Draft Study Design Report

City of Brantford
West Brant Access Route and
Colborne Street West Improvements
Environmental Assessment Studies

February 2026, Revision 1

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Revision History

Revision	Date	Description of Change

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1.0 INTRODUCTION

The City of Brantford has initiated two Environmental Assessment (EA) Studies. The first EA Study is the West Brant Access Route extending from Oak Park Road to Colborne Street West and is the recommencement of the Oak Park Road Extension Environmental Assessment Study. The second EA, Colborne Street West will identify and evaluate geometric and operational improvements to Colborne Street West between County Road 7 and D'Aubigny Road. These studies will be carried out as Schedule C EAs under the Municipal Class EA (MCEA) (2024). The road projects are being undertaken as separate Class EA studies but are proceeding concurrently due to their proximity and interdependence. The "EA Study" in this document refers to both roads under study. The City of Brantford will be the Proponent for the overall study.

The EA Study will document the transportation need and establish the facility form and function of the corridors to accommodate existing and future traffic demands in the City. All roadway alternatives will consider the operation and safety of all modes of transportation including passenger and commercial vehicles, pedestrians and cyclists. The Study will identify any property requirements needed and define a long-term property protection plan.

The road infrastructure will be planned to accommodate the future population and employment growth targets in the City that are identified in the 2020 Provincial Policy Statement. The Provincial Policy Statement enables municipalities to plan for future population growth and development. The current Places to Grow legislation is requiring municipalities to plan and achieve population and employment levels established by the Province of Ontario to 2051. The expansion areas (Employment Lands) to the north of the Study Area and residential areas to the south are part of the City planning for these targets.

1.1 Study Area

The West Brant Access Route under study is the extension of a new arterial road corridor from Hardy Road southerly approximately 3.4 km to Colborne Street West. The Colborne Street West area under study extends from County Road 7 easterly to D'Aubigny Road, approximately 1.2 km. The Study Area is illustrated on **Figure 1**. The Study Area boundaries extend 200 m on either side of the anticipated alignment alternatives under examination.

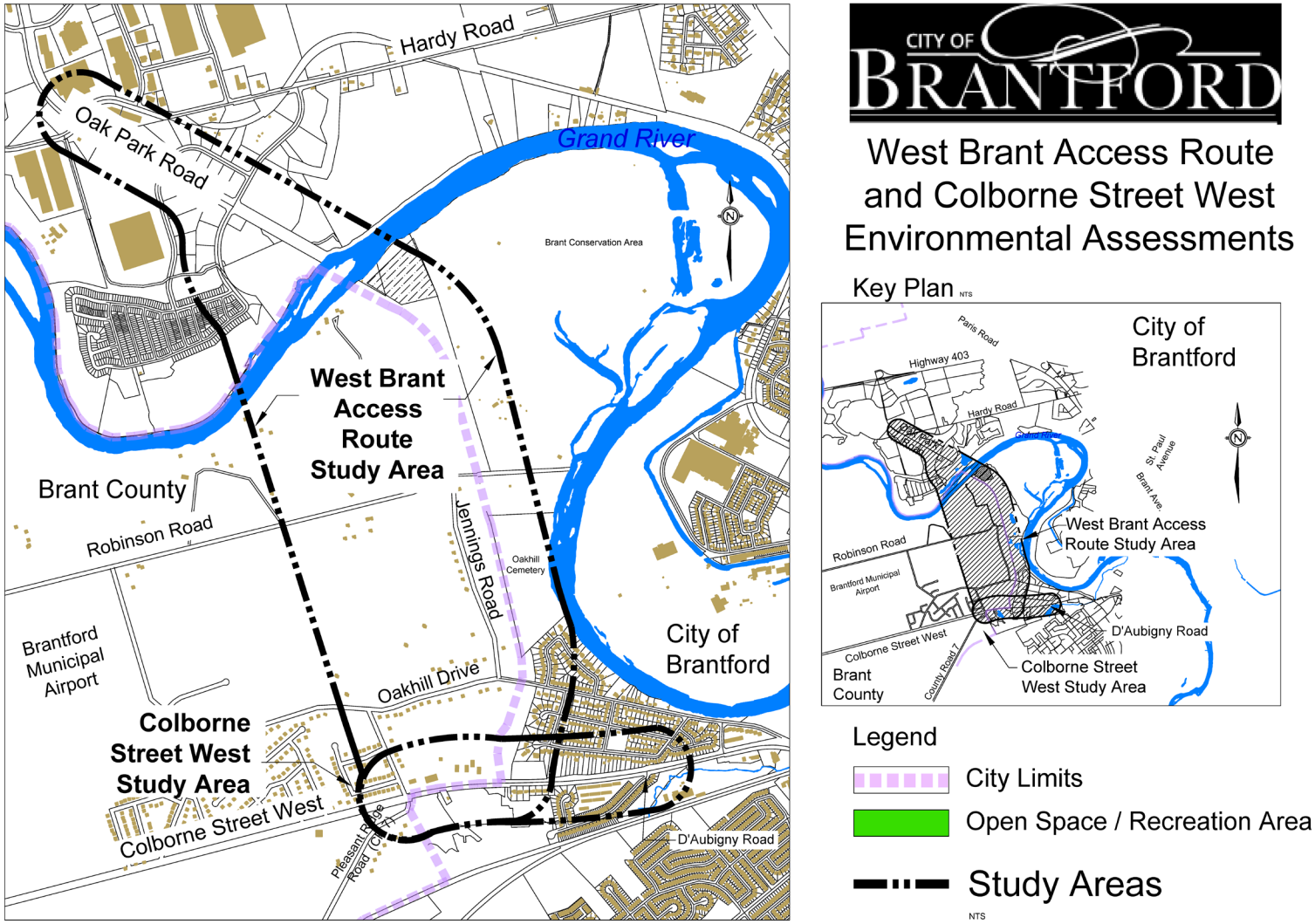


Figure 1: Study Areas

1.2 Study Design Report Purpose

This Study Design Report (SDR) is the initial consultation document that outlines EA process commitments leading to the submission of an Environmental Study Report (ESR). The distribution of this report is intended to solicit early input on the planning process. Following the next public meeting, the SDR will be finalized based on input received and will be posted on the City of Brantford's website as the Final SDR.

The purpose of this report is to:

- Define the need and justification of the project.
- Identify Planning Alternatives (Alternatives to the Undertaking) as described in **Section 6.0**.
- Describe the MCEA process.
- Solicit input from the public, agencies and stakeholders.
- Define the scope of work that will be undertaken as part of the study.

Based on the range of anticipated alternatives, their effects and capital costs of the project, the study is being initiated as a Municipal Schedule C study, as defined by the MCEA (Amended 2024), for the West Brant Access Route and Colborne Street West Improvements.

2.0 STUDY PROCESS

This Study, as noted, will be conducted as concurrent Schedule C EA Studies for the West Brant Access Route and Colborne Street West meeting the requirements of the MCEA (Amended 2024). The project will culminate in the filing of an Environmental Study Report for both studies.

This Study will meet all requirements under the MCEA process by establishing the need and justification for the project, considering all reasonable alternatives with acceptable effects on the natural, social and cultural environments, and proactively involving the public in defining a Recommended Plan.

2.1 Guiding Principles

A Class EA is an approved planning document that defines groups of projects and activities and the EA processes which the City of Brantford is committed to follow. The process provides a decision-making framework for effectively meeting the requirements of the *Environmental Assessment Act* (EAA).

The study approach reflects the following Ministry of the Environment, Conservation and Parks (MECP) guiding principles for EA studies which are found in the MCEA (Amended 2024):

- Consider all reasonable alternatives.
- Provide a comprehensive assessment of the environment.
- Utilize a systematic and traceable evaluation of net effects.
- Undertake a comprehensive public consultation program.
- Provide clear and concise documentation of the decision-making process and the public consultation program.
- 30-day public review.
- Environmental clearance processes.

The approved Class EA process is extensive, with significant consultation and outreach to agencies, the public and Indigenous Peoples.

2.2 Environmental Assessment Act Requirements

The EA Study will follow the Class EA process, thereby meeting the requirements of the Municipal Engineer Association's MCEA (Amended 2024), which at the time of writing this report is under review and may modify the study process as the study evolves. The Study is being initiated as a Schedule C EA for both studies based on the range on anticipated effects and capital cost of the project.

This study will be a continuation of the Oak Park Road Extension (OPRE) EA in 2021 and will include the third Public Information Centre (PIC) and conclude with the preparation of an ESR that will document both studies. Following this approach, the public will be provided with a 30-day review period at the Study conclusion.

As the initial step in the Class EA process, this SDR is being made available to the public. The public and agencies will have this additional opportunity to comment on the proposed approach.

2.3 EA Phases

A breakdown of tasks, by phase, for a Schedule C study is illustrated in the following MCEA Processes shown in **Figure 2**.

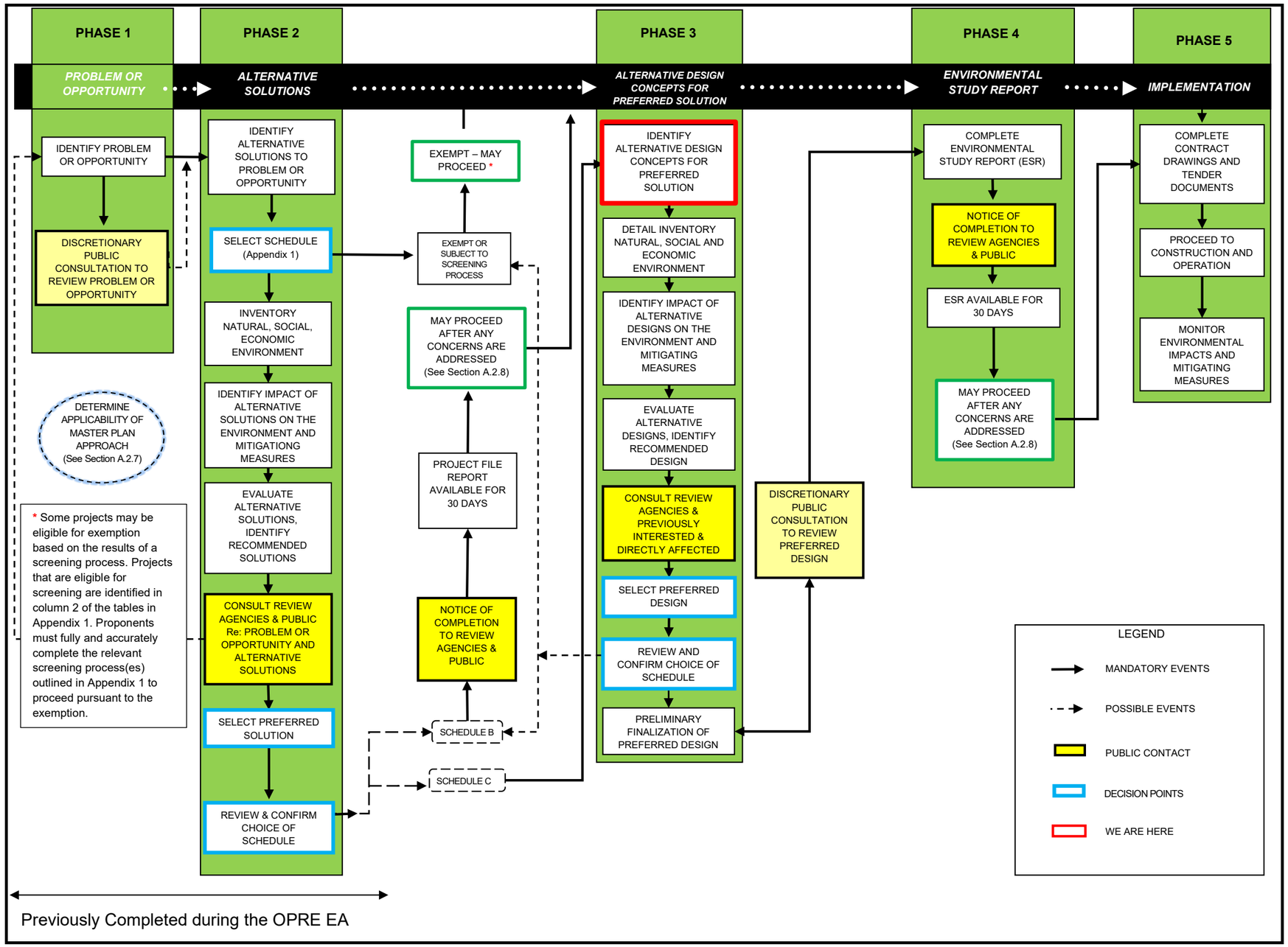


Figure 2: Municipal Class EA Process

3.0 STUDY APPROACH

Over the course of the study, input will be solicited from the public, stakeholders, agencies and Indigenous Communities. Input will be gathered through meetings, the City's website, and discussions/communication with interested parties. The approach is to work collaboratively with interested parties to address issues and reach an agreement on the Recommended Plan.

3.1 Consultation Program

The Consultation Program identifies the opportunities for the Study Team to discuss the study with the public/stakeholders, agencies and Indigenous Communities. The Study Team use several processes to engage with interested parties and provide an opportunity for input. The Consultation Program will include:

- Notices published in local newspapers, issued as media releases and directly mailed/emailed to the study mailing list at key points over the course of the study including:
    - Notice of Study Recommencement/PIC
    - Notice of Study Completion to advertise the start of the 30-day public review period of the ESR
- Communication and coordination with agencies/consultants to obtain background information for input into the study and to obtain required approvals/permits.
- Study updates on the project webpage located on the City of Brantford's website.
- Meetings with affected property owners, local residents, businesses and Indigenous Communities.

3.2 Public Consultation

The study will use several techniques to proactively involve the public including a PIC and meetings with external stakeholders. Meetings will be organized with the stakeholders and may include adjacent landowners and other affected businesses or associations. These meetings will include representatives from the City of Brantford and BTE.

The PIC will provide a summary of the previously completed Phases 1 and 2 (including problem and opportunity statements and the alternative solutions) alternative design concepts, environmental inventories, traffic analysis, a finalized evaluation of design alternatives, the Technically Preferred Alternative(s) (TPA), the Technically Preferred Plan (TPP) and mitigation measures.

The public meeting will be an integral component of the study - seeking input and comments from the public and stakeholders. There will be an opportunity for the public to comment on the study at any time. All information will be collected in accordance with the *Municipal Freedom of Information and Protection of Privacy Act* (2009). Anyone interested in the study will be added to the study mailing list upon request.

3.3 Agency Consultation

Agencies/ministries will be contacted at the start of the study to inform them of Study Commencement and to circulate this SDR. As the study progresses, meetings will be held with select agencies (as required) to review the study and obtain approvals in accordance with the MCEA. Agencies will include:

- Ministry of the Environment Conservation and Parks
- Ministry of Tourism, Culture and Sport
- Ministry of Natural Resources
- Ministry of Agriculture, Food and Rural Affairs
- Ministry of Citizenship and Multiculturalism
- Ministry of Indigenous Affairs
- Crown-Indigenous Relations and Northern Affairs Canada
- Ministry of Community and Social Services
- Ministry of Municipal Affairs and Housing
- Ministry of Energy, Northern Development and Mines
- Ministry of Infrastructure
- Ministry of Community Safety and Correctional Services
- Ontario Provincial Police and Emergency Services

3.4 Indigenous Consultation

The City of Brantford as an entity of the Province (Crown) has a constitutional duty to consult with Indigenous Communities with traditional land use or interests within the Study Area. Clear, effective and timely consultation with Indigenous Communities is essential to ensure the success of the project. This will include:

- Identification of interested/affected Indigenous Communities early in the decision-making process.
- Distribution and notification of relevant project-related information, including the MCEA process, environmental inventories and potential alternatives/impacts.
- Early identification of concerns/issues.
- Understanding of potential risk and impacts of the Study on Indigenous Peoples interests.
- Development of mutually acceptable solutions involving Indigenous Communities.
- Ensuring regulatory compliance throughout the Class EA process.

Indigenous Communities will be consulted throughout the duration of the Study and presentations will be made at their request. It is acknowledged that the Indigenous Peoples are Rights Holders.

4.0 NEED AND JUSTIFICATION

4.1 Background

Since 1981 the extension of Oak Park Road from Hardy Road South to Colborne Street West has been identified and planned. It has been identified in the City's Official Plan and Transportation Master Plans (TMPs), the Oak Park Road Extension Feasibility Study and had recently been initiated as a Schedule C EA completing Phase 1 and 2 of the Class EA in the Summary Report for the Oak Park Road Extension (OPRE), 2021. The purpose of the OPRE was to address projected road network capacity deficiencies across the Grand River due to long-term population and employment growth, significantly relieve demand on the Paris Road and Brant Avenue corridors and improve connectivity of West Brant communities with the Northwest Industrial Area and Highway 403.

