

Draft Report

Watermain to Service Downtown Brampton: Schedule B Class Environmental Assessment

Preliminary Corridor Assessment



Prepared for Region of Peel
by IBI Group
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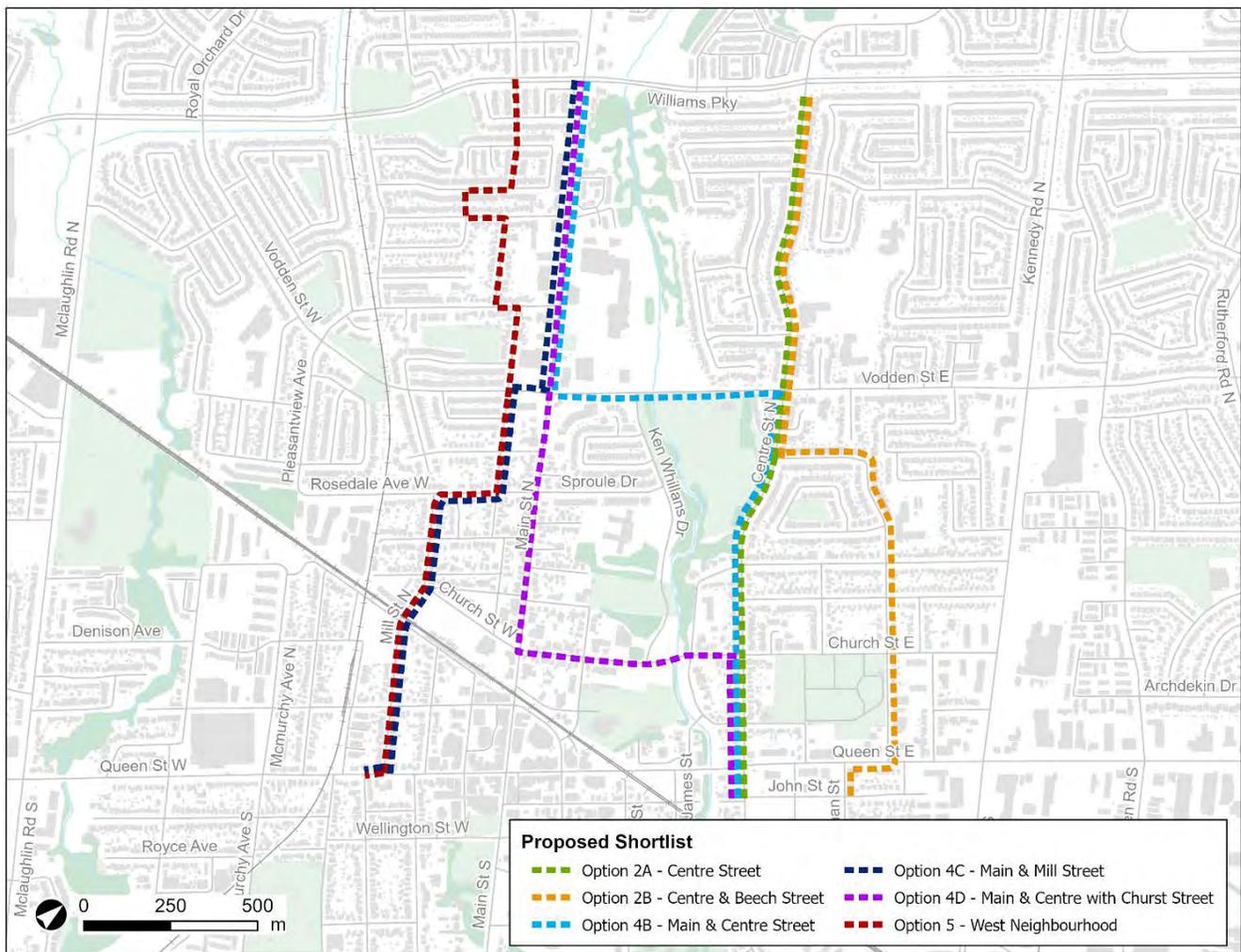
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1 Introduction

This report provides a screening-level transportation assessment of potential alignments for Downtown Brampton EA. Following an initial screening of alternatives, six alignment alternatives remain as are mapped in Exhibit 1.1. These alternatives feature different watermain alignments through central Brampton from Williams Parkway to south of Queen St, with several alignments sharing overlapping segments.

The transportation assessment includes discussion and evaluation of several criteria including impacts to traffic, transit, active transportation and property access.

Exhibit 1-1: Map of Watermain Alignment Alternatives



2 Approach

2.1 Assessment Criteria

For this report, assessment criteria have been developed to assess the transportation-related impacts and effects of construction along each corridor. The criteria have been developed as follows including commentary on approach for the evaluation.

- **Description** - description of alternative and roads impacted;
- **Length** - length of alternative
- **Road classification** - an important consideration as collector and arterial roads serve through traffic function and usually have transit service, thus closing the road will have a greater impact on these factors;
- **Number of lanes** - lanes on the road in both directions;
- **Curb-to-curb** - pavement width of road. This is an important criteria as the anticipated workzone will occupy approximately 7m of road space. Traffic lanes need 3.3m of space plus 0.5m (0.3 minimum) of shoulder or offset.
- **Signalized intersections** – number and location of signalized intersections. Signalized intersections are an obstacle to watermains as they tend to require more complex staging (may require temporary signals) and construction closures will impact traffic on both corridors.
- **AADT** – Average annual daily traffic: – provides an indicator useful for assessing the impact of lane and road closures.
 - Assuming there is space for one travel lane (3.8m remaining outside of workzone), two-lane roads with less than 3,000 AADT can operate with a single lane under ‘yield to oncoming traffic’ or temporary traffic signal conditions. Roads with over 3,000 AADT will require more complex staging such as closure of one direction of flow.
- **Closures Required** – Lists required road or lane closure for construction and possible detour routes.
- **Traffic Impacts** – details and quantifies expected operational impacts caused by the road closures to the local road network.
- **Driveway Impact** – Lists impacted driveways along the closure routes.
- **Transit Impact** – Impacts to transit caused by the closures.
- **Cycling Impact** – Impacts to cycling routes and cyclists caused by the construction.
- **Adjacent Land Use** – describes the land use of the surrounding area to the alignment.

2.2 Traffic Modelling

A macro-modelling approach was taken to estimate network-level impacts of arterial and collector lane reductions proposed under each alignment alternative. This involved using the Region’s travel demand model to run traffic demand assignments for a base scenario, as well as separate scenarios featuring lane reductions or road closures on

Centre Street, Main Street, Vodden Street, and/or Church Street per the respective alternatives.

Link segment demands and volume-to-capacity ratios output from the base scenario assignment are provided in Exhibit 2.1 and Exhibit 2.2, respectively. These results reflect a.m. peak hour conditions, and provide a comparative basis for determining traffic impacts of the various alignment alternatives. Traffic impacts represent one of several criteria that were measured and rated in this transportation assessment, as detailed in Sections 3 and 4.

