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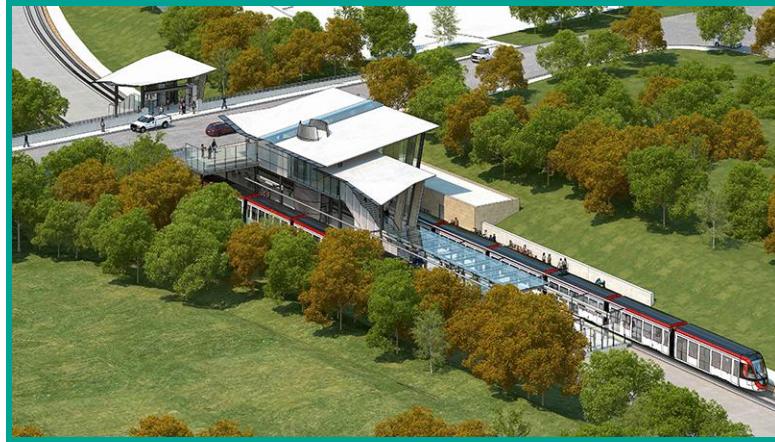


AFFORDABLE

CONSTRUCTION AND MAINTENANCE OF THE OTTAWA LIGHT RAIL TRANSIT SYSTEM

APPENDIX 1– STATION Technical Overview

05 DECEMBER 2012



Our Mission

Transformation through transportation.

Our Vision

To leverage the power of transportation and community to create a modern, integrated capital city that is environmentally, socially, economically and culturally sustainable and a desirable place for living, working and visiting.

Light rail will shape how we grow our City.

An Official Publication of The City of Ottawa.



Please direct any questions concerning this publication to:

Rail Implementation Office
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1. Tunney's Pasture



The Artist rendering shows Tunney's Pasture station viewed near the corner of Holland Ave and Yarrow St. This is one of the main entries to the station. The rendering shows the roof design, exterior design, and the surrounding landscape. To the far right, the bus loop transfer is shown.

Design Overview

From an existing bus transit station along the Transitway, Tunney's Pasture Station is converted to the western terminus of the new OLRT project as a side platform station. Like Blair Station at the eastern terminus, it serves as a terminal and transfer station, and requires the ability to accommodate high passenger transfer volumes. The station will continue to serve as an enhanced gateway to the existing community including the adjacent Federal government campus, and various residential areas that will be well connected to the station. A large plaza with extensive cycling facilities is provided to support access to Westboro, Wellington West and Hintonburg by bicycle.

As the station requires Federal property, it is subject to NCC Federal Land Use Approvals (FLUA). Consequently, Tunney's Pasture Station is designed to reflect the NCC's "Capital Interests" and provides a distinctive structure to compliment the fabric of the surrounding community. Key station components include a station platform located within the existing BRT right of way (ROW), protection for a future expansion of the station platform to the east; a direct pedestrian connection to an expanded and reconfigured bus loop to the north; and two main station entrances—one from the north, and one from the south.

Interconnection to Transit System

Tunney's Pasture station is designed to permit passengers to transfer between the existing BRT and new LRT within the reconfigured bus loop without passing through any fare control barriers or having to revalidate fare payment. Eleven (11) bus bays are provided within the fare paid zone, with an additional two bus bays on Scott Street and five bus bays on Yarrow Street. As well, the western end of the station is designed to allow for the future extension of Goldenrod Driveway. The BikeWest project's existing multi-use pathway will continue to serve the station on the south side between the station and Scott Street. Pedestrian connections are provided in key locations including two connections to Scott Street at local bus stop locations; one pedestrian connection to the northeast of the station; and one pedestrian connection to the pedestrian walkway at the bus loop to the northwest of the station.

Service Areas for Pedestrians and Cyclists

The station and the surrounding landscaped areas are designed to provide convenient access for both pedestrians and cyclists. Landscaped features include treatments along Tunney's Pasture Driveway in the east, the extension of Goldenrod Driveway to the west, Scott Street to the south and Yarrow Driveway to the north. Sidewalk widths appropriately respond to the space needed for waiting, loading and unloading of passengers, most notably within the bus platform area. Additional public amenities include provision for retail areas on the concourse level, two escalators for access between the platform and concourse, and redundant passenger elevators between all levels of the station. As a terminus station, public washrooms are provided for passenger use at platform level. A designated waiting area and passenger shelter are also located on each platform.

Passenger Flows

Tunney's Pasture station provides simple and intuitive entrances from the north, adjacent to the bus loop and Holland Overpass, and from Scott Street to the south. Fare control, ticketing and public information locations are conveniently located near the entrances. Passengers move from the entrance locations to a central concourse that provides direct access (both east and west) to the platforms below.

Proximity

This station is adjacent to the Federal government's office campus, which includes Statistics Canada and Health Canada. The station is within a 5 minute walk of the heart of Wellington West and a few short blocks away from the neighbourhoods of Hintonburg and Westboro. The station is designed to continue to integrate well with the neighbouring communities as well as accommodate future Transit Oriented Development (TOD) in the area, including directly to the north in the location of the existing bus loop should these bus bays no longer be required in the future.

Integration with Existing Structures

The main emphasis at Tunney's Pasture is a design that preserves the twin cell box culvert that runs along the Transitway. Although terminus stations are normally centre platform configurations, a side platform configuration is necessary to avoid conflicts between the station escalator pits and the culvert below the platform. In the future, if there is a westerly



extension, this station would function as a `line` station and consequently the side platform configuration represents a suitable long term configuration for the station.



Tunney's Pasture – Site Plan

2. Bayview Station



Bayview Station. The Artist rendering shows station from the northwest entrance with LRT on the upper level and the O-Train connection at the lower level. The Rendering shows exterior of the station, the roof design, and some of the surrounding landscape.

Design Overview

The Bayview station is located directly over the existing O-Train platform and is designed as a side platform configuration to facilitate existing and future O-Train operations and passenger connectivity. The station provides a direct and efficient vertical connection between the OLRT and the O-Train platforms. Bayview station is designed to integrate with pathways from the surrounding community and provide linkages to potential new development sites to the north.

As Bayview station requires NCC approval, the station design responds to the comments and elements identified by the NCC during the procurement process. The key station components include a station platform located along the existing BRT ROW with future expansion of the platform to the east; two main station entrances from Albert Street and the O-Train platform; and pedestrian connections to the Tom Brown Arena, Albert Street and the multi-use pathways to the north.

Interconnection to Transit System

Bayview station is designed to facilitate passenger transfers between the existing O-Train and new LRT without the need to pass through fare control barriers or revalidate fare payment. The station's functional plan responds to the predominant passenger movements between the OLRT and the O-Train platforms as well as the Albert Street entrance.



Pedestrian connections are enhanced by continuing and completing the multi-use pathways from the surrounding community including pedestrian and cycling connections from Tom Brown Arena and via the O-Train pathway on the east side of the BRT. Further, the design can accommodate future double tracking of the O-Train line, including the addition of a new platform on the east side of the current track with vertical circulation elements.

Service Areas for Pedestrians and Cyclists

The station and the surrounding landscaped areas are designed to provide convenient access for both pedestrians and cyclists. The western entrance for the station is located at the lower level and provides a direct connection to the O-Train. The eastern entrance provides direct access to the platform level from Albert Street, and includes a lay-by for local buses. Amenities for the public include two escalators for access between the platform and concourse, and four passenger elevators. At platform level, a designated waiting area and passenger shelter are located on each platform.