4.2 Problem and Opportunity Statement

The need for roadway improvements in Southwest Brantford were identified in the 2014 TMP Update, the 2020 TMP Update and a Strategic Review in 2023 of transportation issues in the west half of the City. Defining the future road rights-of-way, intersection locations and infrastructure alignments will provide certainty for developers to plan development. The Designated Greenfield Area contains all of the lands expected to contribute to the density targets identified in the Official Plan to the year 2051.The expansion areas are illustrated in **Figure 3**.

4.2.1 West Brant Access Route

Road network improvements are required within the western sector of the City of Brantford to accommodate planned/proposed development north of the Grand River, access to Highway 403 and the bordering County of Brant. This planning is required to accommodate the expansion areas in the Study Area meeting the legislative requirements from the Province for the Places to Grow 2051. The 2051 Population and Employment levels for the City of Brantford are 165,000 and 80,000 jobs respectively. To support the expansion areas road infrastructure are being planned. The need and justification for these projects is driven by legislation by the Province of Ontario.

To serve growth areas within the west half of the City of Brantford, the West Brant Access Route is proposed to address the need for increased roadway capacity crossing the Grand River and to connect the southwest development area to the northwest industrial park.

4.2.2 Colborne Street West

Colborne Street West is a gateway to the City of Brantford. It feeds the only two crossings of the Grand River that currently exist on the west side of the city, south of Highway 403. As a gateway to downtown Brantford corridor improvements will be needed:

- To accommodate increased traffic resulting from development growth in the west end of the City and in Brant County,
- To provide access to development along the corridor, and
- To better accommodate cyclists crossing the Grand River.

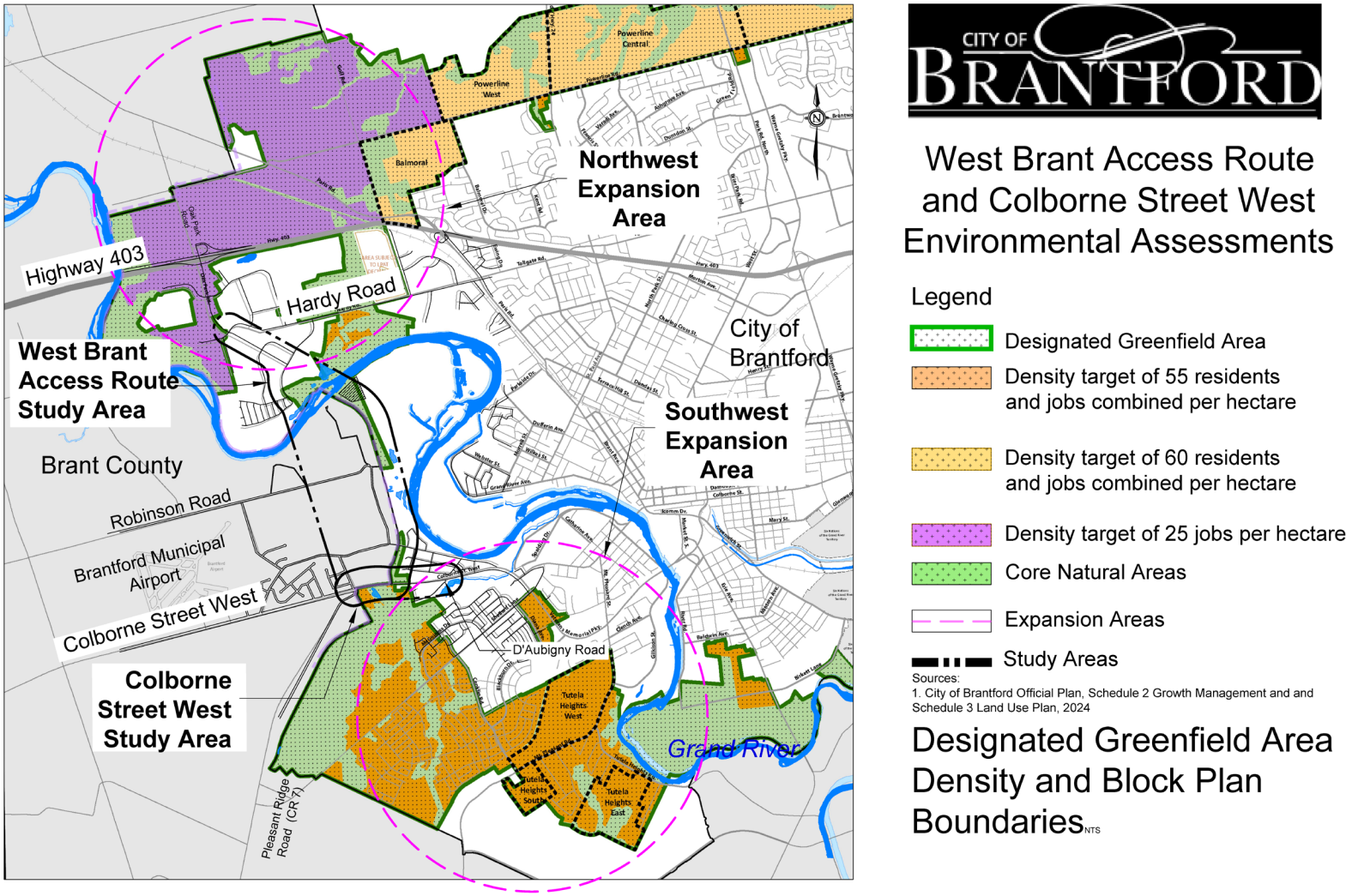


Figure 3: City of Brantford Expansion Areas

4.3 Study Considerations

Key considerations, issues, constraints and commitments within the Study Area are described in the following section. Preliminary constraints of the Study Area are shown in **Figure 4.**

Transportation - Improvements are required to: increase capacity and improve safety while accommodating planned growth in the City of Brantford. Modelling from the TMP- 2051 Addendum indicates that by 2051 the West Brant Access Route is expected to carry over 13,000 vehicles daily and operate at a favourable volume to capacity (v/c) ratio of approximately 0.50 under the recommended infrastructure scenario. Colborne Street West is projected to carry up to 14,000 vehicles per day by 2051 and approach capacity in the PM peak eastbound direction, reinforcing the need for widening and intersection upgrades. The Traffic Background Review and Justification of Need Memo is provided in **Appendix A**.

Both corridors will support improved connectivity between residential areas, employment lands, and key destinations such as Highway 403, while also relieving traffic demand on constrained links like Brant Avenue and the Lorne Bridge. The proposed major arterial road and improvements to Colborne Street will accommodate traffic travelling to/from the new employment lands and destinations such as the southern sectors of Brantford, the Brantford Municipal Airport and surrounding County of Brant.

Land Use – The northern section of the Study Area, north of the Grand River, has residential and employment lands under development. The central section, between the Grand River and Oakhill Cemetery, is generally agricultural land, refer to **Photo 1**, with natural areas along the Grand River and the municipal boundary. Institutional uses include the Brant Conservation Area, operated by the Grand River Conservation Authority (GRCA), and Oak Hill Cemetery, operated by the City. A linear recreational trail system, known as the Oak Hill Trail or the Gordon Glaves Memorial Trail follows the West Brant Access Route conceptual eastern alignment. See **Photo 2** for an example of the recreational uses. The southern section of the Study Area is primarily residential development with a wooded escarpment located along the north side of Colborne Street West. There are a few industrial and commercial land uses along Colborne Street West.

Natural Environment - The majority of the landscape along the east edge and along the Grand River within the Study Area is in a natural state and identified as Core Natural areas in the Official Plan. Adjacent lands in Brant County are primarily agricultural with hedge rows along the lot lines. The Grand River is the primary natural feature in the Study Area and will require investigation and impact assessment.

Consultation and Engagement - Communication and consultation with the public and stakeholders will be a key component of the EA process, providing an opportunity for input, information exchange and identification of issues/desires.

The study will also take a proactive approach to consultation with Indigenous Communities, including Six Nations of the Grand River, Mississaugas of the Credit First Nation, and those identified by MECP.

Utilities - The utilities are primarily located within the existing road rights-of-way. No major utility corridors are noted within the Study Area.

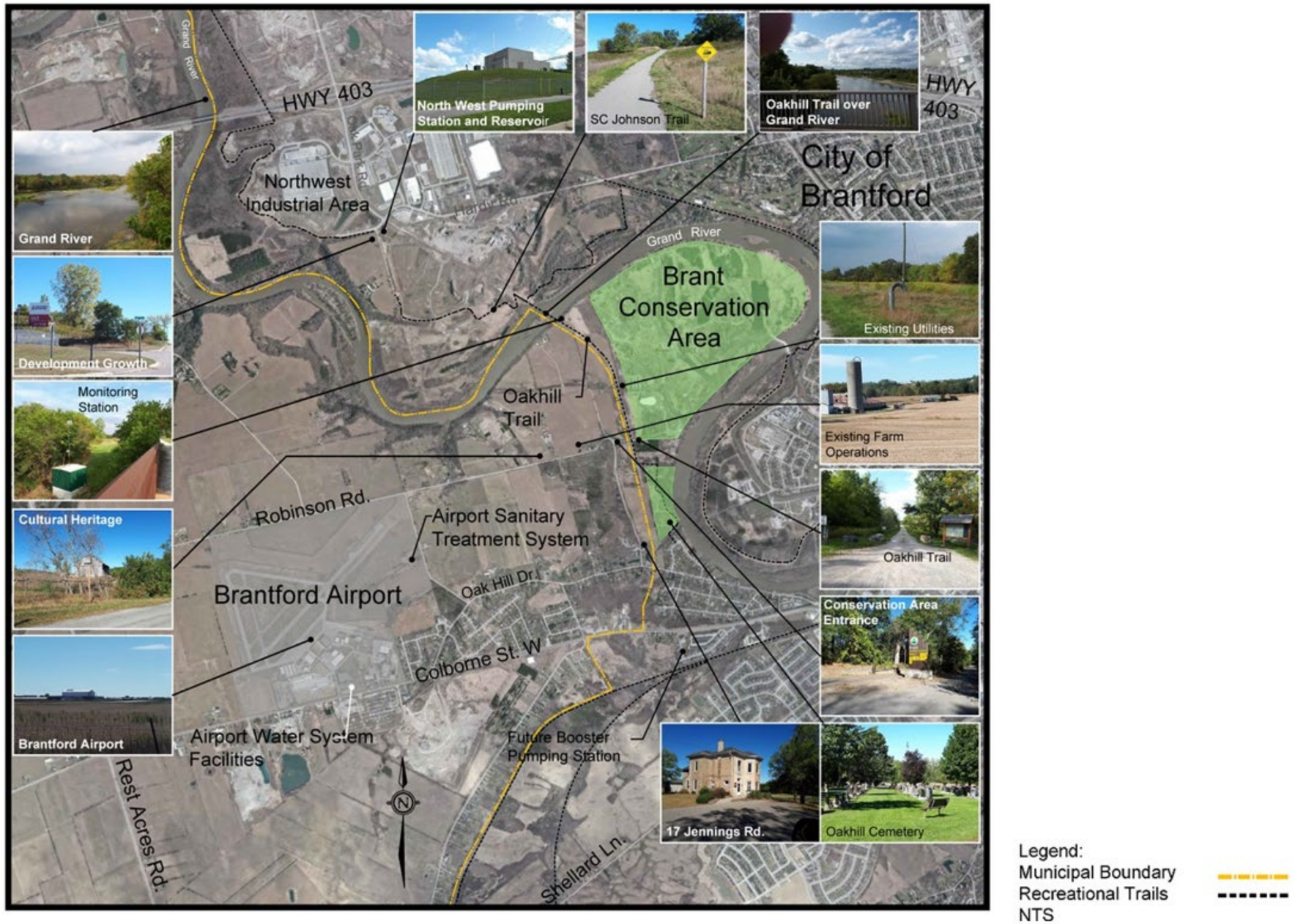


Figure 4: Preliminary Constraints

Photo 1: Agricultural Land Use

Photo 2: Recreational Use

5.0 BACKGROUND

The City of Brantford is planning for increased development growth which will generate an increase in traffic demands. Improvements are required to accommodate the safe and efficient movement of all modes of transportation (i.e. vehicles, pedestrians and cyclists). A West Brant Access Route (extension of Oak Park Road) has been proposed to address projected capacity deficiencies crossing the Grand River while providing relief for traffic operations through the downtown core, predominantly to the Paris Road/ Brant Avenue corridor with an alternative connection linking the southwest development area to the northwest industrial area and Highway 403. These issues were identified in the TMP Update.

Major corridors within the Study Area include:

- **Oak Park Road** (north of Hardy Road): The 2020 TMP Update – 2051 Addendum identifies the future widening of Oak Park Road to 4-lanes from Powerline Road to Highway 403 and from Fen Ridge Court to Hardy Road. The goal is to enhance access to Highway 403 and surrounding industrial area. Oak Park Road will be a minor arterial within the City's roadway network.
- **Hardy Road:** Hardy Road is an east-west 2-lane minor arterial. The City's TMP identifies Transportation System Management Improvements (through urbanization, parking restrictions, and operational improvements, including roundabout implementation) on Hardy Road in conjunction with existing bike lanes.
- **Highway 403:** Highway 403 is a major freeway extending from Toronto to Woodstock. It is a major link across Southwest Ontario for the movement of goods, refer to **Figure 3**.
- **Colborne Street West**: Colborne Street West is a 2 to 3-lane Major Arterial in the Study Area. The TMP identifies widening to 4-lanes from County Road 7 (Pleasant Ridge Road) to D'Aubigny Road (or the existing 4-lanes). The widening will connect traffic from the south and west into the city's Downtown. This roadway also provides access to the Brantford Municipal Airport west of the City.

5.1 Reference Studies

Background studies have been completed in the Study Area to document the proposed land uses and planned improvements to the transportation network. These reports are summarized in the following sections.

5.1.1 City of Brantford Official Plan

The City of Brantford Official Plan[1] is a comprehensive planning document that identifies long-term goals and objectives to guide the development of the city. The Official Plan contains specific land use policies for settlement areas, agricultural areas and the protection of the natural environment. The city's transportation policies include all modes of travel including pedestrian and bicycle paths. The City's Official Plan encourages safe, energy efficient and economical movement of people and goods; identifies a hierarchy of roads based on the TMP; documents appropriate right-of-way widths; promotes active transportation; and transit services throughout; identifies corridors to protect for future

[1] City of Brantford Official Plan April 2024

transportation, transit and other infrastructure; identifies policies to protect railway and air services. The Official Plan designations are shown on **Figure 5**.

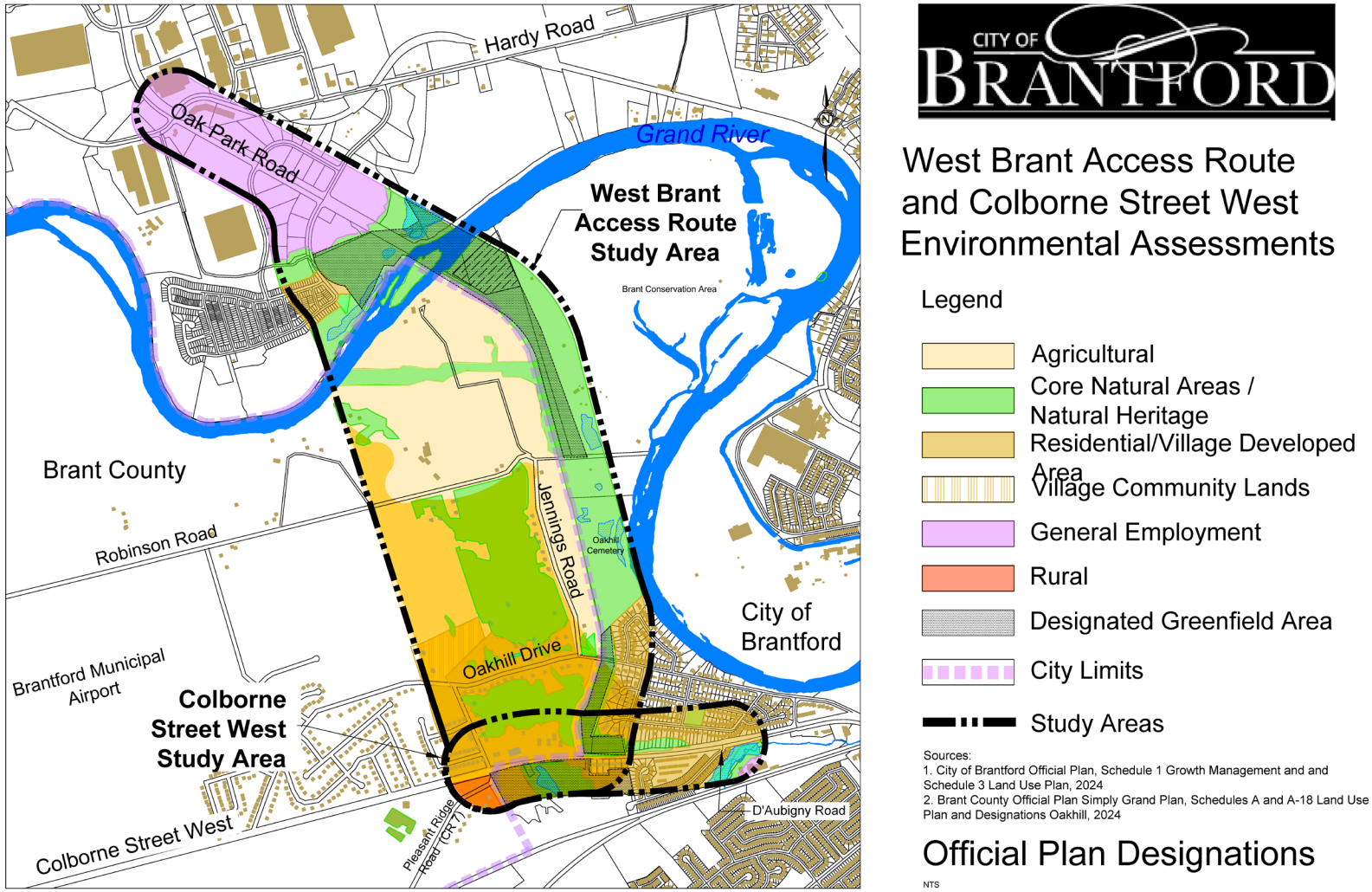


Figure 5: Future Land Use

5.1.2 Brant County Official Plan

Brant County Official Plan designations are also shown on **Figure 5**. The agriculture designation includes farming activities and agricultural related uses and protects for the continued production of agricultural lands. The protection of this resource has both functional and economic importance of the agri-food network in Brant County, refer to **Figure 5**.

