

## 6. SEAVIEW PARK CONNECTION – FUNCTIONAL DESIGN

Based on a wide variety of discussions with HRM, the preferred alternative to be pursued within this study is the connection along the Container Terminal Service Road. Much of this route is relatively easy to accommodate, though requires navigating through the area surrounding the Windsor Street Exchange. The follow section discuss the functional design elements of this routing connecting to the terminus of the CN rail crossing near the Scot Street connection as discussed in Section 4.3.

Functional design drawings are provided in Appendix E and described in the following sections.

### 6.1 CN RAIL CUT TO FAIRVIEW CEMETERY

After crossing the CN rail cut using the proposed multiuse trail bridge as detailed in Section 4.3.3, a full width multiuse trail would be extended from the rail cut to Chisholm Avenue. The route would run parallel to the fence line and power poles adjacent to the West Point Apartments. Currently, there is an existing, well worn trail along this proposed route which would be upgraded to accommodate the multiuse trail width. These lands are currently part of the CN Fairview Shop, therefore it is expected that an easement would be required across these lands. It is also possible that an existing easement may be in place for the utility poles that are currently present along the fence line.

On Chisholm Street, a concrete sidewalk is currently present and constructed directly on the back of the streets curb line. The sidewalk is quite narrow and is constrained by a guiderail along the south side. To accommodate a multiuse trail, this sidewalk will have to be removed and reconstructed, preferably with a boulevard between the roadway and the trail. Again, it is likely that an easement will be required to accommodate this upgrading and consideration will have to be given to the location of the existing power poles adjacent to the roadway.

The upgrading of this trail section should also accommodate a connection to the existing trail network that is present along the front of the row of apartments along Chisholm Street to the south. Such a connection will have to address the wide area of asphalt that is currently present at the driveway to the apartment parking lots. Narrower, well defined driveways which minimize pedestrian and cyclist exposure to vehicles are recommended.

Progressing to the north, the trail will cross the driveway to the CN Fairview Shop which is currently a wide gravel driveway allowing access to a number of different areas of the yard. It is recommended that this driveway be reconstructed to meet typical access management guidelines for width while still permitting the truck



movements required by the yard. There appears to be significant opportunity improve this driveway from an AT perspective to minimize the exposure of pedestrians and cyclists to vehicle and truck traffic.

Between the CN Fairview Shop driveway and the Cemetery entrance, the existing concrete sidewalk will required upgrading to a full multiuse trail width. Due to the cemetery, there appears to be minimal space for widening the sidewalk into the cemetery, therefore reducing the road width to accommodate the trail is the preferred option. This will also require the relocation of an existing power pole just east of the CN Fairview Shop driveway as well as the relocation of the tour bus stop that is currently identified on a sign on this pole. Some minor upgrading of the entrance to the Cemetery should also be considered to provide a full width AT entrance by relocating existing planters and ensuring a smooth transition between the Chisholm Avenue trail and the Cemetery. In addition, consideration should be given to the removal of excess foliage in this area to ensure that adequate sight distances can be maintained for all vehicles and AT traffic.

## 6.2 FAIRVIEW CEMETERY

The existing roadway though the cemetery is approximately 5 metres in width and it is assumed that the full width of the roadway will be paved to accommodate the active transportation thoroughfare. Paving will extend from Chisholm Avenue through to Windsor Street and will respect the existing grades of the roadway with minor adjustments as required.



Upgrades to the connection points at Chisholm Avenue and Windsor Street will be required to facility smooth and safe transitions to the adjoining trails.

## 6.3 FAIRVIEW CEMETERY TO MACKINTOSH STREET

### 6.3.1 Windsor Street

This section of the AT corridor is one of the most challenging sections as it requires the trail to navigate and cross a number of large high volume intersections. Windsor Street itself is a high volume, 4-lane divided arterial roadway that experiences relatively high speeds and is on a grade down to the Windsor Street Exchange. Space is available along the west side of the roadway between the curb line and the cemetery fence to accommodate a multiuse trail, though given the volume and speeds, additional separation from the roadway would be preferred. Unfortunately, relatively steep side slopes for portions of the trail west of the fence

line make further widening challenging. That said, there are some locations closer to the cemetery entrance and Windsor Street Exchange that may allow some widening of the available space for the trail. Where inadequate space is available, physical separation of the trail and the roadway is recommended.