Passenger Flows

Bayview station provides simple and intuitive stations entrances in the west and east. Fare control, ticketing and public information locations are also provided near entrances. Since the main concourse is located at the lower O-Train platform, passengers will move up to the side platforms above.

Proximity

Bayview Station is located near the eastern edge of Hintonburg, across Albert Street from the Tom Brown Arena, and is one O-Train stop away from Carling Avenue and Little Italy. There is land to the south and east of the station slated for TOD. The area to the north of the station will allow for a potential future Interprovincial transit connection.

Integration with Existing Structures

Bayview station requires close integration with the existing O-Train infrastructure and the new station also aligns itself such that it is parallel with Albert Street. The pedestrian connections are designed to be fully accessible and will be closely coordinated with existing grades and conditions.



Bayview – Site Plan

3. LeBreton Station



The Artist rendering shows LeBreton Station viewed from south of the Aqueduct, facing east. It shows the entrance, exterior walls, and roof design as well as the reconstructed Booth Street Bridge.

Design Overview

LeBreton station is an existing at grade BRT station that will be built in a new location that enhances its relationship to Booth Street. The new station is located beneath and to the west of a new Booth Street bridge with direct connections from the bridge and the existing heritage aqueduct areas below. The station provides a direct and efficient vertical connection between these two elements. LeBreton station is also designed to integrate with pathways from the surrounding community.

Again, as a station of Federal interest, LeBreton station responds to the Capital Interests as identified by NCC staff. The key station components include a centre platform configuration located along the existing BRT ROW; future expansion of the platform to the west; primary station entrances from Booth Street and the aqueduct; pedestrian connections to the multi-use-pathways and Booth Street; an appropriate response to future TOD opportunities; as well as providing opportunities to integrate with a restored bridge and aqueduct area at the lower level.

Involving a change from an at grade to a grade separated facility, LeBreton station includes the reconstruction of Booth Street and the Booth Street bridge. The Booth St bridge is provided pursuant to a long-term agreement between the City and the NCC to provide infrastructure that facilitates the redevelopment of the LeBreton Flats area. This



infrastructure is provided at City expense as part of this agreement in exchange for the transfer of NCC lands in the area to City ownership for nominal consideration. The provision of the bridge infrastructure will facilitate the development of lands along Booth Street and enhance long term connectivity to the new OLRT station to the benefit of both NCC and the OLRT project.

Interconnection to Transit System

LeBreton station is designed to permit passengers to connect or transfer to and from existing bus routes along Booth Street. The station has an entrance at either side of Booth Street that provides direct passenger transfers from both the northbound and southbound bus routes. A separate pedestrian stair connecting the bridge level to the multi-use-pathway below allows pedestrians to move between the upper and lower levels without having to pass through the station. The station's functional plan responds to the predominant passenger movements between the platform and the main entrance from Booth Street located on the west side of the bridge. Pedestrian and cycling connections are further enhanced through integration with the pathways from the surrounding community.

Service Areas for Pedestrians and Cyclists

The station and the surrounding landscaped areas are designed to provide convenient access for both pedestrians and cyclists. At the western station entrance, located at the lower level, passengers have direct access to the existing cycling and pedestrian pathways along the aqueduct, and to the pedestrian connection to the Heritage Bridge. Additional amenities for the public include two escalators and elevators for access between the platform and concourse. At platform level, a designated waiting area and passenger shelter are included on the centre platform.

LeBreton is designed to take high peak usage as the area hosts special events such as Bluesfest that require it to accommodate surge passenger loadings during local events. A centre platform configuration is the best station design to accommodate these peak passenger loads and the station includes an under-platform connection that emerges on the north side adjacent to the aqueduct. This lower station entrance has been shifted west to connect to a cascading linear public area that ties into the elevation at the Booth Street Heritage Bridge and offers an alternative pathway for pedestrians and cyclists proceeding west, connecting to the Broad Street heritage bridge. This entrance is well positioned in relation to the main entrance of the Canadian War Museum to accommodate large events at the public park space in front of the Museum.

Once in service, the station will also help to alleviate traffic and parking issues that impact the surrounding community

Passenger Flows

LeBreton station provides simple and intuitive station entrances at Booth Street and along the aqueduct to the platform. Entrance locations provide for the incorporation of fare control, ticketing and public information locations. Since the main concourse is located at the level of the Booth Street bridge, passengers will move down to the station platform below. LeBreton is organized to optimize adjacent development opportunities and to take advantage of views to the aqueduct to the north.

Proximity

The station is located in the NCC's LeBreton Flats development lands and is only a few blocks away from the neighbourhoods of West Centertown, Chinatown, and Little Italy. The station is close to the Canadian War Museum. It is also just across the Chaudière Bridge from large Federal government offices, including Place de la Chaudière. The station will continue to serve as a significant transfer point for customers to Gatineau as it does today.

Integration with Existing Structures

LeBreton station requires close integration with several existing and new structures and is designed in coordination with the new Booth Street Bridge. The bridge design includes a lantern that provides daylight to the heritage bridge below and which will act as a landmark for the station from the surrounding community. LeBreton station is also designed to provide appropriate connections to existing structures such as to the Heritage Bridge and the multi-use pathways alongside the aqueduct. The pedestrian connections are designed to be fully accessible and will be closely coordinated with existing grades and conditions. The shift to a centre platform configuration has the added benefit of facilitating an additional 900 m² of land for TOD area.



LeBreton – Site Plan



4. Downtown West Station



Rendering shows the exterior of Downtown West Station's east entry from the corner of Queen Street and Lyon Street

Design Overview

Downtown West station is a new underground side platform station located under Queen Street. The station has two entrances: the west entrance is a stand-alone in-street structure located on the south side of Queen Street in front of the Delta Hotel, the east entrance, located on the north side of Queen Street is integrated within the Crehoy building, part of the Place de Ville complex, just west of the Marriott Hotel. In addition, the station includes an elevator only entrance on the south side of Queen Street directly opposite the Place de Ville entrance on the north side of Queen Street.

The upper station concourse has the ability to tie into the lower levels of the Place de Ville complex. A lower concourse representing the main station ticketing concourse is located approximately 12.5m below grade, and provides access to the side platforms which are about 18 metres below grade.

The station will be largely constructed using sequential excavation mining methods, with relatively minimal disruption at the surface. Tunnel ventilation shafts discharge at street level, and an emergency exit stair is located on the south sidewalk just west of Lyon Street.

Interconnection to Transit System

Connection at the upper concourse level of the east entrance, within the Place de Ville complex could, in the future, offer passengers convenient access to an underground north-



south pedestrian route that will stretch from Albert Street to Sparks Street. This connection could be combined with the west entry within close proximity to Lyon Street and Wellington Street, providing passengers improved access to regional buses serving Gatineau.

Service Areas for Pedestrians and Cyclists

With the station's location in the heart of the downtown office core, the predominant access mode to the station will be walk-in traffic. The sidewalk serving the west station entrance has been widened to accommodate the station entrance, provide sufficient space for the large passenger movements and accommodate required bike storage. Amenities include the provision of escalators serving all levels—two elevators per platform and four elevators serving concourse to street level (2 on each side of Queen St). At platform level, a designated waiting area is located on each side platform.