Within the agricultural designation are smaller areas of natural heritage, hydrologic and earth science features. These areas have restricted development and site alterations to protect long-term conservation and enhancement of the natural heritage system. There is one large woodlot between Robinson Road and Oakhill Drive, west of Jennings Road.

Along Oakhill Drive are Village Developed Area and Village Community Lands. The Village Developed Area represents a rural settlement area of existing settlement related uses exist. It is also intended to facilitate active transportation connections. Village Community Lands are located within a rural settlement area for future development. These lands are intended for low density single detached residences and may include commercial, industrial, institutional and Parks and Open Space.

5.1.3 City of Brantford, 2020 TMP Update, published November 2020 (Forcast to 2041)

The City of Brantford updated the TMP to reflect existing and future traffic conditions, changes that have been forecast since the previous 2014 update to the 2007 TMP and includes the Boundary Expansion Lands (approximately 460 ha in the north and Tutela Heights Expansion Areas) that were transferred from Brant County to the City on January 1, 2017. The TMP 2020 update recommends measures to satisfy the transportation requirements to 2041. The TMP satisfied Phases 1 and 2 of the MCEA process and followed a Master Planning Process Approach.

The following study objectives were set by the City for this TMP Update[2]:

1. Plan to accommodate city growth to 2041, including the urban boundary expansion of the City of Brantford, the intensification target for development within the Built-Up Area, and density targets within the Designated Greenfield Area as set out in the new Official Plan;
2. Provide transportation infrastructure project and cost input into the Development Charges update;
3. Follow the Master Planning process and key principles of the MCEA to satisfy EA requirements for Schedule ‘B’ undertakings, and Phase 1 and 2 for Schedule ‘C’ projects; and
4. Consult with Indigenous Peoples, agencies, stakeholders and the public early and continuously throughout the Master Planning process, using various techniques and materials.

5.1.4 City of Brantford, 2020 Brantford TMP Update – 2051 Addendum, published September 2021

In the 2021 TMP Update, the assumptions and recommendations from the 2020 TMP, based on a 2041 horizon land use forecasts, were re-assessed and confirmed for a 2051 horizon year. A summary of the transportation recommendations, as they pertain to these EA studies, are provided.

Roadway Improvements: from the transportation assessment, the roadway classifications and the infrastructure improvements, pertaining to these EAs, for the 2051 horizon year have been shown in **Figure 6**.

[2] City of Brantford Transportation Master Plan Update November 2020

Oak Park Road 4-lane Extension: (West Brant Access Route) from Hardy Road intersection to Colborne Street West. This project is intended to address projected road network capacity deficiencies across the Grand River and improve the connection between the southwest residential development area and the northwest industrial area and Highway 403. In addition, this link will relieve some of the high levels of traffic on Paris Road and Brant Avenue.

Intersection Improvements: The EA study will assess the need and feasibility of alternative traffic controls (including signalization versus roundabout implementation). The following intersections within the EA Study Area, shown in **Figure 7**, are identified as candidate locations for roundabouts.

- Oak Park Road at Hardy Road; and
- Colborne Street West at West Brant Access Route.

In addition to infrastructure upgrades, the TMP includes volume-to-capacity (V/C) analysis confirming that without the proposed improvements, several key corridors—particularly those crossing the Grand River—would operate near or above capacity by 2051. The West Brant Access Route and Colborne Street West upgrades were selected as preferred solutions to address these deficiencies and meet the City's long-range growth objectives.

Capacity Constraints: A 2051 'Proposed Road Network' scenario is provided in the TMP. The transportation assessment, the roadway classifications and the infrastructure improvements for the 2051 horizon year have been identified and generally following the Official Road Network shown in **Figure 8**.

Transit Plan: There is existing transit service along Hardy Road and portions of Colborne Street West. Long term plans will implement and expand transit service in the new development areas.

Truck Routes: Oak Park Road, Hardy Road and Colborne Street West are identified as existing truck routes (with no daily time restrictions for heavy vehicle travel on these roadways).

5.1.5 2025 City of Brantford TMP – Update (In progress)

The previous recommendations from the 2020 and 2021 TMP Updates will continue to be met. A 2025 TMP Update was needed to:

1. Assess the impacts of new policy positions related to land use and transit,
2. Review and update the projected 2051 growth scenarios to establish future transportation demands,
3. Confirm year 2051 network performance and roads at or above capacity
4. Recommend future infrastructure projects to accommodate expected 2051 development growth.

The on-going 2025 Update continues to recommend the West Brant Access Route and Colborne Street improvements. The 2025 TMP Update has identified the West Brant Access as one of 7 Focus Area Reviews.

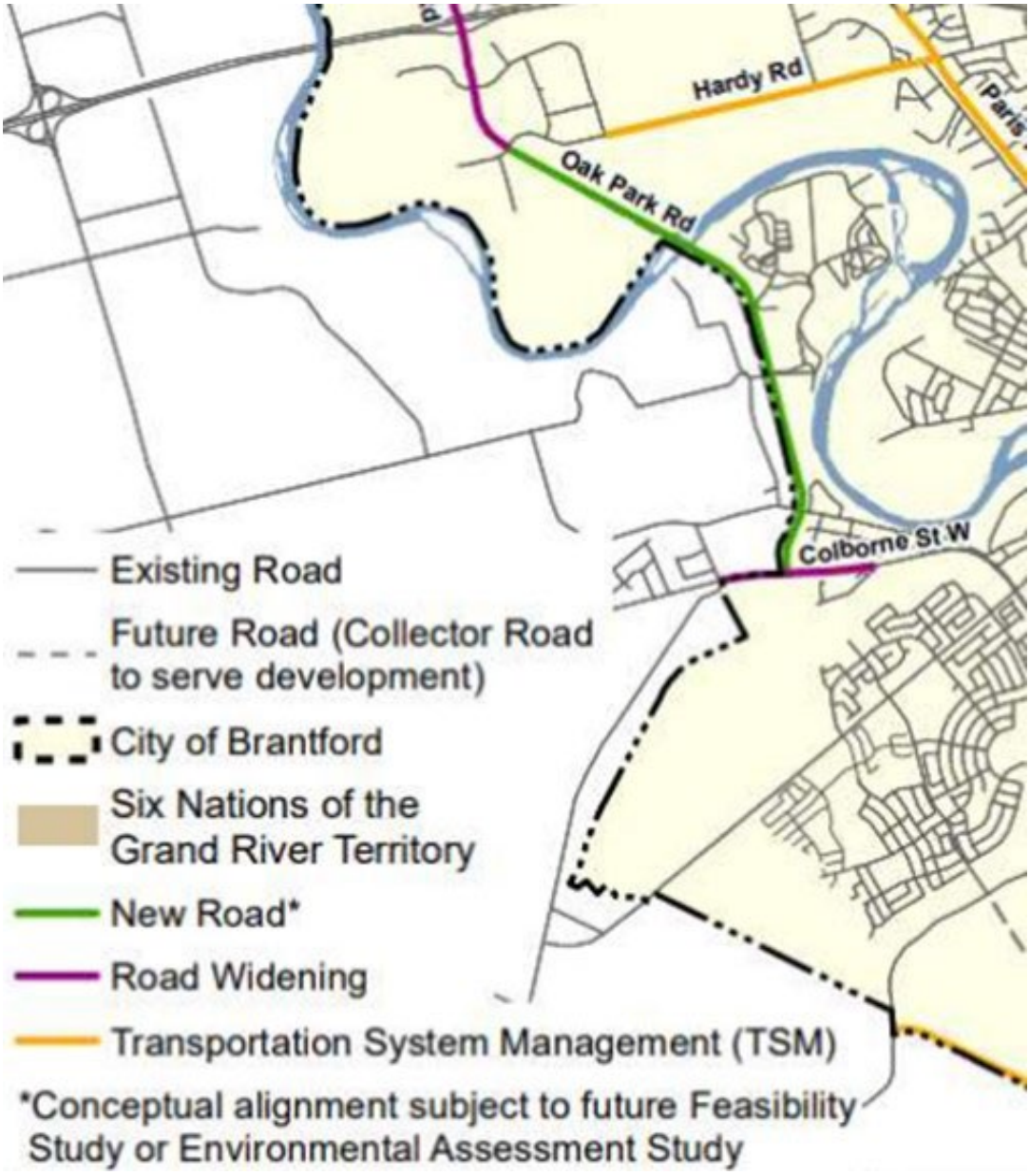


Figure 6: City of Brantford TMP, 2051 Addendum, Proposed 2051 Road Network

Figure 7: City of Brantford TMP, 2051 Addendum, Candidate Roundabout Locations

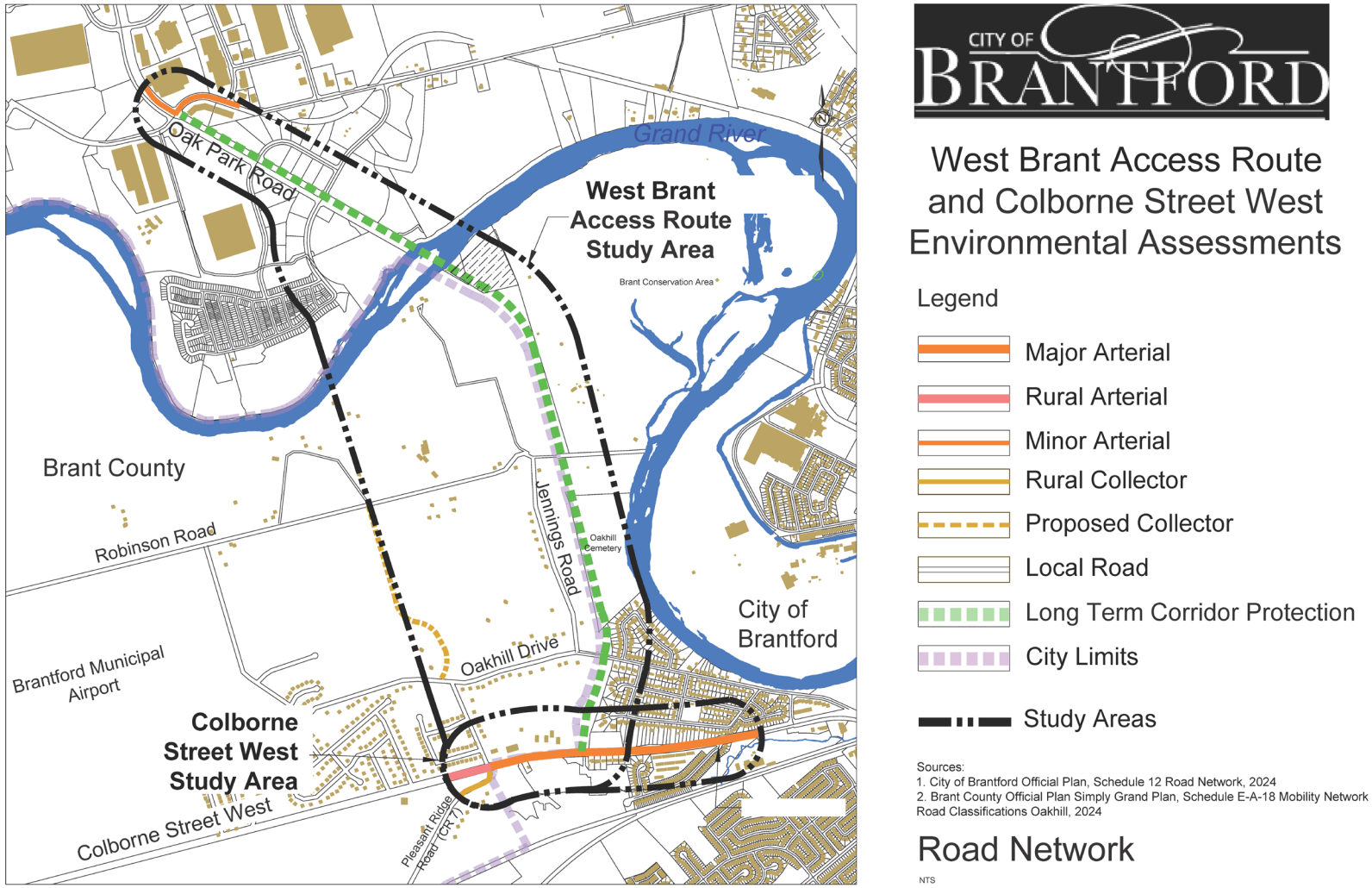


Figure 8: Road Network

5.1.6 Active Transportation Master Plan Study (2023)

The Active Transportation Master Plan[3] (ATMP) contains recommendations and guidelines for the planning, design, implementation and management of active transportation facilities. The ATMP supports the TMP recommendations by addressing pedestrian and cycling mobility in more detail. The review of the cycling network indicates a trail link, known as the Gordon Glaves Memorial Trail, from cycling signed route on Kerr-Shaver Terrace, connecting to the SC Johnson Trail on the north side of the Grand River. A trail facility is a shared-use facility, with pedestrians, along or through a green space such as a park or wilderness area.

The ATMP map of additional links is shown on **Figure 9**

Additionally, 2021 TMP update identified the following improvements:

- Multi-use Path (MUP) / Trail:
    - Colborne Street West with future link to Brant County cycling network.
    - West Brant Access Route from Colborne Street West to Hardy Road.

The EA study will confirm the preferred infrastructure for active modes on the Study Area roadways (i.e. bike lanes / paved shoulders, raised cycle tracks and/or MUPs).