Following the identification of a preliminary preferred alternative, this macro-level analysis will eventually be supplemented with more detailed traffic operations analysis to assess impacts in more detail, and to develop mitigation measures to minimize these impacts.

Scenario model output is included in the appendix and commentary included in the alternatives evaluation.

Exhibit 2-1: Base Scenario Traffic Demands

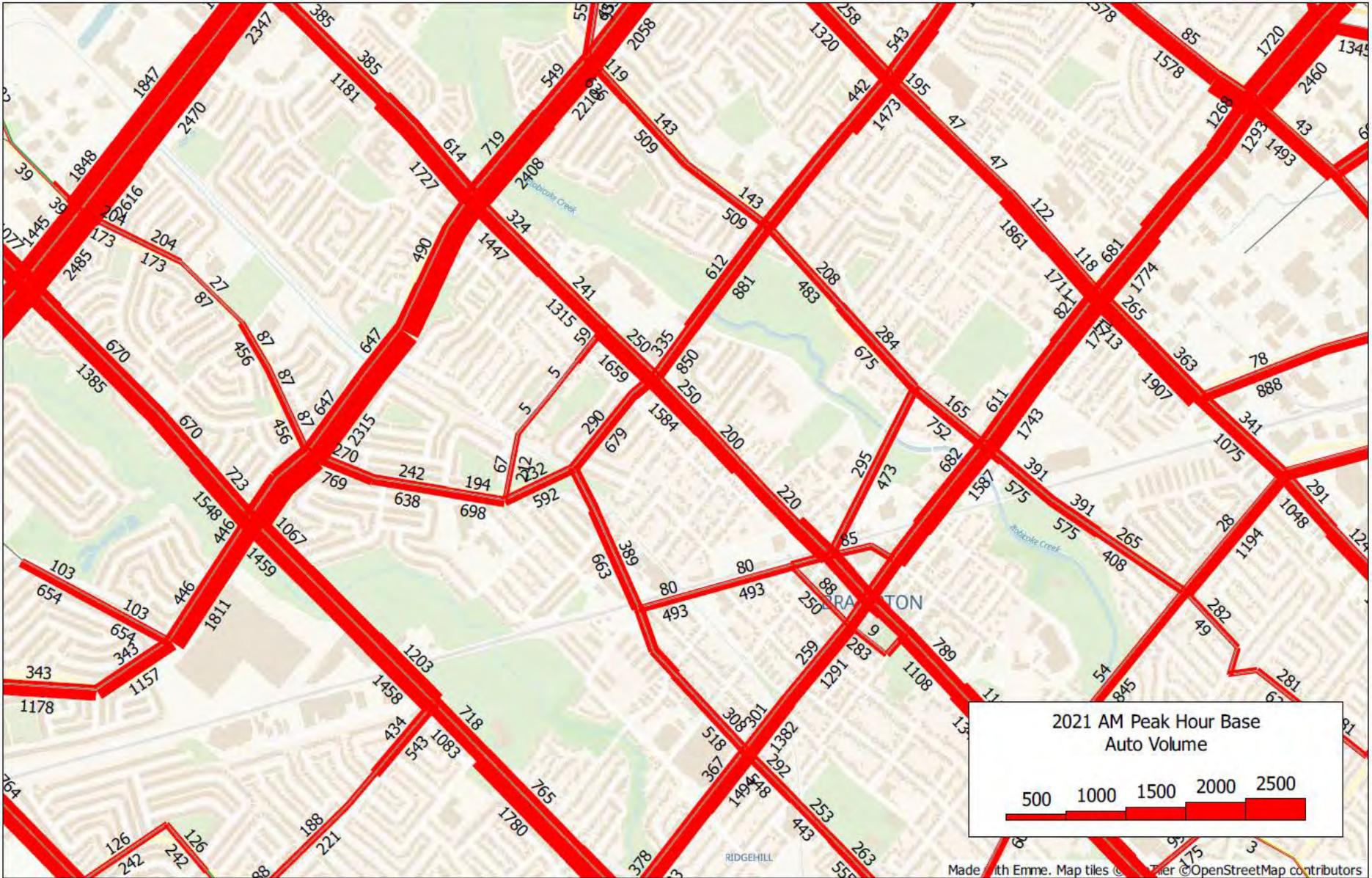
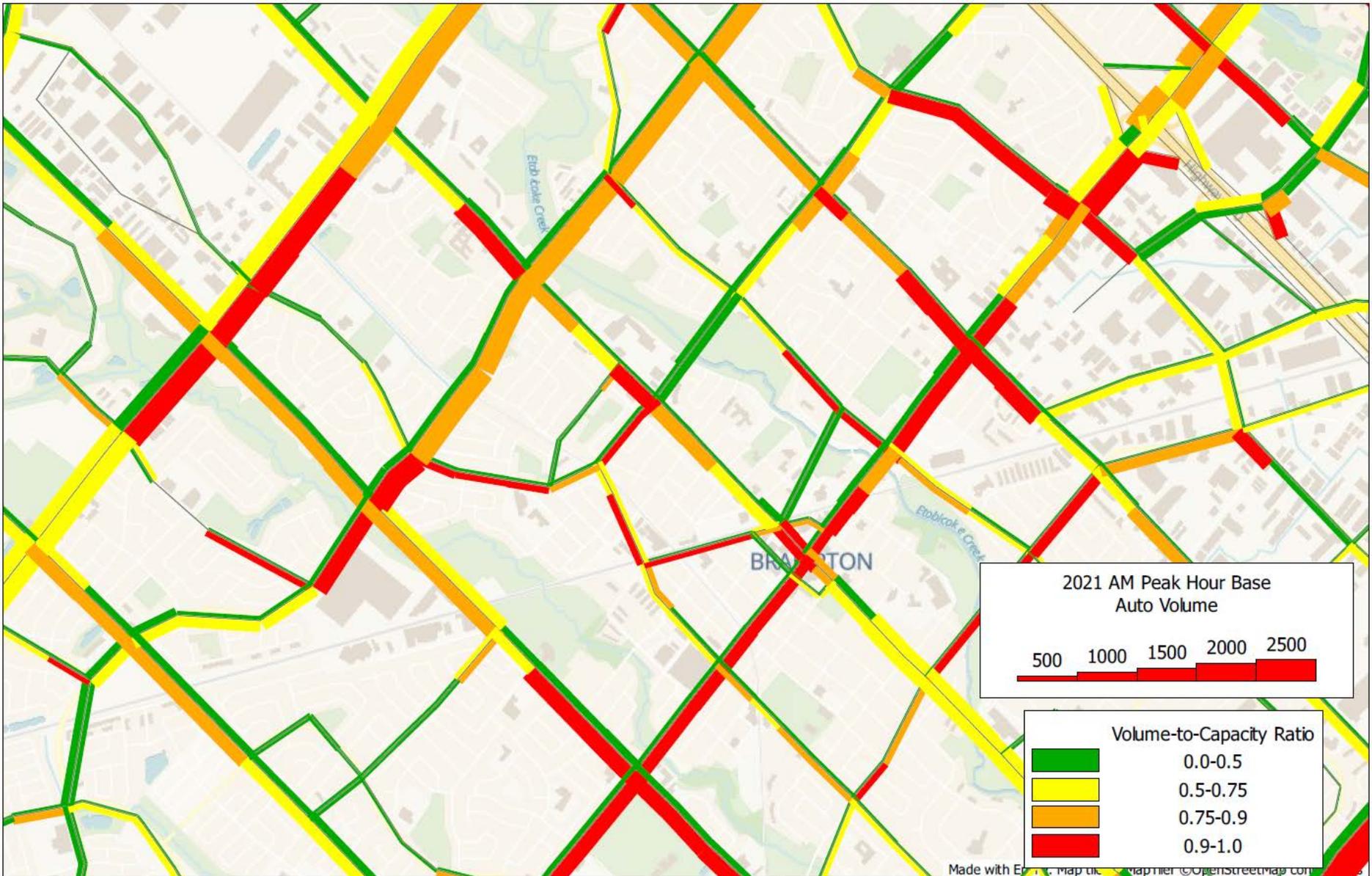


