

#### 3.5.3.2 Commerce Stop

The Commerce Stop will be located at the intersection of Eglinton Avenue and Commerce Boulevard. The Commerce Stop is shown on Sheet No. 6 and 7. Currently, the northwest and northeast corners of this intersection are undeveloped. The southeast and southwest corners of the intersection are occupied by a housing complex. In the future, a proposed Mississauga Transit/GO Transit BRT station will occupy the northeast corner of the intersection, and the BRT runningway will occupy the northwest corner.

#### **Stop Layout**

The LRVs will perform a 90 degrees turn from Commerce Boulevard to Eglinton Avenue at this location. The recommended layout includes one centre platform located on the north leg of the Eglinton Avenue at Commerce Blvd intersection. A centre platform is provided at the northern leg of this intersection to limit the interaction of pedestrians with general purpose traffic.

#### **Road Layout and Traffic Operations**

To accommodate the LRVs turning at this intersection, the traffic signal timings will be modified to include a dedicated protected phase. It is recommended that the north-south pedestrian crossing on the east leg of the intersection be eliminated to improve traffic operations.

On the northbound and southbound approaches, one dedicated left turn lane and a shared through-right turn lane are included. Bicycle lanes will be provided along Eglinton Avenue in the east and west directions, east of the intersection.

Exhibit 105 illustrates the recommended Commerce Stop layout.



# 3.5.4 Commerce to The East Mall

#### 3.5.4.1 Cross-Section

The cross section from Commerce Blvd to The East Mall is similar to the typical cross section with the exception of sidewalks. Sidewalks are not provided on the north side of the roadway through this segment. Given the location of residential areas on the south side, and Highway 401 on the north side there is not a benefit to pedestrians to provide a sidewalk on the north side. The typical cross section for this segment is shown in **Exhibit 106**.

# SOUTH SOUTH

# 3.5.4.2 Renforth Stop

The Renforth Stop will be located at the intersection of Eglinton Avenue and Renforth Drive. The Renforth Stop is shown on Sheet No. 8. Currently, the northwest and northeast corners of this intersection are undeveloped. The southeast and southwest corners are occupied by hydro transmission towers. In the future, a proposed Mississauga / GO BRT bus loop will occupy the northwest corner of the intersection.

#### Stop Layout

The Renforth Stop will include one centre platform located on the east side of the Eglinton Avenue and Renforth Drive intersection. A centre platform is provided at this location because the geometric requirement of platforms on a horizontal tangent can only be accommodated on the west side of the intersection.

#### **Road Layout and Traffic Operations**

The permitted traffic and pedestrian movements are unchanged.

Exhibit 107 illustrates the recommended Renforth Stop layout.



#### 3.5.4.3 Rangoon Stop

The Rangoon Stop will be located on Eglinton Avenue just west of Highway 427. The Rangoon Stop is shown on Sheet No. 11. Currently, the north side of the intersection is occupied by Highway 427 and Highway 401 ramps. The south side is occupied by a residential neighbourhood. There is currently no traffic signal at this location. A half traffic signal, that does not impact westbound traffic, is proposed to allow pedestrians to access the LRT stop and the south side of Eglinton Avenue through a pedestrian access path to be provided to the adjacent residential area.

#### **Stop Layout**

The Rangoon Stop will include one centre platform located on Eglinton Avenue provided at this location because the geometric requirement of platforms being located on a horizontal tangent does not allow it to be east or west of the proposed location.

#### **Road Layout and Traffic Operations**

Since this stop is not located at an intersection, the proposed traffic signal will be provided only for pedestrians to access the platform, and will stop only eastbound road traffic.

In terms of lane configuration, the preferred scenario includes two through lanes each in the eastbound and westbound directions. Bicycle lanes will also be provided on the south side of Eglinton Avenue in the east and west directions.

