Appendix: Eastern Corridor Study Update

March 2021

The Eastern Corridor Study is a multidisciplinary, interdepartmental study considering a number of transportation and land use-related elements:

- Alignment (route selection) of a future Eastern Rapid Transit Corridor
- Configuration (conceptual design) of the Eastern Rapid Transit Corridor
- Station-area planning around higher priority stations
- Active transportation connections between Downtown and Transcona, integrated with rapid transit
- Conceptual and functional design of the bus garage that will replace Winnipeg Transit's North Garage
- Conceptual and functional design of a Louise Bridge replacement
- Conceptual and functional design of a reconfigured Stadacona Street
- Traffic modelling associated with all elements

The study began in 2017 by focusing on the corridor alignment component. Work on the study was paused after the Winnipeg Transit Master Plan was launched, to ensure compatibility between the projects. Work resumed in 2020 and a report on the entire Eastern Corridor Study will be brought for Council consideration later in 2021.

This study update focuses on the alignment selection process.

Eastern Rapid Transit Corridor Alignment

The Eastern Corridor Study began by creating a list of alignment options for a rapid transit corridor from Downtown to Transcona. Analysis and public engagement for the alignment selection was well underway as the Winnipeg Transit Master Plan was beginning in December 2018. This analysis and public feedback informed the Winnipeg Transit Master Plan. Work on the Eastern Corridor Study was paused temporarily in order for the WTMP to reach a point where there would be no risk of contradiction between projects, and so that both projects could be aligned and coordinated appropriately.

The Eastern Corridor Study focuses on infrastructure, and does not consider service in detail. In particular it did not consider a full realignment of the transit network city-wide. The Winnipeg Transit Master Plan process established a new route network and service plans for the entire city, including the Eastern Corridor and connecting routes, which provided different perspectives on the alternative alignments. The two project perspectives resulted in a single preferred alignment that was announced publicly on October 23, 2019. Work on the Eastern Corridor Study resumed in 2020, focusing on configuration. Additional public engagement on draft plans will take place in the near future.

The list of alignment options can be grouped into three segments, each of which had two or more general alignment options. Some general alignment options also included several localized alternatives.

Eastern Corridor Segment 1: Downtown to Grey Street

The westernmost segment for the Eastern Corridor Study is Main Street to Grey Street. This included four general alignment options, based on the potential areas for a Red River crossing:

- Point Douglas via a new Louise Bridge
- Point Douglas via a separate transitway bridge
- St. Boniface on the north side of the CN railway mainline (High Line)
- St. Boniface along Provencher Boulevard

Various alternative and sub-alternative alignments were also studied including various means of connecting Provencher Boulevard to Grey Street.

The recommended general alignment is through Point Douglas via Sutherland Avenue, across a new Louise Bridge, and then east along Nairn Avenue.

The alignment through North St. Boniface beside the CN mainline was ruled out because of a lack of destinations, including the distance to neighbourhood activity centres, and the challenge of negotiating right-of-way with the railway companies east of the Seine River.

A new transitway bridge from Point Douglas across the Red River was ruled out because of high cost, geotechnical risks on the riverbend, and the lack of compelling need with the Louise Bridge as a nearby option. Bridge locations to cross the Red River at the eastern tip of Point Douglas would need to be combined with a structure over Archibald Street and the CP mainline at a sharp skew angle, requiring it to be over a kilometre long. It would be very challenging to construct, leading to high costs and risks. The riverbank further north has stability risks and would not provide sufficient advantage over a Louise Bridge alignment to justify the extra cost of a separate structure.

The Provencher Boulevard option faced a divided level of public support. There were also major technical risks related to railway crossings. The CN Speers subdivision crosses Provencher Boulevard at grade just east of Des Meurons Street. At-grade railway crossings can significantly disrupt transit reliability for hours after a long crossing delay, with this risk compounding as the frequency of transit service increases. At-grade railway crossings may be suitable as a short term measure, but are not appropriate as a long term infrastructure plan for dedicated rapid transit infrastructure, or conversion to light rail. Grade separation would involve building an elevated transitway, likely in the central median of Provencher Boulevard, over several hundred metres or more in length. It would require one or more intersections on Provencher Boulevard to be closed to accommodate the transitway ramping up and down. In scenarios where the transitway would continue over the CP Emerson Line on the east side of Archibald Street, the elevated viaduct would be over a kilometre long and very expensive.

Other elements of analysis pointed to favourable conditions for transit service improvements on Provencher Boulevard. The Winnipeg Transit Master Plan analysis concurred, and recommends service on Provencher Boulevard via two other Primary Transit Lines, which combine to provide the same typical frequency as a Rapid Transit Line. This includes service on the proposed Gateway Road Frequent Transit Line, which is identified as a candidate for promotion to Rapid Transit beyond the 25-year horizon of the master plan. If the Northeast Corridor proceeds in the very long term, the at-grade railway crossing on Provencher Boulevard could be one of its foremost technical challenges.

The Louise Bridge option serves Point Douglas, where transit modal choice is already high, providing a strong foundation to build from. Much of Point Douglas south of Sutherland Avenue is a designated Major Redevelopment Site. The Louise Bridge needs to be reconstructed, providing an opportunity for synergy with a required major construction project accommodating all modes of travel. This general alignment provides an opportunity to create connections between the Rose Line on the Eastern Corridor and four other Primary Transit Lines proposed in the Winnipeg Transit Master Plan.

