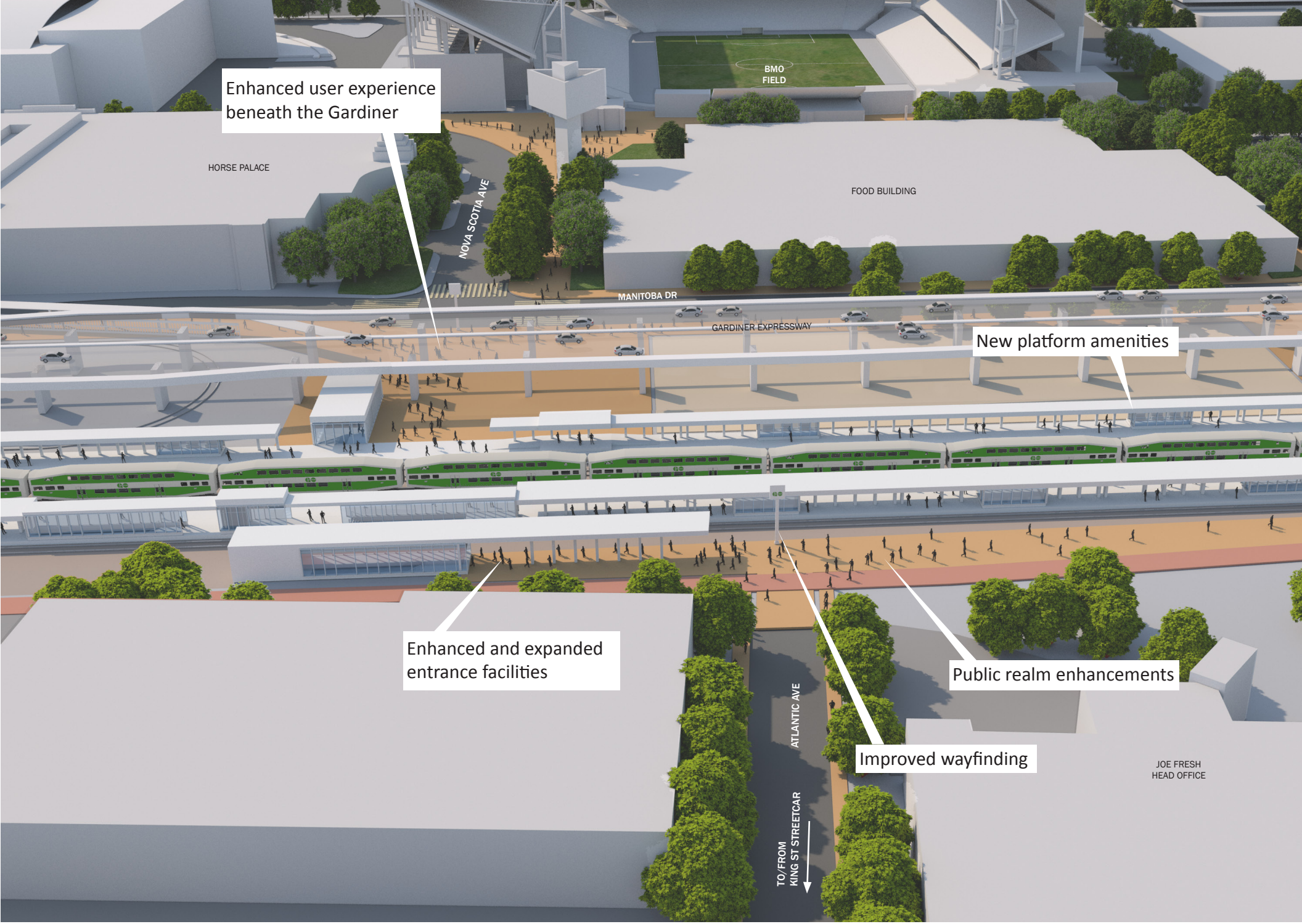


Figure 1-4 Illustration of the vision for investment package A - Looking south from Liberty Village

Summary of Enhancements

North of tracks:

① Maintain the existing station entrance and tunnel but move or add next train arrival signage to the station plaza (Metrolinx)

② Implement highly visible station signage and wayfinding at the foot of Atlantic Avenue (Metrolinx)

③ Install a new canopy that extends from the station to Atlantic Avenue and is designed to minimize obstructions for users. If the canopy is designed as a westerly extension of the station entrance, there will be sufficient space (approximately 6m) between the canopy and New Liberty Street for the planned multi-use path. (Metrolinx)

④ Create a station plaza by re-grading the area with a new retaining wall at the foot of Atlantic Avenue and repaving the area to create a defined station plaza space. The plaza design should include full snowmelt. (Metrolinx)

⑤ Improve the entrance area to the station by:

- Decluttering the station approach through the removal or consolidation of poles, utilities and parking signage (Metrolinx and City)
- Adding designated cycling facilities close to the station (Metrolinx)
- Developing an enhanced intersection for the New Liberty Street crossing with more generous crossings and signed or signalized intersection. Consider installing an elevated table top at the foot of Atlantic Avenue to reduce vehicular speeds. (Metrolinx and City)

⑥ Explore opportunities to enhance pedestrian access along Atlantic Avenue by:

- Reducing the street width to provide more generous sidewalks along the east side of the street (Metrolinx and City)
- Extending the sidewalks along the western side of the street south to connect with the station plaza (Metrolinx and City)

South of the tracks:

⑦ Implement highly visible station signage and wayfinding at the top of Nova Scotia Avenue so that it is visible to users from across Manitoba Drive. (Metrolinx)

⑧ Remove parking from the station plaza area and prohibit temporary food trucks from the station plaza where they disrupt pedestrian flows during major events. (Metrolinx)

⑨ Enhance the user experience beneath the Gardiner Expressway by:

- Enhancing the underside of the Gardiner Expressway
- Integrating plaza lighting to reduce clutter created by light poles (Metrolinx and City)
- Concealing areas of outdoor storage on either side of the station plaza (Metrolinx and City)

⑩ Explore the potential to designate a parking location on the west side of the existing station building for the use of Metrolinx Operations where there will be less interference with passengers using the station.*

Platforms:

⑪ Improve amenities on the platforms by:

- Providing platform seating along the lengths of the platform (Metrolinx)
- Integrating sheltered waiting areas along the length of the platforms (Metrolinx)

Improvements to the platforms should account for system-wide initiatives such as the integration of full snow melt.

Service Access:

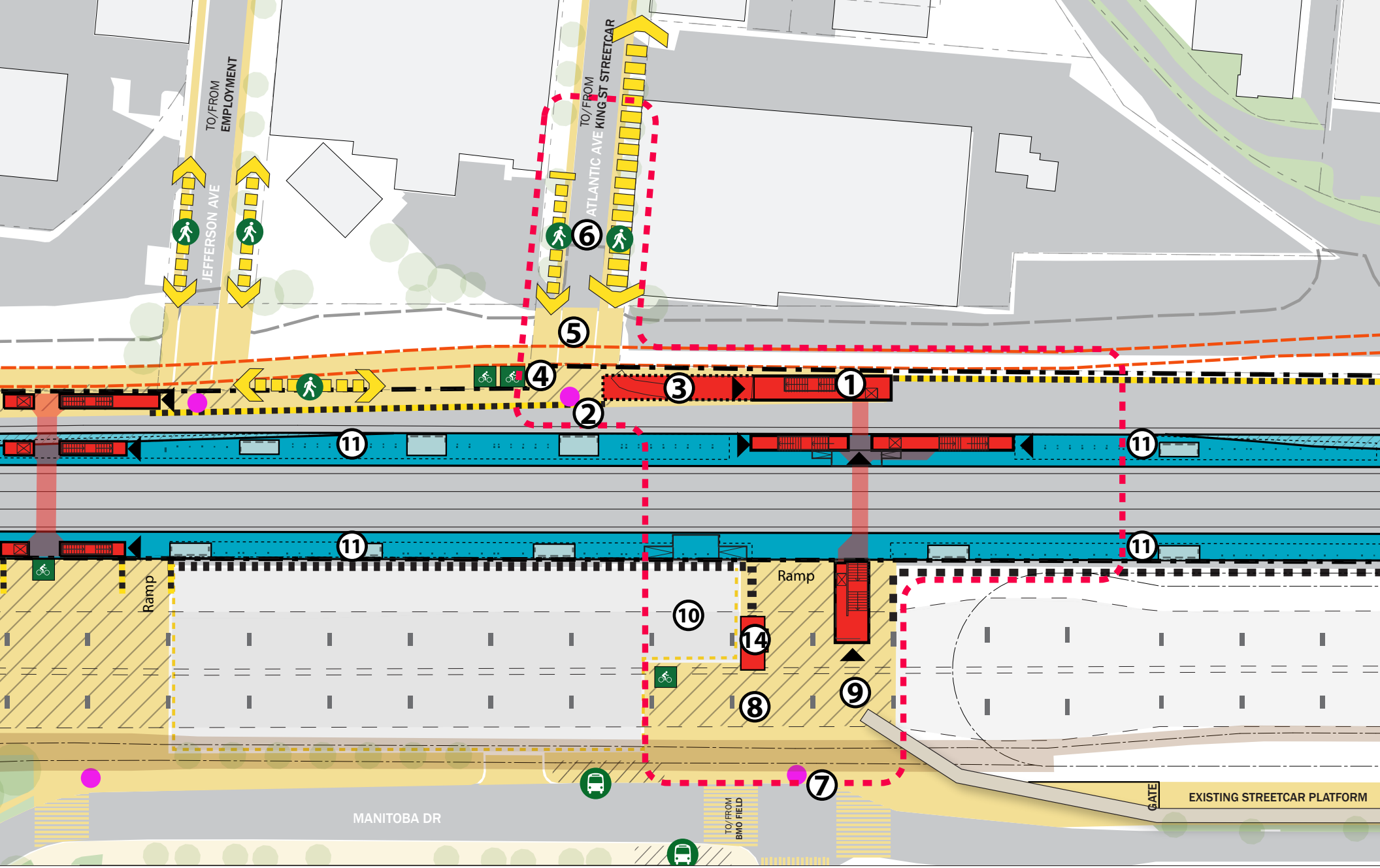
⑫ Work with the City to implement a new western service access point through the storage areas underneath the Gardiner to the west of the station. (Metrolinx) See section 6

