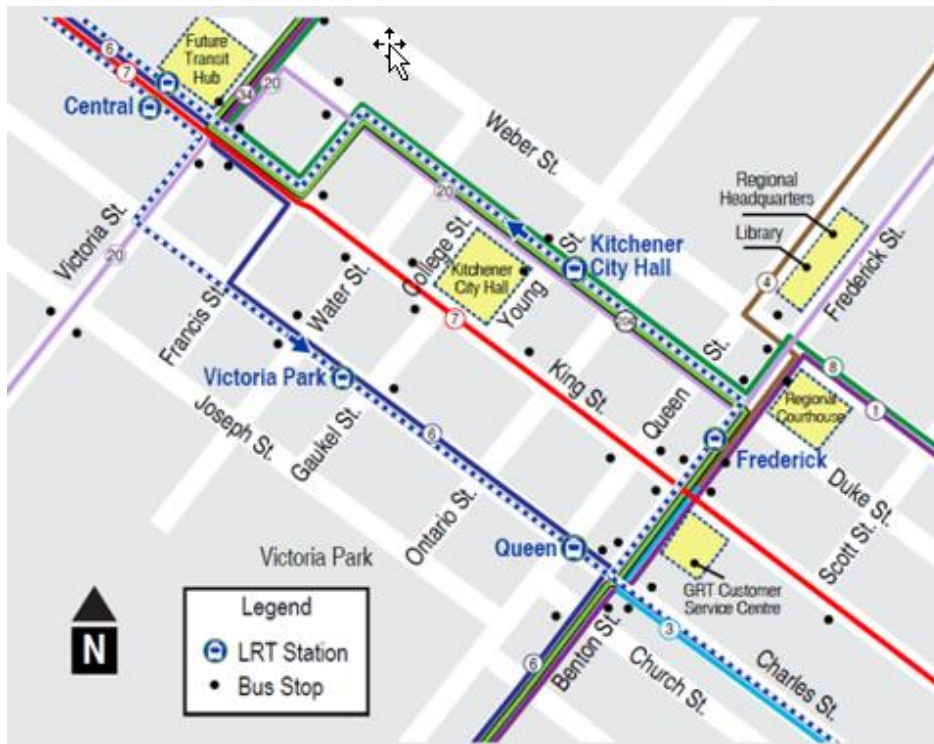


## Appendix C: Transit Impact Assessment

### Downtown Kitchener Transit Routes



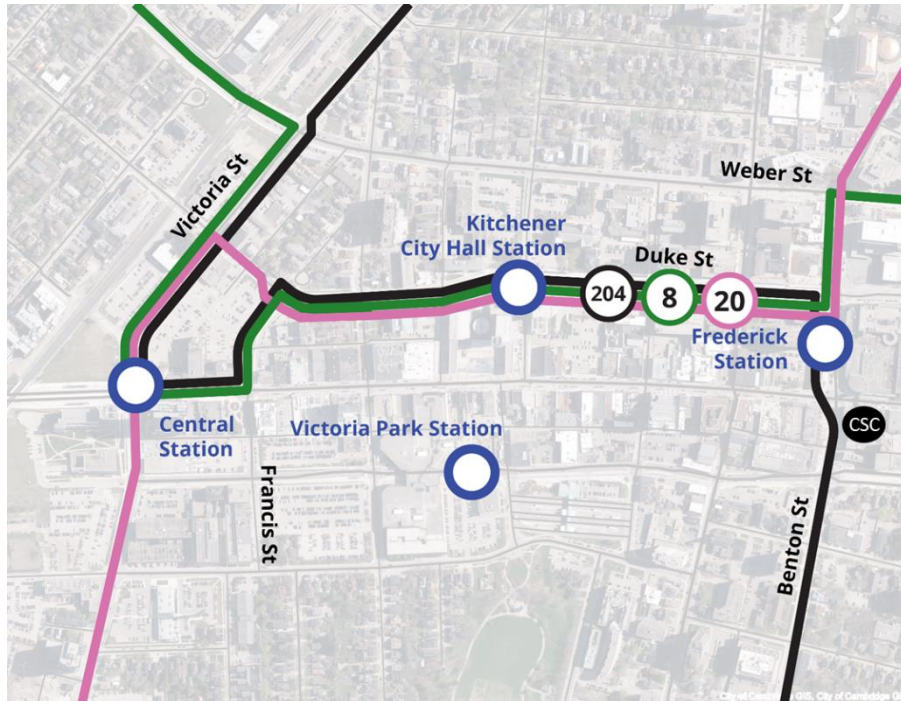
#### Existing transit serving Duke St. and Kitchener City Hall Station:

- 301 ION LRT NB;
- 301R NB shuttle service;
- 8 Weber;
- 20 Victoria-Frederick;
- 204 iXpress Highland-Victoria.

#### Frequency on Duke:

- Existing is 12 buses/hour, 6 trains/hour;
- Expected to grow to 20 buses/hour, 8 trains/hour.

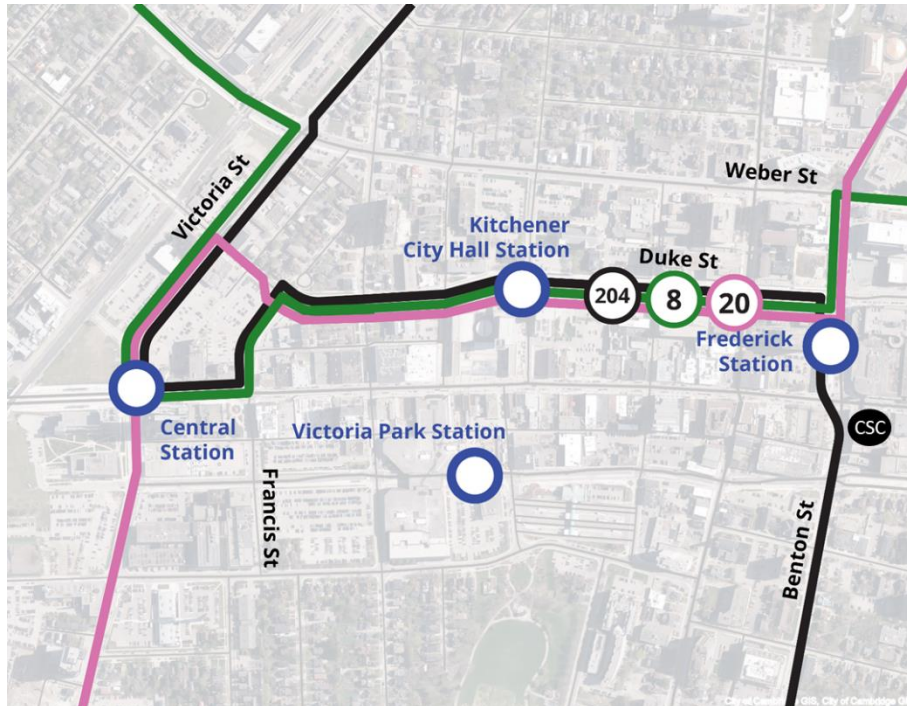
## Existing Conditions



### Benefits:

- Connections to ION at both ends of DTK: Central and Frederick;
- Compact grid network structure;
- Two-way service: easy to comprehend and communicate;
- Direct connection to Kitchener City Hall and GRT Customer Service Centre (CSC); serves two-way integrated stop;
- Avoids frequent event closures and slower operating speed on King Street.