Passenger Flows

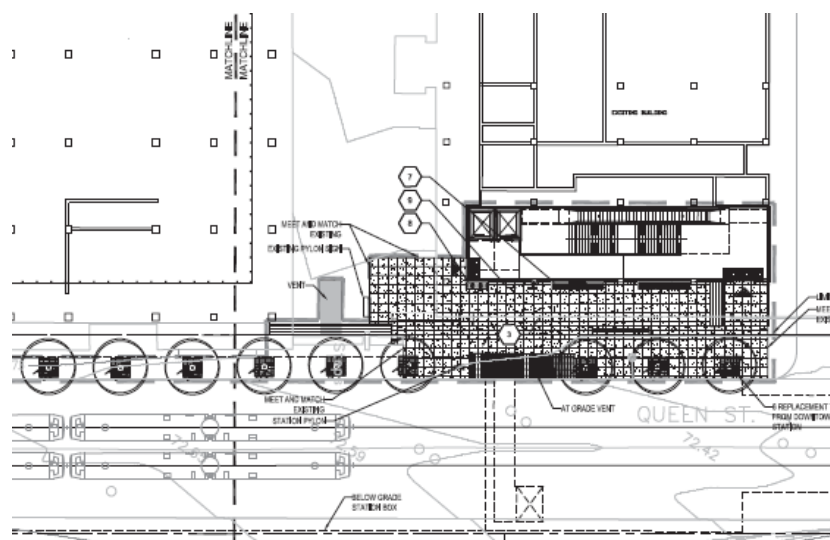
The station has been configured with access to the two side platforms provided from a single primary station concourse allowing passengers to defer the need to select the path to grade until they reach the concourse level. Passengers exiting towards the west will utilize a single escalator to the surface. In the future, with a direct entrance connection passengers would be able to enter the Place de Ville complex at the upper concourse level where they could disperse to the north or south via existing underground pathways. The station protects for this future connectivity through the provision of a knock out panel at the elevation of the north-south pedestrian tunnel under Queen Street.

Proximity

The station is in close proximity to the Place de Ville complex. As a downtown station it services a dense area of commercial, residential, and government traffic. It is the closest station to the Federal Library and Archives and within close proximity of a number of major hotels and financial institutions.

Integration with Existing Structures

The east entrance is located north of Queen Street within the Place de Ville building complex. The owner of the complex is currently considering a new office tower, and the station entrance takes into account the proposed development. One level below at the upper concourse level, the new station concourse will be designed to easily accommodate a future direct connection into the existing lower level of Place de Ville leading to the underground pedestrian tunnel under Queen Street.



Downtown West Station – Partial Site Plan

5. Downtown East Station



Downtown East Station Rendering shows the exterior of the station's east entry at the intersection of Queen Street and O'Connor Street. The exterior entrance is positioned beside the northwest corner of the World Exchange Plaza.

Design Overview

Downtown East station is the highest ridership station on the line and serves the heart of the downtown central business area and the Parliamentary Precinct. This station is two short blocks away from Confederation Square and Parliament Hill and will be required to accommodate large and intense passenger volumes at events such as fireworks display on Parliament Hill on Canada Day. The side platform station is served by two entrances located on the south side of Queen Street. The west entrance will be directly connected underground to the main atrium of the Sun Life building and offers direct access to Albert Street. The east entrance is an in-street standalone entrance located just east of O'Connor Street. The station also includes a standalone elevator entrance on the south side of Queen Street.

The station has two levels below grade including a single concourse located about 15 metres below grade that allows passengers to access either of the two fare paid concourse areas at the east and west ends of the station box. The two side platforms located roughly 19 metres below grade are each served by two escalators, stairs and two elevators.



Station Placement and Possible Connection to the National Arts Centre (NAC)

As outlined in the April 25, 2012 Council Memo: *Response to Council Motions Downtown East Station Shift Feasibility Study on NAC Connection to Downtown East Station*, and in response to Council direction to study the feasibility of shifting Downtown East station further east towards Metcalfe Street, an innovation zone was outlined to the proponents to allow the station to be located as far east as Metcalfe Street if feasible and cost-effective. In the design review meetings with the proponents during the procurement it was determined that shifting the station further east would necessitate a deeper and consequently more expensive station as the tunnel at that point is descending in order to pass under two major sewers located on either side of the Rideau Canal. Furthermore, after detailed review, it was determined that the station at its more westerly location had two significant advantages: first better bus operations as it allows buses to turn south at O'Connor Street rather than at Elgin Street, and second, it afforded integration with the Sun Life building facilitating weather protected access to and from Albert Street, and avoiding the requirement for station placement in the right of way on Queen Street.

Council further directed staff to examine the feasibility of a weather-protected connection from Downtown East station to the NAC. The location of Downtown East station and the NAC's position that this connection cannot occur through their underground parking lot will likely make the cost of this connection prohibitive. However, City and NCC staff has organized a series of workshops with RTG to explore alternative connection opportunities, including a potential covered connection from the NAC along the Mackenzie King Bridge to the Convention Centre and Rideau Centre. Staff will update Council on the results of these workshops once they have occurred.

Interconnection to Transit System

As a station located in the heart of Ottawa's downtown core, Downtown East station is essentially a walk in station. However, the west entrance's close proximity to Bank Street enables bus passengers from existing bus routes, such as Routes 1 and 7, (that serve communities to the south) to transfer to the OLRT system at this station. It will also serve as a key transfer point for transit passengers attending events at the redeveloped Lansdowne Park.

Service Areas for Pedestrians and Cyclists

The sidewalk on the south side of the street will be widened to accommodate the station entrance, provide sufficient space for large passenger movements and accommodate required bike storage. Additional amenities for the public include a direct connection to the retail and weather-protected pedestrian routes within the Sun Life Building. All levels within the station are served by a minimum of two elevators, and two escalators, thereby increasing reliability and providing redundancy when an elevator is out of service. At platform level, a designated waiting area is located on each side platform.

Passenger Flows

Downtown East station is organized such that its entrances reach out to the east and west to maximize passenger convenience and the walk in catchment area of the station. All passengers arriving at the station concourse level converge to a central area on the main concourse, at which point passengers can choose to enter the fare paid area at the east or the west concourses, before descending to platform level.



Proximity

The station is directly adjacent to the Sun Life and the World Exchange office buildings. As a downtown, station it services a dense area of commercial, residential, and government traffic and acts as the closest station to Parliament Hill.

Integration with Existing Structures

The west station entrance is integrated into the Sun Life building by replacing the YMCA entrance with a single station structure that offers shared access. The new stairs and escalators are designed to drop through the P1 parking level without impacting the vehicular circulation in the parking garage. A new stair landing created at the P1 level will provide access to the YMCA facility. At grade level, a lobby entrance area on the north side of the building facade will provide weather protected access to the Sun Life building. Entrances are designed to handle the high passenger volumes that will access this station.

6. Rideau Station



Rideau Station Rendering depicts the Rideau Station Entrance at William Street and Rideau with dual escalators where the current ScotiaBank building now stands.

Design Overview

Rideau station is a new underground side platform station located beneath Rideau Street between Sussex Drive and William Street. The station will serve a large volume of passengers due to its proximity to the Byward Market, Freiman Mall, the Rideau Centre and local and regional bus service. The station's proximity to the Government Conference Centre, the Rideau Canal and the National War Memorial will also provide transit connectivity to tourists year-round and during special events.

The western entrance to Rideau station will involve a series of cascading escalators and stairs from the southeast corner of Sussex Drive and Rideau Street (the northwest corner of the Rideau Centre). This entrance will be constructed within the Rideau Centre at 10 Rideau Street taking advantage of the high pedestrian traffic and high profile of this location within the downtown core. The cascading stairs and escalators will descend in an easterly direction to the station concourse below. Additionally, a double elevator bank will be constructed within the Rideau Centre in the proximity of the current Freiman Mall entrance. This elevator bank will not only connect the ground floor level of the mall to the station concourse below, but will also extend up to the level of the existing overhead pedestrian walkway connecting to the Bay on the north side of Rideau Street.