Exhibit 2-2: Base Scenario Volume-to-Capacity Ratios



3 Alternatives Assessment

The following sections provide the assessment of transportation impacts for each alternative.

3.1 Alternative 2A: Micro Tunnel Centre Street

Description	<ul style="list-style-type: none"> Follows Centre St between Williams Pkwy and John St
Length	<ul style="list-style-type: none"> Length of 2.10 km
Road Classification	<ul style="list-style-type: none"> Road Classification: Centre Street: Collector
No. of Lanes	<ul style="list-style-type: none"> 2 lanes with left turn lane at signalized intersections
Curb-to-Curb	<ul style="list-style-type: none"> Pavement Width ~ 9.8 m to 11.8 m Work zone requires 7m,
Signalized Intersections	<ul style="list-style-type: none"> At Williams Parkway, Vodden St E, Church St, Queen St E
AADT	<ul style="list-style-type: none"> Centre St (north of Vodden St): 6,398 (2018) Centre St (south of Church St): 8,139 (2018)
Road Closures	<ul style="list-style-type: none"> At Williams Pkwy, one eastbound lane closure is required next to Centre St as shown in Exhibit 3-1. A receiving shaft on Centre Street requires closure between Linkdale Rd and Tolton Dr up to 8 weeks. Shown in Exhibit 3-6 . A detour to Skelton Blvd is required. McCaul Street between Centre St and Sophia St requires full closure for receiving shaft as shown in Exhibit 3-2. Detour on Church St, Sophia St, and Centre St required. At John St, a full lane closure is required between Lynch St and Centre St. Detour on Queen St and Centre St required.

<p>Traffic Impacts</p>	<ul style="list-style-type: none"> • A closure of the eastbound right most lane at Williams Parkway as shown in Exhibit 3-4 is expected to reduce capacity in the eastbound direction by half. There is a potential restriction of northbound right turn due to lack of turning radius. If northbound right turns are restricted, through traffic will have access to Kennedy Road at Centre Street intersection. • Full closure of Centre St south of Williams Parkway is expected to divert 500 vph to other routes including Linkdale Road detour and Main Street. Main street has capacity to accommodate. Linkdale Road, Skelton Blvd, and Tolton Dr are local roads not normally suited to through traffic. • Full closure of McCaul St only at Centre St requiring diversion via Sophia St. • Full road closure required on John St only at Centre St as shown in Exhibit 3-5. This would have significant impact on to the traffic at Centre St. However it is safe to maintain two-way traffic.
<p>Driveway Impacts</p>	<ul style="list-style-type: none"> • Williams Pkwy to Linkdale Rd: No driveways on west side. • Linkdale Rd to Tolton Dr: Six driveways total on both sides • Tolton Dr to Vodden St E: Frequent driveways on both sides • Vodden St E to Woodward Ave: No/few driveways on west side. • Woodward Ave to John St: Frequent driveways on both sides.
<p>Transit Impacts</p>	<ul style="list-style-type: none"> • Brampton Transit route 8 impacted south of Williams Parkway, requiring diversion via Linkdale Road and Skelton Blvd. Transit turning radius to be checked in detail design to ensure buses can maneuver (potential parking restrictions if needed).
<p>Cycling Impacts</p>	<ul style="list-style-type: none"> • No cycling facilities along entire route, though Google labels Centre St as a bicycle-friendly road
<p>Adjacent Land Uses</p>	<ul style="list-style-type: none"> • Predominantly residential (detached), with one public school (Sir John A Macdonald St Public School), large park (Duggan Park), and commercial uses at Queen St intersection.
<p>Other Comments</p>	<ul style="list-style-type: none"> • Both shafts on Centre St between Vodden St and Woodward Ave are located adjacent to roadway on the SW side, which will require a TRCA permit as within TRCA regulated limit. Three small sized trees to be removed from each site (6 total).

Exhibit 3-1 - Work Zone Locations at Centre St & William Parkway

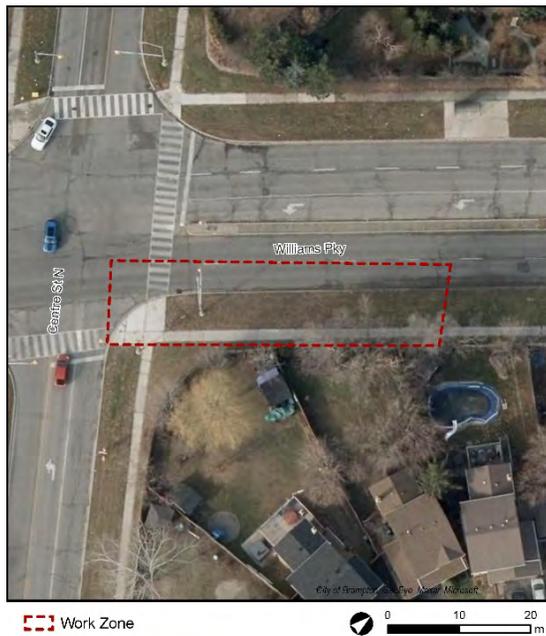


Exhibit 3-2 - Work Zone Locations at Centre St N & Mccaul St



Exhibit 3-3- Work Zone Locations at Centre St N & John St.



Exhibit 3-4- Work Zone Locations at Centre St N & Beech St.