The configuration of these connections is also important, especially at Watt Street. The intersection of Watt Street and Nairn Avenue is proposed to become an important junction between the Eastern Corridor's Rose Line and the Gateway Road Frequent Transit Line. With both lines going straight through the intersection as opposed to turning, station platforms can be placed right next to the intersection rather than set back from it. This placement minimizes walking distances for transfers, reducing travel time and increasing universal accessibility.

Within Point Douglas, it was initially contemplated that rapid transit would use Higgins Avenue if it used the Louise Bridge. With rapid transit on Higgins Avenue, two options were available for car lanes: to maintain the existing street width, leaving one lane per direction for cars, or to widen Higgins Avenue to six total lanes. Widening Higgins Avenue would require significant property acquisition and building demolition, while not widening Higgins Avenue would cause traffic congestion levels deemed unacceptable.

During further consultation with the Point Douglas Residents Committee on the potential impacts of a Higgins Avenue alignment, the option of Sutherland Avenue acting as a transit bypass of Higgins Avenue was raised. The residents expressed a desire to see improved transit service on the north side of the CP railway mainline, if the infrastructure could be integrated with the neighbourhood. There was a strong desire to avoid erecting another barrier in the community, already bisected in one direction by the CP railway, and in the other by the Disraeli Freeway.

The project team considered this feedback and determined that a Transit Boulevard infrastructure style could be considered for Sutherland Avenue, which would provide the level of service reliability expected of a Rapid Transit service, while integrating well with the surrounding community. The main disadvantages of the Sutherland Avenue alignment are that it is at the edge, rather than the centre, of the designated Major Redevelopment Site, and the existing dwellings and jobs on and near Waterfront Drive would not be within the walkshed of a station.

There are, however, nearly four times as many people living in North Point Douglas as South Point Douglas. Higgins Avenue would serve potential future residents, but Sutherland Avenue better serves existing residents.

A connection to the heart of the Point Douglas Major Redevelopment Site on Higgins Avenue is proposed to be established via an underpass for people walking and biking, from the intersection of Higgins Avenue & Waterfront Drive to a proposed station at Sutherland Avenue & Disraeli Street, directly across the railway. The proposed underpass reduces the walking distance from 825 metres to 225 metres, and puts the heart of the Major Redevelopment Site well within the typical walkshed of a rapid transit station. At the east end of Point Douglas, a station is proposed at the intersection of Higgins Avenue and Sutherland Avenue between the Louise Bridge and the Higgins Underpass, enabling access to rapid transit from the east end of the Major Redevelopment Site, both north and south of the CP mainline.

East of the Red River within Elmwood, only Nairn Avenue was considered as a potential alignment. No other alternative alignments between the Louise Bridge and Grey Street were identified, once a dedicated Rapid Transit bridge near the CP mainline had been ruled out. A major constraint in this location is the CP mainline crossing. The Nairn Avenue alignment enables the Rose Line to use the existing Nairn Overpass for many years. When a fully-separated transitway is required, there is sufficient space adjacent to the Nairn Overpass for its widening. Talbot Avenue was suggested as an alternative to Nairn Avenue by members of the public during engagement. However, Talbot Avenue has an at-grade crossing of the CP railway mainline, and little opportunity to provide a grade separation. Talbot Avenue was not considered further.

Eastern Corridor Segment 2: Grey Street to Peguis Street

Two general alignment options were considered for this segment:

- On Nairn Avenue and Regent Avenue
- Offset approximately 200 metres south of Nairn Avenue and Regent Avenue, generally along Thomas Avenue and in a new transitway right-of-way

The recommended alignment is on Nairn Avenue and Regent Avenue.

There are few destinations south of Nairn Avenue and Regent Avenue. Redevelopment potential is limited, as a former landfill site occupies much of the land, and the offset would add 200 metres of walking distance for nearly all customers. Thomas Avenue and other existing rights-of-way could be used for part of the alignment, but private property would also be required. This alignment would offer the potential for higher speed bus travel, but with fewer customers from the local neighbourhood to serve with those higher speeds. Crossing Lagimodière Boulevard would also be a significant challenge from that alignment, with Lagimodière Boulevard partially elevated at that location on its ramped approach to the CN railway overpass to the south. This partial elevation is not high enough to go over a transitway without a significant dip in the transitway, which would likely require a pump station for drainage.

Private property would also be required for a right-of-way through a major commercial big-box centre. If Rapid Transit service were provided on an offset alignment, other transit service would still be desirable on Nairn and Regent Avenues. These services would compete for resources, diluting service quality on both.

Eastern Corridor Segment 3: Peguis Street to Plessis Road

The east project limit for the Eastern Corridor Study is Plessis Road. Two options were considered for this segment:

- Along Regent Avenue
- Beside the Central Manitoba Railway to Transcona Boulevard

The Eastern Corridor Study consultant evaluation showed a strong preference for the Regent Avenue alignment based on existing and potential ridership, access to current employment, and long term re-development potential. Regent Avenue also continues east into Downtown Transcona. One notable downside of the Regent Avenue option is a lack of Rapid Transit connection to the ongoing development in the Park City Commons area.

The Winnipeg Transit Master Plan confirmed that the Regent Avenue alignment is appropriate based on the planning principles and analysis methods used for this project. The WTMP also recommends a high quality of service to Park City Commons in the short term via a different Primary Transit Line and two feeder services. A second Primary Transit Line would be added in the long term.