The eastern entrance to Rideau station will be located on the north side of Rideau Street adjacent to the William Street pedestrian walkway to the Byward Market. The entrance is planned to be located partially within the existing ScotiaBank building site to ensure the William Street pedestrian thoroughfare to the Byward Market is not compromised.

To facilitate future entrance connections to the station, several knockout panels have been designed into the station to allow for potential connections. At the west end, a knockout panel is designed on the north side of the concourse to allow a future underground connection to the Bay or to the north side of Rideau Street. At the east end, two knockout panels have been designed for possible future connection to the Rideau Centre expansion. These knockout panels would facilitate either a shallow tunnel connection under Rideau Street to the William Street entrance on the north side of Rideau Street or would facilitate a deeper connection to the concourse below direct from the Rideau Centre expansion on the south side of Rideau Street.

Due primarily to the alignment constraints of the Rideau Canal, Rideau station is located approximately 26.5 metres below grade. The station depth is mitigated by the provision of dual escalators serving both the west and east entrances as well as redundant elevators at each entrance.

Interconnection to Transit System

Rideau station is and will continue to be a major transfer station for local and regional bus service including STO buses along Rideau Street. The location of the station and the station entrances are situated to allow an efficient transfer from the buses along Rideau Street as well as transfers from the buses along MacKenzie King Bridge through the Rideau Centre.

Service Areas for Pedestrians and Cyclists

Pedestrian access to Rideau station will be provided through the Rideau Centre, from the Byward Market at William Street, through the overhead walkway at Freiman Mall and from the surrounding pathways and sidewalks that currently make-up the vibrant pedestrian realm that exists on Rideau Street. The quality of this pedestrian realm is expected to be enhanced by the OLRT project, the Rideau Centre expansion project and the Rideau Street revitalization project.

Provision for bike storage will be incorporated in close proximity to the William Street mall entrance.

Passenger Flows

Rideau station offers passengers a broad selection of options in terms of accessing the station. The William Street Mall entrance will provide a distinct on-street presence for the station that will support easy station identification and wayfinding. The elevator bank within the Rideau Centre at Freiman Mall is located adjacent to one of the main pedestrian thoroughfares in the mall. The provision of an upper floor elevator connection at the west overhead walkway within the Rideau Centre allows a weather protected, safe connection to the station from the north side of Rideau Street west of William Street. The reach of the



station entrances both east and west and north and south maximizes the catchment area of this station and will promote high transit usage in this key area of the downtown core.

Proximity

The station is adjacent to the Rideau Centre, the Byward Market, Freiman Mall, and the Rideau Street commercial and arts district. The station's relative proximity to the Government Conference Centre, the Rideau Canal and National War Memorial will also attract ridership particularly during special events

Integration with Existing Structures

The western entrance structures to Rideau station will be integrated into the existing Rideau Centre. These entrance locations have been supported by Cadillac Fairview and have been incorporated into their revitalization plans. Cadillac Fairview would be responsible for all entrance structures and building façade modifications required to construct the OLRT entrances within their property.

The eastern entrance structure to Rideau station will be partially integrated into the existing ScotiaBank structure.

7. Campus Station



Campus Station Rendering shows the north-west side of the station facing Nicholas St. It also shows the exterior roof design and the pedestrian tunnel from the Rideau Canal.

Design Overview

Campus station is an existing bus transit station along the Transitway that will be re-built to optimize and integrate its relationship to the surrounding area. The new station is directly adjacent to the Rideau Canal and is an integral component of the University of Ottawa campus. With the connection to the O-Train at Bayview station, the OLRT project/Campus station will ensure a convenient connection between Carleton and Ottawa Universities and enable reliable and predictable travel times between the campuses thereby offering students the ability to take courses at either campus less than an hour apart. The station is integrated with the existing underground pedestrian tunnel linking the University of Ottawa to Colonel By Drive and the Rideau Canal, the Sandy Hill neighbourhood, and the Golden Triangle neighbourhood via the Corktown Bridge. The station provides a direct and efficient vertical connection between the below grade pedestrian tunnel and a new at-grade pedestrian plaza.

Although not subject to NCC approval, Campus station is a significant station that will be an important feature of the Canal area and experiencing the Nation's Capital. The key station components include side platforms located along the existing Transitway ROW (with future expansion of the platforms to the east); station entrances from a new at-grade plaza on the campus; retention and enhancement of the below grade pedestrian tunnel; and improved existing pedestrian connections to both sides of the OLRT ROW.



Interconnection to Transit System

The station's functional plan responds to the primary passenger movement between the platform and the main entrance at the new public plaza. Pedestrian connections are enhanced by continuing and completing the pathways to/from the University and the Canal via the pedestrian tunnel and Corktown Footbridge.

Service Areas for Pedestrians and Cyclists

The station and the surrounding landscaped areas are designed to provide convenient access for both pedestrians and cyclists. The existing ramp, stairs and plaza adjacent to the existing station will be demolished and replaced with a new plaza which will include safer and more efficient cycling and pedestrian connections to the stations from the existing pedestrian tunnel. New paved areas adjacent to Vanier, Care and Marion Halls will provide convenient connections from the University campus to the stations. Amenities for the public include stairs for access between the platform and concourse and three passenger elevators. At platform level, a designated waiting area and passenger shelter are located on each platform.

Passenger Flows

Campus station is one of the primary destinations along the OLRT alignment served primarily by walk in ridership along with a proportionately high percentage of cyclists.

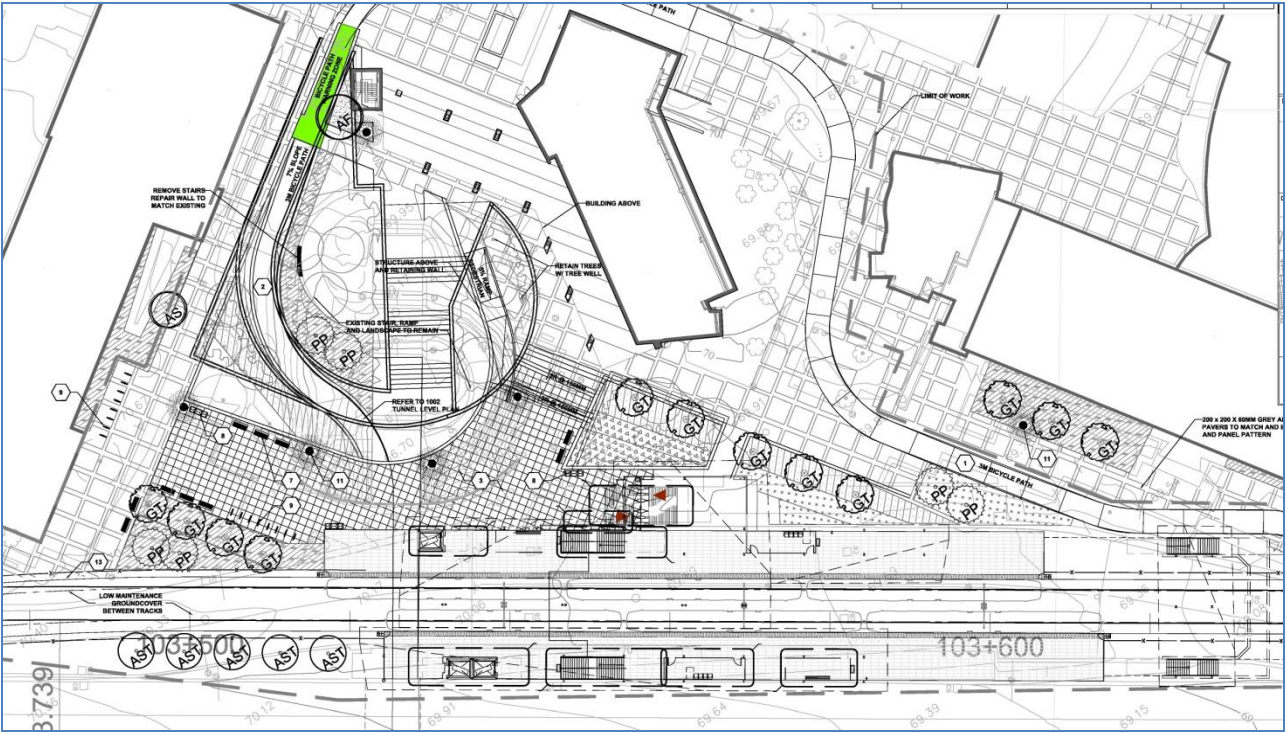
Campus station is organized to provide a simple and coherent progression from the station entrance at the entry plaza as well as at the below grade pedestrian tunnel. Since the main concourse is located at the entry plaza, passengers will move either directly to the northbound platform at grade, or by stairs and elevators across to the southbound platform via the below grade entry lobby.

