



Reviewing the Business Case for COVID-19 & Economic Recovery

January 2021

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The Green Line Project Team has undertaken to review the impacts on the Green Line program and business case as a result of any potential long-term reductions in forecasted travel demand from a combination of any of the following:

- Changes in working patterns with more employees working from home permanently;
- Changes in land-use that could reduce demand for downtown office space; and/or
- Reductions in regional travel from a prolonged economic downturn.

“Ridership recovery and growth is closely tied to Alberta’s Relaunch Strategy, as businesses, schools, activities and people get back to work, transit will be there to support Calgarians as they get back to moving around the City.”

While the team did not try to forecast the precise reason for why demand could be reduced, the ongoing COVID-19 pandemic has provided a timely, real-world case study in changing travel patterns and therefore the changes in travel patterns observed in 2020 and early 2021 are presented for context.

Even with the uncertainty of the speed and scale of the recovery of transit demand, Calgary Transit is already meeting or exceeding the ‘worst case’ scenarios and that along with ongoing growth in the City’s population, demand for transit in Calgary in the future will require investments in higher order transit and that the business case and need for the Green Line remain strong.



Ridership Recovery

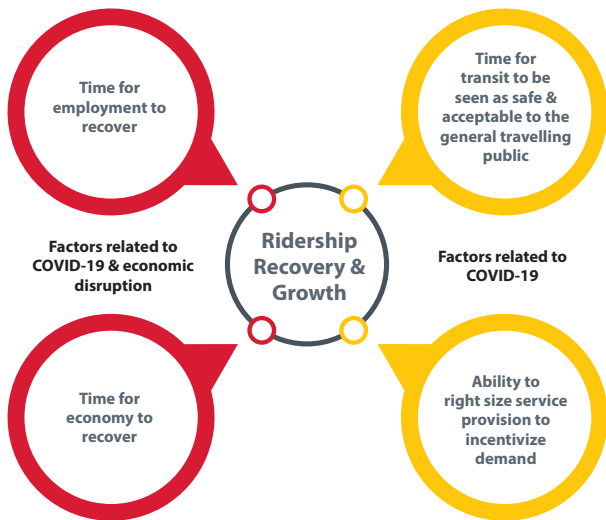
In order to provide continued confidence in the conclusions of the Green Line business case (July 2020), a range of scenario testing was undertaken to test and communicate how changes in economic activity and the pandemic could impact long-term ridership and benefits of the Green Line LRT.

Scenario analysis is particularly helpful in this context with an uncertain future because:

- Transportation forecasting models – including Calgary’s Regional Transportation Model (RTM) are based on past travel behaviours and assumptions for future growth; and
- The speed, scale and type of recovery for travel demand is uncertain and cannot be forecast with 100% certainty.

Four factors were identified as being relevant to the recovery of travel demand for Calgary Transit in the future and these are summarised in Figure 1 below.

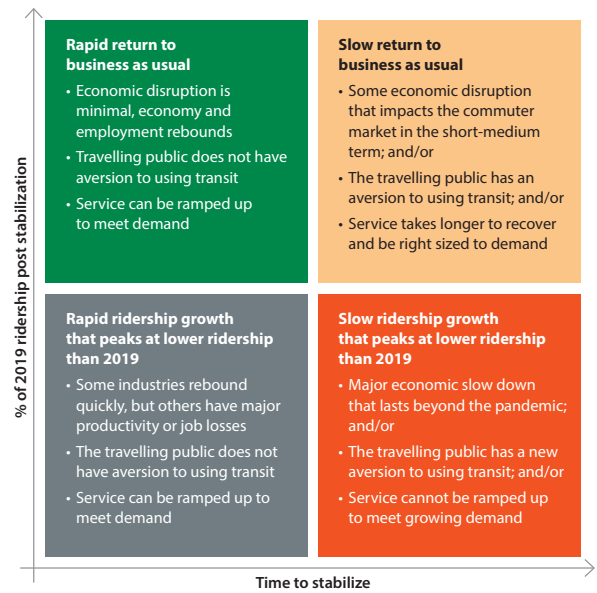
Figure 1
Factors Impacting Ridership Recovery and Growth



Using these four factors, a two-by-two matrix was developed to identify four possible recovery scenarios where the y-axis considered the percentage of 2019 ridership (re)gained and the x-axis considered the time to stabilise and then (re)grow ridership. (See Figure 2 below)

Ridership recovery and growth is closely tied to Alberta’s Relaunch Strategy, as businesses, schools, activities and people get back to work, transit will be there to support Calgarians as they get back to moving around the City. In addition to the four scenarios, a fifth ‘no recovery’ scenario was also developed as an absolute worst case.