### *6.3.2 The Windsor Street Exchange*

The Windsor Street Exchange is one of the busiest intersections in HRM and one of the most challenging to cross from an AT perspective. While there are a wide variety of general safety and operational intersection improvements that should be considered at this location, this report limits recommendations that are specifically related to the requirements of the AT crossing and assumes that they will be implemented in the absence of any other major intersection reconstruction projects. Should larger scale projects be undertaken that modify other elements of the intersection, recommendations in this report should be reconsidered in the context of those projects.

In developing the routing for the trail, the priority was to minimize the exposure of AT users to traffic at this intersection and where users are required to cross lanes of traffic, minimize the risk of those crossings. The preferred crossing location is therefore along the south side of the intersection where users are required to cross Windsor Street and the two associated channelized right turn lanes. This report does not address any grade separated crossings, though consideration of a grade separate crossing in the future is recommended.

The right turn channelized lane from eastbound Kempt Road to southbound Windsor Street is a large radius curve which promotes high speeds. A number of alternatives exist for minimizing the risk at this location though the preferred option would include the reconstruction of the right turn lane to a smaller radius, lower speed facility with appropriate design considerations applied for right turn channelized lanes. This may include: additional auxiliary lane storage on Kempt Road; pedestrians signals and signage; low-angle right turns in combination with yield entry to Windsor Street; adequate refuge and guidance for pedestrians and cyclists using the facility; and, other detailed design measures that help minimize risk.

The crossing of Windsor Street is a wide crossing (approximately 30 metres) that occurs under pedestrian signal guidance. Presently there is no median refuge as the median island is cut back presumably to accommodate the left turn movement of larger trucks. Given the presence of the AT crossing at this location, reconstruction of this portion of the intersection to provide safe median refuge of adequate width is recommended.

The second right turn lane crossing from northbound Windsor Street to eastbound Kempt Road has a smaller radius curve and slower observed speeds. Adequate guidance should be ensured for all AT users and vehicles and should be reviewed during the detailed design stages. It is also recommended that some restriction be placed on proximity of parked cars to the public sidewalks in the adjacent car dealership. The presence of cars immediately adjacent to or

overhanging the sidewalk introduces safety implications at this already challenging intersection.

### *6.3.3 Car Dealership to Mackintosh Street*

A minimum distance of approximately 5 metres should be reserved along the back of the Kempt Road curb line to accommodate a 3 metre wide trail and allow a minimum 1 metre separation between the curb and trail and some separation between any parked vehicles from the car dealership. Consideration should be given to providing some physical separation of the trail from the travel lane and the parking area.

The Kempt Road intersection maintains high traffic volumes, though observed speeds through this intersection are generally slower than those experienced at Windsor Street. Both right turn channelizations have relatively large radii and it is recommended that smaller islands and slower speed right turn movement be promoted through this intersection and across the AT crossings. The signalized crossing at Kempt Road is relatively short (approx. 12 metres in length) and can be maintained with minimal upgrades.

The section of the trail between Kempt Road and Mackintosh Street along Lady Hammond Road is fundamentally an access management exercise which must accommodate the requirements of an AT trail along the various commercial properties. There will be some requirements to modify grades and adjacent parking areas at some locations but the majority of the adjacent lands are at a similar grade to the roadway.

There is an existing utility pole line approximately a half metre off the back of curb along Lady Hammond Road that must be respected suggesting that the 3 metre trail width should be located near the back of these poles. There is presently some line painting in the existing asphalt parking lots though the driveways, parking areas and AT routes must be much better defined than they currently are. This will likely require that some restrictions be placed on the current parking practices of the adjacent businesses. The trail corridor should include a minimum separation of 1.5 metres from the face of curb and should ensure no encroachment of parked vehicles onto the trail.

The number of driveways in this area should be minimized and the width of all driveways that remain should be minimized to limit AT user exposure. Modifications to parking areas will also be required in some areas though most businesses will not be significantly impacted by parking restrictions adjacent to the trail. Modifications will be required to an existing bus stop and shelter which currently resides in the middle of the proposed AT corridor. Presently the shelter is located in front of 6410 Lady Hammond Road between the curb line and the narrow parking area for the adjacent business. Relocation to a nearby alternate location is recommended.