[3] City of Brantford Active Transportation Study (ATMP) Master Plan, September 2023

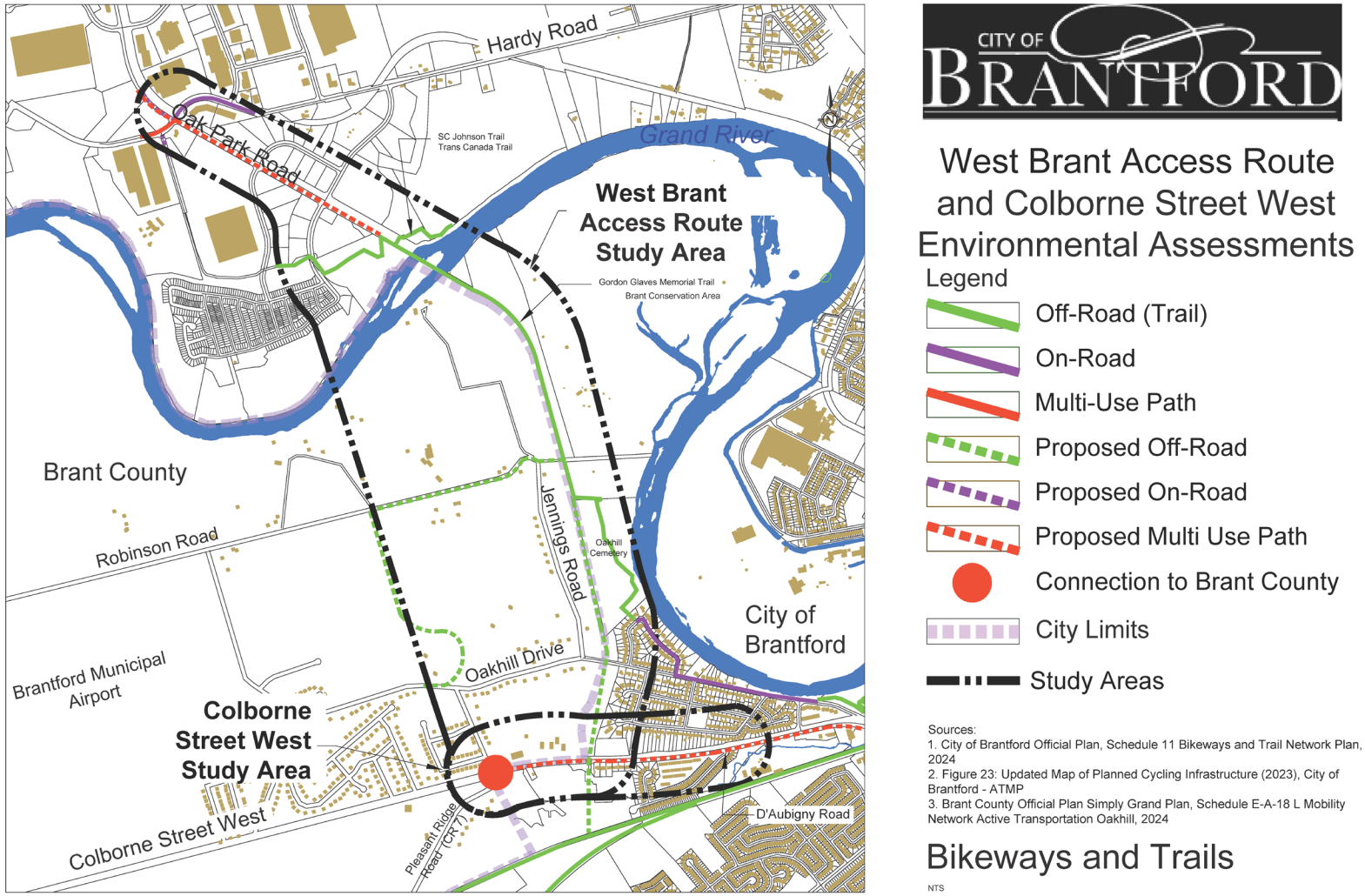


Figure 9: Active Transportation Links to Brant County

5.1.7 Grand River Watershed Management Plan (2014)

The Watershed Management Plan is a key component of a broader integrated watershed plan. The watershed plan pulls together plans such as forestry, fisheries, natural heritage, drinking water source protection, recreation and other planning processes so that linkages can be made for larger scale watershed planning. It is also to forecast and manage flooding, and the projected impacts due to climate change. The Plan is a comprehensive document intended to guide land development in ways that respect the air, water and ground resources, while at the same time ensuring continued water quality capable of supporting drinking water needs, able to support a thriving fish community and protection of wetlands, significant wildlife habitats, flora and fauna and Species at Risk (SAR).

5.1.8 Grand River Fisheries Management Plan

The Grand River Fisheries Management Plan establishes goals, targets and objectives of maintaining high water quality standards, minimizing flood impacts and maximizing tree cover to protect fish and other aquatic species in the Watershed. Many of the objectives are based on the topography, forest cover, physiography and hydrogeology of the lands over which the Grand River traverses. Increasing rates of impervious surfaces, as a result of paving, housing, industry and parking lots, reduce the amount of precipitation reaching the underlying aquifers, while increasing the rate of runoff and thermal effects on surface waters where fish live.

The stretch of the Grand River between Paris and Brantford is recognized through the Fisheries Management Plan as “Exceptional Waters”. Coldwater exiting from Whitemans Creek northwest of Paris, and discharge from springs (into the river bottom) makes the Grand River good habitat for Smallmouth Bass, Walleye (Pickeral), Northern Pike and Rainbow Trout. SAR, such as Black Redhorse and River Redhorse, are also found here. These are uncommon conditions in a river still far from its mouth outlet to Lake Erie. Additionally, the City of Brantford and the Town of Ohsweken both get all of their drinking water from the Grand River in this stretch of exceptional waters. An Exceptional Waters Resource Management Plan was developed in 2006 to manage fishing, recreation, water use and to enhance awareness of the importance of the Grand River in this location. Analysis of the fish species and status of fish habitat resources along the West Brant Access Route alignment options will need to consider the close proximity to the Exceptional Waters of the Grand River. It is recognized that expansion of road networks is often a precursor to enabling land development on a larger scale, and therefore the infrastructures’ potential to impact fisheries, similarly on a larger scale needs consideration. Recommendations for construction mitigation may therefore be somewhat more rigorous where the exceptional waters may be impacted.

The Grand River Source Protection Plan for the Count of Brant provides details on the sources of drinking water, primarily from municipal well heads (Airport / Oak Hill Well, Mount Pleasant Well, St. George Well, Paris Wells, Bethel Road Well) that supplies drinking water to the Town of Paris and the small communities surrounding the City of Brantford. Most well heads have several wells within a common collection zone and mapping is provided, that has been based on three-dimensional modeling of ground water conditions (flow direction, volume), based on municipal and provincial well monitoring reports, the underground stratigraphy and surficial soil conditions. The objective is to limit development at the surface where important zones of infiltration have been identified thereby protecting the integrity and purity of the well head system Protection zones have been mapped that are intended to limit

development to certain uses, and where sources of contamination are to be strictly managed. The intake protection areas for the Study Area are shown on **Figure 10**.

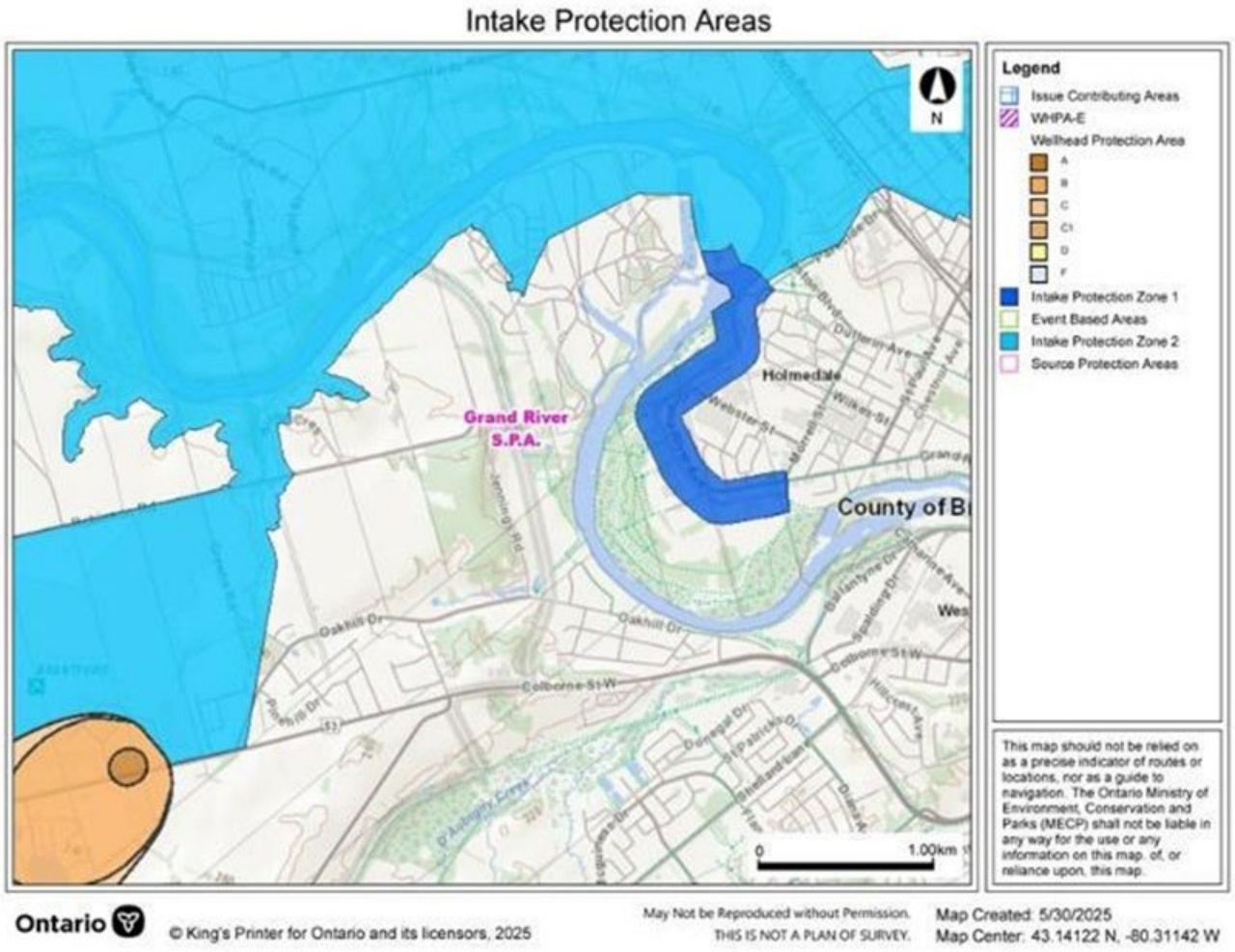


Figure 10: Water Intake Protection Areas

The Grand River is a major contributor to ground water resources at many of the Brant County wellheads. A review of the source area protection mapping, with respect to the West Brant Access Route and Colborne Street West Study Areas, show that the closest protection zones for the Airport Wellhead group are located to the west of Brantford, on the south side of the Grand River, approximately 2.0 km from Colborne Street West and County Road 7 intersection. The Grand River intake protection area follows the Grand River and extends to the north to the CN Railway and Powerline Road These valuable subsurface resources are highly unlikely to be affected by road works on Colborne Street West, or West Brant Access Route south of the Grand River. However north of the Grand River there will be ongoing de-icing operations that may introduce contaminants to the water supply.

6.0 WORK PROGRAM

The major elements of the work program are described in the following sections. They were provided to the public, stakeholders and agencies for comment. They describe the sequential steps in the decision-making process for the future transportation plan in the Study Area. Phases 1 and 2 of the EA Process (Identification of the Problem Opportunity and Development/Evaluation of Alternative Solutions) have been addressed during the previous Oak Park Road Extension MCEA works completed in 2020/2021. The work program will review the analysis/evaluation completed previously and, if in agreement, will proceed with the following elements of the EA process.

6.1 Phase 3: Alternative Design Concepts for the Preferred Solution

Preliminary Design Alternatives will be generated for the Preferred Alternative Planning Solutions based on an inventory of the natural, social and cultural environment and results of technical investigations.

6.1.1 Environmental Inventories and Technical Investigations

Environmental inventories and technical investigations will be completed to assess the impacts of alternative design concepts. These investigations are summarized as follows:

Fisheries: The required major crossing of the Grand River by the West Brant Access Route has the potential to impact fish and fish habitat resources as well as aquatic SAR that include freshwater mussels. No significant watercourses on Colborne Street West have been found to date, other than minor drainage features. Fish habitats will be mapped within the rights-of-way plus 50 m either side as allowed by landowner permission. The fish and invertebrate community of the Grand River in this location is well known, with SAR present, so minimal field work will be required to verify and document the habitat conditions at the proposed alternative crossing locations. Preferably, field work will be conducted with a representative of the Indigenous Communities to gain their perspective, seek guidance and to incorporate their historic uses of the resource. This work will be integrated with the fluvial geomorphology work to establish constraint mapping and guide the crossing site selection. Once the preferred alignment is chosen, a fish habitat screening will be completed as the preliminary design is advanced, most likely indicating that a Request for Review by the Department of Fisheries and Oceans (DFO) and technical reviews by the Provincial MECP SAR Group is required. A permit under the *Ontario Endangered Species Act*, as well as a DFO Authorization, may be required during design if SAR mussels are deemed to be present and that must be relocated during construction. Impact mitigation to avoid fish death, control erosion and minimize sedimentation to the Grand River will be completed, with specific recommendations made for construction of the bridging structure, approach ramps and the stormwater treatment objectives. Field data, resource characterizations, impact assessment, agency consultation, mitigation strategies and monitoring will be documented in the Natural Heritage Assessment, which when combined with the terrestrial ecology tasks, will become an appendix to the overall ESR.

Natural Environment: The Natural Heritage team will conduct additional field work, primarily at the watercourse crossings, wetlands and woodlots within the proposed study limits. The Gordon Glaves Memorial Trail will be walked to ensure no watercourses are present as per the Provincial mapping. Site specific fish community data most likely exists and will be utilized, unless absent in which case an inventory will be completed.

The results of the field verification will be fed into the evaluation criteria, weighted appropriately by the overall team against other cultural, social, built and economic factors. Where SAR are identified, specific avoidance or mitigative measures will be identified. As needed, spring and fall terrestrial field investigations will be completed.

A Natural Environment Assessment (NEA) report will be prepared based on the results of the desktop review, consultation with agencies and field investigations. The NEA will identify and categorize the natural heritage features and ecological functions within the Study Area, assess potential impacts to those features, and provide recommendations to avoid or minimize potential impacts.

Significant natural heritage features within the Study Area are shown **Figure 11**.

Geotechnical: The geotechnical scope of work will include:

- Review geological and physiographic reports to develop a geotechnical background setting for the assignment.

Hydrogeological:

A background review of the available geological and hydrogeological information from publicly available resources.

- Monitoring wells for water level monitoring to determine on-site soil conditions.
- Single well hydraulic tests to calculate the hydraulic conductivity of native soils.
- Construction dewatering assessment, if groundwater is encountered at elevations within the depth of excavation for the proposed watermain installation works, trenchless crossings, sanding puts, etc.
- Water users survey within 100 m from the Site for baseline conditions assessment.
- Develop a project specific Health and Safety Plan prior to implementing any field work
- Utility locates requests and review on-site services.
- Layout the boreholes and submit them to the City for approval prior to conducting borehole investigation.
- Conduct borehole investigation, in-situ testing, and visual and tactile examinations of the recovered samples. Undertake visual and tactile examinations of the recovered samples.
- Soil samples will also be submitted for laboratory analysis of chemical parameters to characterize the on-site soils for potential Excess Soil Management.
- Return to site following the field investigation to measure the ground water levels.
- Assign laboratory testing to selected soil samples, as required.
- Engineering Analysis and prepare and issue a geotechnical report to support the EA study.

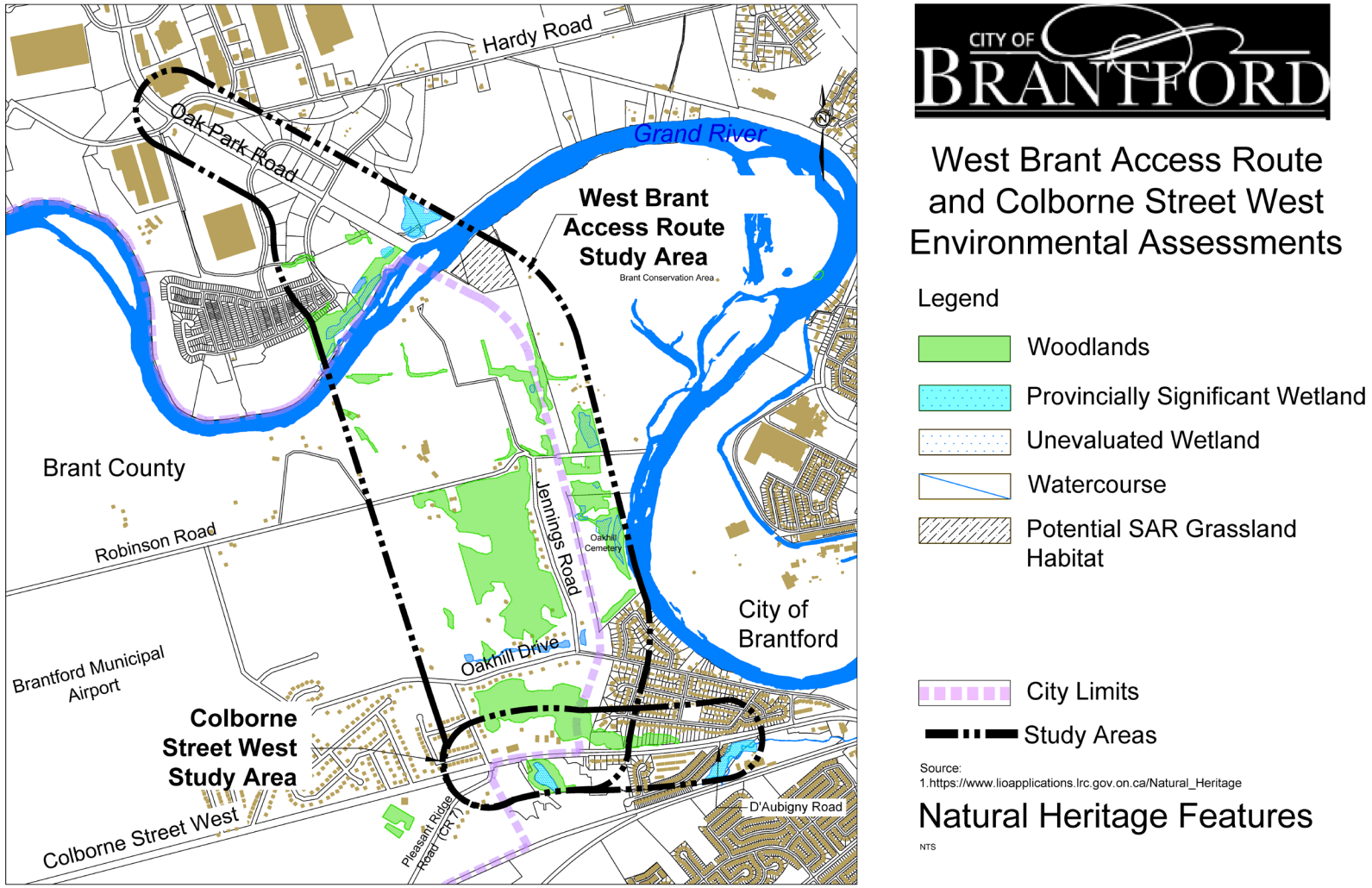


Figure 11: Natural Heritage Features

Hydraulic Assessment: The Final Report of the 2019 Oak Park Road Extension Feasibility Study discusses the crossing of the Grand River and presents several alternative structure types and combinations of number and locations of the piers. The purpose of the hydraulic assessment will be to review the hydraulic response of the river flow velocities and water levels to the various alternative configurations. It is noted that the proposed road vertical alignment will set the new structure above the Regulatory flood level and the estimated high-water level under ice jam conditions. Therefore, the effort of this assessment will be on the full range of flows, from normal flow to flood conditions.