Exhibit 3-5 - Work Zone Locations at Centre St N



Exhibit 3-6 - Work Zone Locations at Centre St N between Linkdale Road & Tolton Dr



3.2 Alternative 2B: Centre and Beech St

Description	<ul style="list-style-type: none"> Follows Centre St between Williams Pkwy and Beech St, follows Beech St to Queen St, short diversion on Queen St to Trueman St, then along Trueman St to John St.
Length	<ul style="list-style-type: none"> 2.43 km
Road Classification	<ul style="list-style-type: none"> Centre St: Collector Beech St: Local Queen St: Major Arterial (City) Trueman St: Local
No. of Lanes	<ul style="list-style-type: none"> Centre St: 2 lanes with left turn lane at signalized intersections Beech St: 2 lanes Queen St: 5 lanes Trueman St: 2 lanes
Curb-to-Curb	<ul style="list-style-type: none"> Centre St: 11.2 to 11.8 m Beech St: 8.0 to 8.3 m Queen St: 18 m Trueman St: 8.6 m
Signalized Intersections	<ul style="list-style-type: none"> Centre St: at Williams Parkway, Vodden St E
AADT	<ul style="list-style-type: none"> Centre St (north of Vodden St): 6,398 (2018) Beech St: no data Queen St (east of Centre St): 27,130 (2015) Trueman St: no data
Road Closures	<ul style="list-style-type: none"> At Williams Pkwy, one eastbound lane closure is required next to Centre St. A receiving shaft between Linkdale Rd and Tolton Dr requires a full road closure up to 8 weeks. A detour to Skelton Blvd is required. Intersection of Centre Street and Beech Street – workzone is nearby and may require restriction of turning movements due to tight space available (Exhibit). North of Queen St, Beech St provides access to several businesses and driveways, including an apartment building. Closure would require local traffic to access via Queen St or Church St. Queen St is a major arterial road with major bus routes. Partial closures may result in significant delays to transit and general traffic.

Traffic Impacts	<ul style="list-style-type: none"> • A full closure of Centre St to Beech Street as shown in Exhibit 3-1, would divert approximately 500 vph in the direction of peak flow, with much of this traffic expected to divert to Main Street via Vodden Street, with both being 4-lane roads. However, • The travel demand model shows that Vodden Street has significant capacity remaining, v/c is expected to increase from approximately 0.5 to 0.75. Main Street has some capacity south of Vodden Street to handle additional traffic travelling to the GO Station and the downtown, v/c is expected to approach 1.0. Kennedy Road south of Williams Parkway has some capacity, v/c ratio is expected to near 1.0.
Driveway Impacts	<ul style="list-style-type: none"> • Centre St (Williams Pkwy to Linkdale Rd): No driveways on west side. • Centre St (Linkdale Rd to Vodden St E): Frequent driveways on both sides • Centre St (Vodden St E to Beech St): No driveways on west side. • Beech St (Centre St to Church St): Frequent driveways on both sides • Beech St (Church St to 8 5 m north of Queen St): No driveways on west side
Transit Impacts	<ul style="list-style-type: none"> • Brampton Transit route 8 runs on Centre St requiring one-way or two-way diversions during period of construction on Centre St. Numerous routes, including Zum, run on Queen St. • A detour would not likely be needed, but construction could cause significant delays with lane reductions.
Cycling Impacts	<ul style="list-style-type: none"> • No cycling facilities along entire route.
Adjacent Land Uses	<ul style="list-style-type: none"> • Predominantly residential (detached), with one public school (Agnes Taylor Public School), cemetery (Brampton Cemetery). • Near Queen St intersections with Trueman St and Beech St, land uses include a Starbucks (with drive through), two other commercial buildings, a church, vacant lots and several homes.
Other Comments	<ul style="list-style-type: none"> •

Exhibit 3-7 – Work Zone location at Centre and Beech Street



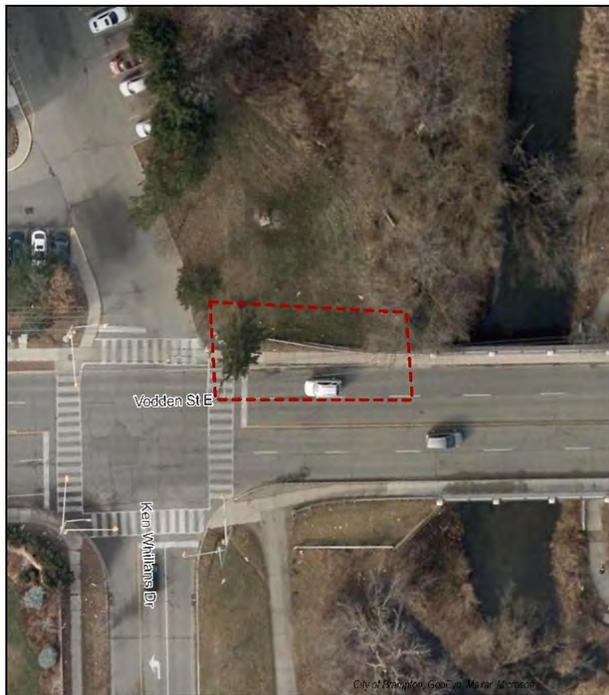
3.3 Alternative 4B: Main and Centre Street

Description	<ul style="list-style-type: none"> Follows Main St between Williams Pkwy and Vodden St, follows Vodden St to Centre St, follows Centre St to John St
Length	<ul style="list-style-type: none"> 2.78 km
Road Classification	<ul style="list-style-type: none"> Main St: Major Arterial (City) Vodden St: Collector Centre St: Collector
No. of Lanes	<ul style="list-style-type: none"> Main St: 4-5 lanes Vodden St: 4 lanes with left turn lane at signalized intersections Centre St: 2 lanes with left turn lane at signalized intersections
Curb-to-Curb	<ul style="list-style-type: none"> Main St: Minimum 13.5 m Vodden St: Minimum 13.7 m Centre St: ~ 9.0 m to 11.8 m
Signalized Intersections	<ul style="list-style-type: none"> Main St: at Williams Pkwy, English St, Vodden St Vodden St: at Ken Whillans Dr, Centre St Centre St: Church St, Queen St E
AADT	<ul style="list-style-type: none"> Main St (south of Vodden St): 28,760 (2015) Vodden St (west of Centre St): 17,130 (2015) Centre St (south of Church St): 8,139 (2018)