## Option 1 – NB Buses Share ION Rapidway



**Ruled out due to potential short and long-term negative impacts on the Region's only higher order transit service.**

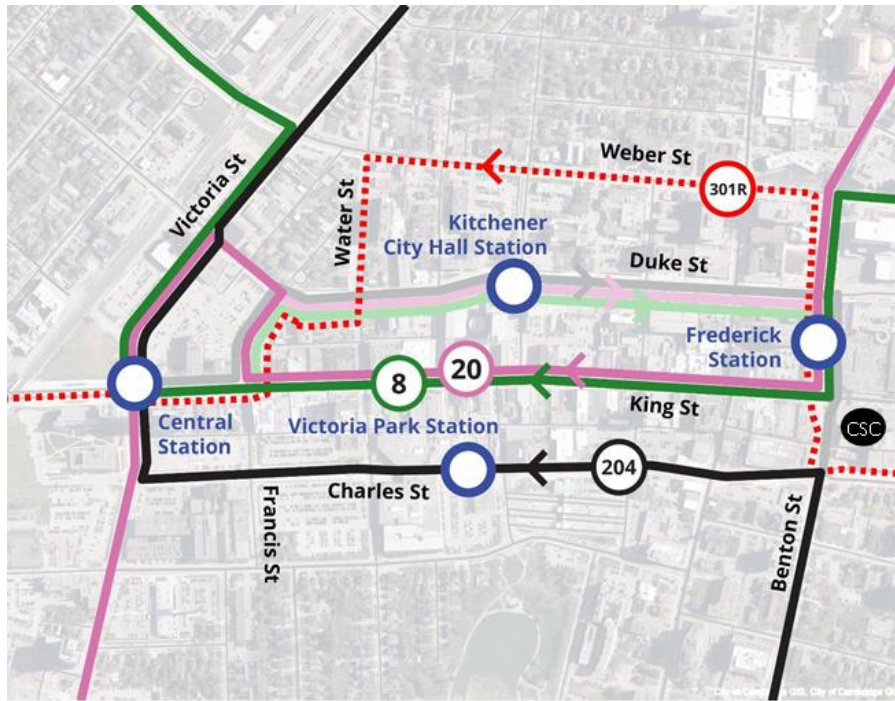
### Challenges:

- Future ION operations reliability and frequency limited by sharing the same rapidway.
  - Impacts performance agreement with Keolis (ION operator).
- ROW Transportation investment requirements:
  - Signal installs / timing;
  - Curb work;
  - New NB bus stop infrastructure at KCH.
- Inability to serve KCH station platform or a nearby stop from the tracks.

### Benefits:

- Maintains benefits of two-way routing (existing condition).

## Option 2 – NB buses shifted to King St / Charles St



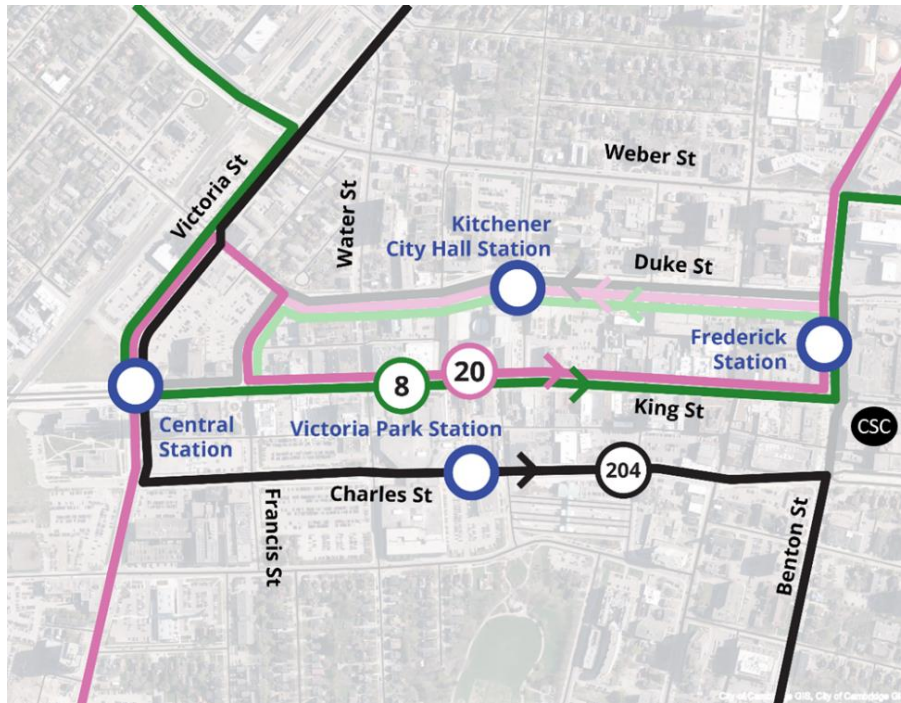
**Ruled out due to confusion for users due to one-way routing and significant impacts on ION replacement shuttles.**

