

NORTH–SOUTH CORRIDOR LRT PROJECT (Rideau Centre to Barrhaven Town Centre)

ENVIRONMENTAL ASSESSMENT Stations Report



June 2005





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1.0 Station Location

This section examines the full study corridor and identifies all potential station locations, beginning at the south end of the study area in the Barrhaven Town Centre. Each station is discussed separately and includes descriptions of the current site situation, the purpose of the station, the importance of the station, the planned site situation, and the distances from the station to both the previous and next stations. Exhibits are included to illustrate general location and site information. Station names have been assigned to represent current or planned places and street names, but should not be assumed to be the final station name.

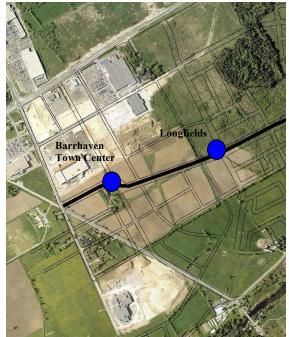
Potential station locations were identified in a variety of ways. Within the South Nepean and Riverside South areas, station locations were identified as part of the development of community plans. Stations were set in the community to encourage walk in passengers. Other locations were identified in previous studies. It is assumed that all stations could potentially be constructed, however the timing of that construction will depend on a combination of project phasing and development requirements.

It is important to note that the locations of several of the stations described and shown below are not precise because development of related and other infrastructure in the area has not yet begun. Accurate and final station locations may be different than shown below in order to accommodate final development of the adjacent community or development plans. All station locations should be confirmed during detail design.

1.1 Barrhaven Town Center Station

This station would be located to the south of the current commercial area that is located in the southeast quadrant of the Greenbank/Strandherd intersection. The site is currently farmland. The station would be located in the center of the future Barrhaven Town Centre where there is a concentration of community and commercial activity. The area around the station is zoned for mixed land uses such as apartments and or offices with commercial establishments on the ground floor. To the south of the station area, a highdensity residential development and а community center are planned.

The station would be the junction between the LRT facility and an extended Southwest Transitway. It would be the key transit focal





point not only for the Barrhaven Town Centre, but also for the overall South Nepean area. There is a distance of approximately 500 metres to the next station (Longfields Station).

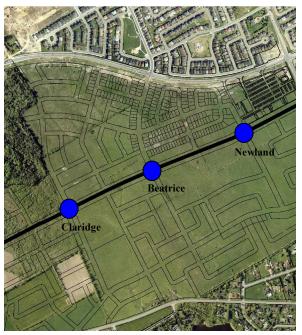
1.2 Longfields Station

There is currently no development in the vicinity of this station. The station would be located on the eastern edge of the future Barrhaven Town Center with mixed land uses surrounding the station and medium density residential uses in close proximity. The station would be an on line stop, intended to provide access to the surrounding land use. It would be located approximately 500 metres from the previous station (Barrhaven Town Centre Station) and 500 metres from the next station (Claridge Station).

1.3 Claridge, Beatrice, Newland Drive Stations

These three proposed stations are located in an area that is currently undeveloped. While specific plans for the area were not available during this study, it is expected that the plan will promote a transit-oriented community with mixed use medium to high density land uses along the corridor. Preliminary alignments of the new streets in the area have been used to help identify the locations and names of the proposed stations.

Longfields Station is located approximately 500 metres to the west of the first station (Claridge Station). There is approximately 330 metres between Clardige and Beatrice Stations and 400 metres between Beatrice and Newland Station. An additional 400 metres separates Newland Station from the next station to the east (Woodroffe Station).



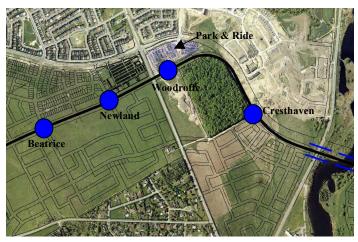
All three of these stations would be on-line stations designed to serve the immediately adjacent land uses. Some or all of these stations can be built, depending on resources, demand and need.