⑬ Work with the City and Exhibition Place to implement a new eastern service access point through the Exhibition Place maintenance facility underneath the Gardiner Expressway at the east end of Manitoba Drive. (Metrolinx) See section 6

Station Building:

⑭ Improvements to and/or re-building of the existing station building will be part of a future report package. Opportunities to integrate any new station building to the east of the existing south entrance where it could be directly connected with existing station facilities and there is the potential to minimize impediments to accessing the southern platform are encouraged.

* This strategy is conditional to property negotiation with the City of Toronto and Exhibition Place.



Legend

- Metrolinx owned land
- Rail corridor
- Improved sidewalk / special paving
- Station forecourt
- Pedestrian zone
- Station facility
- Station access
- Tunnel
- Bike shelter
- Existing GO Platform
- Proposed platform widening
- Existing platform to be removed or maintained
- Elevator
- Stairs
- Abutments and retaining walls
- New retaining wall
- Pedestrian path enhancements
- Station branding and access wayfinding
- Enhanced bus stop
- Future Liberty new street
- Future Liberty new street multi-use pathway
- Proposed streetcar extension from CNE loop to Dufferin St. (Based on TTC preliminary design report)

Figure 1-5 Site Plan - Investment package A

3. Investment Package B

Investment Package B is a priority. It comprises a new tunnel on the west side of the station. The objective of this new tunnel is to improve access to employment areas, relieve pressure on the existing station tunnel by facilitating access to the western side of Exhibition Place (including the west bleachers of BMO Field) and Ontario Place, and create a second accessible connection to the platforms.

The addition of a pedestrian tunnel would contribute significantly to relieving pressure on the existing tunnel during large events, alleviating issues with safety caused by crowding in the station area. The tunnel should be located to the west of Jefferson Avenue where a new northern entrance could be oriented to serve passengers arriving from both Jefferson and Atlantic Avenue. This alignment would also reinforce a strong desire line south of the corridor along the west side of the Food Building connecting to the west BMO Field bleachers and south to Ontario Place. The tunnel should be designed and constructed with a knockout panel at the south end to support potential extension south over time (see section 7).

The sizing of the new pedestrian tunnel and expanded station plaza must consider existing and future pedestrian flow at the station. A study will need to be conducted to determine these flows and the optimal width of the tunnel, and accommodate them in the design of the tunnel and plaza.

On the north side of the tracks, a new tunnel entrance with prominent GO signage should provide both stair and elevator access to the tunnel and central platform. Its entrance should be oriented towards Jefferson Avenue to facilitate access to the employment area and enable the station to disperse crowds traveling to and from Atlantic Avenue. Following the construction of Liberty New Street, an additional access point could be provided on the west side of the station building. A pedestrian connection with special paving would link the new station building to the existing station building at the foot of Atlantic Avenue.

Over time, the implementation of Liberty New Street and the connecting extension of Jefferson Avenue may create opportunities for the integration of vehicle waiting areas that could serve the station.

On the south side of the tracks, the tunnel entrance would open onto a new station plaza area and the south platform. Wayfinding signage would achieve two goals: for users walking to the station, signage would direct them to the platform and to destinations north of the corridor; and for users exiting the station, signage would provide wayfinding to key destinations, including the western gates at BMO Field, Exhibition Place buildings, and Ontario Place.

Feasibility considerations include the location of underground utilities in the tunnel area, and the necessity for negotiation with the owners of 24 Jefferson Avenue and 2 Atlantic Avenue on the north side of the tracks, and the City for lands to the south.

Wayfinding signage at the foot of Jefferson Avenue and Atlantic Avenue should direct users either to the existing tunnel or the new west tunnel, depending upon their intended destinations south of the station area.

A new station plaza designed to complement the plaza to the east would help to support access to the station and south platform. The plaza would also double as new point of access to the corridor for ongoing maintenance (see Section 6 - Track Access Considerations) and therefore provisions for the support of service vehicles would need to be integrated into the design.

Investment Package B is identified as a priority to address safety concerns related to station crowding.

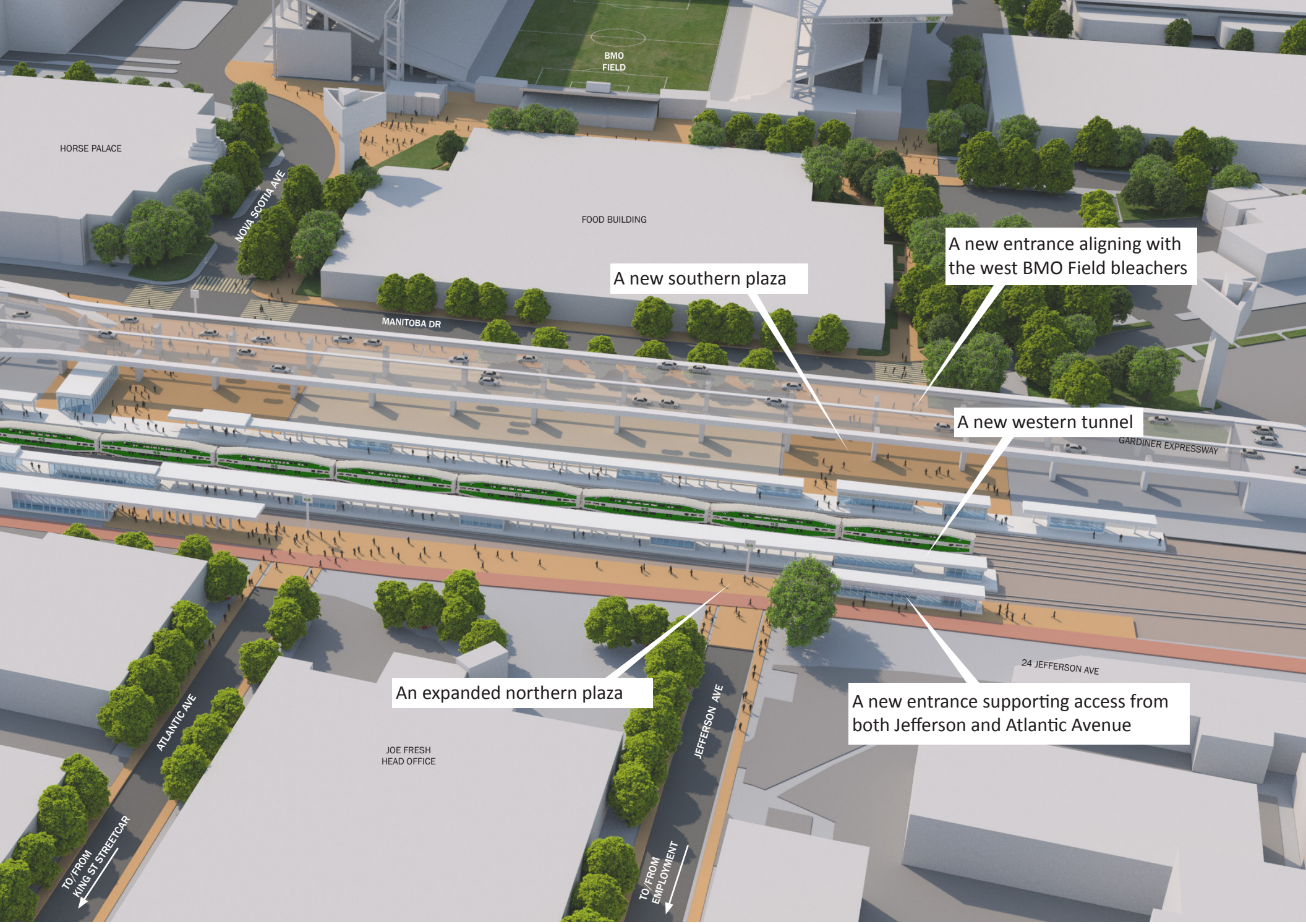


Figure 1-6 Illustration of the vision for investment package B

Summary of Enhancements

① Develop a new tunnel at the western end of the platforms including:

- A new accessible northern entrance oriented towards Jefferson Avenue with the potential for access from the west over time* (Metrolinx)
- A new accessible northern platform entrance (Metrolinx)
- A new accessible southern entrance designed to support access to both the southern platform and a new western station plaza space* (Metrolinx)

② Create a new western station plaza beneath the Gardiner Expressway to connect users to the new western tunnel and the western end of the southern plaza. Ensure the design of the plaza supports access to the corridor by maintenance vehicles. (See Section 6 - Track Access Considerations.)* (Metrolinx)

③ Create a station plaza extending from the new northern entrance east to Jefferson Avenue* Plaza should be designed to support full snowmelt. (Metrolinx)

④ Implement highly visible station signage and wayfinding at the foot of Jefferson Avenue (Metrolinx)

⑤ Implement highly visible station signage and wayfinding at the southern end of the western plaza so that it is visible to users from across Manitoba Drive. (Metrolinx)

⑥ Explore the addition of a new corridor maintenance access road to service the west side of the tracks. The road could begin at the existing Exhibition Place storage areas south of the tracks between and underneath the Gardiner Expressway (Metrolinx).

⑦ Work with the City of Toronto to explore opportunities for the integration of vehicular waiting areas on Liberty new street of the extension of Jefferson Avenue (Metrolinx, City of Toronto).

* This strategy is conditional to property negotiation with the owners of 24 Jefferson Avenue and 2 Atlantic Avenue, and the City for property south of the tracks.

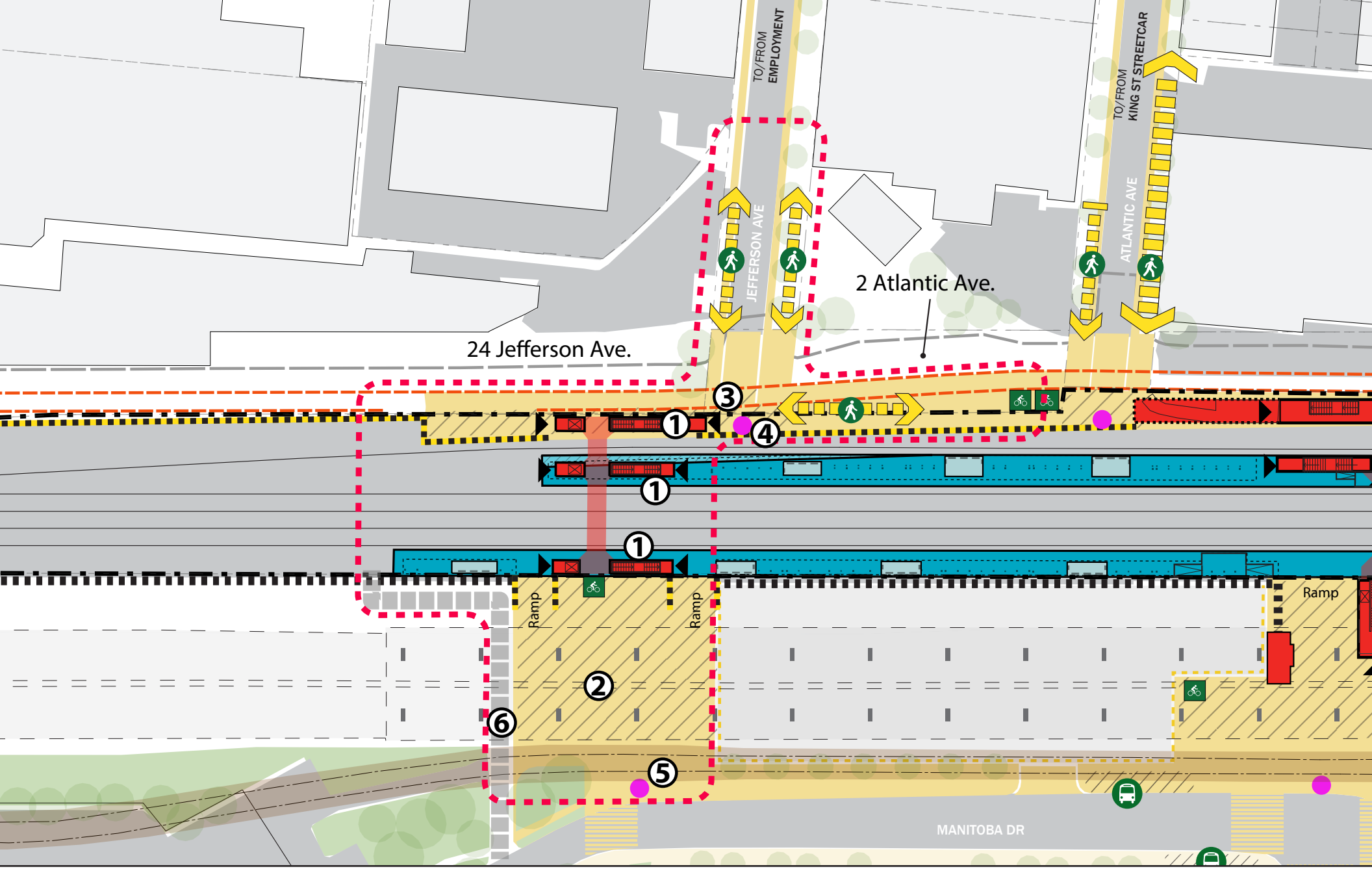


Figure 1-7 Site Plan - Investment package B

4. Investment Package C

This package comprises a new tunnel on the east side of the station area. The primary goal of the east tunnel is to help alleviate crowding by further dispersing the flow of station users and providing a more convenient connection to the station for Liberty Village residents. The tunnel would help to facilitate more direct transfers between GO and TTC streetcar services, and support access to the future land bridge to Ontario Place.

As opportunities arise, an east tunnel should be constructed to connect the TTC streetcar platforms north to just south of the Toronto Police Traffic Services Building, connecting to GO platforms along its way. The northern entrance to this tunnel should be positioned to the south side of the planned Liberty New Street and oriented to support connections from the east. If implemented in advance of Liberty New Street, a clear pedestrian walkway should be provided connecting the entrance to the residential areas along East Liberty Street. The entrance should be supported by station signage and wayfinding oriented to be visible from key connecting north-south corridors and directing users to GO platforms, the TTC platform, and key destinations to the south including the Horse Palace, Exhibition Place, Ricoh Coliseum, and a future east land bridge to Ontario Place.

Connections between the GO platforms and eastern tunnel will need to be supported through the extension and/or refurbishment of existing station platforms. While the platform is constrained at these locations there is adequate space for connecting passengers.

To the south, a new accessible entrance should be constructed and designed to support access west to both the existing TTC streetcar platform and covered passage connecting south to Exhibition Place. Construction of the tunnel would depend on negotiations with the owners of 1A Atlantic Avenue and the build-out of Liberty New Street.

The west tunnel described in Investment Package B is a priority in order to improve safety issues at the station. The east tunnel would serve as a community connection, potentially reducing the use of other tunnels by non-passengers, particularly to destinations directly south such as Ontario Place. Should the east tunnel be identified as a priority, works related to this investment including the development of the tunnel, station entrance and platform access points should be considered for inclusion as part of Package 1 investments.

The final location of the tunnel should be coordinated with future TTC improvements at the station (see section 7).

