Southeast Courtice Transportation Master Plan

Municipality of Clarington

60582225

May 2023

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AECOM: 2015-04-13

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Revision History

Rev #	Revision Date	Revised By:	Revision Description
01	2022-11-09	Saeideh Rasouli	To address comments from the Municipality of Clarington and the Regional Municipality of Durham
02	2023-05-05	Saeideh Rasouli	Finalized the Draft Report with no change

Distribution List

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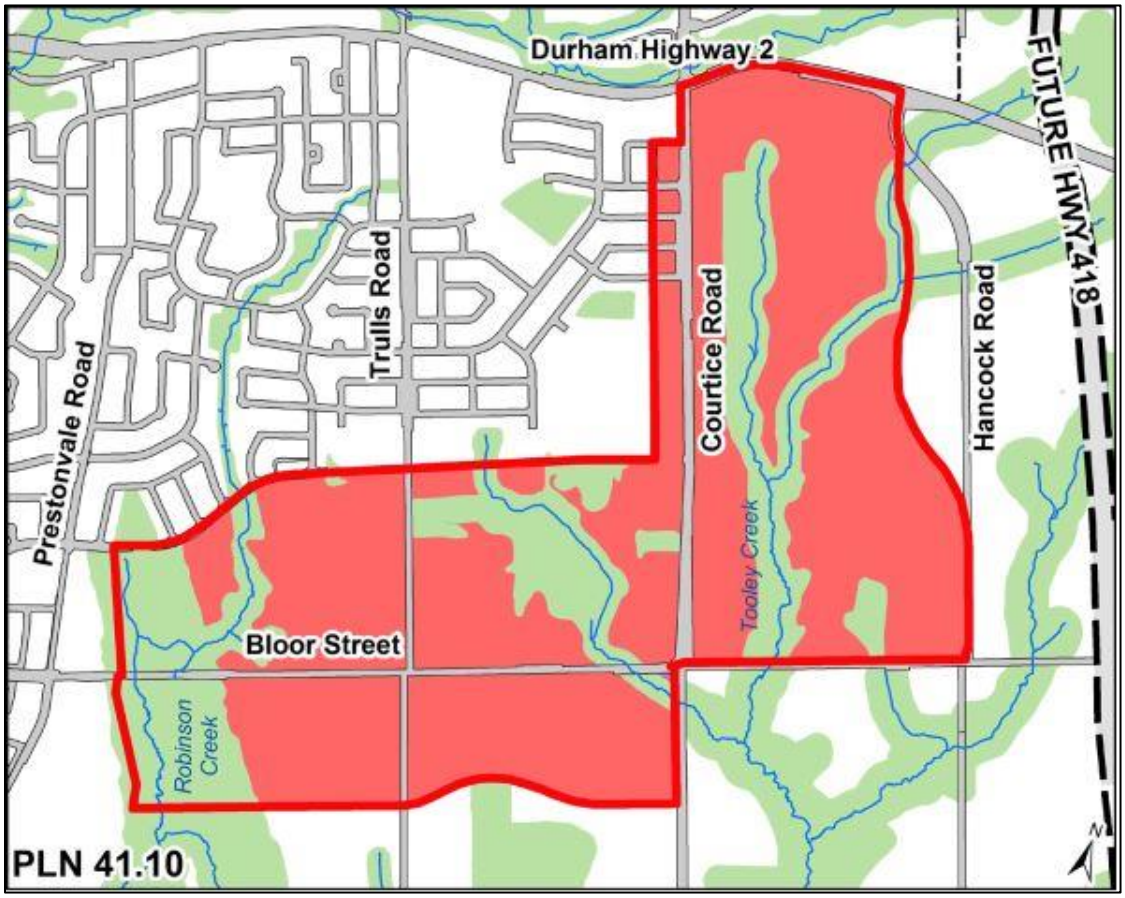
Executive Summary

AECOM Canada Ltd. (AECOM) has been retained by the Municipality of Clarington to assist in the preparation of the Southeast Courtice Secondary Plan (SECSP) and the Southeast Courtice Transportation Master Plan (SEC TMP) through the integrated planning process. The primary objective of the current study (the Study) is to prepare a Transportation Master Plan for the Southeast Courtice neighbourhood in Courtice, Ontario and document the completion of Phases 1 and 2 of the Municipal Class Environmental Assessment (MCEA) process.

Study Area

The SEC TMP study area, herein after called the 'Study Area' is located at the eastern edge of the Courtice Urban Area generally between Durham Highway 2 to the north, Hancock Road to the east, Prestonvale Road to the west and about 500 metres south of Bloor Street to the south (**Exhibit E-1**).