1.4 Woodroffe Station

This station would be located in the southeast quadrant of the Woodroffe/Strandherd intersection. These two roadways are major artierial roads that provide major traffic access north and south (Woodroffe) and east and west (Strandherd). The site is currently vacant, but development is currently underway on most adjacent properties. A developing community shopping center is located to the west of Woodoffe, a woodlot is south of the site, and low or medium density residential development is in the other areas.



A major element of the station is the provision of a park and ride lot with room for an estimated 825 cars This site is ideal for park and ride because it is difficult to develop in а conventional manner due to the constraints of the two arterial roads and the woodlot that surround it. The park and ride facility would have easy access via the two arterial roadways. In addition to the park and ride



function, the station would be able to provide a major customer drop off ability and allow for connection with bus services using the arterial roads.

The station will be located approximately 400 metres from the previous station (Newland Station) and 700 metres from the next station (Cresthaven Station).

1.5 Cresthaven Station

Low to medium density residential low-rise development is currently underway around this station. The purpose of the station is as an on-line stop that provides access to the surrounding development. The distance from the previous station (Woodroffe Station) is approximately 700 metres while the next station (Prince of Wales Station) is located approximately 500 metres away.

1.6 Prince of Wales Station

This station would be the last station before the LRT facility crosses Prince of Wales Drive and the Rideau River. While development has not yet begun in the immediate area, it is expected that low-rise residential and commercial development will take place in the near future. Development is only expected west of Prince of Wales Drive.

The purpose of the station is to provide local on-line access to the adjacent development. If the station is built close to Prince of Wales Drive, it would be approximately 500 metres away from Cresthaven Station. The close proximity to Cresthaven Station, along with limited development to the east of Prince of Wales and the nature of other development to the west may allow consideration to be given to not building this station or to combining with Cresthaven Station at some intermediate location. It is approximately 450 metres from Prince of Wales Drive to the next station (River Road Station).

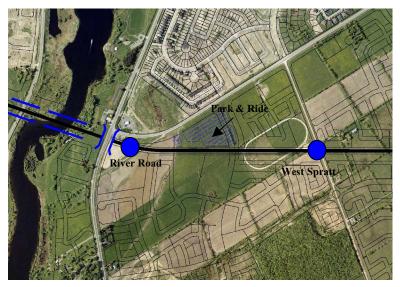
Subsequent review of the station area found that it was inappropriate to attempt to construct a station at this location for the following reasons:



- The LRT facility is expected to cross Prince of Wales above grade, resulting in a station on the structure or the western approach to the structure. A station up in the air at this location would not integrate well with the surrounding land uses.
- Moving the station further west to a location that is closer to grade with the adjacent development places the station on a curve, which is not feasible for station construction.

1.7 River Road Station

This station is the first one on the east side of the Rideau River in the Riverside South community and is designed to provide local access to the planned adjacent low-rise commercial and medium residential density development and serve an adjacent park and ride facility approximately of 1,000 spaces. The station would be located east of River Road and south of Earl Armstrong Road. Both of these roads are major arterial roads that



will provide easy access for people being dropped off at the River Road Station. The station and park and ride lot would be built when warranted and once considered in the context of other development and stations to the east in Riverside South. The closest station west of the Rideau River (Prince of Wales Station is approximately 550 metres away, while the next station to the east (West Spratt Station) is approximately 1,000 metres away.

1.8 West Spratt Station

The land around this station is currently farmland but is expected to be developed with medium and high-density residential development immediately adjacent and neighbourhood commercial, low-density residential and a high school development nearby. The purpose of the station would be to provide on-line access to this development, and to accommodate any local transit service that is operating on Spratt Road. The station should be developed in conjunction with adjacent development. The distance from the previous station (River Road Station) is approximately 1,000 metres and the distance to the next station (Shoreline Station) is approximately 600 metres.

It should be noted that there is another collector street planned in the Riverside Development part way between River Road and West Spratt Stations where an additional station could be considered. However, the planned development around this station is



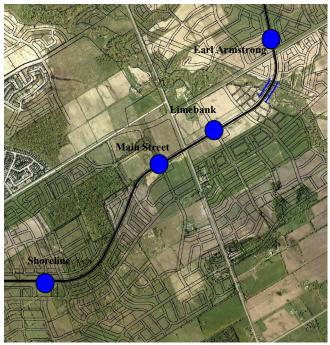
less attractive for transit than other locations, and the site is no more than 400 metres from West Spratt Station. As a result, this alternative station location is not recommended.