Proximity

This station is close to the Rideau Canal, the University of Ottawa, Sandy Hill, and the Golden Triangle. It is also within a comfortable walking distance to the southerly end of Elgin Street via the Corktown Bridge.

Integration with Existing Structures

Campus station requires close integration with several existing structures. Firstly, the station design must respect the proximity of Nicholas Street and the existing University of Ottawa campus. Secondly, the new station is closely integrated with the below grade pedestrian tunnel, the existing University buildings and the existing pedestrian walkways that link the station to the University campus. Existing conflicts on campus between cycling, pedestrian and vehicle traffic are resolved with this new design and result in better overall access for both the University and the transit system.



Campus – Site Plan



8. Lees Station



Rendering depicts the south-west entry of Lees station facing Lees Ave. It shows the design and support of the roof structure, the station exterior, as well as the University of Ottawa parking lot to the right.

Design Overview

The Lees station design includes an entry plaza on the south side of the alignment and to the west of Lees Avenue. The key station components include side platforms located along the existing BRT ROW with future expansion of the platforms to the west; a new at-grade entrance plaza; and integrated pedestrian and cycling paths. Lees station is a key site for TOD and southern expansion of the Lees Campus of the University of Ottawa. The new OLRT station will provide rapid and convenient connectivity between the Lees campus and the main University of Ottawa site.

Interconnection to Transit System

Lees station is designed to maintain connections to all existing bus routes in the proximity of the site. The entrance plaza and surrounding sidewalks and crosswalks will provide pedestrian access to both sides of Lees Avenue. The station's functional plan provides for the primary passenger movements between the platform and the main entrance at the new public plaza and future TOD in the catchment area of the station.

Service Areas for Pedestrian and Cyclists

The station and the surrounding landscaped areas are designed to provide convenient access for both pedestrians and cyclists. A new and continuous multi-use pathway is located at platform level outside of the fare paid zone and this multi-use pathway extends from Campus station (in the west) to Hurdman station (to the east). All existing multi-use-



pathway connections will remain. Vertical circulation for the public include stairs for access between the platform and concourse and four passenger elevators. At platform level, a designated waiting area and passenger shelter are located on each side platform.

Passenger Flows

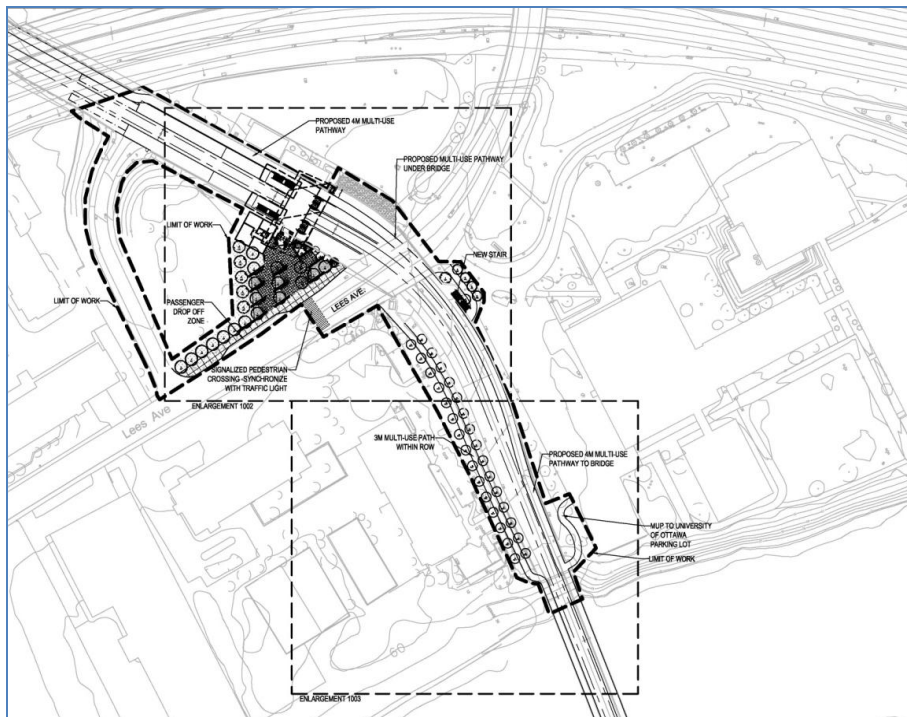
The station design provides simple and logical progressions for passengers from the station entrances to the platform. Since the central concourse is directly adjacent to the entry plaza, passengers will move directly to the platforms. Lees station is designed as a side platform arrangement in order to minimize disruption to existing infrastructure.

Proximity

The new station is located west of the existing Lees Avenue overpass and south of Highway 417. Lees station serves Old Ottawa East and the Sandy Hill Heights community and also provides access to the south part of the University of Ottawa campus.

Integration with Existing Structures

Lees station requires close integration with several existing structures. Firstly, the existing platform and alignment must respect the contaminated lands in the vicinity and the existing ground water treatment plant which is to remain operational. New excavation work in this area has been minimized in order to avoid disturbing the surrounding soil. The station, entry plaza and pedestrian connections respect the existing retaining walls, multi-use pathways and the Lees overpass.



Lees Station – Site Plan



9. Hurdman Station



Hurdman Station Rendering shows the south side of the station looking west toward the BRT loop. It shows the exterior of the platform, the roof design, and expected passenger flows at grade.

Design Overview

The new elevated Hurdman station will serve as the primary transfer point with the Southeast BRT and will act as a 'gateway' to the future development to the north. A new bus drop-off and parking area will enable passengers to transfer between the BRT and the LRT without passing through fare control barriers or revalidating fare payment. A generous new entry plaza on the south side of the station provides a convenient pedestrian connection from south to north under the OLRT alignment through a generous non-fare paid area at the station concourse level.

As a Federally Mandated Station, Hurdman station will serve an important role in existing and proposed future development along the Rideau River. The key station components include a new station with elevated side platforms; new bus drop-off, loop and parking for the Southeast BRT; a station design that anticipates future growth and development; a new entry plaza and vehicular drop-off on the south side of the station; and pedestrian/cycling paths that are closely integrated with the surrounding multi-use pathway system.