<p>Road Closures</p>	<ul style="list-style-type: none"> • Main St is a major arterial road providing access to major commercial properties. Access and two-way traffic can be maintained but closing lanes may result in significant delays. • Vodden St provides primary and secondary access to commercial properties and is wide enough to maintain two-way operation, though removing lanes may result in significant delays. • McCaul Street between Centre St and Sophia St requires full closure for receiving shaft. Detour on Church St, Sophia St, and Centre St required. • At John St, a full lane closure is required between Lynch St and Centre St. Detour on Queen St and Centre St required.
<p>Traffic Impacts</p>	<ul style="list-style-type: none"> • Lane reductions on Main Street and Vodden Street would effectively halve capacity. With Main Street currently operating with peak direction volumes well over the theoretical one-lane capacity, approximately 700 vph would have to divert from Main Street to parallel routes. • Both Kennedy Road to the east and McLaughlin Road to the west have some capacity remaining. Kennedy Road is expected to become congested with v/c ratios approaching or exceeding 1.0 in the peak direction of flow. McLaughlin Road is also expected to become busier with v/c ratios increase to 0.8 south of Williams Parkway. Main Street south of Vodden is expected to accommodate diversion with the v/c ratio approaching 1.0. The two-lane portion of Main Street is expected to operate at capacity (in the peak flow direction) and with v/c ratios nearing 1.0.
<p>Driveway Impacts</p>	<ul style="list-style-type: none"> • Main St: driveways generally widely spaced • Vodden St: Limited driveways located closer to Main St; fire station driveway closer to Centre St • Centre St (Vodden St to Woodward Ave): No/few driveways on west side. • Centre St (Woodward Ave to John St): Frequent driveways on both sides.
<p>Transit Impacts</p>	<ul style="list-style-type: none"> • Main St: Routes 2 and 502 (Zum) • Vodden St: Route 9 • Centre St: Route 8 • Transit would be impacted on Centre St, requiring one-way or two-way diversions. On Main St and Vodden St, delays could be caused by traffic congestion associated with narrowing the roadway.

Cycling Impacts	<ul style="list-style-type: none"> • No cycling facilities along entire route, though Google labels Vodden St and Centre St as bicycle-friendly roads. • There are trail access points along Vodden and Main that should remain accessible from the sidewalk.
Adjacent Land Uses	<ul style="list-style-type: none"> • Main St: Predominantly large-format retail. • Vodden St: Access to large format retail, parkland and a fire station. • Centre St: Predominantly residential (detached), large park (Duggan Park), and commercial uses at Queen St intersection.
Other Comments	<ul style="list-style-type: none"> •

Exhibit 3-8 - Work Zone Locations at Vodden St E & Ken Williams Dr



 Work Zone



Exhibit 3-9 – Work Zone location at Centre St N & Church St E



3.4 Alternative 4C: Main and Mill Street

Description	<ul style="list-style-type: none"> Follows Main St from Williams Pkwy to Vodden St, then residential streets via Isabella St, Rosedale Ave and Mill St (with a jog at Queen St) to Queen St.
Length	<ul style="list-style-type: none"> 2.38 km
Road Classification	<ul style="list-style-type: none"> Main St: Major Arterial (City) Vodden St: Collector Mill St (Rosedale Ave to Queen St): Collector Queen St: Major Arterial (City) All others: Local
No. of Lanes	<ul style="list-style-type: none"> Main St: 4-5 lanes Vodden St: 4 lanes Queen St: 4-5 lanes All others: 2 lanes
Curb-to-Curb	<ul style="list-style-type: none"> Main St: Minimum 13.5 m Vodden St: 13.4 m Isabella St: 7.5 m to 10.0 m Rosedale Ave: 9.5 m Mill St: 8.0 m to 10.2 m Queen St: 15.8 m
Signalized Intersections	<ul style="list-style-type: none"> Main St: at Williams Pkwy, Vodden St Mill St: at Queen St
AADT	<ul style="list-style-type: none"> Main St (south of Vodden St): 28,760 (2015) Vodden St (west of Centre St): 17,130 (2015) Isabella St: no data Rosedale Ave: no data Mill St: no data Queen St (east of Mill St): 21,700 (2015)

<p>Road Closures</p>	<ul style="list-style-type: none"> • Likely requires closure of one lane per direction. Main St is a major arterial road providing access to major commercial properties. Access and two-way traffic can be maintained but closing lanes may result in significant delays. • Vodden St provides secondary access to commercial properties and two-way traffic can likely be maintained. Narrowing the roadway may result in delays to traffic. • Isabella St and Vodden St – shaft location blocks one westbound lane plus northbound lane on Isabella Street. Tight corners around workzone may require turning restrictions. Isabelle Street and Rosedale – full closure of Isabella Street south of Rosedale. Detours via Lorne Ave and David St. Eastbound closure of Rosedale at Isabella Street. • Mills Street and Rosedale – full closure of Mill Street at Rosedale, closure of EB lane at Rosedale. • Limited potential for maintaining one-way access along short segments < 10.0 m. • Queen St is a major arterial road with major bus routes. Partial closures may result in significant delays to transit and general traffic.
<p>Traffic Impacts</p>	<ul style="list-style-type: none"> • Lane reductions on Main Street and Vodden Street would effectively halve capacity. With Main Street currently operating with peak direction volumes well over the theoretical one-lane capacity, approximately 600 vph would have to divert from Main Street. Approximately 600 vpl is expected to divert from Vodden Street. • Kennedy Road between Williams Parkway and Queen Street is expected to be congested with v/c ratio reaching 1.0, McLaughlin Road between Williams Parkway and Queen Street is also expected to see congestions as v/c ratios increase to .0.9 and even 1.0 at certain sections. Centre Street has limited remaining capacity to accommodate diversions and is expected to have a v/c approaching 0.9. The two-lane portion of Main Street would be expected to operate at capacity (in the peak flow direction) with v/c ratio reaching 1.0 and even exceeding in certain sections. • At Vodden St and Isabella St as shown in Exhibit 3-10, the southbound traffic needs to be operating only with one, one lane needs to be closed in order to accommodate the work zone, however two way traffic can be maintained. • At Rosedale St and Isabella St as shown in Exhibit 3-11, the eastbound traffic on Rosedale St needs to be closed and full closure on the Isabella St needs to be maintained in order to accommodate the work zone. This would have a high impact on to the traffic.

Driveway Impacts	<ul style="list-style-type: none"> • Main St: Driveways generally widely spaced. • Vodden St: Two commercial driveways on single block along route. • Isabella St (Vodden St to Lorne Ave): No driveways on west side, one driveway on east side. • Isabella St (Lorne Ave to Rosedale Ave): Frequent driveways on both sides. • Rosedale Ave: Frequent driveways on both sides. • Mill St (Rosedale Ave to Joseph St): Frequent driveways on both sides. • Mill St (Joseph St to Railroad St): Commercial driveways on west side and GO Transit parking lot access on east side. • Mill St (Railroad St to Queen St): Frequent driveways on both sides, except short segment immediately south of Railroad St on the west side with no driveways.
Transit Impacts	<ul style="list-style-type: none"> • Main St: Routes 2 and 502 (Zum) • Vodden St: Route 9 • Queen St has several bus routes, including Zum, that would be impacted by the short segment at the Mill St jog, though a full diversion is not likely required. • Remainder of route does not have transit but does cross Route 52 at Railroad St. Brampton GO Transit station is located directly east of the corridor north of Railroad St. Potential impacts to the rail corridor are a major risk.
Cycling Impacts	<ul style="list-style-type: none"> • No cycling facilities along entire route.
Adjacent Land Uses	<ul style="list-style-type: none"> • Main St: Predominantly large-format retail. • Vodden St: Access to commercial properties. • Isabella St, Rosedale Ave and Mill St: Residential except immediately north of Railroad St, where the GO Transit lot can be accessed and a commercial building to the west.
Other Comments	<ul style="list-style-type: none"> • This option includes an at-grade railway crossing north of Railroad St, west of the GO Transit station, where frequent commuter rail trains pass.