1.9 Shoreline Station

This station site is currently farmland, and the Riverside South plan indicates that the station location will be surrounded by medium density residential development. The purpose of the station would be to serve the adjacent development and any local bus access on the extension of Shoreline Drive. The station would be approximately 600 metres from the previous station (West Spratt Station) and 1,200 metres from the next station (Main Street Station).

1.10 Main Street Station

This station would be located in the center of the western portion of the



Riverside South Community Core Area. While the area is currently farmland, it would eventually contain a wide variety of uses such as institutional, retail, office, services and entertainment. Pubic gatherings and events in the urban plaza adjacent to the station will draw people to the city center. Main Street will be mostly retail and restaurant/entertainment related. All parking lots are to be located behind the commercial establishments with paths to Main Street and the Transit Street. With increasing volumes of vehicles, these parking areas can be developed into multi level parking. Buildings vary from one to four stories but are generally three to four stories around the transit station. The south end of Main Street connects to a district park 350 metres from the station. Clearly, the station will be important for providing access to and from the commercial core and for supporting a walkable core area. The distance from the previous station (Shoreline Station) is approximately 1,200 metres and it is close to 500 metres to the next station. Limebank Station).

1.11 Limebank Station

The Limebank Station is located east of Limebank Road in the eastern portion of the Riverside South Community Core Area. The area is currently farmland and is planned to have development similar to that described around the Main Street Station. The purpose of the station is also similar to that of the Main Street Station – provide access to the community core and support a pedestrian friendly environment. The station would be



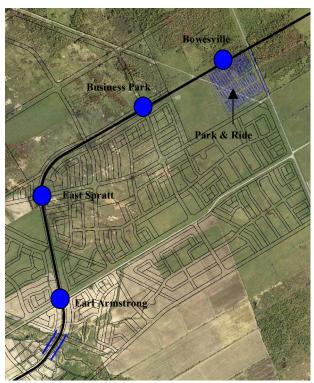
approximately 500 metres from the previous station (Main Street Station) and about 800 metres from the next station (Earl Armstrong Station).

1.12 Earl Armstrong Station

There is currently no development around this station location, however future plans provide for substantial medium density housing as well as a high school immediately adjacent to the station. The Station is located where the LRT facility crosses Earl Armstrong Road, just east of Mosquito Creek. The purpose of the station is to provide on-line access to the adjacent development. It is approximately 800 metres to both the previous station (Limebank Station) and the next station (East Spratt Station).

1.13 East Spratt Station

This station would be located at the planned easterly extension of Spratt Road. Planned development around the station would include high-density residential, a high school, a district park and business park uses. The purpose of the station would be as an on-line station serving these future land uses and as a transfer point for any local feeder transit service operating on the Spratt Road extension. It is approximately 800 metres to both the previous station (Earl Armstrong Station) and the next station (Business Park Station). The timing of the station's development needs to be reviewed along with the adjacent Earl Armstrong and Business Park Stations. All three stations would likely need to be built to accommodate the planned development, but the timing of station construction will depend on the timing of the development.



1.14 Business Park Station

This station would be the eastern most station in the Riverside South community. Planned development around the station will include medium density residential to the south and Business Park uses to the north. The purpose of the station would be to provide on-line access to the adjacent land uses and accommodate transfers from local feeder transit service. The station would be located approximately 800 metres from the previous station (East Spratt Station) and about 650 metres from the next station (Bowesville Station).



1.15 Bowesville Station

The area where this station would be located is outside of the Riverside South community and is underneath the approach to one of the airport runways. While no significant development is possible in this area, plans for a near-by large scale soccer and ultimate park have been proposed. A large park and ride facility (up to 3,000 spaces) is proposed to be located at this station. The station would be the closest one to the nearby Rideau Carleton Raceway Slots and the future potential site for the Central Canada Exhibition. It would be located approximately 650 metres from the previous station (Business Park Station) and about 2,400 metres from the next station (Leitrim Station).