Interconnection to Transit System

Hurdman station is designed to facilitate easy transfers and maximize passenger convenience and will allow passengers to transfer between the OLRT and the BRT (and vice versa) without passing through fare control barriers and revalidating fare payment. The bus drop-off and transfer concourse, main entrance plaza, surrounding sidewalks and



connections to the multi-use pathways will provide pedestrians and cyclists with convenient access to the transit system and the surrounding community. The station's functional plan makes it easy for passengers to get from the pedestrian concourse at grade to the station platforms above.

Service Areas for Pedestrians and Cyclists

The station and the surrounding landscaped areas are designed to provide convenient access for both pedestrians and cyclists. The station location was optimized to improve the alignment of pedestrian and cyclist pathways and maintain connections to the existing pathways adjacent to the Rideau River and Riverside Drive. Additional amenities for the public include provision for retail areas at the concourse area, two passenger entrances at concourse level, elevators and stairs for access between the platforms and concourse, and four passenger elevators. A large centralized designated waiting area for bus passengers is located at the concourse level and each of the side platforms has a designated waiting area and passenger shelter.

Pedestrian and cycling access to and through the station has been carefully designed to minimize conflict points with buses.

Passenger Flows

Hurdman station is organized to provide a simple and logical progression from both the bus drop-off and station entrances to the platform level. Options for fare control, ticketing and public information locations are provided that are convenient to a centralized main entrance. Since the central concourse area is directly adjacent to both the bus unloading area and the pedestrian entry plaza, passengers will move directly to either the westbound or eastbound platform.

Proximity

This station is close to residential development to the east and south as well as businesses in the Industrial Avenue/Riverside Drive area.

Integration with Existing Structures

The new Hurdman station will be located just north of the existing BRT station and bus loop. The new bus loop configuration will involve demolition and removal of the existing station structure.



Hurdman – Site Plan

10. Train Station



Train Station rendering shows east side of Train Station facing west from the VIA Station, the east entry, and the station's exterior design.

Design Overview

The new Train station will be located to the west of the existing BRT station and southwest of the existing 'D' loop road in front of the VIA Rail terminal. The new station is coordinated to ensure connectivity to the existing VIA terminal and to not preclude future expansion of the VIA terminal or surrounding lands. The new OLRT Train station and VIA Rail station will connect via existing sidewalks to the new Coventry pedestrian bridge over Highway 417 to provide enhanced access to both stations from the community to the north, including the Ottawa Baseball Stadium.

As a Federally Mandated station, Train station is an important part of both the existing and proposed future development in the area. The key station components include a new station with side platforms located below the main entrance and concourse; a main entrance plaza which will enable queuing outside of the station during special events; a station design that anticipates the future growth and development potential captured by the City's recent TOD studies; a covered pedestrian connection to the existing VIA Rail Station; and links to the existing multi-use pathway system and new Coventry pedestrian bridge.

Interconnection to Transit System

Train station is designed to provide a direct covered pedestrian connection to the VIA Rail Terminal. The station's functional plan facilitates the primary passenger movements between the pedestrian concourse at grade and the station platforms below. The location of



the new stations does not impact any future development opportunities related to the VIA Terminal and its ongoing operations. Future plans for a pedestrian tunnel concourse south to Tremblay have also been a station design consideration.

Service Areas for Pedestrians and Cyclists

The stations and the surrounding landscaped areas are designed to provide convenient access for both pedestrians and cyclists. The station location is optimized to improve the relationship to the existing bridge and pedestrian sidewalk connection at the west side of the 'D' ring entrance road and bridge. At Train station, where the addition of the Coventry Pedestrian Bridge (across Highway 417) will provide a direct connection to the 10,000 seat baseball stadium, a public plaza has been provided on the south side of the station entrance. The station design will accommodate special events that attract high ridership levels over a short duration. Additional amenities for the public include a single passenger entrance at concourse level, stairs for access between the platforms and concourse, and two passenger elevators. A designated waiting area and passenger shelter is located on each of the side platforms.

Passenger Flows

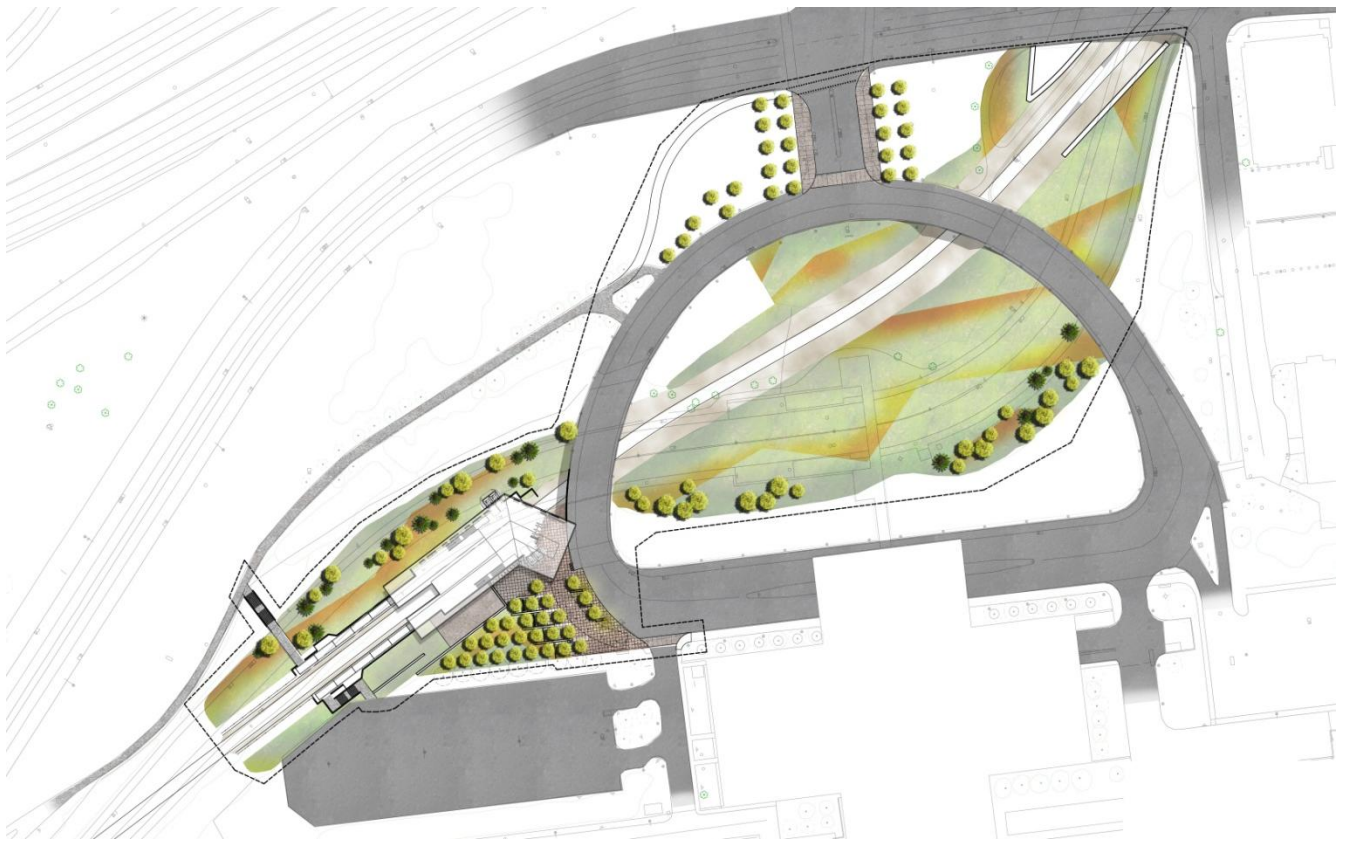
Train station is organized to provide a straightforward and convenient access from the stations entrance to the platform level below. Options for fare control, ticketing and public information locations are provided that are conveniently located by a centralized main entrance. Since the central concourse area is directly adjacent to the pedestrian entry plaza, passengers will move directly to either the westbound or eastbound side platforms. The side platform arrangement connects to the generous plaza area adjacent to the main entrance which will act as a partially covered retention area for larger volumes of passengers queuing outside the station during a special event. The above, combined with controlled entry of passengers to avoid overcrowding of the platforms will ensure the safety and comfort of transferring passengers during such events.