Exhibit 3-10 - Work Zone locations at Vodden St E & Isabella St



Exhibit 3-11 - Work Zone location at Rosedale Ave W & Isabella St



Exhibit 3-12 - Work Zone Locations at Rosedale Ave W



3.5 Alternative 4D: Main and Centre with Church Street

Description	<ul style="list-style-type: none"> • Follows Main St between Williams Pkwy and Church St, follows Church St to Centre St, follows Centre St to John St
Length	<ul style="list-style-type: none"> • 2.71 km
Road Classification	<ul style="list-style-type: none"> • Main St: Major Arterial (City) • Church St: Collector • Centre St: Collector
No. of Lanes	<ul style="list-style-type: none"> • Main St: 4-5 lanes • Church St: 2 lanes with left turn lanes • Centre St: 2 lanes with left turn lane at signalized intersections
Curb-to-Curb	<ul style="list-style-type: none"> • Main St: Minimum 12.9 m • Church St: Minimum 8.4 m • Centre St: Minimum 9.8m
Signalized Intersections	<ul style="list-style-type: none"> • Main St: at Williams Pkwy, English St, Vodden St, Rosedale Ave/Sproule Dr, Church St • Church St: at Centre St • Centre St: Queen St E
AADT	<ul style="list-style-type: none"> • Main St (south of Vodden St): 28,760 (2015) • Church St (west of Centre St): 8,050 (2015) • Centre St (south of Church St): 8,139 (2018)

<p>Road Closures</p>	<ul style="list-style-type: none"> • Likely requires closure of one lane per direction. Main St is a major arterial road providing access to major commercial properties. Access and two-way traffic can be maintained but closing lanes may result in significant delays. • Church St is a collector road that provides access to residential properties, including large apartment towers, a church and other small commercial properties. A full closure as shown in Exhibit 3-9 will be required, but limited local access will need to be maintained, most notably to the apartment building at 58 Church St. • Centre St south of Church St would require a full closure (with limited local access). Detours would be relatively short, via Scott St, Nelson St, Wilson St, and/or Beech St. Detours during construction works closer to Main St would follow Alexander St and Union St. East of Union St, significant detours would be required via Vodden St, Queen St or Ken Whillans Dr. • Full closure of Church St and Centre St, collector roads, would divert over 8,000 vehicles per average weekday and have significant impacts to transit on Centre St (Route 8). • At John St, a full lane closure is required between Lynch St and Centre St. Detour on Queen St and Centre St required.
<p>Traffic Impacts</p>	<ul style="list-style-type: none"> • Lane on Main Street would effectively halve its capacity, and with it currently operating with peak direction flows well over the theoretical one-lane capacity, approximately 700 vph would have to divert to parallel routes. The closure of Center Street south of Vodden Street is expected to divert approximately 750 vpl (in the direction of peak flow). • Neither Kennedy Road to the east or McLaughlin Road to the west are equipped to handle increased traffic volumes as they are already operating at capacity near Queen Street, while Centre Street north of Vodden Street has little capacity remaining. Volumes divert further east to Rutherford Road then back on Queen Street. Kennedy Road between Williams Parkway and Queen Street is expected to be congested with v/c ratio reaching or exceeding 1.0. The two-lane portion of Main Street would be expected to operate at capacity (in the peak flow direction) with v/c ratio reaching 1.0 . • At Centre St and Church St E as shown in Exhibit 3-9, the southbound traffic needs to be closed in order to accommodate the work zone. This would have a high impact on to the traffic. • Full road closure required on John St only at Centre St as shown in Exhibit 3-5. This would have significant impact on to the traffic at Centre St. However it is safe to maintain two-way traffic.

Driveway Impacts	<ul style="list-style-type: none"> • Main St: driveways generally widely spaced, more closely spaced south of Vodden St. • Church St: Frequent driveways on both sides. • Centre St: Frequent driveways on both sides.
Transit Impacts	<ul style="list-style-type: none"> • Main St: Route 2 and 502 (Zum) • Centre St: Route 8 • No transit on Church St. • Transit would be impacted on Centre St, requiring one-way or two-way diversions.
Cycling Impacts	<ul style="list-style-type: none"> • No cycling facilities along entire route, though Google labels Church St and Centre St as bicycle-friendly roads. • There are trail access points along Church St and Main St that should remain accessible from the sidewalk.
Adjacent Land Uses	<ul style="list-style-type: none"> • Main St: Predominantly large-format retail north of Vodden St. South of Vodden St is mix of residential and commercial uses in old residential buildings. • Church St: Residential uses (low and high densities structures), church and park. • Centre St: Predominantly residential (detached), with commercial uses at Queen St intersection.
Other Comments	

3.6 Alternative 5: West Neighborhood

Description	<ul style="list-style-type: none"> • Follows residential streets from Williams Pkwy via Murray St, Garden Ave, Bagshot Gt, Archibald St, Murray St, English St, Isabella St, Rosedale Ave and Mill St (with a jog at Queen St) to Queen St.
Length	<ul style="list-style-type: none"> • 2.60 km
Road Classification	<ul style="list-style-type: none"> • Mill St (Rosedale Ave to Queen St): Collector • Queen St: Major Arterial (City) • All others: Local
No. of Lanes	<ul style="list-style-type: none"> • Queen St: 4-5 lanes • All others: 2 lanes
Curb-to-Curb	<ul style="list-style-type: none"> • Between 8.3 m and 10.6 m
Signalized Intersections	<ul style="list-style-type: none"> • Murray St: at Williams Pkwy • Mill St: at Queen St

<p>AADT</p>	<ul style="list-style-type: none"> • Queen St (east of Mill St): 21,700 (2015) • Local streets: No data
<p>Road Closures</p>	<ul style="list-style-type: none"> • Likely requires closure of one lane per direction. Main St is a major arterial road providing access to major commercial properties. Access and two-way traffic can be maintained but closing lanes may result in significant delays. • Corridor would require full closures at work locations with limited potential along short segments for maintaining one-way access where width allows. • Maintaining local access will be important, but a challenge given narrow existing roadways. • The West Neighborhood has a disconnected grid system. Detours would be significant and lengthy. However, as all streets are local roads, traffic volumes are low and is mostly destined for the residential properties along the street. • Queen St is a major arterial road with major bus routes. Partial closures may result in significant delays to transit and general traffic. • Isabella St and Vodden St – shaft location blocks one westbound lane plus northbound lane on Isabella Street. Tight corners around workzone may require turning restrictions. Isabelle Street and Rosedale – full closure of Isabella Street south of Rosedale. Detours via Lorne Ave and David St. Eastbound closure of Rosedale at Isabella Street.
<p>Traffic Impacts</p>	<ul style="list-style-type: none"> • At Rosedale St and Isabella St as shown in Exhibit 3-10, the eastbound traffic on Rosedale St needs to be closed and full closure on the Isabella St needs to be maintained in order to accommodate the workzone. This would have a high impact on to the traffic. • At Vodden St and Isabella St as shown in Exhibit 3-10, the southbound traffic needs to be operating only with one, one lane needs to be closed in order to accommodate the work zone, however two way traffic can be maintained.