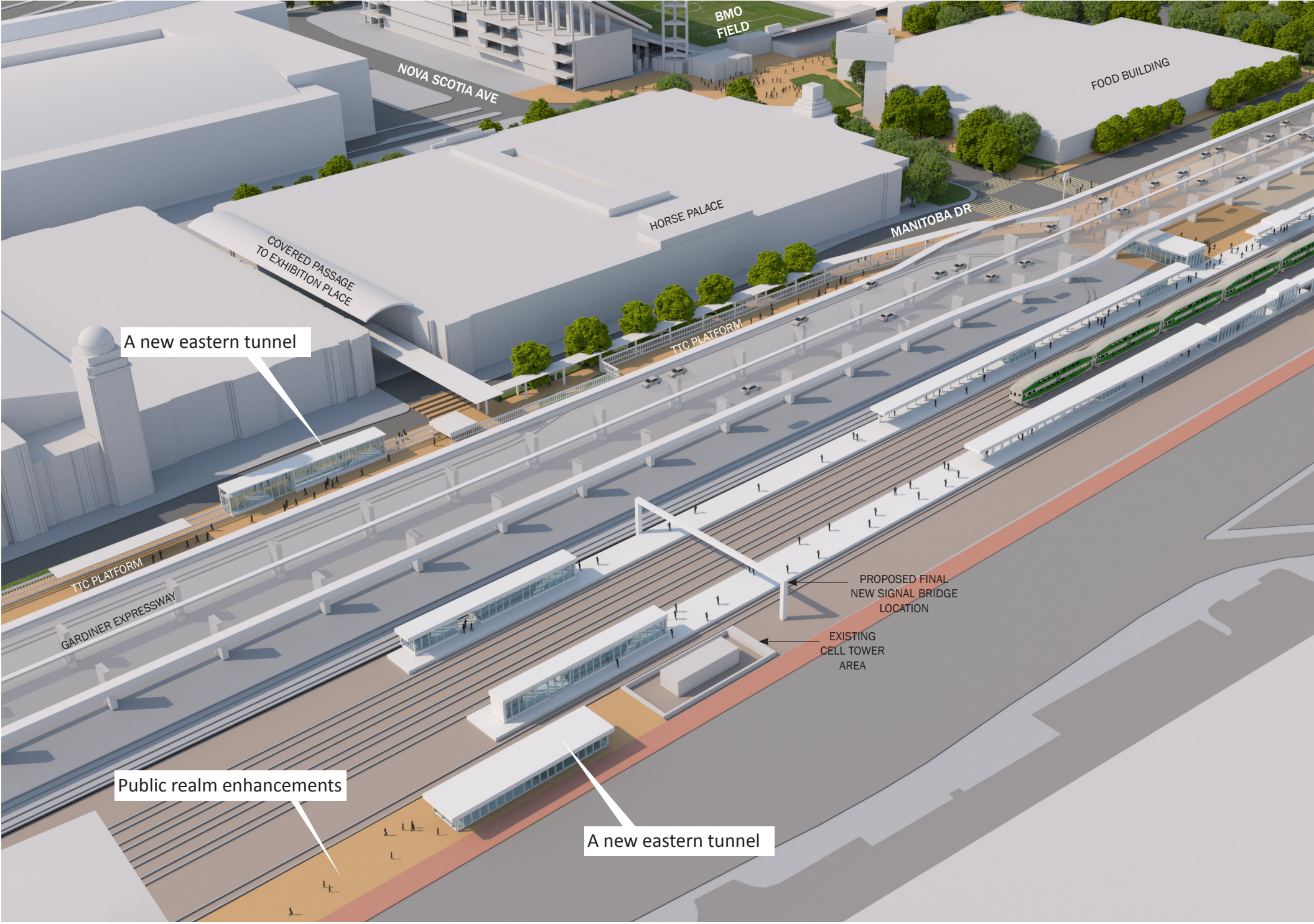


Figure 1-8 Illustration of the vision for investment package C

Summary of Enhancements

① Develop a new tunnel at the eastern end of the platforms including:

- A new accessible northern entrance oriented towards the east. If implemented prior to the completion of Liberty New Street the entrance should include pedestrian connections linking the entrance to the residential areas along East Liberty Street* (Metrolinx)
- A new accessible southern entrance designed to support access to both the streetcar platform and covered passage to Exhibition Place* (Metrolinx and TTC)
- Platform extensions and accessible entrances to connect the tunnel to the station platforms (Metrolinx)

② Create a station plaza extending from the new northern entrance east to extend slightly beyond the eastern edge of the Toronto Police Traffic Services Building** (Metrolinx)

③ Implement highly visible station signage and wayfinding at key north-south connections linking the station to East Liberty Street (Metrolinx)

④ Implement highly visible station signage and wayfinding at the southern entrance where it will be visible for users walking along the covered passage between the Horse Palace and Ricoh Coliseum. (Metrolinx)

* Exact location of the entrances should be determined in coordination with the future streetcar extension and Liberty New Street design.

** This strategy is conditional to property negotiation with owners of 1A Atlantic Avenue and the build-out of Liberty New Street.

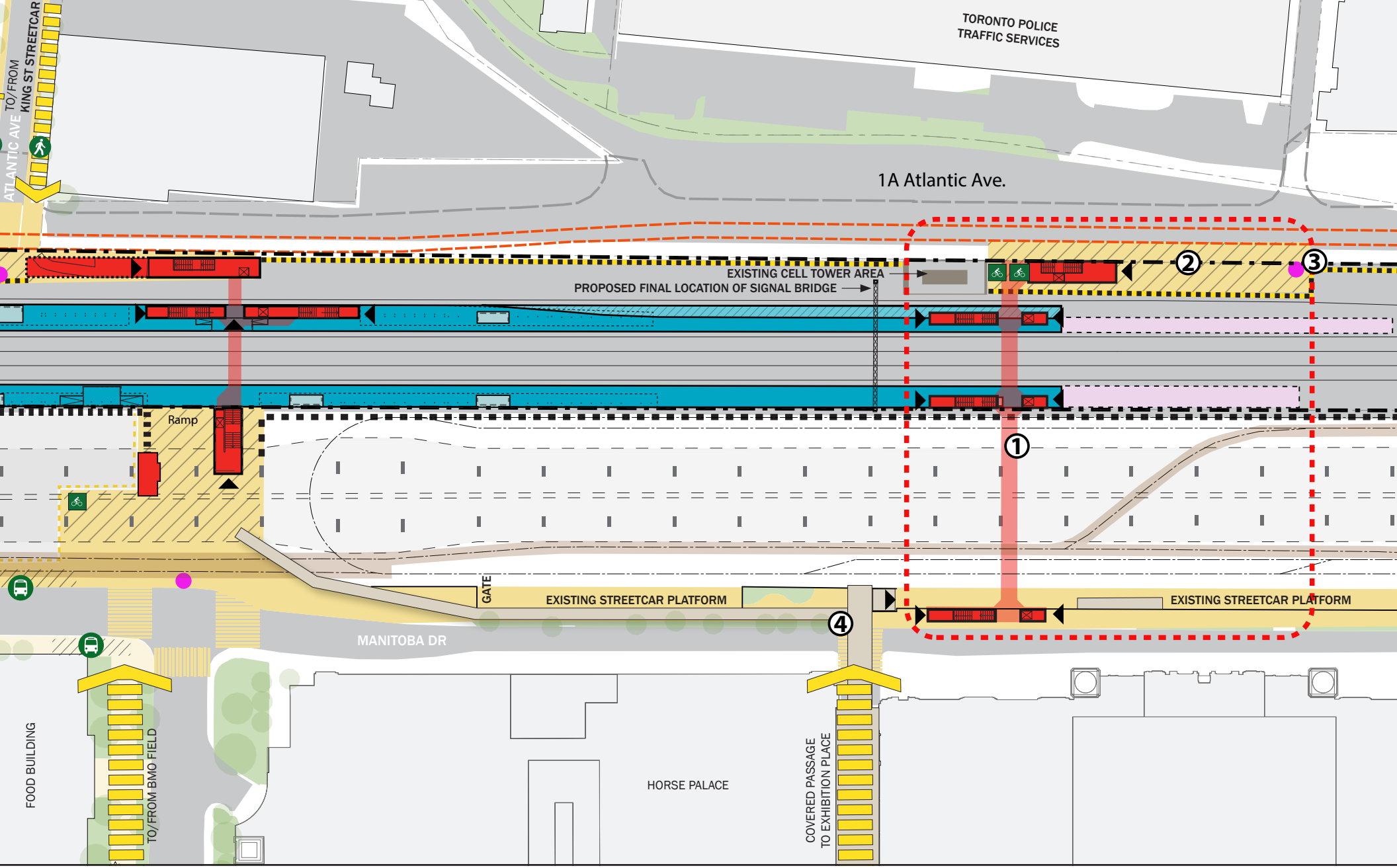


Figure 1-9 Site Plan - Investment package C

5. Supportive Investments

This section recommends additional works for the station to support the main objectives of improving safety, enhancing the user experience, and increasing the level of amenity. They are presented as optional investment packages to be implemented over time.