Background data and information will be collected and reviewed to identify data gaps. In addition to the river data from the GRCA, we will obtain LiDAR data, geology, and soils data. It is noted that this task will be coordinated with the results of Geotechnical and Hydrogeological Investigations. The data collected for the Fluvial Geomorphology Assessment will be shared.

The results of this work will inform the structure configuration, including optimization of the number, location, and alignment of the piers. In addition, the work will be used to assess the configuration of scour protection for the abutments and the piers.

The results will be presented in an Interim Bridge Hydrology Report.

Fluvial Geomorphology Assessment: Background Review of all available information and data for the project, including watershed reports, relevant topographic survey data, reports and aerial photography (old and new).

Geomorphic field work will include the geomorphic examination of channel and valley morphological characteristics (sinuosity, meander wavelength, valley and channel profiles, bed material) and fluvial processes (bedload transport, hydraulic properties of flow, energy properties of flow, bed and bank stability, location of erosion and deposition sites).

Fluvial Geomorphic Assessments undertake a meander belt width assessment and erosion assessment for the Grand River. The 1% Annual Exceedance Probability (AEP) (100-year return period) erosion limits will be determined. In addition to the proposed crossing requirements and possible transition treatments. Contact the appropriate agencies to ensure that all parties are in agreement with the preliminary requirements, noting that the requirement will be for the abutments to be outside of the erosion limits and perpendicular to the flow of the river. Review the HEC-RAS modelling to understand existing flow conditions and assist in determining geomorphic conditions at the site. We will coordinate our work with the Hydraulic Assessment.

The geomorphic analysis of the system will be instrumental in determining a proper design for the crossing and transition treatments.

Noise Impact Assessment: Sound levels will be considered in the evaluation as a criterion to compare alternatives. This will consider sound levels on adjacent noise sensitive areas (NSAs) for the competing alternatives. The assessment will consider only existing NSAs.

Air Quality Assessment: Air quality will be considered in the evaluation as a criterion to compare alternatives.

Built Heritage Resources and Cultural Heritage Landscape: Existing Conditions and Preliminary Impact Assessment (CHRECPIA) for the West Brant Access Route and Colborne Street West projects will be undertaken. A CHRECPIA is required to identify potential cultural heritage resources in and

around the Study Area and determine if any have the potential to be impacted by the proposed works. This CHRECPIA will expand on a previously completed cultural heritage existing conditions report completed in 2021 for the Oak Park Road Schedule C MCEA. O.Reg. 9/06 evaluations for all potential heritage resources will be conducted as part of the CHRECPIA scope. The anticipated Study Area includes a property listed on Brant County's heritage inventory (23 Robinson Road), a previously identified potential cultural heritage resource (11 Robinson Lane), Oak Hill Cemetery, Oak Hill Trail, and a new crossing of the Grand River (designated Canadian Heritage River). The Study Area is also in close proximity to the highly significant Indigenous cultural heritage landscape of Davisville.

Archaeology: A Stage 1 Archaeological Assessment will be completed to: develop an inventory of archaeological resources in the proposed area; determine the presence of any archaeological sites in the area; and recommend appropriate strategies for future planning consideration. This will be accomplished by conducting detailed documentary research of the land use, archaeological history, and present condition of the property. Based on the outcomes of the Stage 1 Assessment, a Stage 2 Archaeological Assessment may be required.

Socio-Economic Assessment: An inventory of existing land uses within the Study Area will be undertaken. This will include documentation of recreational/residential development (access, emergency services, trails, etc.), commercial, institutional and utility corridor land uses. The inventory will also include consideration and identification of future land uses such as developments, right-of-way requirements, future transit and transportation facilities and development that could be implemented complying with existing planning documents. Any land use changes that have occurred will be documented.

Stormwater Drainage: Preliminary review of the two roads shows that West Brant Access Route has potentially 2 watercourse crossings, including the Grand River, and Colborne Street West has no crossings within the Study Area. The D'Aubigny Creek flows along the south side of Colborne Street West. The proposed road widenings and modifications to include active transportation will result in potential impacts to the drainage systems receiving runoff from the two roads. The scope of work will comprise the planning of stormwater management and drainage for the alternatives and the recommended plan, and the conceptual design of the watercourse crossings. Hydrology information will be available from the GRCA, and it will be necessary to determine the drainage catchments and the corresponding design flows. Where appropriate, the possibility of combining the stormwater management solutions for the road with the stormwater management systems of adjacent developments will be explored. Watercourse crossings will be designed based on the MTO Highway Drainage Design Standards, modified in accordance with the City's standards. Separate Stormwater Management and Watercourse Crossing Hydrotechnical reports will be prepared for each roadway.

6.1.2 Preliminary Design Alternatives

This Section describes Preliminary Alternatives for the recommended Planning Solution. The EA will identify the preferred alignment, intersection treatments, locations, and cross sections for the new West Brant Access Route and Colborne Street West.

Transportation Alternatives: As an initial step in the generation of alternatives, this Study will identify roadway alternative alignments, cross sections, types of intersection control (roundabout and conventional signalized or unsignalized intersections) and locations for intersections. The arterial road

intersection alternatives (West Brant Access Route) will be either a roundabout control corridor or conventional 4/5 lane arterial with signalized intersection control. Preliminary Corridor Alternatives are shown in **Figure 12**.

Cross section alternatives for both roads will consider 2 to 5 lanes, with either two-way left turn lane or divided and either urban or rural. The Colborne Street West corridor will assess cross section alternatives considering rural and urban cross section with either two-way left turn lane or divided and accommodation of active transportation (MUP and or sidewalk in the corridor). Preliminary Cross Section Alternatives are shown in **Figure 14** to **Figure 18**.

Structural Alternatives for Grand River Bridge: The development, preliminary costing, and assessment of bridge structure alternatives will be developed in concert with the environmental, hydraulic and geotechnical studies and the constraints and opportunities identified through those investigations. The conceptual designs presented in the 2019 feasibility study report will serve as a starting point. Longer-span alternatives may also be explored to limit the need for in-water work and construction access to the island that divides the flow at one of the proposed crossing sites. Consideration of bridge aesthetics through economical shaping of the structural form and detailing of vehicular and pedestrian barriers will be an integral part of the conceptual designs, understanding the importance of community acceptance to the success of the project. Construction means and methods will also be central to the evaluation of alternatives.

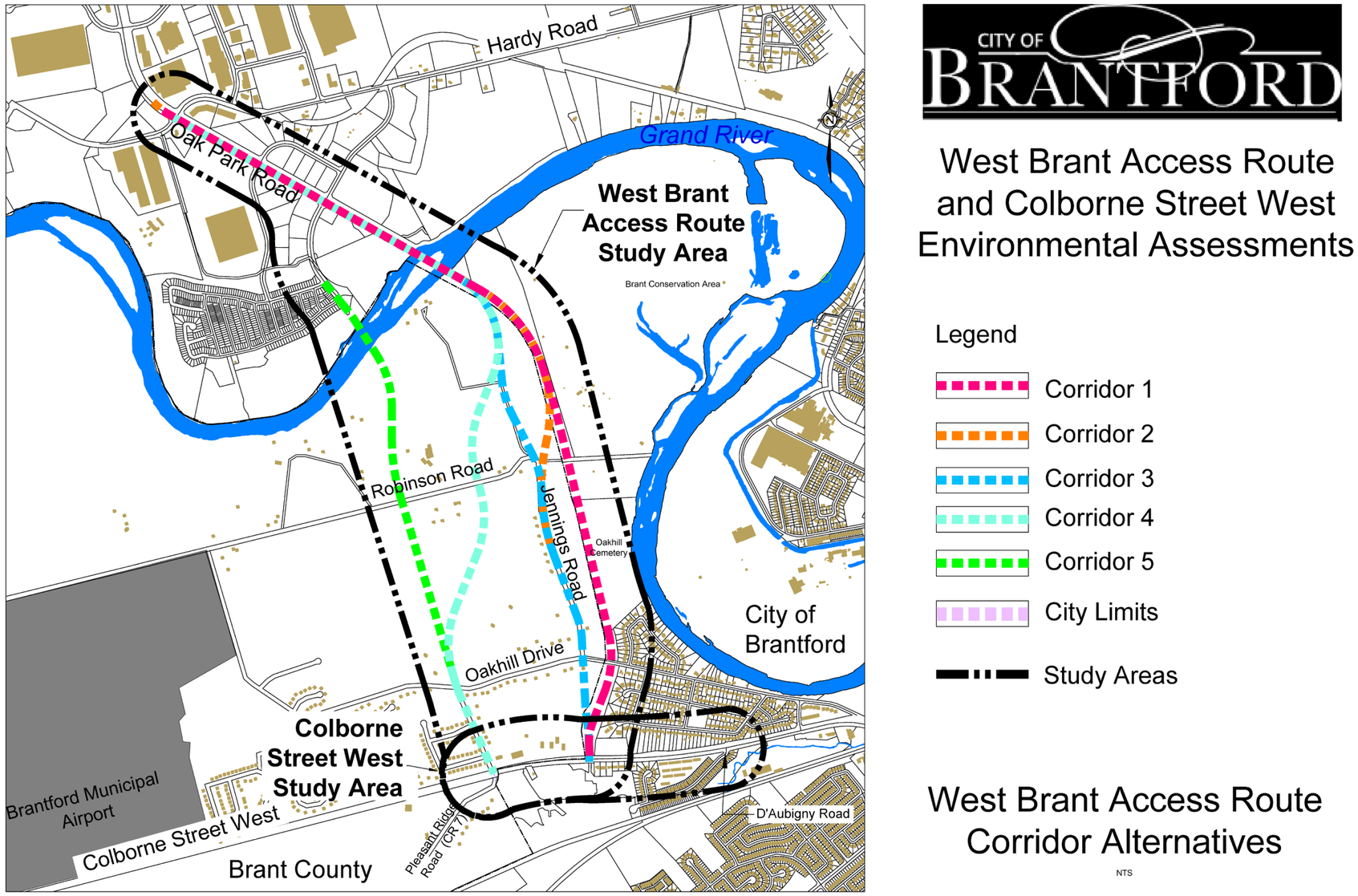
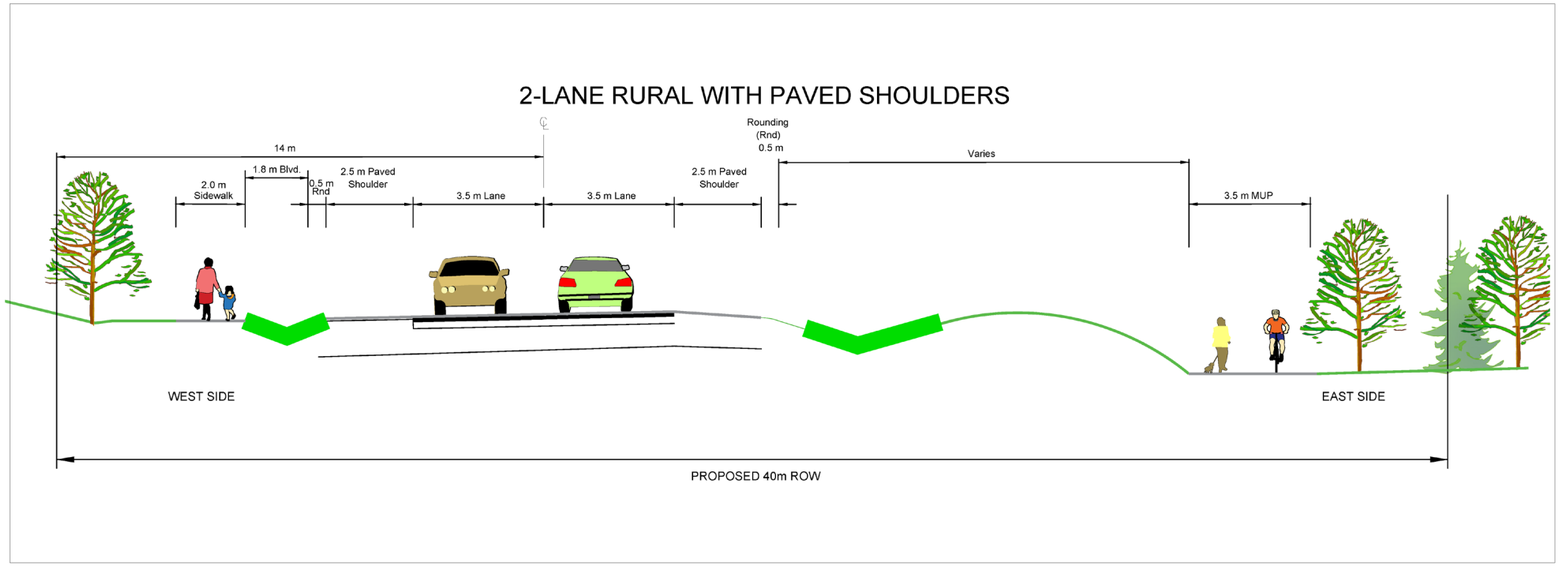
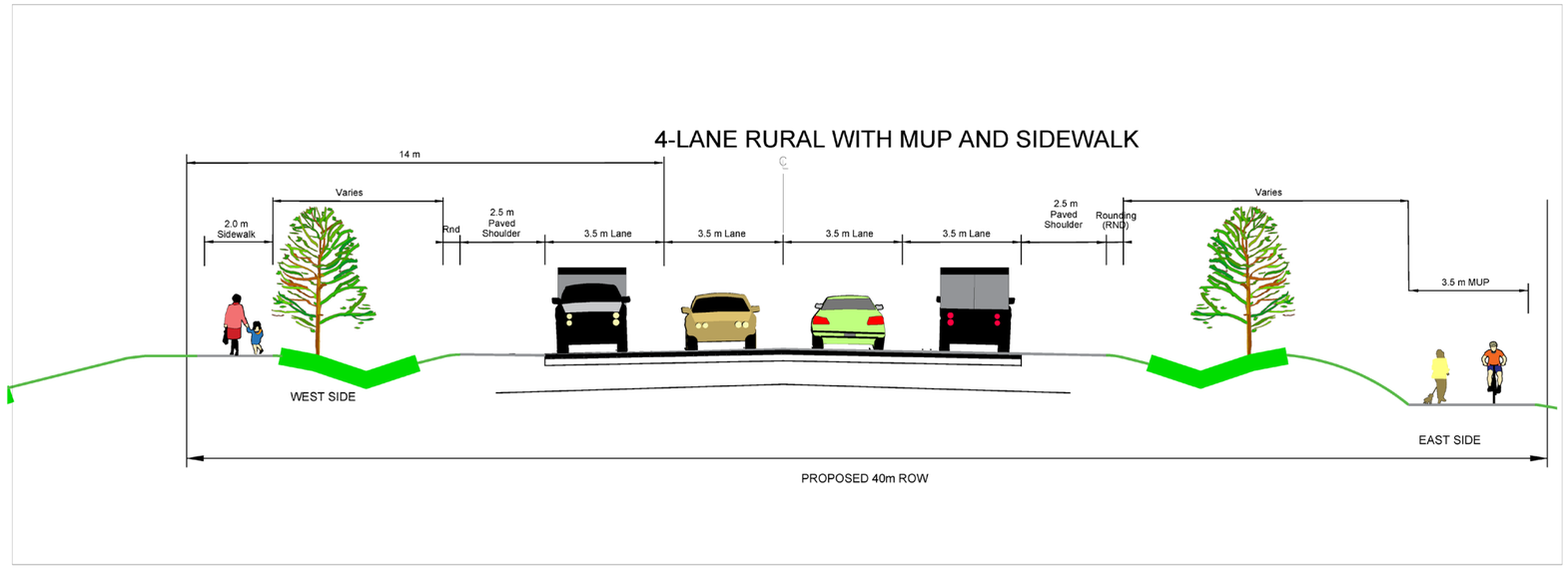