Proximity

This station is adjacent to the VIA Rail station and is also the closest major transit station to the Ottawa Baseball Stadium. It is a unique area given the central location of the VIA Rail terminal which is located adjacent to the new OLRT station. It enjoys excellent proximity to the Rideau River, open space area to the west, hotel and conference centre, and large retail shopping areas. Nearby is a large office complex owned by Public Works and Government Services Canada.

Integration with Existing Structures

Train station requires close integration with several existing structures. Firstly, the stations design is coordinated with the existing entrance bridge and road structure that forms part of the 'D' ring road and drop-off to the VIA Terminal. With the design and layout of the existing and planned multi-use pathways and pedestrian connections the station is designed to coordinate with the existing grades, site conditions and proximity to the VIA Terminal. The design of the station is also coordinated to enable the anticipated TOD surrounding the station area.



Train – Site Plan



11. St. Laurent Station



St. Laurent Station Rendering shows the interior of the station on the platform level

Design Overview

St. Laurent station is an existing BRT stop located adjacent to St. Laurent Shopping Centre, and beneath the local surface level bus loop. The lowest level of the existing station is to be renovated to serve as an OLRT station (with side platforms), while the concourse and upper levels will be retained with minor modifications. St. Laurent station will facilitate passenger movements between local buses, the OLRT, and adjacent commercial development. The key station components include side platforms converted to OLRT requirements; coordination of the existing pathway that runs along the Transitway from the southwest under Highway 417; continued operation of the existing entrance located on the mezzanine level and the bus transfer level; and the integration with existing vertical circulation (stairs and elevators). Upgrade of existing tunnel ventilation systems to meet transit standards and addition of new horizontal exit routes to the east are features of the new station.

Interconnection to the Transit System

St. Laurent station is designed to maintain all direct connections from the station platform to the existing bus platforms. Options for fare control will be integrated into the new LRT design, with the ability to establish control zones at platform level in order to respond to the multiple entry routes to the station.



Service Areas for Pedestrians and Cyclists

The existing stations and its conversion to an OLRT station will facilitate pedestrian connectivity between the existing commercial development and local buses. All existing building connections to the existing St. Laurent station at the intermediate level will be maintained. All five existing pedestrian entries to the existing stations from the bus platform will also be maintained. The existing pedestrian connection to the south-west will be modified to meet applicable codes. Additional amenities for the public include refurbishment of existing vertical circulation systems, including the addition of a second elevator to mezzanine level, plus a Designated Waiting Area located on each of the side platforms.

Passenger Flows

The existing passenger flows at the St. Laurent station will be maintained and enhanced for OLRT service. Fare control, ticketing and public information locations are centralized at the platform level. Passengers will move directly from vertical circulation elements at the concourse level, to either the westbound or eastbound side platforms. Pedestrian access from the south side of Highway 417 is maintained with the southwest walkway that will connect directly to the eastbound platform with direct access to St. Laurent Shopping Centre via the pedestrian overpass.

Proximity

This station is adjacent to the St. Laurent Shopping Centre on the north side of Coventry Road, office buildings throughout the area, hotel services, and a residential area in the southwest corner (Eastway Gardens). It is also across Highway 417 from the planned development of a 30-acre Federal property at 530 Tremblay Road that will house approximately 4,300 employees and include the implementation of a new pedestrian crossing from this complex to the stations.

Integration with Existing Structures

St. Laurent station requires close integration with existing structures. From an integration perspective it is perhaps the most complex station that is being converted to accommodate light rail, since much of the structure will remain retained. The existing tunnel ventilation system will be replaced with a new system. Existing ducts and fans will operate as temporary fans to vent the structure during construction. The existing pedestrian bridge will require extensive renovation to the existing steel structure which will be undertaken as part of the conversion. To accommodate the new light rail vehicle floor elevation, the platforms will be modified to the appropriate height while the existing BRT roadway (converted to rail) will be maintained at approximately the current elevation. Existing escalators will be replaced and/or refurbished on site.

12. Cyrville Station



Rendering shows Cyrville Station viewed northwest from Cyrville Road. It shows the station exterior, roof design, landscaping, and expected passenger flows.

Design Overview

The new OLRT station is located at Cyrville Road directly northeast of Highway 417 within the existing BRT depressed ROW. The new station design includes a main entry plaza on the north side of Cyrville Road and a secondary entrance on the south side. The key station components include a centre platform with future expansion of the platform to the east; a new at-grade entrance plaza on the north; a secondary entrance on the south; and pedestrian/cycling paths integrated into the overall station design.

Interconnection to Transit System

Cyrville station is designed to maintain connections to all existing bus routes. The two entrances and surrounding sidewalks provide direct pedestrian access to both sides of Cyrville Road. The station's functional plan responds to the primary passenger movement between the platform below and Cyrville Road above.

Service Areas for Pedestrians and Cyclists

The station and the surrounding landscaped areas are designed to provide convenient access for both pedestrians and cyclists. The entry plazas off of Cyrville Road will adjoin existing sidewalks. All existing multi-use pathways will remain, and the design includes provisions for future pathways and pedestrian facilities from adjacent developments. Additional amenities for the public include stairs for access between the platform and concourse, and two passenger elevators. At platform level, a designated waiting area and passenger shelter are located on the centre platform.

Passenger Flows

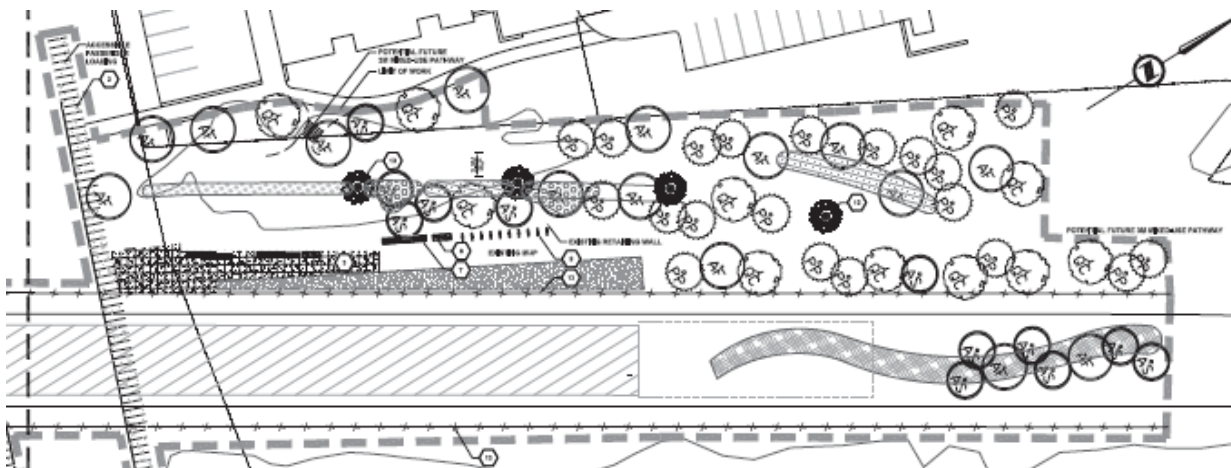
Cyrville Station provides easy access and progression from the station entrances to the platform. Options for fare control, ticketing and public information locations are provided for and they are convenient to entrance locations. Since the central concourse is directly adjacent to the entry plaza, passengers will move directly down to the centre platform.