Exhibit E-1: Study Area



The Purpose of Southeast Courtice Transportation Master Plan

The purpose of the SEC TMP is to identify the recommended infrastructure to accommodate existing and planned land use within the Study Area; develop an implementation plan to prioritize infrastructure planning and construction; and complete the Transportation Master Plan using an integrated Environmental Assessment (EA) planning process.

Integrated Master Planning Process

An integrated approach was utilized for the preparation of the SECSP and SEC TMP, so as to co-ordinate and integrate the planning and approval processes for the proposed development in accordance with the Planning Act and the Ontario Environmental Assessment Act. The SEC TMP has followed MCEA Approach #1 involving a broad level of assessment and preparation of the Master Plan at the conclusion of MCEA Phases 1 and 2. However, further investigation will be required prior to implementing the Schedule B and C projects recommended by the SEC TMP. Under Approach #1, the Master Plan becomes the basis for, and is used in support of, future investigations for the recommended Schedule B and Schedule C projects. Schedule B projects will require the preparation and filing of a Project File Report, for public review while Schedule C projects will require the completion of Phases 3 and 4 of the MCEA process prior to filing an Environmental Study Report (ESR) for public review.

Consultation

Engagement with review agencies, key stakeholders, Indigenous Communities, and the public is a key component of the MCEA process. The preparation of this Transportation Master Plan has been supported by a thorough public engagement strategy, including a range of public consultation initiatives, including online and in-person events.

At the project start a communication plan was set up to detail the method of notification proposed for this project and to demonstrate that the notification requirements of both the *Planning Act* and the *Ontario EA Act* are being fulfilled. For this study the Municipality's consultation unit, Clarington Communications, took the lead for all public, agency and Indigenous Community consultation and engagement efforts, with the assistance of AECOM.

The Study was supported by a Steering Committee, formed to oversee project management activities, and discuss issues that arose during the project. Members of the Steering Committee consisted of the Municipality of Clarington's staff, Durham Region staff, a representative from CLOCA, school boards, the landowners group, and

the lead Consultant for the Municipality. Communication with the Steering Committee in the form of meetings and workshops was undertaken at project milestones.

The Municipality of Clarington hosted three public meetings for the Study to fulfill the requirements of the Planning Act and MCEA Process. These were scheduled to occur at key points in the project schedule to offer stakeholders and Indigenous Communities an opportunity to learn about the project and provide feedback on the study.

All landowners in the area received notifications at project milestones. The major landowners group within the Study Area had representatives in the Steering Committee and attended the Steering Committee Workshops and Meetings.

Review agencies and Indigenous Communities were consulted during the planning process and were provided opportunities to review the project information including recommended alternative solutions and the recommended plans.

This report includes a detailed description of the communication and consultation tools and activities employed and a record of all consultation.

Problem and Opportunity Statement

Following a review of existing and future conditions, background information, and other relevant data the following problem / opportunities were identified for the SEC TMP:

- Regional and Municipal planning policy identify residential and employment growth within the Study Area; and
- Improved transportation service is required to meet the needs of new development with the Study Area.

Additional problem / opportunities identified as part of this Transportation Master Plan study include the following:

- Strategically located along three regional corridors and in close proximity to the Courtice Employment lands and future public transit, the Study Area is positioned to absorb a significant portion of the projected growth for the Courtice urban area. A combination of corridor improvements, road extensions and new roads will be required to support the development of the Study Area;
- Streets with a range of transportation options, including public transit and active transportation to accommodate all users of all abilities will be a priority addressing the policy focus on moving towards a low carbon environment;

- The future Courtice GO Station as part of Metrolinx's "Big Move" Regional Transportation Plan, Highway 2 Durham Rapid Transit, and enhanced local Durham Region Transit (DRT) service are planned to increase general public transit connectivity and service, promoting transit as an alternative travel mode for the area and surrounding community; and
- Regional and municipal cycling facilities and active transportation additions are planned throughout the Study Area as both primary, short-term and long-term improvements. The Clarington Transportation Master Plan (CTMP) identifies a desire for active transportation to see an increase in mode share over the years, by making walking and cycling more practical and attractive.