Figure 2
Ridership Recovery Scenarios



Each of these five scenarios (the four coloured boxes above plus the ‘no recovery’ scenario) was then forecast and plotted against the original Green Line ridership forecast beginning in April 2020 and looking out to opening day (2028) and then against the 30-year forecasts used in the business case. (See Figure 3 on next page)

Changes in Travel Behaviour

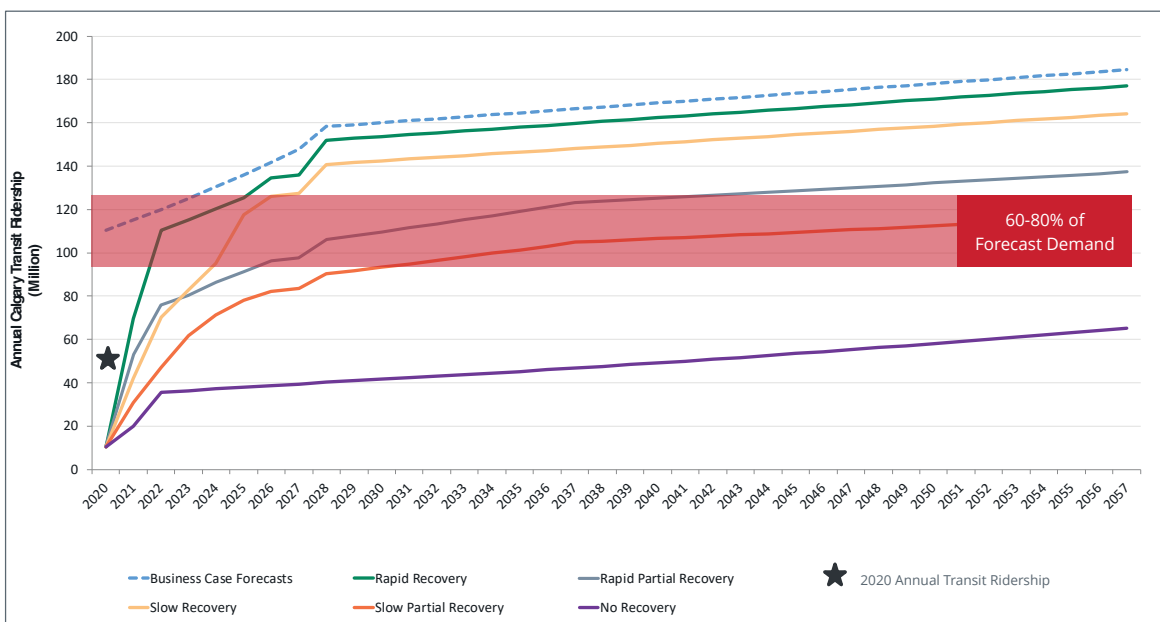
In addition to potential changes in total travel demand, questions have been raised regarding people’s travel behaviours and, in particular, whether people will continue to commute in peak hours (and therefore whether expensive investments in higher order transit are still justified).

While total demand may have reduced from 2019 levels, the profile of demand throughout the day has remained relatively constant. This suggests that despite the shift with many employees working from home over the past nine months, travel by transit during the morning and evening peak hours remains the busiest times of the day (i.e. the ‘peaks remain the peaks’) and therefore, as demand continues to recover towards pre-pandemic levels, the peak periods will remain the busiest periods of the day and can reasonably be used for transit capacity planning purposes.



“In addition to potential changes in total travel demand, questions have been raised regarding people’s travel behaviours...”

Figure 3
Impact of Scenarios on Forecast Transit Demand



Understanding Calgary Transit's Ridership

The rapid decrease in transit ridership in the early months of the pandemic demonstrated the impacts of changing travel patterns on transit usage – with many people not only not travelling to work but also reducing their discretionary travel in-line with public health orders. Many of the remaining transit trips were being made either by 'essential' workers who either needed to continue to work or worked at jobs that could not easily be done from home, or by Calgarians that were using transit for necessary appointments, errands and shopping trips.

The design of the Calgary Transit integrated transit network includes a two-line LRT network (Blue and Red Lines) that radiate from the downtown to the Northwest, Northeast, West and South supported by a series of high quality bus rapid transit lines (MAX Yellow, Purple, Teal and Orange) and a local bus network.

“Stage 1 of Green Line... will provide Calgarians with high quality transit service and will become a preferred mobility choice for many Calgarians to move around the city.”

While much of the LRT demand has historically been driven by journey to work – particularly to the downtown - the split of demand between the LRT and bus networks through 2020 has remained relatively constant at approximately 50:50 even as the overall levels of demand have gone down and then back up again throughout the pandemic. This is not surprising as many transit trips rely on a high quality network that connects people to the places they want to go.

With Stage 1 of Green Line, the City's integrated transit network, including 80KM LRT lines and four MAX lines, will provide Calgarians with high quality transit service and will become a preferred mobility choice for many Calgarians to move around the city.



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