Figure 12: Preliminary Corridor Alternatives



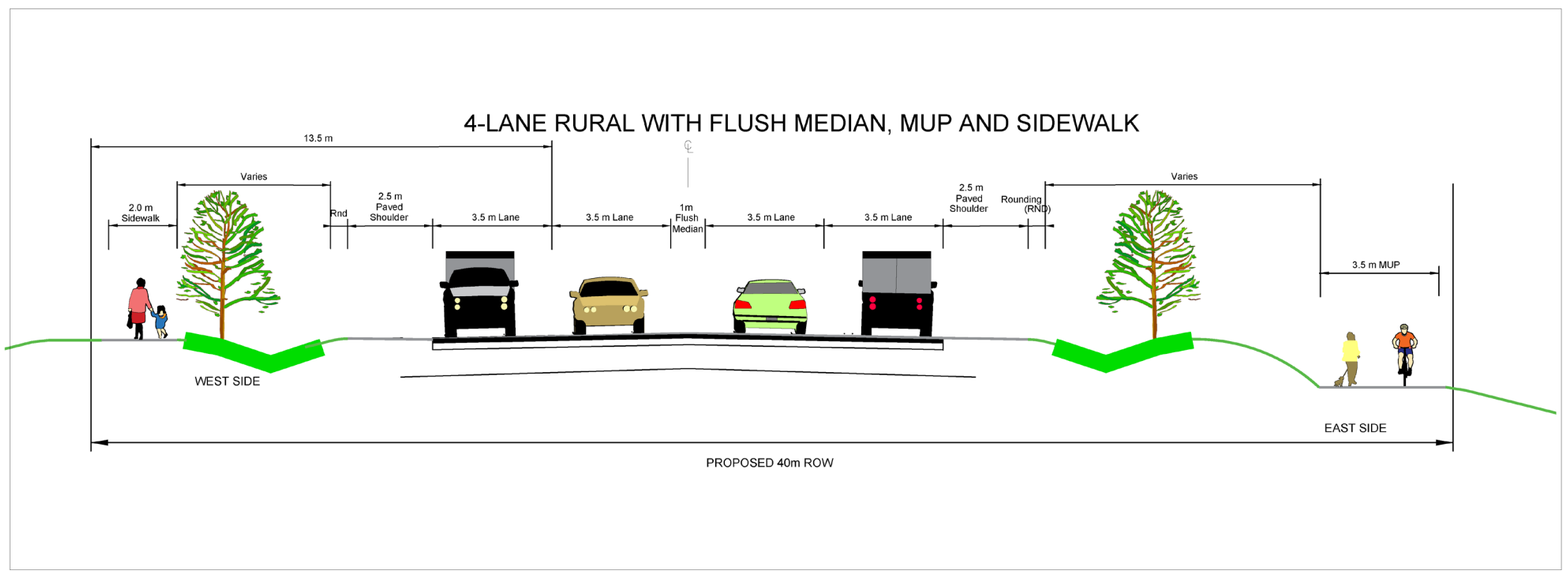
Active transportation alternatives may consider a sidewalk or MUP on each or one side of the right-of-way or MUP on one or both sides or the right-of-way.

Figure 13: Preliminary 2-Lane Cross Section Alternatives - West Brant Access Route



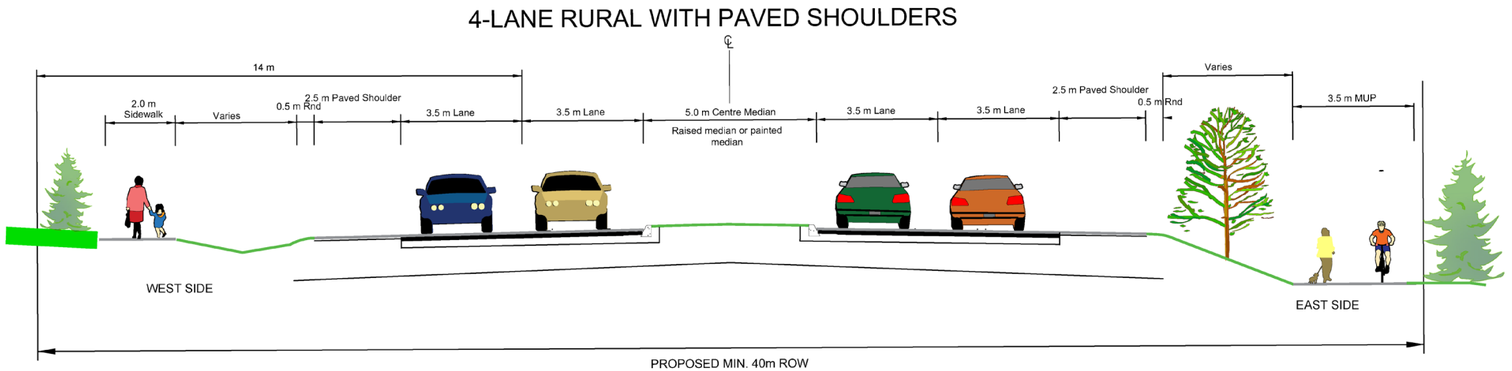
Active transportation alternatives may consider a sidewalk or MUP on each or one side of the right-of-way or MUP on one or both sides or the right-of-way.

Figure 14: Preliminary 4-Lane Cross Section Alternatives - West Brant Access Route



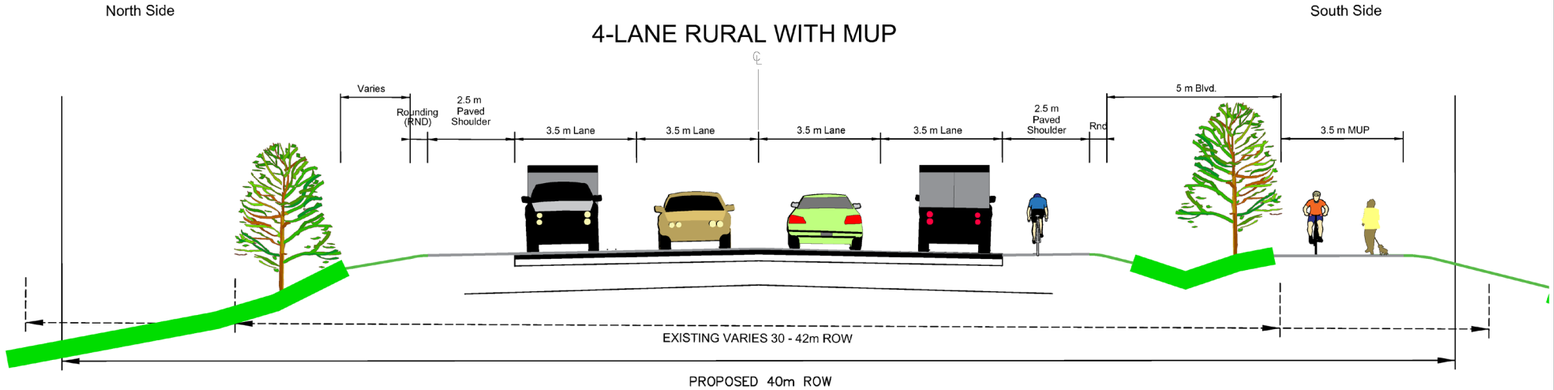
Active transportation alternatives may consider a sidewalk or MUP on each or one side of the right-of-way or MUP on one or both sides or the right-of-way.

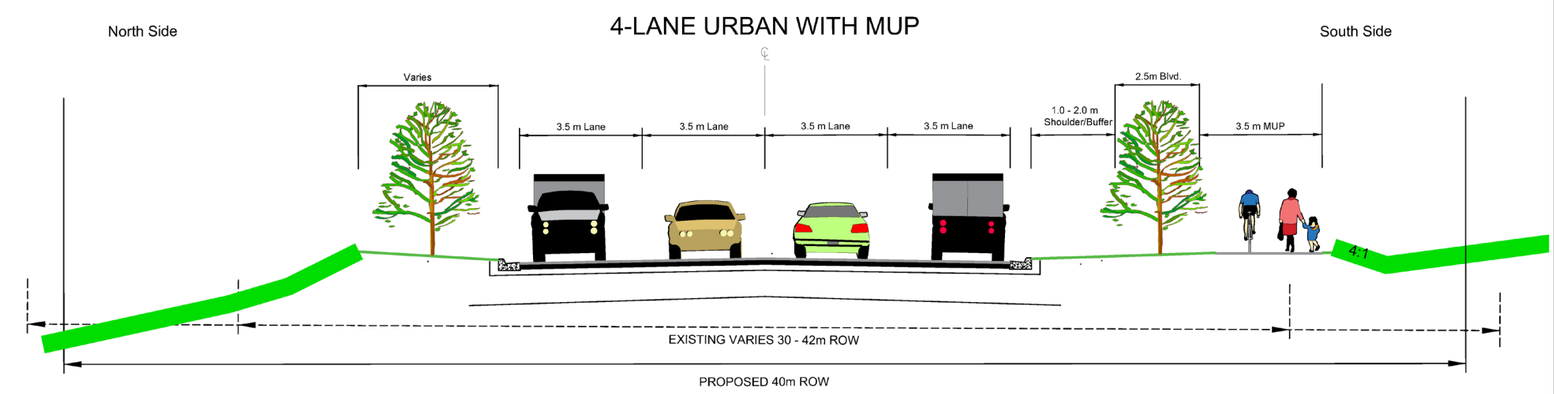
Figure 15: Preliminary 4-Lane with Flush Median Cross Section Alternatives - West Brant Access Route



Active transportation alternatives may consider a sidewalk or MUP on each or one side of the right-of-way or MUP on one or both sides or the right-of-way.

Figure 16: Preliminary 5-Lane Cross Section Alternatives - West Brant Access Route





Notes:
Right-of-way width accord
Plan, 2021.

Active transportation alterr
consider use of a sidewalk
south side of the right-of-w

Figure 17: Preliminary 4-Lane Cross Section Alternatives - Colborne Street West

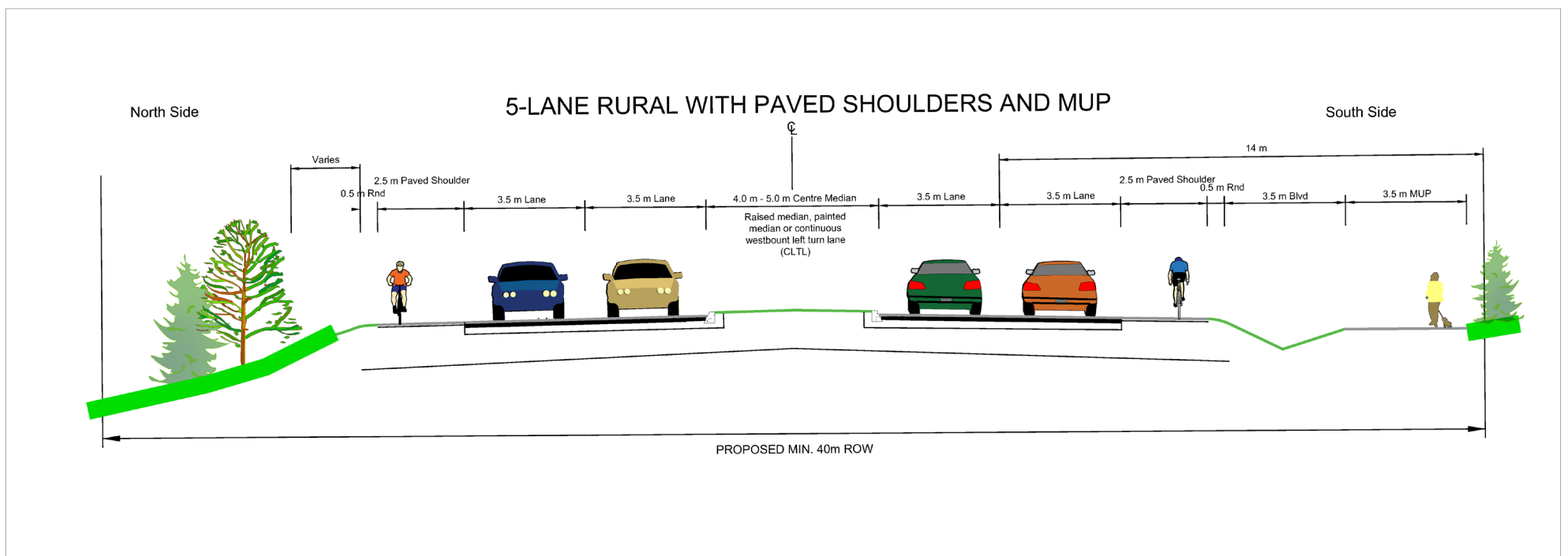


Figure 18: Preliminary 5-Lane Cross Section Alternatives - Colborne Street West

Notes:
Right-of-way width accord
Plan, 2021.

Active transportation altern
consider use of a sidewalk
south side of the right-of-w

6.1.1 Evaluation of Alternatives

As part of the technical investigations, additional qualitative coarse screenings will be completed to eliminate alternatives which do not address the Problem Statement or have significant impacts such as natural environment, heritage resources or existing development (social environment) in comparison to other alternatives carried forward. The results of any additional coarse screening analysis will be presented at the PIC.

This study will use a systematic, traceable process to evaluate alternatives. Additionally, a comprehensive public consultation program will assist in the development of a Recommended Plan. Following the PIC, refinements will be made to the TPA(s)/TPP (if applicable), and the refined TPA(s)/TPP will become the Recommended Plan and the ESR will be finalized.

7.0 PHASE 4: ENVIRONMENTAL STUDY REPORT

The preparation of the draft and final EA report will follow the format and content for an ESR accepted by MECP. The ESR will document the study methodology, findings, public involvement and recommendations for both the Schedule C studies. The Report will provide recommendations on the phasing of the proposed works and preliminary cost estimates. The public will be notified of the availability of the ESR for a 30-day public review period.

8.0 STUDY SCHEDULE

A schedule for this Study is shown in **Table 1**.

Table 1: Preliminary Study Schedule

Task	Date
Project Start-Up Meeting	May 2025
Study Commencement Notice	Winter 2025
Draft SDR	Winter 2025
Information Gathering	Fall 2025/
Environmental Review / Technical Investigations	Fall 2025/Spring 2026
Generation of Preliminary Design Alternatives	Winter 2025/2026
Analysis and Evaluation of Alternatives	Winter 2025/2026
Public Information Centre	Winter 2026
Recommended Plan	Spring 2026
Preparation of ESR	Spring 2026
30-day Public Review Period	Spring 2026