#### 3.5.5 The East Mall to Jane

#### 3.5.5.1 Cross-Section

The cross section from The East Mall to Jane Street is similar to the typical cross section with the exception of bike lanes. Bike lanes are not proposed throughout this section. There is an existing bike path through this segment on the south side of the roadway. The exclusion of bike lanes through this area reduces the cross section and allows the preservation of portions of the existing woodlots on the north side of the roadway. The typical cross section for this segment is shown in **Exhibit 108**.

Exhibit 108: Typical Cross Section From The East Mall to Jane Street



#### Exhibit 109: Typical Cross Section for a Right Turn Lane at Rerouted Left Intersections



#### 3.5.5.2 East Mall Stop

The East Mall Stop will be located at the intersection of Eglinton Avenue and The East Mall. The East Mall Stop is shown on Sheet No. 13. The north leg of this intersection is the Highway 427 northbound off ramp. Currently, the northwest and northeast corners of the intersection are occupied by Highway 427 and Highway 401 ramps. The southeast corner is an undeveloped parcel of land, and the southwest corner is occupied by a commercial complex. The TTC operates an express bus service from Highway 427 through this intersection.

#### **Stop Layout**

The East Mall Stop will include one centre platform located on the east side of the Eglinton Avenue at The East Mall intersection. A centre platform is provided at this location because the geometric configuration (i.e. horizontal curvature) of the west side of the intersection makes it a less advantageous location to provide far side or near side platforms. Analysis was conducted at this location to compare transit operations under traditional conditions, to operations with a bus queue jump lane and bus phase at the intersection. The analysis determined that while both future designs are acceptable, the implementation of a queue jump lane and phase is preferred.

#### **Road Layout and Traffic Operations**

Analysis was conducted at this location to compare traffic operations under normal operating conditions, to operations with a bus queue jump lane and bus phase at the intersection to serve the TTC express bus service. Based on this analysis, the preferred scenario was found to include a seven phase signal operation at Eglinton Avenue at The East Mall, with southbound buses operating on a dedicated phase. The southbound approach will therefore consist of a transit only left turn lane-right turn lane, one through-left turn lane and a right turn lane.

Exhibit 110 illustrates the recommend The East Mall Stop layout.



#### 3.5.5.3 Martin Grove Stop

The Martin Grove Stop will be located at the intersection of Eglinton Avenue and Martin Grove Road. The Martin Grove Stop is shown on Sheet No. 15. Currently, the area on all quadrants of this intersection is undeveloped. Martin Grove Collegiate Institute is located approximately 50 metres south of the intersection, on the east side of Martin Grove Road.

#### Stop Layout

The Martin Grove Stop will include one centre platform located on the east side of the Eglinton Avenue at Martin Grove Road intersection. A centre platform is provided at this location because the horizontal curvature on the west side of the intersection makes it difficult to provide platforms on that side.

#### **Road Layout and Traffic Operations**

Under existing conditions, left turns are permitted in all directions at the intersection of Eglinton Avenue and Martin Grove Road. A detailed traffic-traveller analysis was conducted at this location, comparing operation with traditional left turns to various left turn rerouting scenarios, and also considering impacts on truck routing. The scenarios were compared based on the delays experienced by the Eglinton Crosstown LRT, cross-street transit vehicles, general traffic, and pedestrians to determine which scenario was most

beneficial to travellers. Based on this analysis, the preferred scenario was a six phase signal operation at Eglinton Avenue and Martin Grove Road with rerouted east-west right and left turn movements as follows:

- Eastbound right and left turns rerouted to a new connector road to turn at new traffic signals on Martin Grove Road south of Eglinton Avenue.
- Westbound right and left turns rerouted to a new connector road to turn at new traffic signals on Martin Grove Road north of Eglinton Avenue. This connector road will be designed to minimize impacts on the land parcel.

Exhibit 111 illustrates the recommended Martin Grove LRT stop layout and rerouted east-west turning movements.