### Challenges:

- ION Replacement Shuttle would not serve Kitchener City Hall ION station directly;
- One-way service; difficult to comprehend, communicate, less attractive/convenient;
- **499** daily bus passengers impacted at Kitchener City Hall Station due to loss of NB integrated stop;
- Additional turns and out-of-direction travel resulting in increased operational costs for bus services;
- 2 additional routes (8+ buses/hour) impacted by frequent event closures and slower operating speed on King Street;
- Route 204 loses direct connection to Frederick Station and Customer Service Centre, and creates a constraint stop environment on Charles Street;
- Impacts routes due to frequent event closures and slower operating speed on King Street.



### Option 3 – SB buses shifted to King St / Charles St

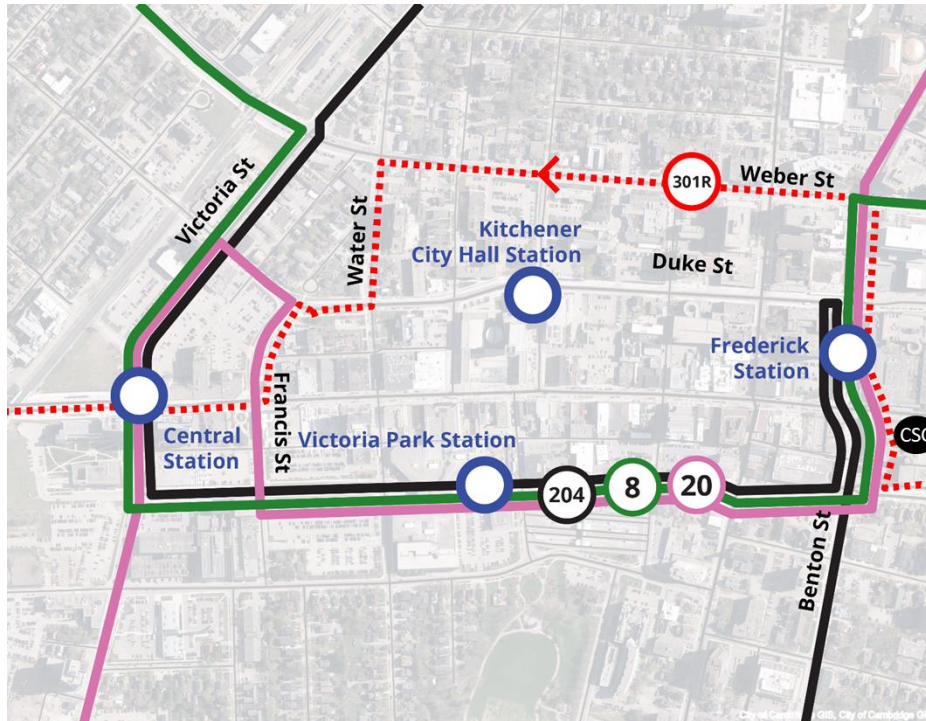


**Ruled out due to confusion for users due to one-way routing and challenges operating transit on Charles and King Streets.**

#### Challenges:

- Cannot add new Route 204 stops on Charles St between Water and Benton streets due to SB ION rapidway;
- One-way service; difficult to comprehend, communicate, less attractive/convenient;
- **424** daily bus passengers impacted at Kitchener City Hall Station due to loss of SB integrated stop;
- Additional turns and out-of-direction travel resulting in increased operational costs for bus services;
- 2 additional routes (8+ buses/hour) impacted by frequent event closures and slower operating speed on King St;
- Route 204 loses direct connection to Queen/Frederick Station and Customer Service Centre;
- Impacts routes due to frequent event closures and slower operating speed on King Street.