Proximity

Cyrville station is the western extent of the Cyrville Mixed-Use Centre located at the north side of Highway 417. Beyond the existing office development, some higher density residential development is located north of the station between Cyrville Road and Ogilvie Road. There are two distinct quadrants north and south of Highway 417, with predominantly light industrial uses located south of the highway, and a mix of office, retail, personal service and residential uses north of the highway.

Integration with Existing Structures

Cyrville station requires close integration with existing structures such as the Cyrville Road bridge and the existing retaining walls. Since the station will change from side-platform to a centre-platform configuration, the existing infrastructure that cannot be reused will be demolished. The design retains the exterior shell of the ancillary block and preserves the existing vertical circulation from the station entrance to the lower level as an open stair to the connecting multi-use pathway.



Cyrville Station – Site Plan



13. Blair Station



Rendering shows Blair Station facing northeast from Highway 174 to the Transitway. It shows the station's new roof design, existing building/terminals, including the existing pedestrian bridge and an LRT vehicles at the platform.

Design Overview

Like Tunney's Pasture, Blair station will initially act as a terminal station and eventually be converted to a line station when the OLRT is extended. As a result, the station requires the ability to accommodate high passenger transfer volumes. The station is designed to enable pedestrian connections between the station, the BRT, the commercial lands to the north and the Ottawa Road 174 pedestrian overpass west of Blair Road.

The design of Blair station responds to its importance as a distinctive structure within the fabric of the surrounding community. The key station components include a centre platform located within the existing BRT ROW with future expansion of the platform to the east; direct pedestrian connection from the new platform to both the bus level below and the existing pedestrian walkway above; and a design that maintains a non-fare paid connection to the existing upper level to maintain public access between the commercial lands (north) and the development parcels south of Ottawa Road 174 (via the pedestrian overpass).

Interconnection to Transit System

Blair station is designed to permit passengers to transfer between the existing BRT and new LRT without passing through fare control barriers or revalidating fare payment. The station's functional plan accommodates passenger movements between the bus loop, the station and the commercial development. The eastern end of the station platform provides access to the vertical circulation to the upper pedestrian connections, while the westerly end of the platform provides access to the bus levels below. This station will experience the largest



BRT ridership growth and as such has a large and complex bus loop layout and bus layover area. A long bus platform will accommodate all arriving and departing buses.

Service Areas for Pedestrian and Cyclists

The site and station have been designed to provide convenient access for passengers to the BRT and LRT while providing access through the site for pedestrians and cyclists. Continuous pedestrian sidewalks link the bus platform area and adjacent station areas. All new sidewalks coordinate with existing sidewalks at the edge of the new construction. Additional amenities for the public include provision for retail areas at the concourse area, escalators, elevators and stairs for access between the upper concourse, platform and lower concourse areas. As a terminus station, public washrooms are provided for passenger use at the lower concourse, within close proximity to the bus loading area. At platform level, a DWA and passenger shelter are located on the centre platform.

Passenger Flows

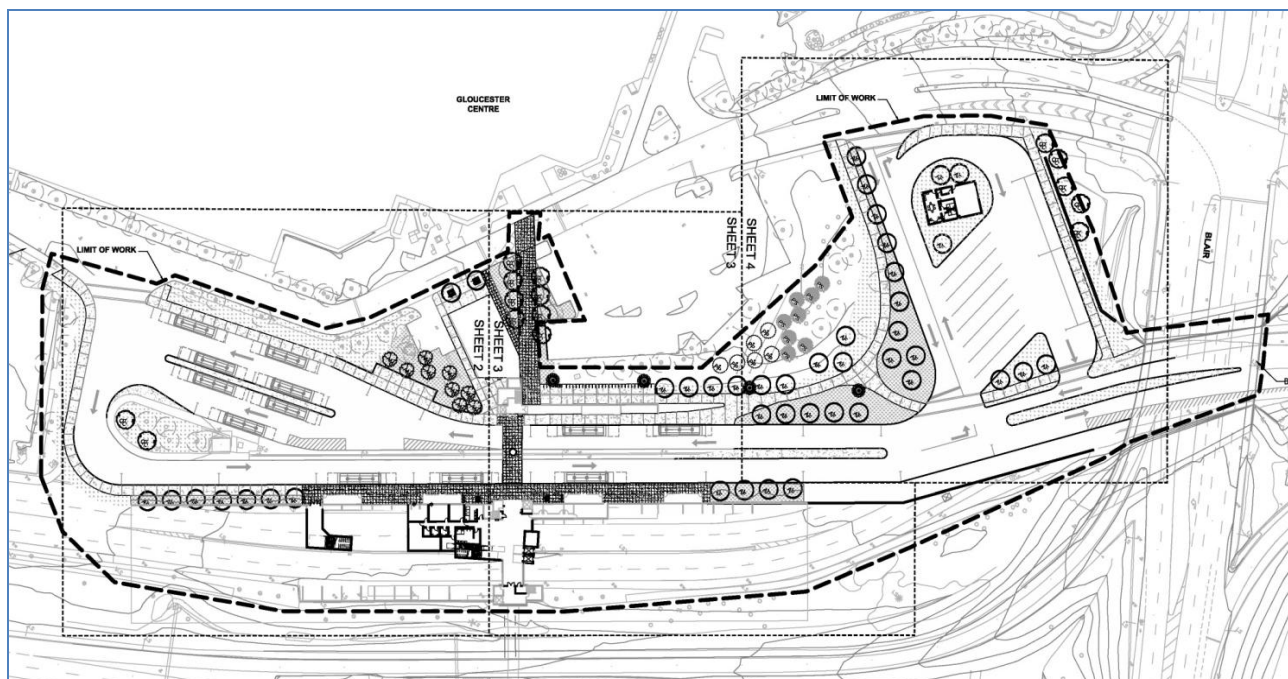
Although the pedestrian connections and existing infrastructure is complex at Blair Station, the design of the new OLRT platform is organized to help provide intuitive transfers between the OLRT and BRT. The station passenger volumes require a significant number of vertical circulation elements and these are conveniently organized within a centre platform arrangement in line with the stations role as a terminus station upon commencement of revenue service.

Proximity

Blair Station is adjacent to the Gloucester City Centre; in addition there are a number of commercial developments to the south end that are connected via the existing pedestrian bridge.

Integration with Existing Structures

Blair is another complex station where the existing pedestrian bridge and the underpass area beneath the BRT guideway will both be retained and the bridge will undergo renovation and expansion as part of the conversion to LRT. The extent of renovations are limited to the area between the two main towers, with linkages to the north and south assumed to remain with the City. The centre platform arrangement at Blair will affect the existing alignment and ROW and several existing walls in the station will be demolished to provide space for the new station configuration.



Blair Station– Site Plan