1.16 Leitrim Station

This station would be located where the LRT facility crosses Leitrim Road. There is currently Greenbelt land north of Leitrim Road. To the southeast, there is scattered commercial development, and to the southwest is vacant property that is owned by Transport Canada. The purpose of the station would be two-fold: to provide a focal point for local transit feeder services in the developing Leitrim community to the east, and to accommodate a large park and ride lot. The park and ride facility is anticipated to be as large as 1,200 vehicles and will provide access for residents in the Leitrim and Riverside South communities as well as the large



rural commutershed in the southeast area of Ottawa and the counties beyond. Additional capacity for park and ride of up to 2,000 spaces could be possible. The station would be approximately 2,400 metres from the previous station (Bowesville Station) and 2,100 metres from the next station (Lester Station).

1.17 Lester Station

This station would be located at the point where the LRT facility crosses Lester Road, just east of the entrance to the airport. There is currently no development adjacent to the station site and it is not expected that there will be any development in the future because the site is completely surrounded by the Greenbelt. The primary purpose of the station would be to provide a location for passengers to transfer from regular LRT service to the LRT or other transit service that will be serving airport.





Potential park and ride facilities have been previously identified at this station, however, only for staging alternatives that saw the southernmost terminus of the LRT service at this station. Park and ride facilities are not proposed for this station if the Leitrim Station and park and ride lot is constructed.

The distance from the previous station (Leitrim Station) is approximately 2,100 metres while the distance to the next station (South Keys Station) is about 2,400 metres.

1.18 South Keys Station

A transit station already exists as the southern terminus of the Southeast Transitway. The station is the transit focal point for all service south of the east-west rail corridor, and is adjacent to extensive commercial activity. The LRT facility would be immediately adjacent to this Transitway Station and the LRT station would be accessed through an addition to the existing station. Thus, the primary purposes of the new larger station are to provide transit access to the adjacent land uses, connect LRT and Transitway services, and serve as a transit focal point for this area of the city. The station may also become an important alternative transfer location for transit access to the airport. The station would be located approximately 2,400 metres from the previous station (Lester Station) and about 800 metres from the next station (Greenboro Station).



1.19 Greenboro Station

This station is currently the southern terminus of the existing O-Train service and is combined with a Transitway facility. The current station serves a park and ride lot for approximately 800 vehicles, and commercial and medium density land uses. These functions are expected to continue in the future. In the future, the location of the station could shift slightly north as part of a combined station development with the planned east-west LRT facility. The station would be located approximately 800 metres from the previous station (South Keys Station) and 1,150 metres from the next station (Walkley Station).

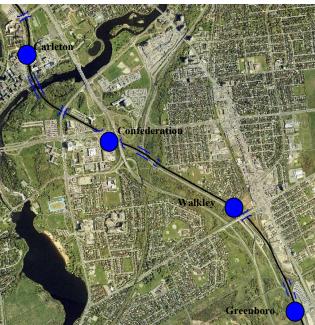


1.20 Walkley Station

A Transitway Stations on the Southeast Transitway adjacent to the current O-Train facility is located immediately to the east. The O-Train service does not currently stop at this station. This station was included in the 1999 environmental assessment for the O Train Pilot Project. A station at this location serves nearby commercial and residential land uses and will continue to do so in the future. This station would be approximately 1,150 metres from the previous station (Greenboro Station) and about 1,650 metres from the next station (Confederation).

1.21 Confederation Station

This station is located at Heron Road and is currently in use by the O-Train. The station accommodates transfers between LRT service and major bus routes operating on Heron Road. In addition, there are a number of large office facilities located near the station. The distance from the previous station (Walkley Station) is approximately 1,650 metres and the distance to the next station (Carleton Station) is about 1,500 metres.



1.22 Carleton Station

This station is located in the heart of the Carleton University campus, and is one of the busiest on the existing O-Train. In the future, the station will continue to be one of the key stations on the LRT facility. The distance from the previous station (Confederation Station) is approximately 1,500 metres and the distance to the next station (Carling Station) is about 1,650 metres.