During the study, several key issues were unresolved including the configuration of the future streetcar extension to the west, the station building location and improvements and, the off-property public realm and wayfinding improvements. The packages of investments that follow are intended to be implemented over time by others, in tandem with other investments, or in cooperation with other partners and organizations. The timing of implementation of supportive investments, will rely on further study, coordination, and funding. None of the supportive investments are a higher priority than others.

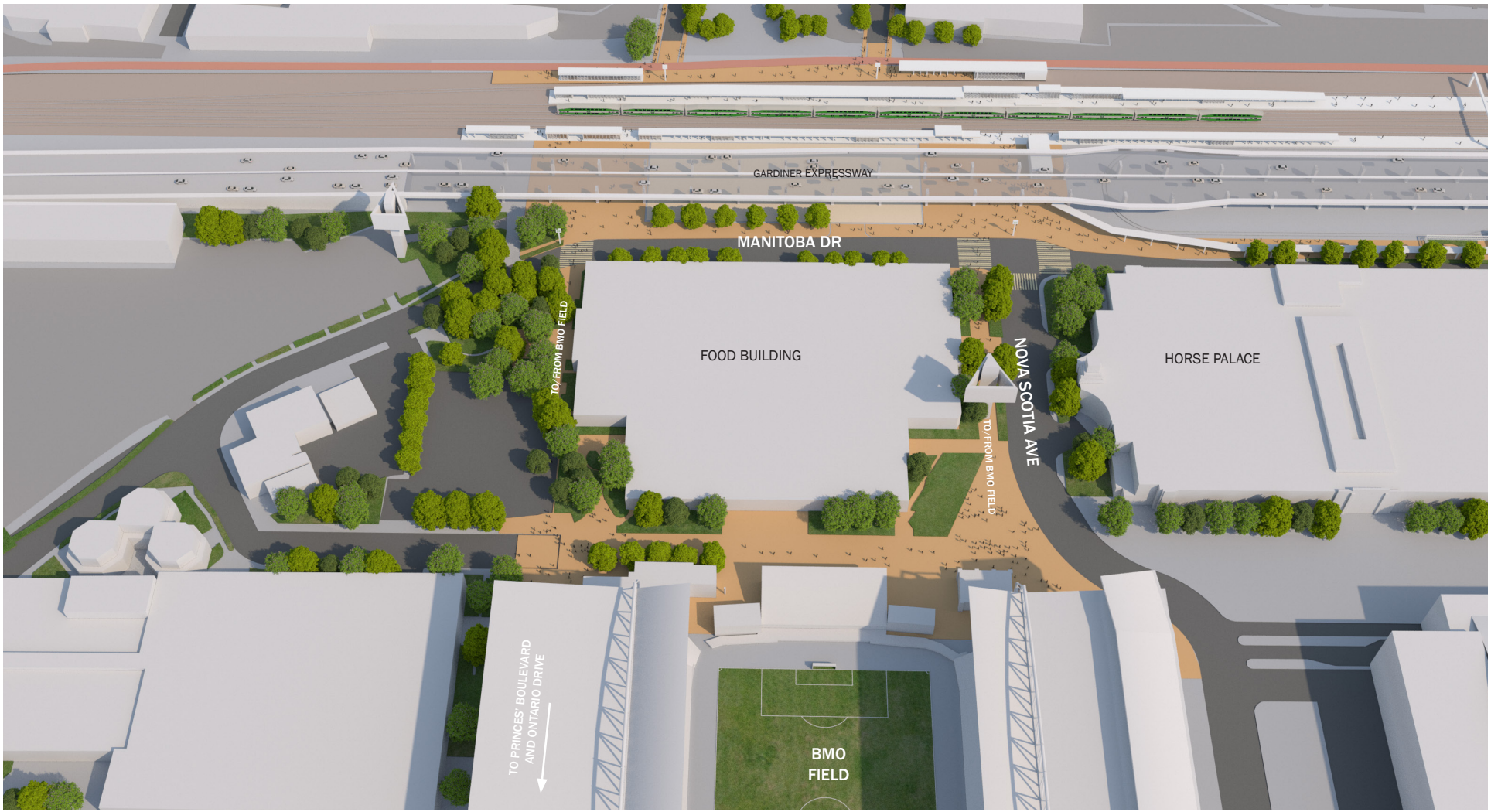
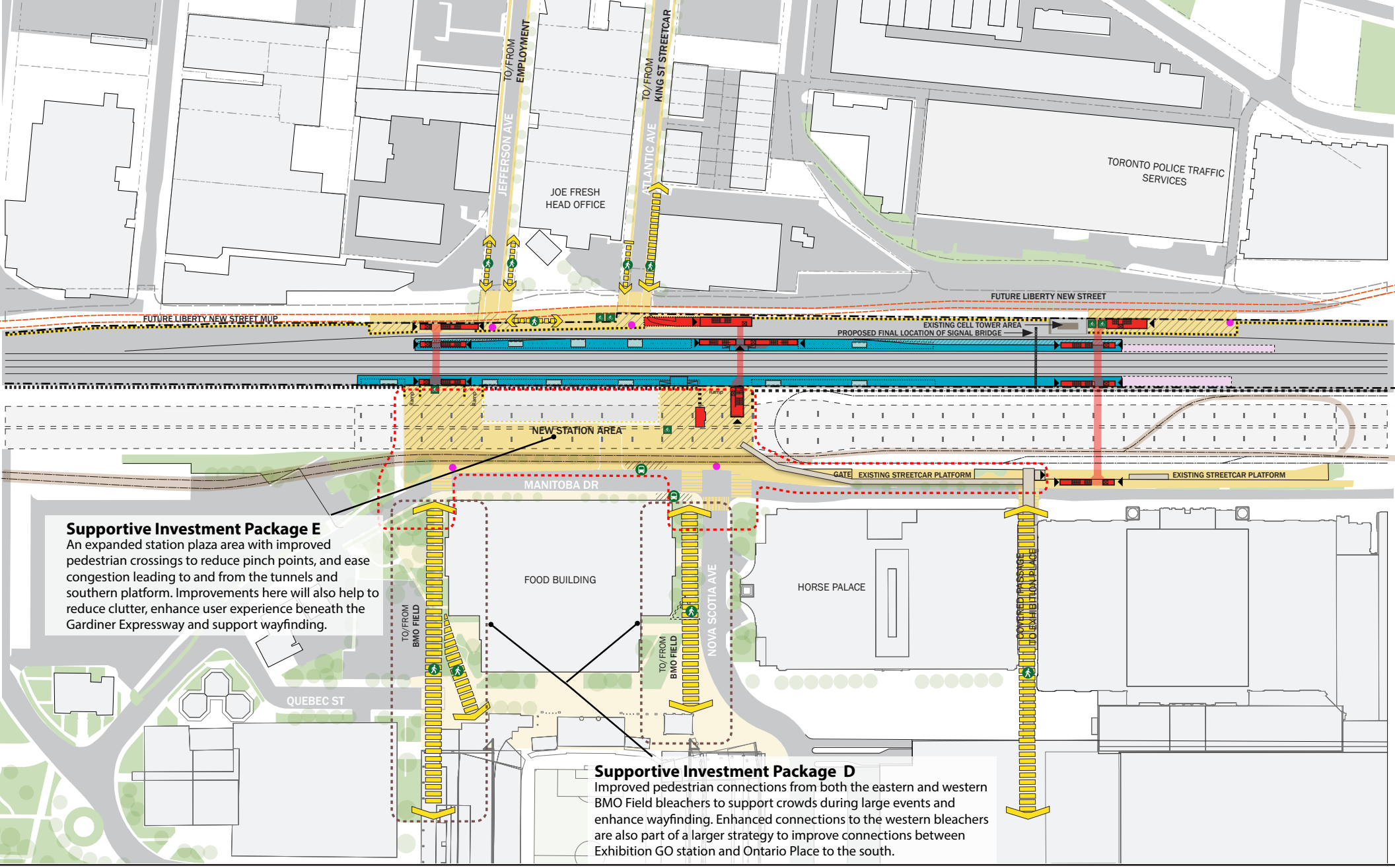


Figure 1-10 Illustration of Functional Site Plan - Optional packages of investment

Figure 1-11 Illustration of the vision for optional package A



Legend

- Metrolinx owned land
- Rail corridor
- Existing cell phone tower area
- Improved sidewalk / special paving
- Station forecourt
- Pedestrian zone
- Station facility
- Station access
- Tunnel
- Bike shelter
- Existing GO Platform
- Proposed platform widening
- Existing platform to be removed or maintained
- Elevator
- Stairs
- Abutments and retaining walls
- New retaining wall
- Pedestrian path enhancements
- Station branding and access wayfinding
- Enhanced bus stop
- Future Liberty new street
- Future Liberty new street multi-use pathway
- Proposed streetcar extension from CNE loop to Dufferin St. (Based on TTC preliminary design report)

Figure 1-12 Functional Site Plan - Supportive packages of investment

Supportive Investment Package D:

This package comprises additional works to improve station access and function south to BMO Field.