## Option 4 – All buses shifted to Charles St

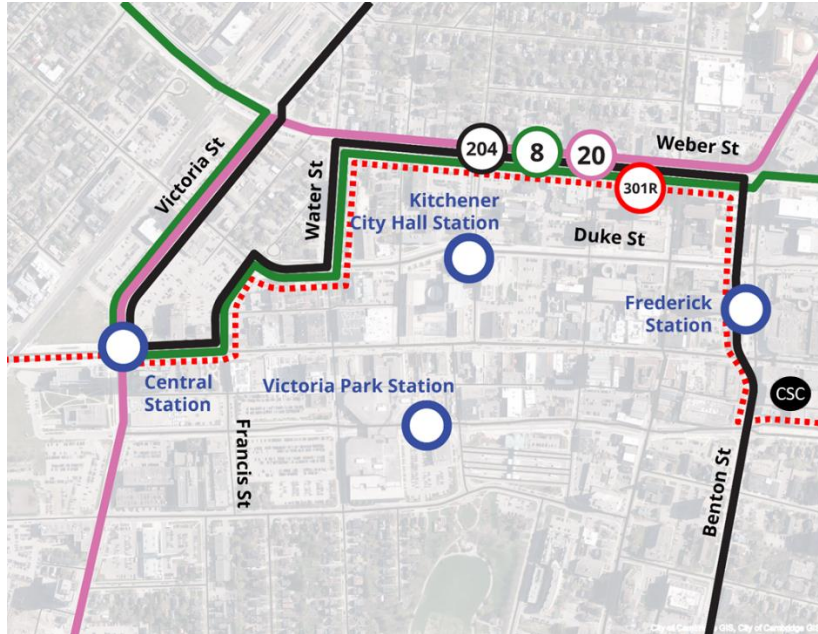


**Ruled out due to customer impacts and challenges with U-turns and operating transit on Charles and King Streets.**

### Challenges:

- U-turn movement at Frederick/Duke intersection cannot be made without significant signal and geometric changes;
- Loss of access to core - cannot add new stops on Charles St between Water and Benton streets due to SB ION rapidway;
- ION Replacement Shuttle would not serve Kitchener City Hall ION station directly;
- **923** daily bus passengers impacted at Kitchener City Hall Station due to loss of integrated stop;
- Additional turns and out-of-direction travel resulting in increased operational costs for bus services.

## Option 5 – All buses shifted to Weber St



**Ruled out due to inadequately serving downtown and poor connections with other routes.**

### Challenges:

- Loss of access to Downtown Kitchener;
- ION Replacement Shuttle would not serve Kitchener City Hall ION station directly;
- **923** daily bus passengers impacted at Kitchener City Hall Station due to loss of integrated stop;
- Additional turns and out-of-direction travel resulting in increased operational costs for bus services;
- Constrained space on Weber Street for bus stop infrastructure (shelters etc.).

**Cost Implications:**

Any additional changes will stretch the service to the point that an additional bus will be required for at least some time periods. Preliminary operational cost estimates for the additional bus are as follows:

- Weekday AM peak bus = 3.5 hrs/day x 250 days/year x \$100/hour = \$87,500 annually;
- Weekday PM peak bus = 4.5 hrs/day x 250 days/year x \$100/hour = \$112,500 annually;
- Weekday 7am to 7pm = 12 hrs/day x 250 days/year x \$100/hour = \$300,000 annually; and
- All Day Weekday/Saturday/Sunday/Holiday = 20 hrs/day x 365 days/year x \$100/hour = \$730,000 annually.

In addition to operating costs, all of these scenarios would require a new bus (\$750,000) plus anywhere from 0.5 to 2 new full time employees plus benefits.

The most likely scenario is that the PM or weekday schedule is impacted. This means an increase in GRT's operating budget by \$112,500 to \$300,000 annually for each route that is shifted, or slowed due to additional bike infrastructure that reduces the running speed of a bus or lengthens the route, plus the cost of the bus itself (\$750,000).