#### Widdicombe Hill / Lloyd Manor Stop 3.5.5.4

The Widdicombe Hill / Lloyd Manor Stop will be located at the intersection of Eglinton Avenue and Widdicombe Hill Boulevard and Lloyd Manor Drive. The Widdicombe Hill/Lloyd Manor Stop is shown on Sheet No. 16. Currently, on the northwest and northeast sides, adjacent to the intersection, are vacant lands owned by the City of Toronto which separate roadway from apartment buildings on both sides. The southeast corner of the intersection is occupied by a shopping plaza (Lloyd Manor Place), and the southwest corner of the intersection is occupied by a gas station.

#### **Road Layout and Traffic Operations**

The permitted traffic and pedestrian movements are unchanged.

# 3.5.5.5 Kipling Stop

The Kipling Stop will be located at the intersection of Eglinton Avenue and Kipling Avenue. The Kipling Stop is shown on Sheet No. 18. Currently, on the northwest and northeast sides, adjacent to the intersection, are vacant lands owned by the City of Toronto. The southeast corner of the intersections occupied by a residential neighborhood, and the southwest corner of the intersection is occupied by apartment buildings.

#### Stop Layout

The Kipling Stop will include two nearside platforms located before the intersection in the direction of travel. Nearside stops are provided at this location because eastbound and westbound left turn lanes are not provided, and the nearside stops prevent the LRVs from double-stopping (i.e. stopping once at a red light, and then stopping again at the platform).

# **Road Layout and Traffic Operations**

Under existing conditions, left turns are permitted in all directions at the intersection of Eglinton Avenue at Kipling Avenue. A detailed traffic-traveller analysis was conducted at this location, comparing operation with traditional left turns to various left turn rerouting scenarios, and also considering impacts on truck routing. The scenarios were compared based on the delays experienced by the Eglinton Crosstown LRT, cross-street transit vehicles, general traffic, and pedestrians to determine which scenario was most beneficial to travellers. Based on this analysis, the preferred scenario was a four phase signal operation at Eglinton Avenue and Kipling Road with rerouted east-west left turn movements as follows:

- Eastbound left turns rerouted to U-turn at a new midblock U-turn signal on Eglinton Ave east of Kipling Avenue
- Westbound left turns rerouted to U-turn at a new midblock U-turn signal on Eglinton Ave west of Kipling Avenue

Exhibit 112 illustrates the recommended Kipling Stop layout and rerouted east-west left turns.



#### 3.5.5.6 Wincott / Bemersyde Stop

The Wincott / Bemersyde Stop will be located at the intersection of Eglinton Avenue and Wincott Drive/ Bemersyde Drive. The Wincott/Bemersyde Stop is shown on Sheet No. 19 and 20. On the northwest and northeast corners of the intersection, are vacant lands owned by the City of Toronto that separate the roadway from the Richview Square Shopping Centre, apartment buildings and residential subdivisions. The southwest and southeast corner of the intersection is occupied by residential subdivisions.

#### **Road Layout and Traffic Operations**

The permitted traffic and pedestrian movements are unchanged.

#### 3.5.5.7 Islington Stop

The Islington LRT stop will be located at the intersection of Eglinton Avenue and Islington Avenue. The Islington Stop is shown on Sheet No. 20 and 21. On the northwest and northeast corners of the intersection, are vacant lands owned by the City of Toronto. Further to the north, the northwest corner of this intersection is occupied by a residential neighborhood, while the northeast corner of the intersection is occupied by a place of worship. The southeast corner of the intersections occupied by a residential neighborhood, and the southwest corner of the intersection is occupied by the Southwest corner of the intersection is occupied by the Richview Collegiate Institute. A fire station (Station 443) is also located south of the intersection, on the west side of Islington Avenue.

#### Stop Layout

The Islington Stop will include two nearside platforms located before the intersection in the direction of travel. Nearside stops are provided at this location because eastbound and westbound left turn lanes are not provided and the nearside stops prevent the LRVs from double-stopping (i.e. stopping once at a red light, and then stopping again at the platform).