While major pedestrian flows can continue to be accommodated by the closure of Nova Scotia Drive, an opportunity exists to improve pedestrian access to and from the station through the establishment of more generous pedestrian pathways supported by amenities such as waste receptacles, seating and lighting. Most immediately, improvements to the sidewalk along the east side of the Food Building would help to support access to BMO Field. There may also be an opportunity to explore the configuration of Nova Scotia Drive from Manitoba Drive to where the street jogs at BMO Field to support its function as a broad pedestrian corridor during major events.

Following the completion of the new western tunnel, path improvements along the west side of the Food Building extending south to Princes' Boulevard would help to support access to gates 4 and 5 of BMO Field and Ontario Place. These improvements would generally be the purview of Exhibition Place and are aimed at providing improved pedestrian connections between the station and areas south of the corridor including BMO Field and Ontario Place.

Summary of Enhancements

① Implement improvements including wider sidewalks, pedestrian lighting, seats and waste receptacles, providing a better connection from the northeastern corner of BMO Field to the station. (Exhibition Place and City)

② Implement improvements to Nova Scotia Avenue to support its function as a broad pedestrian corridor during major events. These could include the provision of a more formal gate structure at the connection of Nova Scotia Avenue and Nunavut Road to redirect traffic back around Nunavut Road during large events. The replacement of low railings along the eastern edge of Nova Scotia Avenue with removable bollards could help to reduce tripping hazards during large event while still facilitating broader turning radii during Honda Indy events. (Exhibition Place and City)

③ Implement improvements including wider sidewalks, pedestrian lighting, seats and waste receptacles connecting the intersection of Princes' Boulevard and Ontario Drive with the station. (Exhibition Place and City)

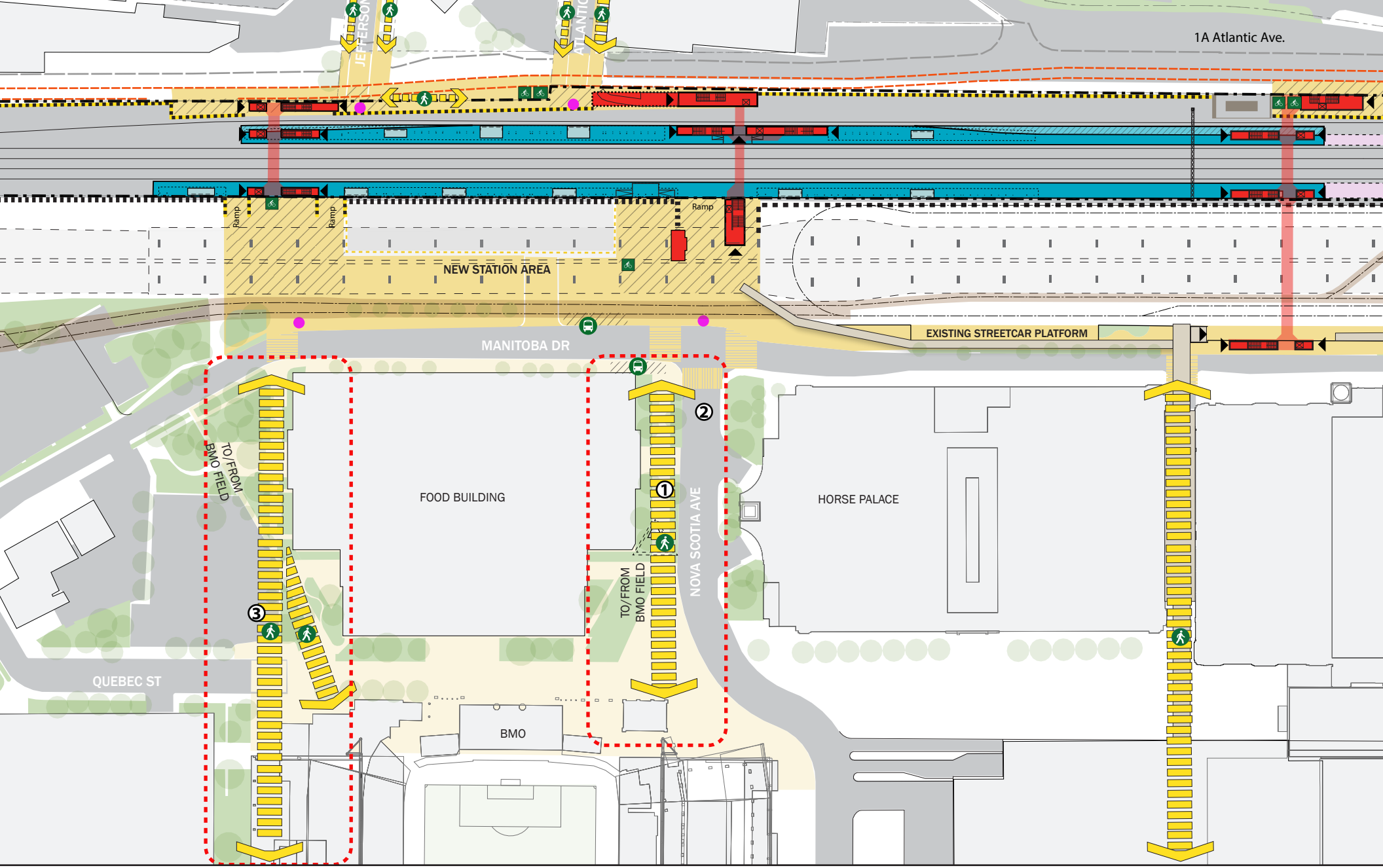


Figure 1-13 Site Plan - Supportive investment package D

Supportive Investment Package E:

This package comprises additional works to improve pedestrian connections and wayfinding on the south side of the corridor. These improvements would create safer access to and more space within the station area.

This optional investment package focuses on the station plaza and pedestrian connections immediately south of the station area. The station plaza zone could be extended from the existing entrance to the proposed west tunnel entrance to provide more generous space for passenger circulation along Manitoba Drive. This new space could also provide a more appropriate location for food trucks during major events without impeding critical station plaza area flows directly in front of the entrances. Currently this portion of the station area below the Gardiner Expressway is used for servicing and storage uses. These uses will remain, and should be contained within a smaller fenced area to screen them from public view.

Pedestrian connections to the station area should be improved primarily at three locations on Manitoba Drive where pedestrians will connect between Exhibition Place and the station:

- At Manitoba Drive and Nova Scotia Avenue, striping should be added at the end of Nova Scotia Avenue and across Manitoba Drive on both the east and west sides.
- At Manitoba Drive, west of the Food Building, striping and signage should be added to connect the sidewalk from BMO Field to the proposed west tunnel entrance.
- At the existing covered walkway between the streetcar stop and Ricoh Coliseum, additional striping should be applied to the concrete crossing to enhance visibility.

Finally, this package includes improvements to the GO/TTC interface. Currently, it is not intuitive to transfer between the two transit services for new or infrequent users. Prominent wayfinding signage should be provided at all southern entrance structures directing passengers to TTC services. Prominent wayfinding signage should also be added to the western end of the covered walkway connecting to the streetcar platforms so that it is clearly visible for users exiting the station. On either side of Manitoba Drive, the design of the public realm should distinguish bus waiting areas and shelters should be provided to accommodate passengers connecting to bus services.