Driveway Impacts	<ul style="list-style-type: none"> • Majority of route features frequent driveways on both sides. • Short segments of Murray St, Bagshot Gt. • Mill St provides access to GO Transit parking lot south of Church St. • Vodden St: Two commercial driveways on single block along route. • Isabella St (Vodden St to Lorne Ave): No driveways on west side, one driveway on east side. • Isabella St (Lorne Ave to Rosedale Ave): Frequent driveways on both sides. • Rosedale Ave: Frequent driveways on both sides.
Transit Impacts	<ul style="list-style-type: none"> • Queen St has several bus routes, including Zum, that would be impacted by the short segment at the Mill St jog, though a full diversion is not likely required. • Remainder of route does not have transit, but does cross several routes, so care would be needed at intersections with Williams Pkwy, Vodden St and Railroad St to maintain transit crossing the work zone. • Vodden St: Route 9 • Brampton GO Transit station is located directly east of the corridor north of Railroad St. Potential impacts to the rail corridor are a major risk.
Cycling Impacts	<ul style="list-style-type: none"> • No cycling facilities along entire route.
Adjacent Land Uses	<ul style="list-style-type: none"> • Predominantly residential, with back road access to large grocery store in one location. • GO Transit parking lot is accessed from corridor, though alternative entrances and exits are available. • Vodden St: Access to commercial properties. • Isabella St, Rosedale Ave and Mill St: Residential except immediately north of Railroad St, where the GO Transit lot can be accessed and a commercial building to the west.
Other Comments	<ul style="list-style-type: none"> • This option includes an at-grade railway crossing north of Railroad St, west of the GO Transit station, where frequent commuter rail trains pass.

4 Summary of Preliminary Rankings

A preliminary ranking of alternatives based on the Section 3 discussion is provided in Exhibit 4.1. The following provides some notes on current scoring methodology:

- Traffic impacts are rated based on the amount of traffic diversions anticipated from the closure, and the amount of capacity remaining on major parallel routes to accommodate these diversions.
- Transit impacts are rated based on the number and length of bus routes impacted, with impacts to higher order transit (e.g. Züm routes) rated as being more severe. Proximity of road closures to GO Station accesses also factored into this rating.
- Local access and cycling impacts were rated as a combined category factoring in adjacent land uses, driveway impacts, and required closure of bike routes or impacts to cycling friendly streets.

According to the preliminary rankings when factoring in equal weighting of criteria, Alternative 2A is rated as having the lowest overall impact. There are several locations and details to resolve with Alternative 2A that may affect the recommendation:

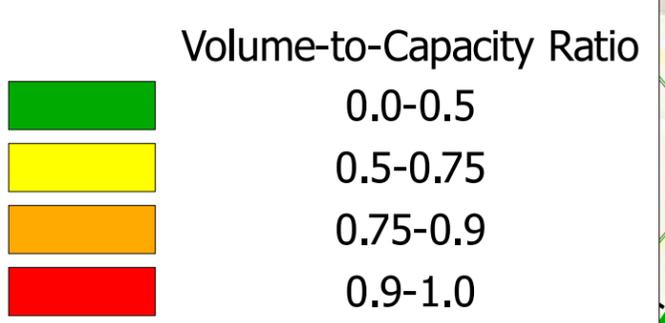
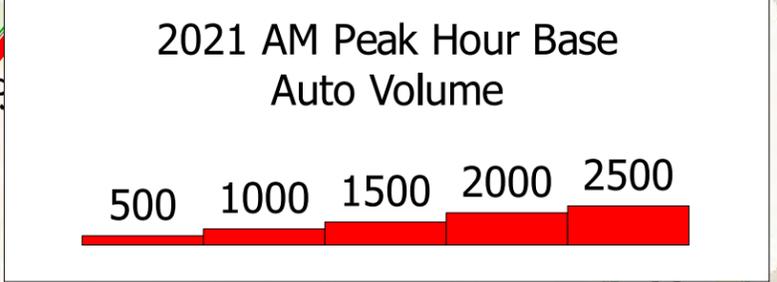
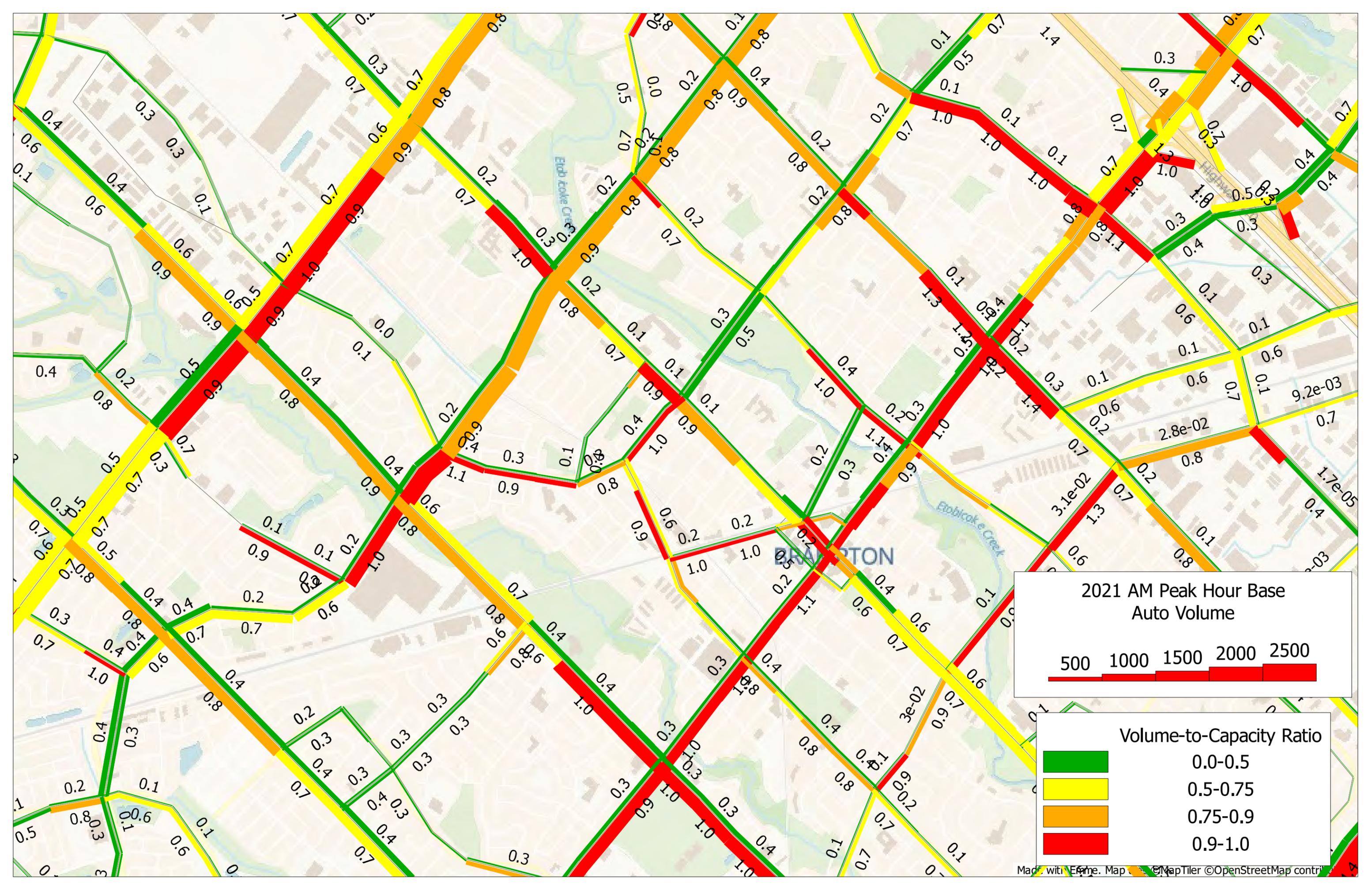
- At Williams Parkway, the workzone is shown to occupy the southeast corner of the intersection. This will have a significant impact on signal hardware, necessitating temporary signals. The workzone will interfere with northbound right turns and potentially southbound left turns, requiring restrictions and detours.
- Another significant impact is the full closure of Centre Street north of Tolton Drive. This location is adjacent to a school. There appears to be a viable detour route via Skelton Boulevard, however this needs further coordination during design with the City and Brampton Transit, as Centre Street is a bus route.
- Alternative 2A has full closures of local side streets including McCaul Street and John Street, east of Centre Street. Both of these streets are local and appear to have viable alternatives for residents and businesses. John Street is near Peel Memorial Hospital and provides signalized access to Queen Street via Centre Street.