#### **Road Layout and Traffic Operations**

Under existing conditions, left turns are permitted in all directions at the intersection of Eglinton Avenue and Islington Avenue. A detailed traffic-traveller analysis was conducted at this location, comparing operation with traditional left turns to various left turn rerouting scenarios, and also considering impacts on truck routing. The scenarios were compared based on the delays experienced by the Eglinton Crosstown LRT, cross-street transit vehicles, general traffic, and pedestrians to determine which scenario was most beneficial to travellers. Based on this analysis, the preferred scenario was a four phase signal operation at Eglinton Avenue and Islington Road with rerouted east-west left turn movements as follows:

- Eastbound left turns rerouted to U-turn at a new midblock U-turn signal on Eglinton Ave east of Islington Avenue
- Westbound left turns rerouted to U-turn at a new midblock U-turn signal on Eglinton Ave west of Islington Avenue

Exhibit 113 illustrates the recommended Islington Stop layout and rerouted east-west left turns.



# **Exhibit 113: Islington Stop Layout**

#### 3.5.5.8 Russell / Eden Valley Stop

The Russell / Eden Valley Stop will be located at the intersection of Eglinton Avenue and Wincott Russell Road and Eden Valley Drive. The Russell/Eden Valley Stop is shown on Sheet No. 22. This intersection is currently surrounded by undeveloped land that separates the roadway from the surrounding land use. All four corners of the intersection are occupied by residential neighborhoods.

# **Road Layout and Traffic Operations**

The permitted traffic and pedestrian movements are unchanged.

#### 3.5.5.9 **Royal York Stop**

The Royal York Stop will be located at the intersection of Eglinton Avenue and Royal York Road. The Royal York Stop is shown on Sheet No. 23 and 24. Currently, the northwest corner of this intersection is occupied by undeveloped land that separates the roadway from a residential neighborhood. The northeast corner of the intersection is occupied by condominium and apartment buildings. The southeast and southwest corners of the intersection are occupied by undeveloped land that separates the road from residential neighborhoods.

#### Stop Layout

The Royal York Stop will include two nearside platforms located before the intersection in the direction of travel. Nearside stops are provided at this location because eastbound and westbound left turn lanes will not be provided and the nearside stops prevent the LRVs from double-stopping (i.e. stopping once at a red light, and then stopping again at the platform).

#### **Road Layout and Traffic Operations**

Under existing conditions, left turns are permitted in all directions at the intersection of Eglinton Avenue and Royal York Road. A detailed traffic-traveller analysis was conducted at this location, comparing operation with traditional left turns to various left turn rerouting scenarios, and also considering impacts on truck routing. The scenarios were compared based on the delays experienced by the Eglinton Crosstown LRT cross-street transit vehicles, truck routing, general traffic, and pedestrians to determine which scenario was most beneficial to travellers. Based on this analysis, the preferred scenario was a four phase signal operation at Eglinton Avenue and Royal York Road with rerouted east-west left turn movements as follows:

- Eastbound left turns rerouted to U-turn at a new midblock U-turn signal on Eglinton Ave east of Royal York Road
- Westbound left turns rerouted to U-turn at a new midblock U-turn signal on Eglinton Ave west of Royal York Road

**Exhibit 114** illustrates the recommended Royal York Stop layout and rerouted east-west left turns.



#### Mulham Stop 3.5.5.10

The Mulham Stop will be located on Eglinton Avenue approximately 550 metres east of Royal York Road, situated approximately at the west end of the existing Richview Road cul-de-sac. The Mulham Stop is shown on Sheet No. 25. The northwest corner of this location is currently occupied by Plant World Garden Centre, which is located approximately 200 metres west of the proposed Mulham Stop location. Northeast of this stop location is the western limit of Richview Road, which loops around back eastwards. The area south of the stop location is currently occupied by a retirement residence.

The proposed Mulham Stop location is currently unsignalized. Access to the LRT platforms in the middle of Eglinton Avenue would necessitate a pedestrian signal at this location. In order to also provide vehicular and truck access to the Plant World Garden Centre, it is proposed that a signalized intersection be provided at this stop location. This intersection and access road is accommodated by making minor adjustments to the Richview Road cul-de-sac.