Summary of Enhancements

① Expand the station area west to connect the existing and proposed western station plazas * (Metrolinx)

② Create a new fenced area within the plaza for servicing purposes. Vehicular access should be carefully designed to minimize conflict with pedestrians and fencing should be designed to conceal areas of outdoor storage * (Metrolinx, City, Exhibition Place)

③ Create an enhanced pedestrian crossing at Manitoba Drive and Nova Scotia Avenue through new striping (City)

④ Create an enhanced pedestrian crossing at Manitoba Drive west of the food building through new striping and signage (City)

⑤ Create an enhanced pedestrian crossing at Manitoba Drive at the existing covered TTC crossing connecting the streetcar platforms to the Ricoh Coliseum through the addition of striping to the existing concrete crossing point (City)

⑥ Introduce new highly visible wayfinding signage at the western edge of the covered walkway connecting the station to TTC services (TTC)

⑦ Create two clearly defined waiting areas with shelters on either side of Manitoba Drive for passengers waiting for or connecting with TTC bus services. (City)

* This strategy is conditional to property negotiation with the City and Exhibition Place. Future TTC investments will require the accommodation of a future streetcar extension over time.

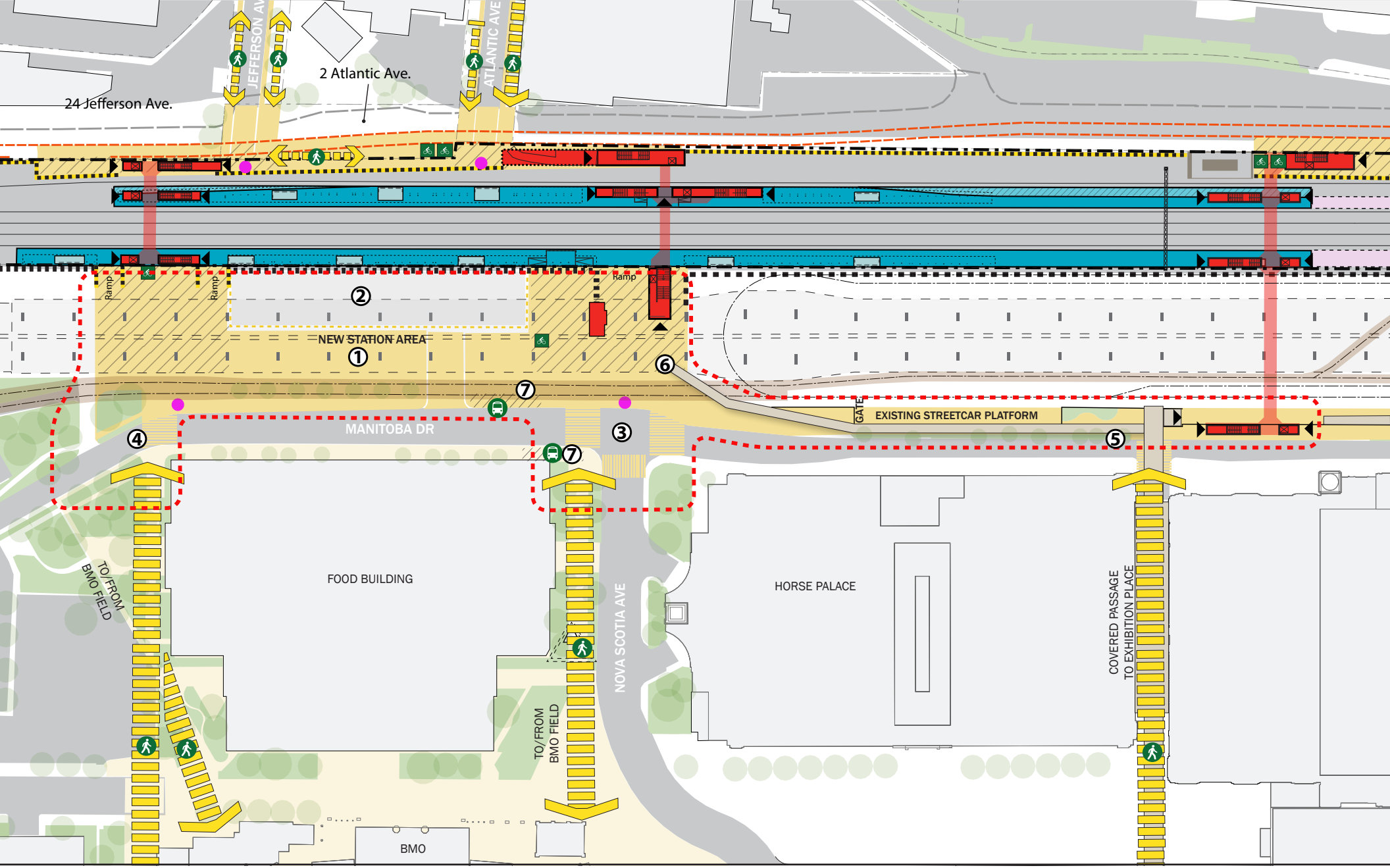


Figure 1-14 Site Plan - Supportive investment package E

6. Service Access Considerations

Metrolinx Rail Operations raised the issue of maintaining service access to the rail corridor. There are key assets both to the east and west of the station that require access.

Metrolinx staff access the rail corridor at dedicated service access points. Currently, maintenance vehicles in the vicinity of Exhibition Station have been accessing the corridor to the east and west via Atlantic Avenue. When the Western Lead tracks are installed in this location, and other improvements are completed, this will no longer be possible. As such, new service access routes are suggested below.

Eastern Service Access

To access the corridor east of the station area, the most likely option appears to be through a previously existing access road beside Strachan Ave that is no longer maintained. Reinstatement of this access would require new grading and maintenance work including the placement of a culvert along the edge of the corridor where a new drainage ditch is being created before it can be used. Alternatively, GO currently operates a small maintenance facility at the south end of Pirandello St which could be investigated for suitability as a maintenance access. This may result in conflict and would require coordination with planned Liberty New Street investments.

Western Service Access

At the west end of the platforms, service access is constrained by grade differences to the north and south. A western service access may be possible to the west of the station platforms. It would connect to Manitoba Drive, west of the Western Entrance forecourt, and ramp down west to provide grade level access to the corridor.

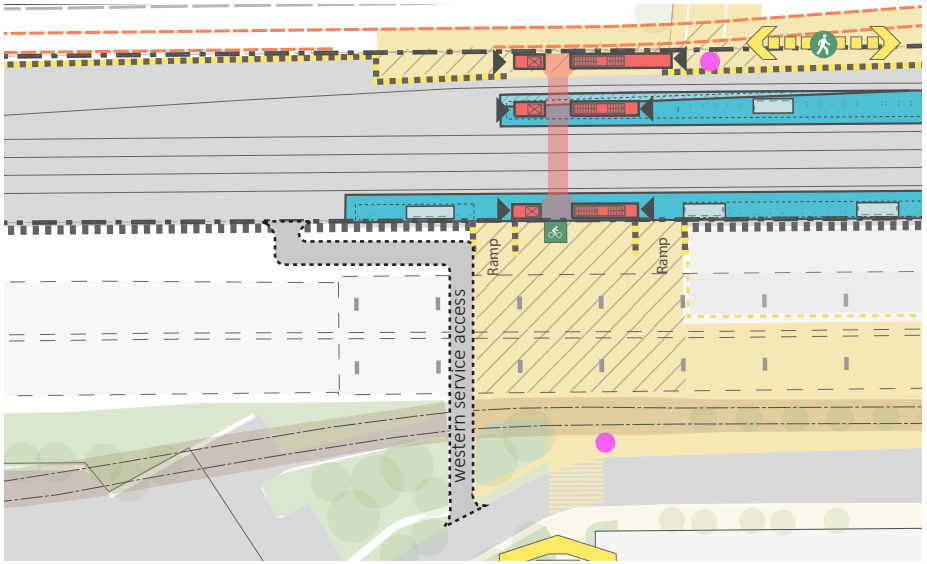


Figure 1-15 Illustration of proposed western service access configuration.