1.23 Carling Station

This existing O-Train station is located at Carling Avenue and provides access to the surrounding commercial land uses as well as transfer connections with the major cross-town bus routes operating on Carling. The distance from the previous station (Carleton Station) is approximately 1,650 metres and the distance to the next station (Gladstone Station) is about 750 metres.

1.24 Gladstone Station

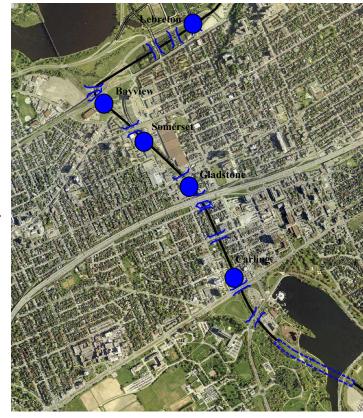
This station was included in the 1999 environmental assessment for the O-Train Pilot project. The station does not currently exist on the O-Train service, but is proposed for development as part of the new LRT facility. The purpose of the station will be to provide access to the adjacent commercial, institutional and residential land uses as well



accommodate transfer connections with the cross town bus route on Gladstone Avenue and another on nearby Preston Street. The distance to the previous station (Carling Station) is approximately 750 metres and the distance to the next station (Somerset Station) is about 500 metres.

1.25 Somerset Station

This station is not currently part of the present O-Train service. Its purpose would be to serve anticipated development both north and south of Somerset Street and to accommodate transfer connections with the cross town bus route on Somerset. The distance to the previous station (Gladstone Station) is approximately 500 metres while the distance to the next station (Bayview Station is about 250 metres.



1.26 Bayview Station

This station is the junction between the West Transitway and the northern terminus of the O-Train and is located at the vicinity of the potential redevelopment of the Bayview and City Centre lands that surround the area. The station will continue to be an important interchange point in the future as well as providing rapid transit access to the new developments. The station configuration is likely to be much different than it currently is and may be located slightly differently than it is today. The distance to the previous station (Somerset Station) is approximately 250 metres, while the distance to the next station (Lebreton Station) is about 800 metres.

1.27 Lebreton Station

This is currently a Transitway Station and will be redeveloped to accommodate the Lebreton Flats development plan. The redeveloped station will accommodate a realigned Transitway as well as the LRT facility located in the same corridor. The station will provide access to the high density commercial and residential land uses that make up the Lebreton Flats plan and provide transfer connections to bus services using the Chaudiere Bridge to travel to Gatineau. The distance to the previous station (Bayview Station) is approximately 800 metres, while the distance to the first downtown station is about 600 metres.

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1.28 Three Downtown Stations

Three LRT stations are to be located downtown between Bronson and Elgin Street. The 6 main East-West Streets through downtown have been considered for the LRT alignment; Wellington, Sparks, Queen, Albert, Slater and Laurier. Because of the largely built environment in the downtown and the relative proximity of the corridors, many potential impacts are similar and do not serve to differentiate the alternatives. After a high level screening of each corridor, Albert and Slater were chosen as the preferred streets for the new transit service in addition to the existing BRT service. Since the BRT service is to remain on the street, platforms need to be set up for both BRT and LRT. Accommodating both services on a single platform is problematic because the number of combined riders is too high for a comfortable waiting level of service. Both services are to operate in a single lane with bus bays at BRT platforms to allow LRT vehicles to pass. 4 BRT stations are situated on blocks where there are no LRT stations. The LRT Stations are to be located:

On Albert

- Between Metcalfe and O'Connor;
- Between Bank and Kent;
- Between Lyon and Bay;

On Slater

- Between Bay and Lyon;
- Between Bank and O'Connor
- Between Metcalfe and Elgin;

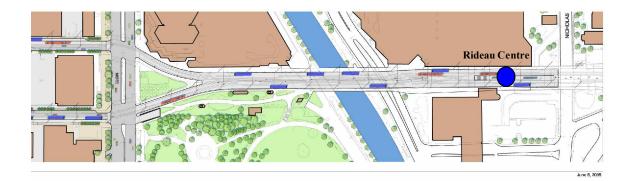
There is about 300m between LRT stops. These stations will provide access to all of the downtown area west of the Rideau Canal.