#### Stop Layout

The Mulham LRT stop will include two parallel platforms located on the east side of the proposed intersection in the direction of travel. Parallel platforms are provided at this location because the geometric configuration (i.e. horizontal curvature) and LRT track alignment make it disadvantageous to provide farside, nearside, or centre platforms. This stop type is also well situated to provide good LRT access for the residential communities immediately to the north and south of the stop location. The existing overhead pedestrian bridge will be removed to accommodate the road widening.

#### **Road Layout and Traffic Operations**

The proposed Mulham Stop location is currently unsignalized, with only east and west though movements provided. The implementation of a traffic signal at this location provides an opportunity for truck traffic to make left turns into Plant World via a new access road, and also for eastbound vehicles to access Plant World.

#### 3.5.5.11 Scarlett Stop

The Scarlett Stop will be located at the intersection of Eglinton Avenue and Scarlett Road. The Scarlett Stop is shown on Sheet No. 27. Currently, the northwest corner of this intersection is occupied by undeveloped land that separates the roadway from a series of apartment buildings. The Humber River occupies the land northeast and southeast of the intersection and the southwest corner of the intersection is occupied by a condominium. A bridge supports Eglinton Avenue as it crosses cross the Humber River east of the intersection.

#### Stop Layout

The Scarlett Stop will include two nearside platforms located before the intersection in the direction of travel. Nearside stops are provided at this location because eastbound and westbound left turn lanes are not provided and the nearside stops prevent the LRVs from double-stopping (i.e. stopping once at a red light, and then stopping again at the platform).

# **Road Layout and Traffic Operations**

Under existing conditions, left turns are permitted in all directions at the intersection of Eglinton Avenue and Scarlett Road. A detailed traffic-traveller analysis was conducted at this location, comparing operation with traditional left turns to various left turn rerouting scenarios, and also considering impacts on truck routing. The scenarios were compared based on the delays experienced by the Eglinton Crosstown LRT, crossstreet transit vehicles, general traffic, and pedestrians to determine which scenario was most beneficial to the travellers. Based on this analysis, the preferred scenario was a six phase signal operation at Eglinton Avenue and Scarlett Road with rerouted east-west left turn movements as follows:

- Eastbound left turns rerouted to U-turn at a new midblock U-turn signal on Eglinton Ave east of Scarlett Road
- Westbound left turns rerouted to U-turn at a new midblock U-turn signal on Eglinton Ave west of Scarlett Road

Exhibit 115 illustrates the recommended Scarlett Stop layout and rerouted east-west left turns.



# 3.5.5.12 Jane Stop

The Jane Stop will be located at the intersection of Eglinton Avenue and Jane Street. The Jane Stop is shown on Sheet No. 30. Currently, this area consists of recreational land use, surrounded by residential neighborhoods. The northwest corner of this intersection is currently unoccupied, while the northeast, southeast and southwest corners of the intersection are occupied by recreational sporting facilities, which include cricket fields, soccer fields, tennis courts and a golf course. Travelling north through the intersection, Jane Street descends downhill towards the intersection, and ascends uphill past the intersection.

#### Stop Layout

The Jane Stop will include a centre platform located on the west side of the intersection. A centre platform is provided at this location to better facilitate the passenger transfers between the Eglinton Crosstown LRT and the proposed Jane LRT line.