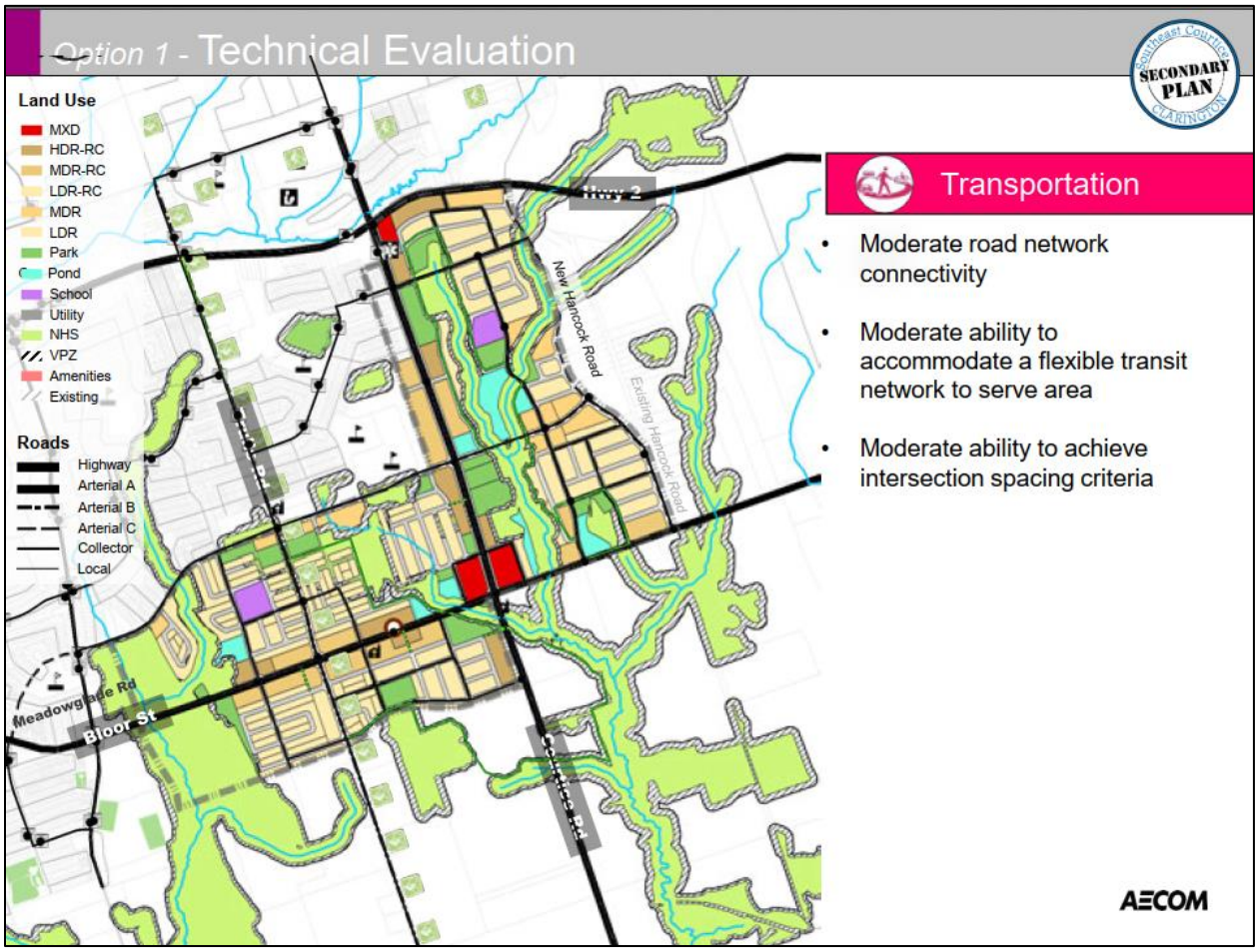
Proposed Alternative Solutions and Evaluation

After confirming the need for a balanced transportation plan (incorporating new roads, active transportation, transit servicing, and balanced planning policies promoting an environmentally sustainable development plan), a variety of alternative solutions were considered in the development of alternative methods to address the problem/opportunity statement. The development of alternative transportation networks followed an integrated approach aligned with the development of various land use scenarios for the SECSP. The three land use plans and associated road networks were developed based on varying levels of development yield, preserving environmental features, and creating community focus points (creation of landmark nodes and elements). The components of proposed land use scenarios were utilized in the assessment of the transportation alternatives. Through this process, three transportation networks plus the Do Nothing Scenario were identified and evaluated.

Land Use Alternative 1 – Traditional Neighborhood (Extend)

Land use Alternative 1 includes continuation of the existing approach to development in the community of Courtice. The road network in this scenario includes a full extent of major road with increased water crossings, and minor roads consistent with a traditional suburban layout (**Exhibit E-2**).