GLOSSARY OF TERMS

• **AADT**	Annual Average Daily Traffic – the average 24-hour, two-way traffic per day for the period from January 1st to December 31st.
• **Alignment**	The vertical and horizontal position of a road.
• **Alternative**	Well-defined and distinct course of action that fulfils a given set of requirements. The EA Act distinguishes between alternatives to the undertaking and alternative methods of carrying out the undertaking.
• **Alternative Design Concepts**	Alternative ways of solving a documented transportation deficiency or taking advantage of an opportunity. (Alternative methods of carrying out the undertaking).
• **Alternative Project**	Alternatives to the Undertaking, see above.
• **Alternatives to the Undertaking**	Alternative ways of solving problems or meeting demand (Planning Alternatives).
• **ATMP**	Active Transportation Master Plan
• **Canadian Environmental Assessment Act (CEAA)**	The CEAA applies to projects for which the federal government holds decision-making authority. It is legislation that identifies the responsibilities and procedures for the environmental assessment.
• **Class Environmental Assessment Document**	An individual environmental report documenting a planning process which is formally submitted under the EA Act. Once the Class EA document is approved, projects covered by the class can be implemented without having to seek further approvals under the EA Act provided the Class EA process is followed.
• **Class Environmental Assessment Process**	A planning process established for a group of projects in order to ensure compliance with the Environmental Assessment (EA) Act. The EA Act, in Section 13 makes provision for the establishment of Class Environmental Assessments.
• **Corridor**	A band of variable width between two locations. In transportation studies a corridor is a defined area where a new or improved transportation facility might be located.
• **Criterion**	Explicit feature or consideration used for comparison of alternatives.
• **Detail Design**	The final stage in the design process in which the engineering and environmental components of preliminary

	design are refined and details concerning, for example, property, drainage, utility relocations and quantity estimate requirements are prepared, and contract documents and drawings are produced.
• **DFO**	The Department of Fisheries and Oceans Canada
• **EA**	Environmental Assessment
• **EA Act**	Ontario Environmental Assessment Act (as amended by S.O. 1996 C.27), RSO 1980.
• **Environment**	• Air, land or water. • Plant and animal life, including human life. • The social, economic and cultural conditions that influence the life of humans or a community. • Any building structure, machine or other device or thing made by humans. • Any solid, liquid, gas, odour, heat, sound, vibration or radiation resulting directly or indirectly from human activities. • Any part or combination of the foregoing and the interrelationships between any two or more of them, in or of Ontario.
• **Environmental Effect**	A change in the existing conditions of the environment which may have either beneficial (positive) or detrimental (negative) effects.
• **ESR**	Environmental Study Report
• **Evaluation**	The outcome of a process that appraises the advantages and disadvantages of alternatives.
• **Evaluation Process**	The process involving the identification of criteria, rating of predicted impacts, assignment of weights to criteria, and aggregation of weights, rates and criteria to produce an ordering of alternatives.
• **External Agencies**	Include Federal departments and agencies, Provincial ministries and agencies, conservation authorities, emergency services, municipalities, Crown corporations or other agencies other than MTO.
• **Factor**	A category of sub-factors.
• **General Arrangement**	Structural plan of the bridge and proposed works including elevations and cross-sectional views of the bridge.
• **Individual Environmental Assessment**	An environmental Assessment requiring the submission of a document for approval by the Minister, pursuant to

	the EA Act and which is neither exempt from the EA Act nor covered by a Class EA approval.
• **MCEA**	Municipal Class Environmental Assessment
• **MECP**	Ministry of the Environment, Conservation and Parks.
• **Mitigating Measure**	A measure that is incorporated into a project to reduce, eliminate or ameliorate detrimental environmental effects.
• **Mitigation**	Taking actions that either remove or alleviate to some degree the negative impacts associated with the implementation of alternatives.
• **MNR**	Ministry of Natural Resources.
• **MTCS**	Ministry of Tourism, Culture and Sport.
• **MTO**	Ministry of Transportation Ontario.
• **NEA**	Natural Environment Assessment report. A report that details the non-human aspects of the environment, primarily the flora, fauna, fish habitats and species at risk.
• **NSA**	Noise Sensitive Areas
• **OP**	Official Plan
• **PCC**	Public Consultation Centre
• **Planning Alternatives**	Planning alternatives are “alternative methods” under the EA Act. Identification of significant transportation engineering opportunities while protecting significant environmental features as much as possible.
• **Planning Alternatives**	That part of the planning and design process where alternatives to the undertaking and alternative routes are identified and assessed. Also described as “Alternative Project” under the federal EA Act.
• **Project**	A specific undertaking planned and implemented in accordance with the Class EA including all those activities necessary to solve a specific problem.
• **Proponent**	A person or agency that carries or proposes to carry out an undertaking, or is the owner or person having charge, management, or control of an undertaking.
• **Public**	Includes the general public, interest groups, associates, community groups, and individuals, including property owners.

• **Realignment**	Replacement or upgrading of an existing roadway on a new or revised alignment.
• **Recommended Plan**	That part of the planning and design process, during which various alternative solutions are examined and evaluated including consideration of environmental effects and mitigation; the recommended design solution is then developed in sufficient detail to ensure that the horizontal and vertical controls are physically compatible with the proposed site, that the requirements of lands and rights-of-way are satisfactorily identified, and that the basic design criteria or features to be contained in the design, have been fully recognized and documented in sufficient graphic detail to ensure their feasibility.
• **SAR**	Species At Risk
• **Screening**	Process of eliminating alternatives from further consideration, which do not meet minimum conditions or categorical requirements.
• **Screenline**	A screen line is an imaginary line that a counter draws across a path or roadway. Vehicles, pedestrians and cyclists are counted when they cross this line.
• **Section 16**	The act of requesting that an environmental assessment initiated as a class EA be required to follow the individual EA process. The change is a result of a decision by the proponent or by the Minister of Environment to require that an individual environmental assessment be conducted.
• **SDR**	Study Design Report.
• **Sub-factor**	A single criterion used for the evaluation. Each sub-factor is grouped under one of the factors.
• **Technical Advisory Committee**	The Advisory Committee will include the County and Consultant. It will act as the decision-making body for the study recommendations.
• **TDM**	Transportation Demand Management
• **TIS**	Traffic Impact Study
• **TMP**	Transportation Master Plan
• **TPA**	Technically Preferred Alternative
• **TPP**	Technically Preferred Plan
• **TSM**	Transportation Systems Management

• **Traceability**	Characteristics of an evaluation process which enables its development and implementation to be followed with ease.
• **Undertaking**	In keeping with the definition of the Environmental Assessment Act, a project or activity subject to an Environmental Assessment.
• **V/C**	Volume-to-capacity ratio (of the link or screenline traffic operating conditions)

Appendix A

Traffic Background Review and Justification of Need Memo

BT ENGINEERING
509 Talbot Street
London, ON N6A 2S5
(519) 672-2222

TECHNICAL MEMORANDUM

TO:	File	**DATE:**	February 3, 2026
FROM:	Anil Seegobin, P.Eng.	**PROJECT #:**	25-012
PROJECT:	City of Brantford, West Brant Access Route Extension and Colborne Street West EA		
SUBJECT:	Traffic Background Review and Justification of Need for EA Study		

1.0 PURPOSE

The purpose of this technical memorandum is to document the forecast traffic demand and operational needs for the West Brant Access Route Extension (previously the Oak Park Road Extension) and Colborne Street West improvements identified in the City of Brantford's Transportation Master Plan (TMP). The traffic demand supports the justification of need for the Municipal Class Environmental Assessment (EA) studies

2.0 TMP 2025 UPDATE

The City's TMP Update (anticipated completion in 2025) builds upon the 2020 TMP Update to 2041 and the associated 2051 Addendum, extending transportation planning horizons to 2051 to address changes in Land Use Policy and support the City's multimodal mobility objectives. This update covers Phases 1 and 2 of the Municipal Class EA process, focusing on problem/opportunity identification and evaluation of alternative solutions. The current EA studies for the West Brant Access Route Extension and Colborne Street West will proceed with Phase 3 of the Municipal Class EA process, advancing the design and assessment of preferred solutions aligned with the 2051 planning horizon. The 2025 TMP Update has identified the West Brant Access Route as one of 7 Focus Area Reviews.

3.0 EA STUDY PROJECT BACKGROUND

The two EA studies respond to long-term growth forecasts, identified infrastructure deficiencies, and the City's multimodal transportation objectives. Both projects were identified in previous Transportation Master Plans (2020 TMP Update, 2020 TMP Update – 2051 Addendum) and progress to date on the TMP 2025 Update has reaffirmed the need for those improvements. **Figure 1** shows the study area limits for the roadways.

4.0 WEST BRANT ACCESS ROUTE EXTENSION EA STUDY

The original TMP Update that was completed in 2014 recommended a new 4-lane roadway and bridge crossing the Grand River (Reference: City of Brantford, TMP Update, IBI Group, published November 2014). Provisions for pedestrians and cyclists could either be accommodated on the new structure or maintained on the existing Oak Hill Trail bridge.

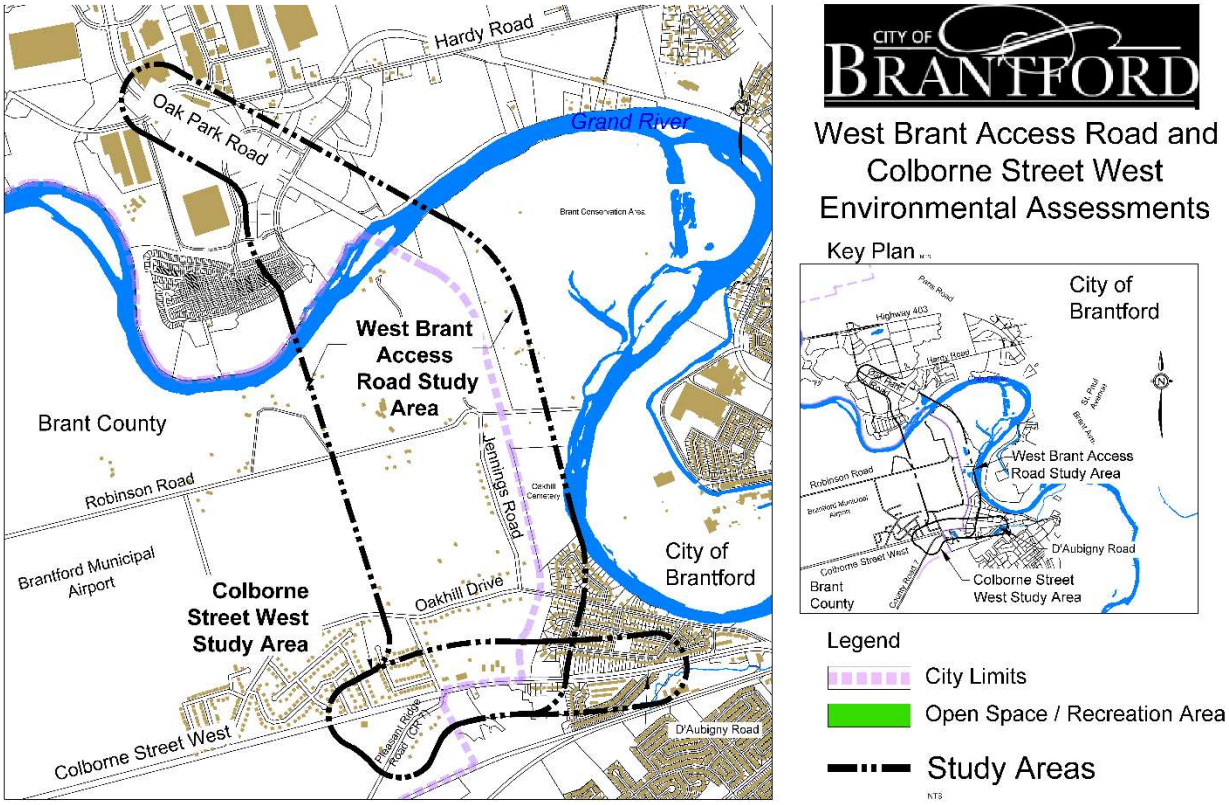


Figure 1: Study Area Limits of West Brant Access Route Extension and Colborne Street West EAs

The West Brant Access Route Extension, from Hardy Road to Colborne Street, is proposed to provide a new north-south arterial connection between the Brantford's Southwest Expansion Area with the Northwest Industrial Area and Highway 403, including a new crossing of the Grand River. This need was first identified in the 2014 TMP and reaffirmed in the 2020 TMP Update and the 2020 TMP Update (2021) – 2051 Addendum. **Table 1** shows the 2051 'Do Minimal' AM and PM peak hour screenline volumes and capacity analysis for the Grand River South screenline (Reference: City of Brantford, 2020 Brantford TMP Update – 2051 Addendum, published September 2021). The screenline follows the alignment of the Grand River, within the city limits, and crosses the potential location of the West Brant Access Route Extension.

Table 1: Grand River Screenline Volume-Capacity Analysis – AM and PM Peak Hours (Year 2051, 'Do Minimal' Scenario)

Screenline Name	Direction	Capacity		AM Peak Hour		PM Peak Hour	
		Lanes	Total	Volume	V/C	Volume	V/C
Grand River South	EB	7	8,100	6,752	0.83	6,199	0.77
Grand River South	WB	7	8,100	4,433	0.55	7,639	0.94

Source: City of Brantford TMP 2051, Appendix C, Transportation Demand Forecasting Model – Updated, C-1, Future (2051) Do Minimal - V/C Ratios & Volumes, Screenline Summary

The 2051 'Do Minimal' screenline analysis shows that the Grand River South corridor approaches capacity in the PM peak, westbound direction, with a v/c ratio of 0.94. Eastbound traffic operates below capacity in both peaks but still reaches a v/c ratio of 0.83 in the AM peak, indicating growing directional pressure.

The initiation of the Environmental Assessment for the West Brant Access Route Extension (formerly the Oak Park Road Extension) project was completed by Parsons. Parsons completed Phases 1 and 2 of the Municipal Class EA for a Schedule C Project. This component of the Class EA was summarized in the Phase 1 and 2 Summary Report, Oak Park Road Extension Schedule C Municipal Class EA Study, published: December 2021). It confirmed the preferred solution as a new 4-lane roadway and bridge crossing, designed with multi-use pathways on both sides, and accommodation for future transit services.

This alignment was confirmed during the development of the City's TMP Update, where a system-wide screenline analysis was completed by Dillon Consulting. As documented in the 2020 review, Dillon reported that locating the Grand River crossing at Oak Park Road would divert 300 to 500 vehicles per day from congested routes such as the Lorne Bridge and Brant Avenue. The modeling demonstrated that this crossing location provided the greatest traffic relief and operational benefits while supporting long-term growth objectives, confirming Oak Park as the most effective and sustainable corridor.

Year 2051 volumes, as provided in the 2020 Brantford TMP Update – 2051 Addendum, are anticipated to be 13,000 vehicles per day (i.e. 1,339 vehicles modelled in the PM peak hour), operating at a good v/c of 0.51 with improvements. The PM peak hour volumes are shown in **Figure 2** and the screenline results for the Grand River screenline and West Brant Access Route Extension (Oak Park Road) link (that crosses the screenline) are shown in **Table 2**.

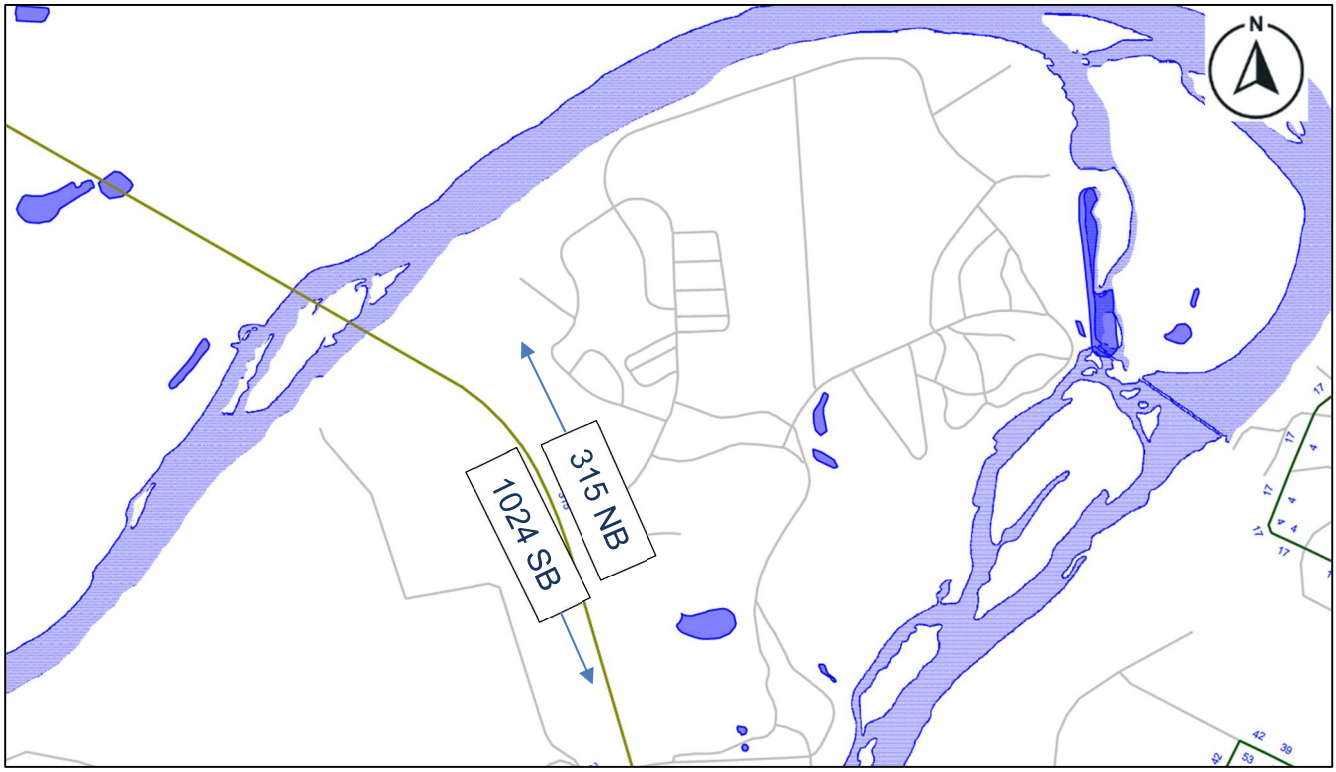


Figure 2: Link Volumes on West Brant Access Route Extension (Year 2051, 'Recommended Improvements', PM Peak Hour)

Source: City of Brantford, 2020 Brantford TMP Update – 2051 Addendum, published September 2021, Appendix C, Transportation Demand Forecasting Model – B-1, Future (2051) Recommended, Model Plots – Link Attributes & Volumes

Table 2: Grand River Screenline Volume-Capacity Analysis – AM and PM Peak Hours (2051 'Recommended Improvements')

Screenline: 1	Direction	Capacity		AM Peak Hour		PM Peak Hour	
Name: Grand River South		Lanes	Total	Volume	V/C	Volume	V/C
Direction: EB-WB	EB	10	11,100	6,813	0.61	6,393	0.58
	WB	10	11,100	4,376	0.39	7,693	0.69

Roadway (Link) Name	Direction	Capacity per lane	Lanes	Total Capacity	AM Peak Hour		PM Peak Hour	
					Volume	V/C	Volume	V/C
Link #3: Oak Park Road	WB	1,000	2	2,000	173	0.09	1,024	0.51
Link #4: Oak Park Road	EB	1,000	2	2,000	872	0.44	315	0.16

Source: City of Brantford, 2020 Brantford TMP Update – 2051 Addendum, published September 2021, Appendix C, Transportation Demand Forecasting Model – Updated, C-1, Future (2051) Recommended (Infrastructure + TDM) Screenline Summary

5.0 COLBORNE STREET WEST EA STUDY

Colborne Street West, from County Road 7 to D'Aubigny Road, is designated as a major arterial roadway. The corridor serves both established residential areas and expanding growth nodes in the west end. The existing cross-section, generally three lanes (one eastbound and two westbound), is not sufficient to accommodate forecasted demand, which is projected to be approximately 14,000 vehicles per day (i.e. 1,421 vehicles modelled in the PM peak hour, as shown in **Figure 3**). From the model plot, the volume-to-capacity (v/c) ratio is projected to range between 0.85 and 1.0 by 2051—approaching the threshold for road capacity upgrades. As shown in **Table 3**, the calculated v/c ratio reaches 0.98 in the PM peak hour eastbound direction, based on an assumed eastbound capacity of 900 vehicles per hour in a single travel lane, which represents the critical time period and direction.