#### **Road Layout and Traffic Operations**

Under existing conditions, left turns are permitted in all directions at the intersection of Eglinton Avenue and Jane Street. A detailed traffic-traveller analysis was conducted at this location, comparing operation with traditional left turns to various left turn rerouting scenarios, and also considering impacts on truck routing. The scenarios were compared based on the delays experienced by the Eglinton Crosstown LRT, crossstreet transit vehicles, general traffic, and pedestrians to determine which scenario was most beneficial to the travellers. Based on this analysis, the preferred scenario includes a four phase signal operation at Eglinton Avenue at Jane Road with rerouted left turn movements as follows:

 Northbound left turns rerouted to U-turn at a new midblock U-turn signal on Jane Street north of Eglinton Avenue

- Southbound left turns rerouted to U-turn at a new midblock U-turn signal on Jane Street south of Eglinton Avenue
- Eastbound left turns rerouted to U-turn at a new midblock U-turn signal on Eglinton Ave east of Jane Street
- Westbound left turns rerouted to U-turn at a new midblock U-turn signal on Eglinton Ave west of Jane Street

To the west of this intersection, cyclists will use the multi-use path south of Eglinton Avenue. East of the intersection, bicycle lanes will be provided along Eglinton Avenue in the east and west directions.

Exhibit 116 illustrates the recommended Jane Stop layout and rerouted east-west left turns.



Jane to Black Creek 3.5.6

#### **Cross-Section** 3.5.6.1

The cross section through this segment varies. The existing cross section west of Pearen Avenue is very narrow with existing businesses and residences very close to the existing right of way. To preserve properties as much as possible, the cross section has a reduced boulevard section. The typical cross section for this segment is shown in Exhibit 117.



#### 3.5.6.2 Weston Stop

The Weston Stop will be located at the intersection of Eglinton Avenue and Weston Road. The Weston Stop is shown on Sheet No. 32. Currently, the northwest and northeast corners of this intersection are occupied by an assortment of retail stores, varying from local convenience stores to banks. The southeast corner of the intersection is occupied by a place of worship and the southwest corner is occupied by a mix of retail developments and residential houses. In terms of horizontal geometry, Eglinton Avenue and Weston Road meet at an angle of approximately 45° (degrees), creating a skewed intersection. Just east of Weston Road, Eglinton Avenue begins to decline down-grade, and continues to pass under a railway bridge utilized by CN, CP and GO Transit trains.

#### Stop Layout

The Weston Stop will include one centre platform on Eglinton Avenue and Weston Road, on the west side of the intersection. A centre platform is provided at this location because the geometric configuration (i.e. horizontal curvature and vertical decline) of the east side of the intersection makes it a less advantageous location to provide farside or nearside platforms. East of the intersection, a GO Transit rail station is proposed to serve the Georgetown GO Rail line. The connection between the Weston LRT stop with this proposed GO station is the subject of a separate study.

#### **Road Layout and Traffic Operations**

North and south right turns currently use right turn cut-off lanes which channel vehicles away from the traffic signal. In promoting a safer environment for pedestrians and cyclists, these cutoff lanes will be removed.

Exhibit 118 illustrates the recommended Weston Stop layout.



#### 3.5.6.3 Black Creek Stop

The Black Creek Stop will be located at the intersection of Eglinton Avenue and Black Creek Drive. The Black Creek Stop is shown on Sheet No. 34. The northwest corner of this intersection is currently unoccupied. An LRV maintenance and storage facility (M&S facility) is proposed at the northwest quadrant of Eglinton Avenue West and Black Creek Drive. The northeast corner of the intersection is currently occupied by a park (Coronation Park) including a baseball diamond. Similarly, the southeast corner of the intersection is occupied by Keelesdale Park, which also contains a baseball diamond. In the future, a community centre is proposed in the southeast corner of the intersection. The southwest corner of the intersection is currently occupied by a supermarket. Additional office, retail and residential development are also anticipated sometime in the future in the southwest quadrant.

The proposed M&S facility in the northwest quadrant of Eglinton Avenue West and Black Creek Drive will provide service to the proposed Eglinton Crosstown, and Jane LRT lines as well as the St. Clair line. This facility will be used for loading and offloading LRV throughout the day, using Eglinton Avenue to access the LRT lines. A transit half-signal is proposed at the entrance to the M&S facility to permit LRVs to enter and exit without conflict with the westbound vehicles.

#### **Road Layout and Traffic Operations**

The permitted traffic and pedestrian movements are unchanged.

Exhibit 119 illustrates the recommended Black Creek Stop layout.