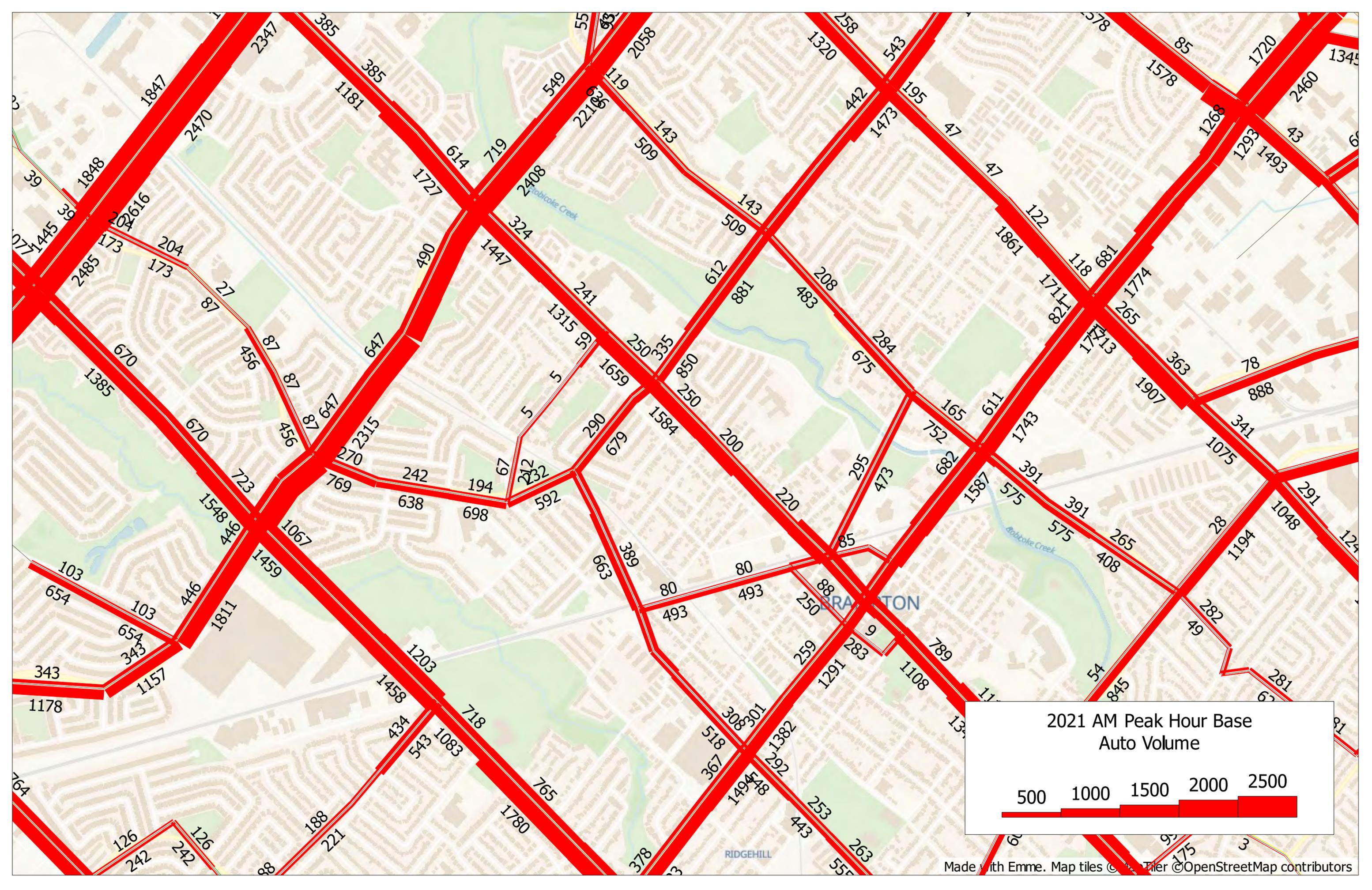
These preliminary rankings are provided for discussion purposes, and may be subject to change following more detailed analysis and/or refinement of scoring methodology.

Exhibit 4-1: Preliminary Rankings (For Discussion Purposes Only)

Criteria	Alternative					
	2A: Micro Tunnel Centre St	2B: Centre St, Beech St	4B: Main St, Centre St	4C: Main St & Mill St	4D: Main, Centre St, Church St	5: West Neighborhood
Traffic Impacts	Low	Moderate	High	High	High	Low
Transit Impacts	Low	Moderate	High	Moderate	High	Low
Local Access & Cycling Impacts	Low	Low	Moderate	Low	Moderate	High
Rank	1	2	4	3	4	2

Appendix A-: EMME Outputs





2021 AM Peak Hour Base
Auto Volume