1.29 Rideau Center Station

The northern/eastern terminus of this LRT facility, for the purposes of this study, is at the Rideau Centre, just east of the Rideau Canal. This station is located on the MacKenzie King Bridge between the Rideau Centre and the Department of National Defense. The Rideau Centre is a major destination and this station will provide a high level of transit service to this market. Both BRT and LRT are to operate in this corridor with separate platforms in front of the shopping mall.



1.30 Airport Stations

The airport connection to the main LRT facility may include two possible stations. One will be at the airport terminal itself and provide access to rapid transit for airport customers and employees. The second station would be located in the vicinity of the Uplands/Lester/Alert intersection and would accommodate future commercial development that is being considered by the Airport Authority.



2.0 Station Staging

The EA has identified the general locations for stations along the corridor to service the existing and future development. The staging of the station construction will depend on the timing of the development, and operational strategy applied to the development of the North South LRT project.



3.0 Station Configurations

The EA document includes general layouts of stations in the locations described in the previous section of this report. Samples of the layouts are included in Appendix A. The station layouts are subject to further development during the design phase. The operating authority will be required at that time to review the conceptual station layouts to determine what changes are required to address the operational requirements.

In general, two basic concepts have been developed to date, centre island platforms and offset platforms. Pedestrian access at all stations not associated with an overpass is atgrade. Stations at overpasses with transit service include elevators and stairs to take advantage of the transit transfer.

The EA has assumed platform lengths of 60m to accommodate 2 trains at the stop. Platform widths through the Southern community centres have been illustrated as 3.5m to 6m reflecting projected use, available lands, and integration with adjacent buildings.

Side platforms between LeBreton station and Bowesville have been illustrated with 6m wide platforms. All the platform lengths and widths must be reviewed with the operating authority during the detail design.



4.0 Station Amenities

The EA has not refined the design of the stations. This has been left to the detail design team. The EA has identified a preliminary list of amenities to be considered in the design process. This list is subject to further refinement during the design of each station.

| Facility | Amenities |
|----------------------------|--|
| Pedestrian Access | At GradeGrade Separated |
| Bus Transfer Type | On StreetOff Street |
| Bus Lay Up | |
| Bus Turning Loop | |
| Customer space and Access | Waiting room / information centre Powered doors Station building lighting Station building heating Shelters – Open (light rail platforms) Shelters – enclosed (light rail platforms) Shelters – enclosed (bus platforms) Shelter Heating Platform Lighting Park and Ride Lot Park and ride lot lighting Bicycle racks Bicycle lockers Elevators Escalators Stairwells |
| Operating facilities | Supervisors office Operators washroom Operators waiting room Manual interlocking control Car-stop position markers |
| Safety/security facilities | Emergency telephones Public address system CCTV cameras Fire protection system Sprinklers/fire suppression system Access control |



| Safety/security facilities (continued) | Mirror for operator to watch platform |
|---|---|
| | Platform edge markings No-trespassing signs Fencing General train safety signs Emergency cart storage |
| Communication Facilities | Signals roomCCTV panelRadio tower |
| Site Services | Water Sanitary sewer Sanitary – local treatment Stormwater management Electrical Telecommunications – Bell Telecommunications – Fibre |
| Maintenance Facilities | Janitors room Vehicle access to platforms Equipment storage room Building control system Salt boxes |
| Electrical Facilities | Transformer – Traction power Electrical room Electrical enclosure Emergency generator |
| Customer Facilities | Ticket vending machine Ticket sales office Electronic passenger information Next-train identification and countdown Map cases Wayfinding signage Tactile signage Train direction signs Timetable distribution cabinet Benches Public telephones Public washrooms Garbage receptacles Recycling receptacles Platform landscaping |
| Connecting Bus Service | Terminating on-Street Terminating on Transitway platform Terminating at bus platform Through on-street Through on Transitway Platform Through via bus platform |



Appendix A