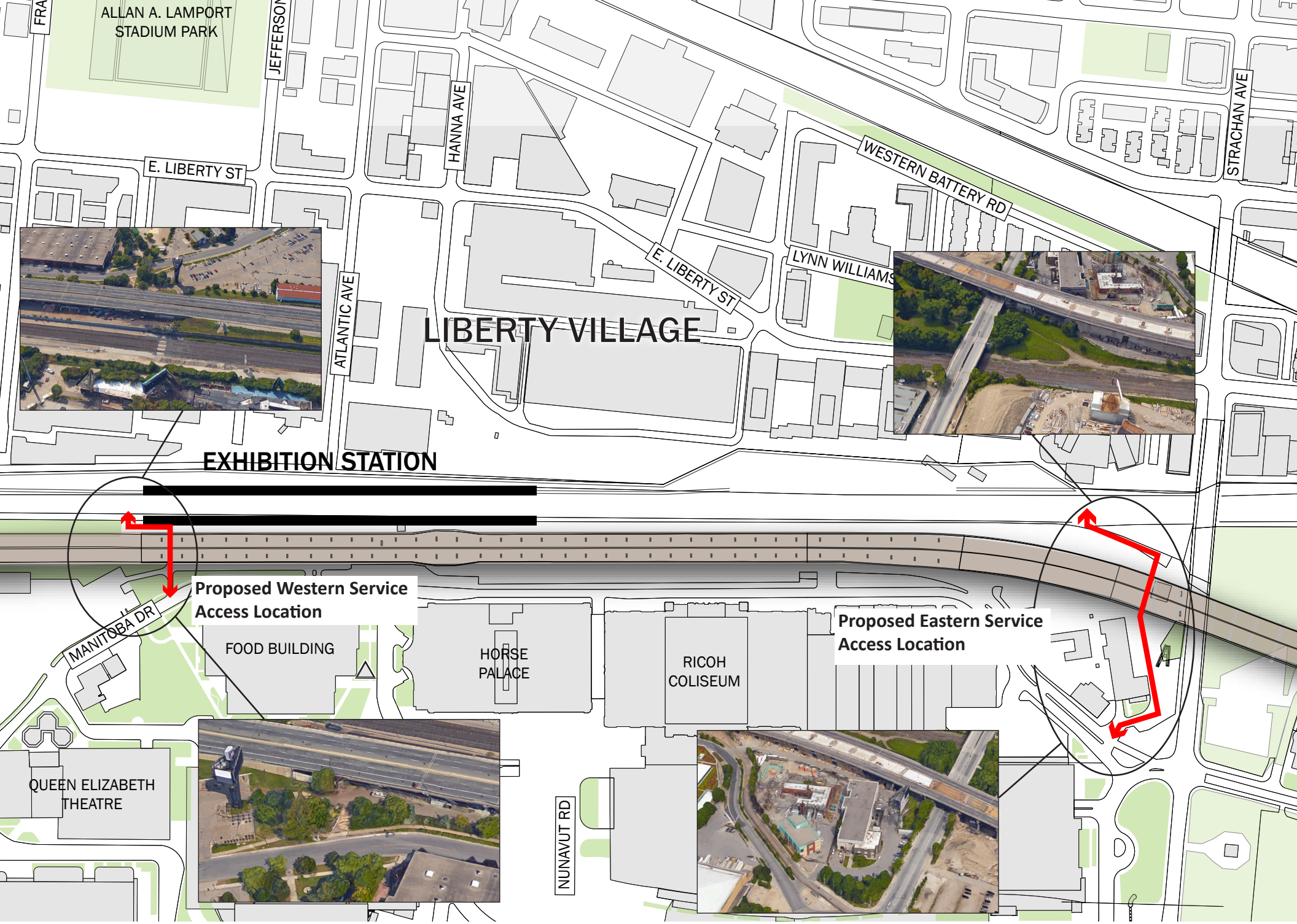


Figure 1-16 Illustration of proposed service access locations

7. Future TTC Extension Considerations

The City is currently studying the extension of the streetcar line west from the existing Exhibition Loop, parallel to the Gardiner Expressway, to Dufferin Street. In the long term, it would continue west to Roncesvalles Avenue. The extension of the streetcar to the Dufferin Loop would entail bringing the streetcar in front of the station and has raised concern about the ability of GO passengers to safely cross the corridor.

While there is currently a completed Environmental Assessment (EA) for the streetcar extension, it was approved in July 2008, prior to the expansion of BMO Field and a significant development boom in the Liberty Village neighbourhood. These have led to increased usage of the GO station as both a point of access to the area and important neighbourhood connection. The growing use of the station necessitates careful consideration of how the streetcar line is extended without impacting GO passenger/pedestrian flow, and the operation of the streetcar.

In addition to the safe integration of any extension alongside the Exhibition GO station, the TTC has identified a number of functional aspirations to be considered in any extension or future rework of TTC facilities. These include, at this time:

- the requirement for two boarding platforms for eastbound streetcars. Each should accommodate one 30 metre (m) streetcar.
- the requirement for one boarding platform for westbound streetcars. The platform should accommodate two 30 m cars (double berthing).
- the ability for streetcars to serve the platforms without interfering with the main line or streetcars on other platforms.
- the ability for all boarding platforms to accommodate 500 people, at a density of 2 m2 per person.
- the need for both eastbound and westbound alighting platforms. Each alighting platform should accommodate double berthing. Streetcars must be able to move directly from the alighting platform to the boarding platform. Eastbound and westbound alighting platforms can be combined if cars can serve the alighting platform and then move to the eastbound or westbound boarding platform. If combined, platforms must accommodate three 30 m cars.
- the ability for streetcars to be able to arrive and depart to the same direction while serving the alighting platform and then the appropriate boarding platform.
- the requirement to store seven to ten 30 m streetcars so they can proceed to the eastbound boarding platform, and store three to five 30 m streetcars so they can proceed to the westbound boarding platform. Stored streetcars must not interfere with main line operations.
- the need for all boarding and alighting platforms to be arranged to allow controlled access for fare paid operations, and for gated access and egress. All boarding platforms must have space available nearby for fare sales equipment.
- the need for all boarding platforms to have operator and supervisor washrooms and lunchrooms, preferably in a permanent building.
- the need for all boarding or alighting platforms to have the ability to accommodate two non-revenue sedans and one light truck.
- the ability for all facilities to be able to be used by 12 m and 18 m buses.

Future study by TTC staff will consider both the growing use of the GO station and the above design considerations, which will continue to develop and evolve. Through the course of this study, two options for integrating the planned TTC services and safely managing this pedestrian crossing were identified and discussed.

Option 1: At-Grade Extension of the Streetcar Line

The first option explored relocating the primary streetcar platforms to the west, into the expanded station plaza area. Moving the streetcar platforms would help to create a single point of access for transit users looking to access TTC streetcar, bus and GO train services, and bring users closer to key tunnel connections leading to destinations north and south of the corridor. The design and integration of the streetcar platforms into the station area would also be used to help manage streetcar track crossings by restricting crossing points to immediately in front of the two tunnel entrances.

The TTC has noted concerns about the at-grade crossing of the streetcar corridor due to the risk of pedestrian/streetcar conflicts. The crossing would require special consideration to the design of the plaza space that the streetcar passes through to make passengers more aware of the streetcar alignment. In addition to using the streetcar platform to restrict crossing points, the use of signalized crossings, lighted bollards and variations in pavement textures are all techniques that could be explored to help to facilitate safer pedestrian crossings of the corridor. While informal crossings of the TTC tracks may be feasible under normal operations when there are less pedestrians, during peak operations additional staffing or elements such as retractable gates to restrict pedestrians crossing the streetcar corridor would be required.

If the at-grade option is pursued, it may be necessary to extend the central and western tunnels to the south side of the streetcar tracks, in order to reduce conflicts during large events by allowing passengers to bypass the streetcar tracks in their entirety. Extension of the tunnels south of Manitoba Drive should also be explored to reduce conflict between pedestrians, buses, and street traffic. At minimum, a knockout panel should be designed into the south side of the new western tunnel to preserve for an extension in future. The existing tunnel would require additional design and modification to allow for an extension.

Option 2: Grade-separation of Streetcar Line

A second alternative would involve the construction of a grade separation that would take the streetcar above or below the primary pedestrian areas within the station. In this configuration, the streetcar platforms would remain on the east side of the station. This configuration would enable streetcar service to operate during peak event periods with little to no risk of pedestrian conflict.

Both an above and below grade separation were examined as part of the study. While both options have potential, the below grade option was identified as the preferred approach because an elevated streetcar alignment would detract from the pedestrian experience and wayfinding at the southern station entrances, and there is the risk that an elevated structure may result in a potential conflict with the Gardiner Expressway. Further study of both options to determine the optimal solution is recommended should the development of a grade-separated solution be pursued by the City in the future. Any grade-separated option would require that the existing streetcar platforms be modified and parts of them possibly relocated east of their current location and designed to accommodate both east and westbound service. The primary point of transfer between GO and TTC service would be via the proposed eastern tunnel. Because pedestrians would be able to cross the plaza area and connect further south without being obstructed by the streetcar, no extension of the tunnels would be required.

While this option creates a better interface between streetcar and GO transit services, it is likely more costly. Furthermore, several of TTC's identified functional requirements may not be achievable as the shift in the streetcar platform east of its current location may make it difficult to accommodate the TTC's platform requirement and provide sufficient storage space for TTC vehicles. The configuration and operation of the streetcar loop will also be impacted. Finally, there may be conflicts arising from the proximity to the Gardiner Expressway. A more detailed analysis is required to properly assess the feasibility of the grade separation option.