It is proposed that the trail continue along the east side of Mackintosh Street at Lady Hammond Road as discussed in the following section. To facilitate this connection, as a minimum, a mid-block pedestrian crossing is required on the east side of this intersection. Given

the relatively high traffic volumes in this area, consideration may also be given to the installation of traffic signals at this location and should be based on the calculation of an appropriate traffic signal warrant.

#### **6.4 MACKINTOSH STREET TO CONTAINER TERMINAL SERVICE ROAD**

The majority of traffic on Mackintosh Street is destined to and from Bayne Street and the container terminal. As a primary route for large truck, it was considered important to minimize the AT users exposure, therefore crossing Bayne Street on the east side as opposed to the busier west side was selected as the preferred option. In further recognition of the truck traffic on this roadway, the option of narrowing must be carefully considered in order to minimize any impacts of safety and operations with respect to truck traffic.

Mackintosh Street is presently approximately 11 metres in width and has a concrete sidewalk along the north side of the street. It is constrained on both sides by existing buildings in some locations making the widening of the sidewalk challenging. There are also a number of utility poles and a fire hydrant along this side of the roadway that make AT passage challenging. Two options were considered for this section of roadway.

The first option included the use of the existing sidewalk for pedestrian traffic and installing painted bike lanes on both sides of the road due to its wider cross section. Due to the high volumes of truck traffic at this location, this was considered the less desirable of the options. The second option included the reduction in width of the roadway to approximately 9 metres with localized widening of the roadway at intersections as required to accommodate truck turning movements. The option also includes the relocation of the fire hydrant and utility poles to allow a full 3 metre width AT trail along the north side of the roadway. As the space is constrained, it is recommended that some form of physical barrier be included to separate the AT trail from the roadway. The trail would extend under the Circumferential Highway Bridge and cross Bayne Street to the northwest corner of the intersection. It is recommended that lighting be installed under the bridges for safety and security purposes.

West of Bayne Street, the trail would transition to the south side of the street to facilitate the passage of the trail through the existing HRM parking areas to the CN tracks along the container terminal Service Road. Adequate space is available along the south side of the street through some modifications to the fence line or reduction of road width will likely be required to accommodate the AT trail width.

Modifications will be required to the existing parking lots of the HRM works yard. The existing parking lot is partially paved and in relatively poor condition. Implementing some form of positive guidance through the parking is recommended. The lot arrangement should be designed around the passage of the AT trail through the lot with a limited number of crossing of the trail to access the parking areas. As there is a significant grade difference between the parking lot and the rail tracks, a portion of the parking lot should be utilized to start to resolve

this grade difference.

A crossing of the rail tracks will be required therefore the resolution of the remaining grade must be incorporated into the crossing design due to the proximity of the tracks to the bottom of the slope. Regrading the slope to accommodate the trail parallel to the contours serves two primary purposes:

1. It helps keep the grade of the trail reasonable (likely in the 5 – 6% range), and also allows a landing areas at the bottom of the slope prior to crossing the tracks;
2. It allows the crossing of the tracks to occur at a location where a single track is present. Immediately to the north of the proposed crossing location, the track splits into two separate tracks.

The crossing of the rail tracks will require approval and appropriate signage and guidance for AT users. Following the track crossing, the trail will also need to cross a low volume gravel access road prior to connection with the Service Road.

## **6.5 CONTAINER TERMINAL SERVICE ROAD**

The Container Terminal Service Road is a two lane undivided roadway with a rural cross section. Traffic volumes are relatively low and there are few access points to adjacent properties. The east side of the roadway is the most conducive to accommodating a multiuse AT trail and there is generally ample green space along the roadway, though some regrading and drainage improvements will be required. There is also a utility line down portions of the roadway and a large main transmission tower which the trail design will have to respect. Where possible, the preferred option is to locate the AT trail behind the existing ditch line in order to maintain existing drainage patterns and to provide some separation of the rail line from the roadway.

Connection to Seaview Memorial Park should occur at the first driveway to the park, which is located approximately 800 metres north of the rail track crossing by Mackintosh Run. This will require a crossing of the Service Road at the first access which is on a relatively straight stretch of roadway with good sight lines. Some upgrading of the trails along the driveway entrance will be required to connect to the main trail system within the Park.