The City of Brantford, 2020 Brantford TMP Update – 2051 Addendum, published September 2021, recommendations included widening this segment to 4 lanes and upgrading intersection operations to improve flow and safety. **Figure 4** shows the forecasted PM peak hour volumes on Colborne Street West, illustrating the need for roadway widening. Modelled traffic volumes have increased on this road link, likely due to traffic reassignment—primarily redirected to the West Brant Access Route Extension, which intersects with Colborne Street West.

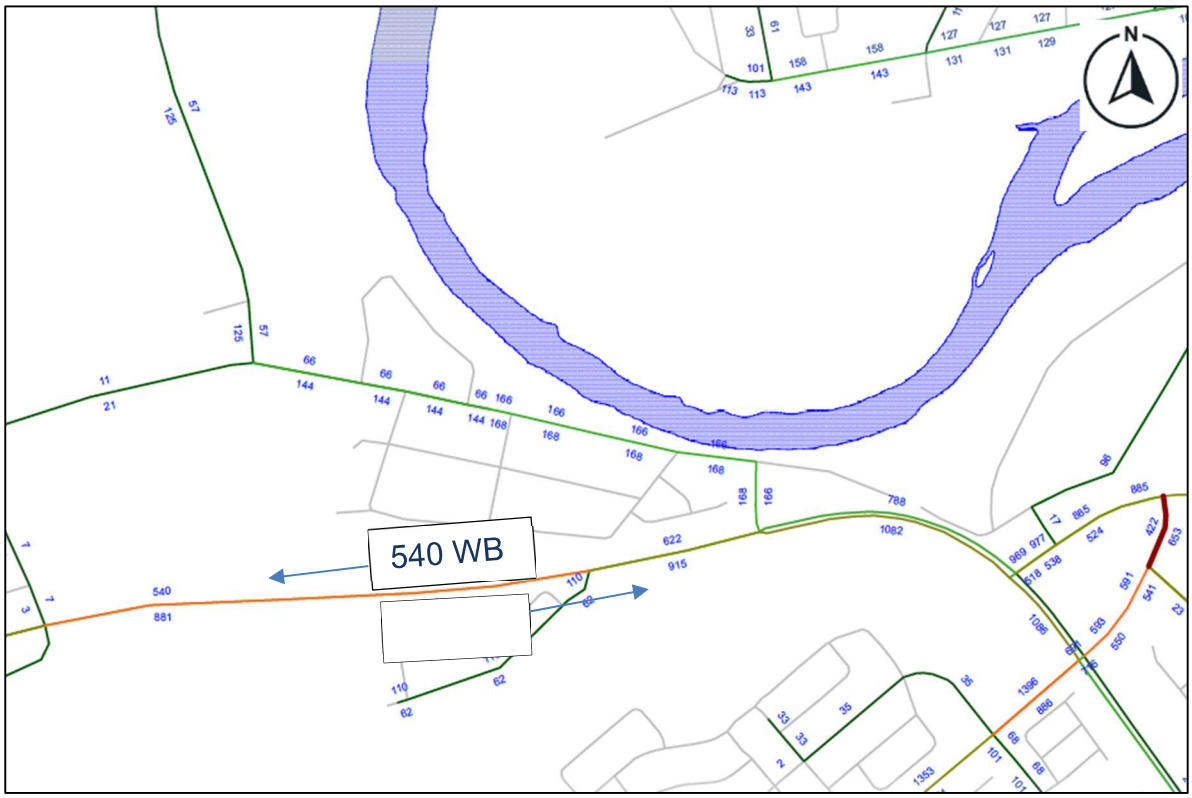


Figure 3: Link Volumes on Colborne Street West (Year 2051, 'Do Minimal' Scenario, PM Peak Hour)

Source: City of Brantford, 2020 Brantford TMP Update – 2051 Addendum, published September 2021, Appendix C, Transportation Demand Forecasting Model – Updated, B-1, Future (2051) Do Minimal - Model Plots – Link Attributes & Volumes

Table 3: Colborne Road West Volume-Capacity Analysis – AM and PM Peak Hours (Year 2051, 'Do Minimal' Scenario)

Roadway (Link) Name	Direction	Capacity per lane	Lanes	Total Capacity	AM Peak Hour		PM Peak Hour	
					Volume	V/C	Volume	V/C
Colborne Road West	EB	900	1	900	363	0.40	881	0.98
Colborne Road West	WB	900	2	1,800	894	0.50	540	0.30

Source: City of Brantford, 2020 Brantford TMP Update – 2051 Addendum, published September 2021, Appendix C, Transportation Demand Forecasting Model – Updated, B-1, Future (2051) Do Minimal - Model Plots – Link Attributes & Volumes

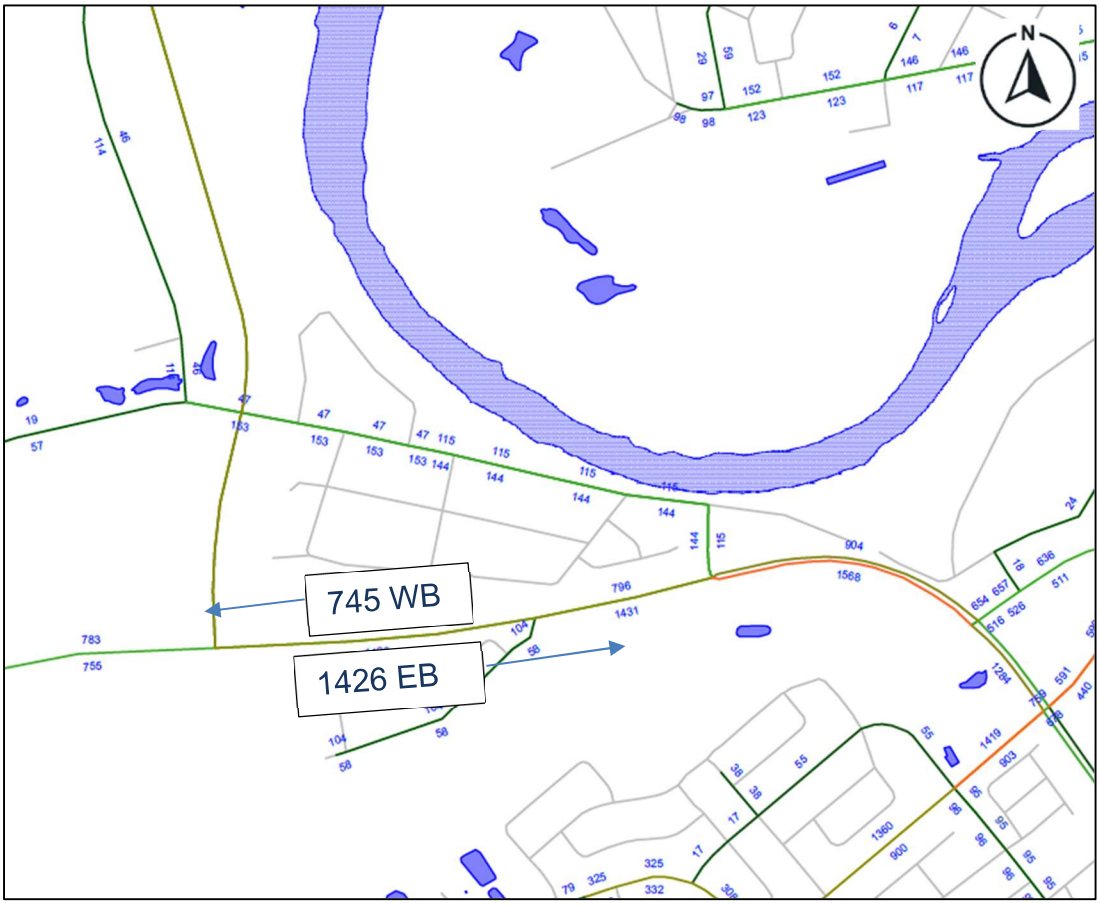


Figure 4: Link Volumes on Colborne Street West (Year 2051, 'Recommended Improvements', PM Peak Hour)

Source: City of Brantford, 2020 Brantford TMP Update – 2051 Addendum, published September 2021, Appendix C, Transportation Demand Forecasting Model – Updated, B-1, Future (2051) Recommended, Model Plots – Link Attributes & Volumes

Table 4 presents the volume-to-capacity (v/c) analysis for Colborne Street West under the 'Recommended Improvements' scenario for the year 2051, based on outputs from the City of

Brantford's updated transportation demand forecasting model. The analysis includes the weekday AM and PM peak hours, assuming a capacity of 900 vehicles per hour per lane and two lanes per direction.

In the PM peak hour, the eastbound direction operates at a v/c ratio of 0.79 with a volume of 1,426 vehicles. All movements remain under capacity in the AM peak, while the PM eastbound flow nears the planning threshold of 0.85, reinforcing the need for the recommended widening of Colborne Street West.

Table 4: Colborne Road West Volume-Capacity Analysis – AM and PM Peak Hours (Year 2051, 'Recommended Improvements' Scenario)

Roadway (Link) Name	Direction	Capacity per lane	Lanes	Total Capacity	AM Peak Hour		PM Peak Hour	
					Volume	V/C	Volume	V/C
Colborne Road West	EB	900	2	1,800	465	0.26	1,426	0.79
Colborne Road West	WB	900	2	1,800	1,194	0.66	745	0.41

Source: City of Brantford, 2020 Brantford TMP Update – 2051 Addendum, published September 2021, Appendix C, Transportation Demand Forecasting Model – Updated, B-1, Future (2051) Recommended, Model Plots – Link Attributes & Volumes

6.0 ACTIVE TRANSPORTATION, TRANSIT AND COMPLETE STREETS

The 2023 Active Transportation Master Plan further identifies both the West Brant Access Route Extension and Colborne Street West as corridors with gaps in multimodal infrastructure. Recommendations include:

- Buffered bike lanes or multi-use pathways (MUPs);
- Enhanced sidewalks and crosswalks; and
- Design provisions for future transit route extensions.

These active transportation and transit-supportive elements are consistent with Brantford's Complete Streets policy and the City's Official Plan (2021), which prioritizes inclusive, safe, and sustainable street design. Together, these projects will:

- Address forecasted growth in travel demand to 2051;
- Improve north-south and east-west connectivity in west Brantford;
- Relieve pressure on existing constrained corridors;
- Enhance emergency response and network resiliency through additional Grand River crossing capacity;
- Support active transportation and transit accessibility in newly developing neighbourhoods.

Figure 5 shows the ATMP's recommended active transportation network improvements for west Brantford, including both study corridors. Multi-use Paths (shown as a green dashed line) are planned for both the West Brant Access Route Extension and Colborne Street West.

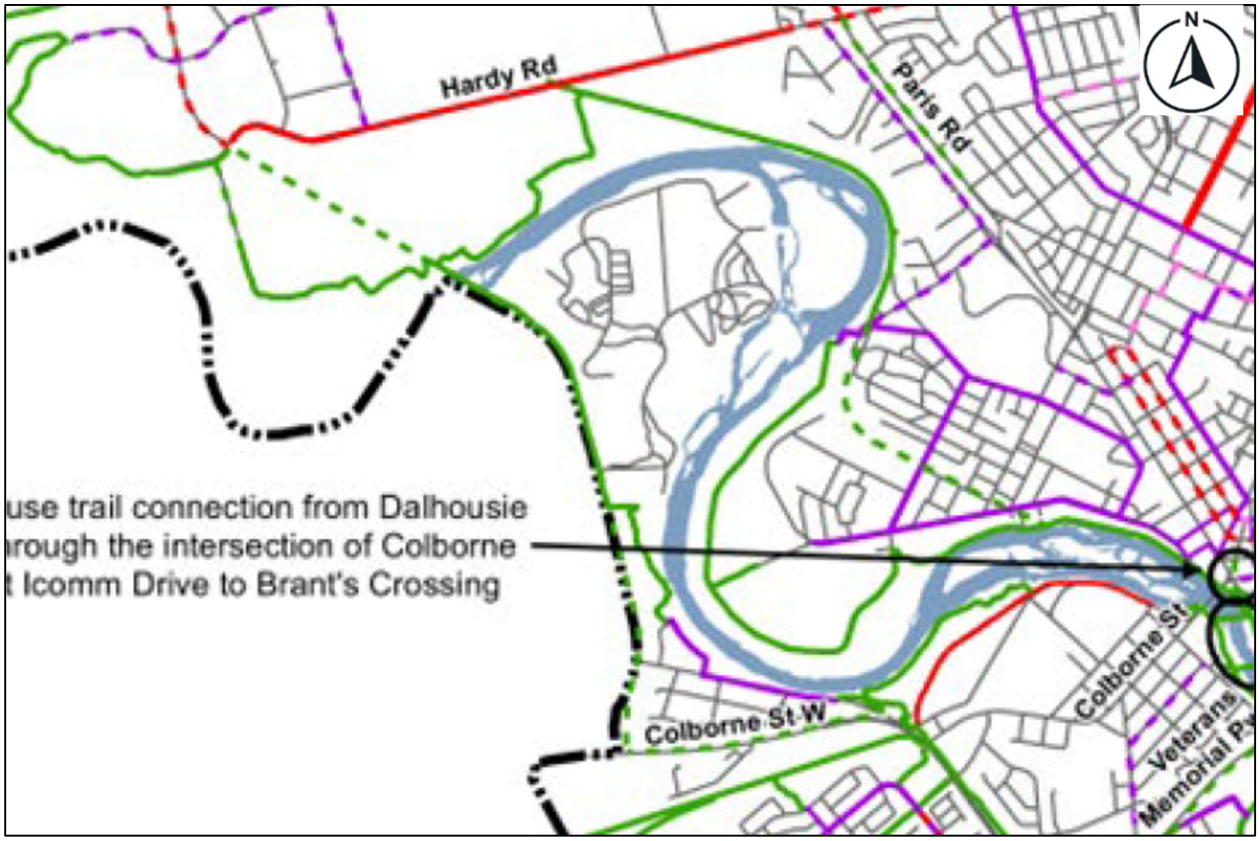


Figure 5: Recommended Multimodal Network Improvements in West Brantford (ATMP, 2023)

Source: City of Brantford Active Transportation Master Plan, September 2023,
Appendix C: Proposed 2051 Active Mode Network

7.0 SUMMARY OF TRANSPORATION INFRASTRUCTURE IMPROVEMENTS

An overview of the existing and planned cross-sections, along with multimodal features, is provided in **Table 5**.

Table 5: Corridor Cross-Section Summary and Multimodal Features

Corridor	Existing Lanes	Planned Lanes	Active Transportation Features	Transit Service
West Brant Access Route Extension	n/a (new route)	4 lanes	Potential for MUPs and/or sidewalks on new bridge	Designed to accommodate bus service
Colborne Street West	2 lanes	4 lanes + turn lanes	MUP and/or sidewalks	Future route connection supported; served by Brantford Transit Route 5 (West Brant–Oakhill)

To address long-term transportation needs in west Brantford, the City is undertaking two coordinated EA studies: one for the West Brant Access Route Extension (previously the Oak Park Road Extension) to improve north-south connectivity across the Grand River, and one for Colborne Street West to address future capacity and multimodal needs. The TMP and ATMP recommended four travel lanes and MUPs for both roadways. Both projects support planned growth to 2051 and align with the City's Official Plan, TMP, ATMP, and Complete Streets policies.