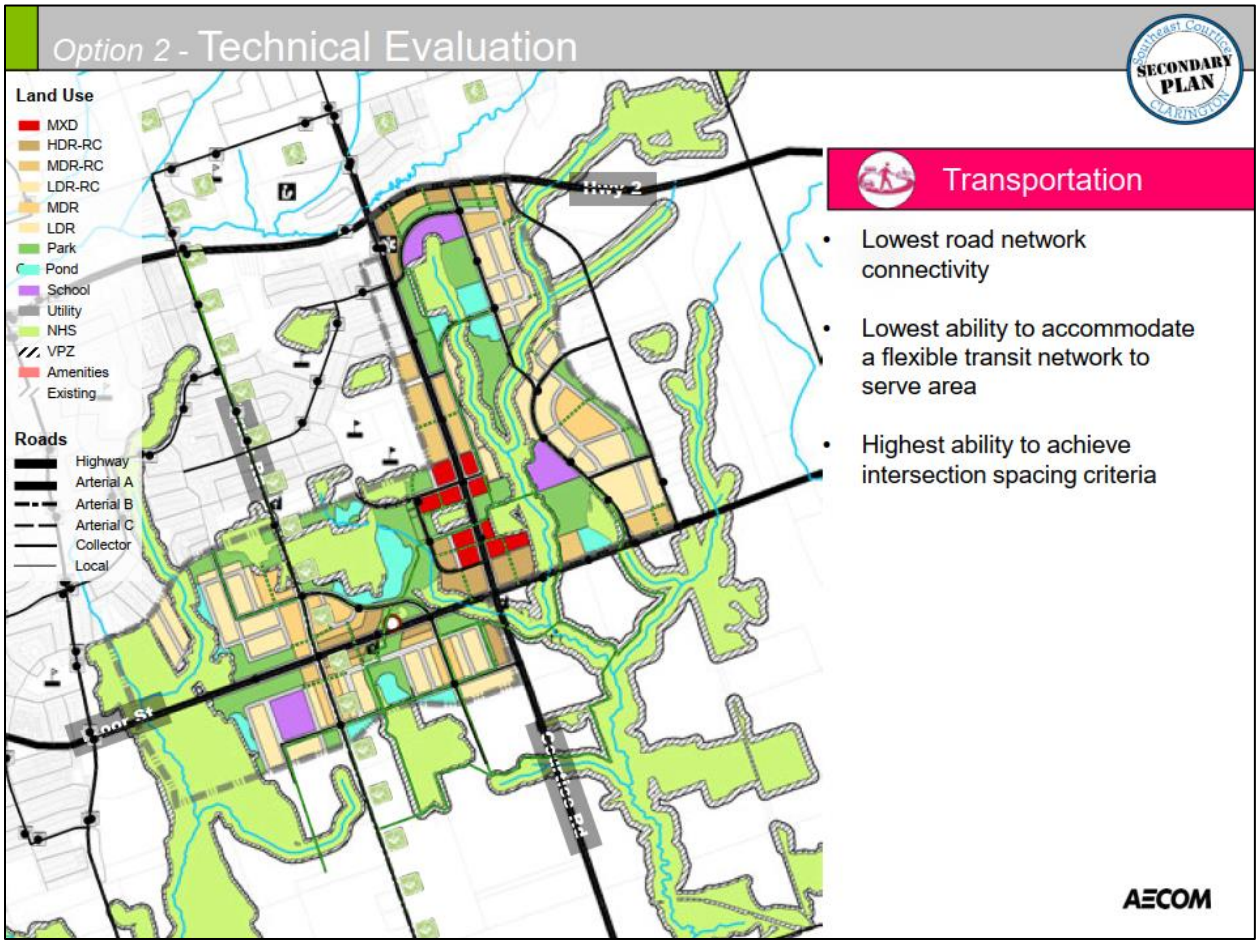
Exhibit E-2: Alternative 1 – Traditional Neighborhood (Extend) Road Network



Land Use Alternative 2- Priority Green (Cluster)

Land use Alternative 2 places a greater emphasis on natural areas by minimizing impacts to sensitive areas and maximising habitat linkages. The overall built form seeks to intensify along the local and regional corridors with commercial focus just north of the Courtice Road and Bloor Street intersection. The highest concentration of residential density is located along Bloor Street, between Trulls Road and Courtice Road. The road network in this scenario includes a limited extension of the major road network where feasible, increased mobility options, with minor roads following the landscape configurations. Water crossings will be limited in this scenario where possible (**Exhibit E-3**).

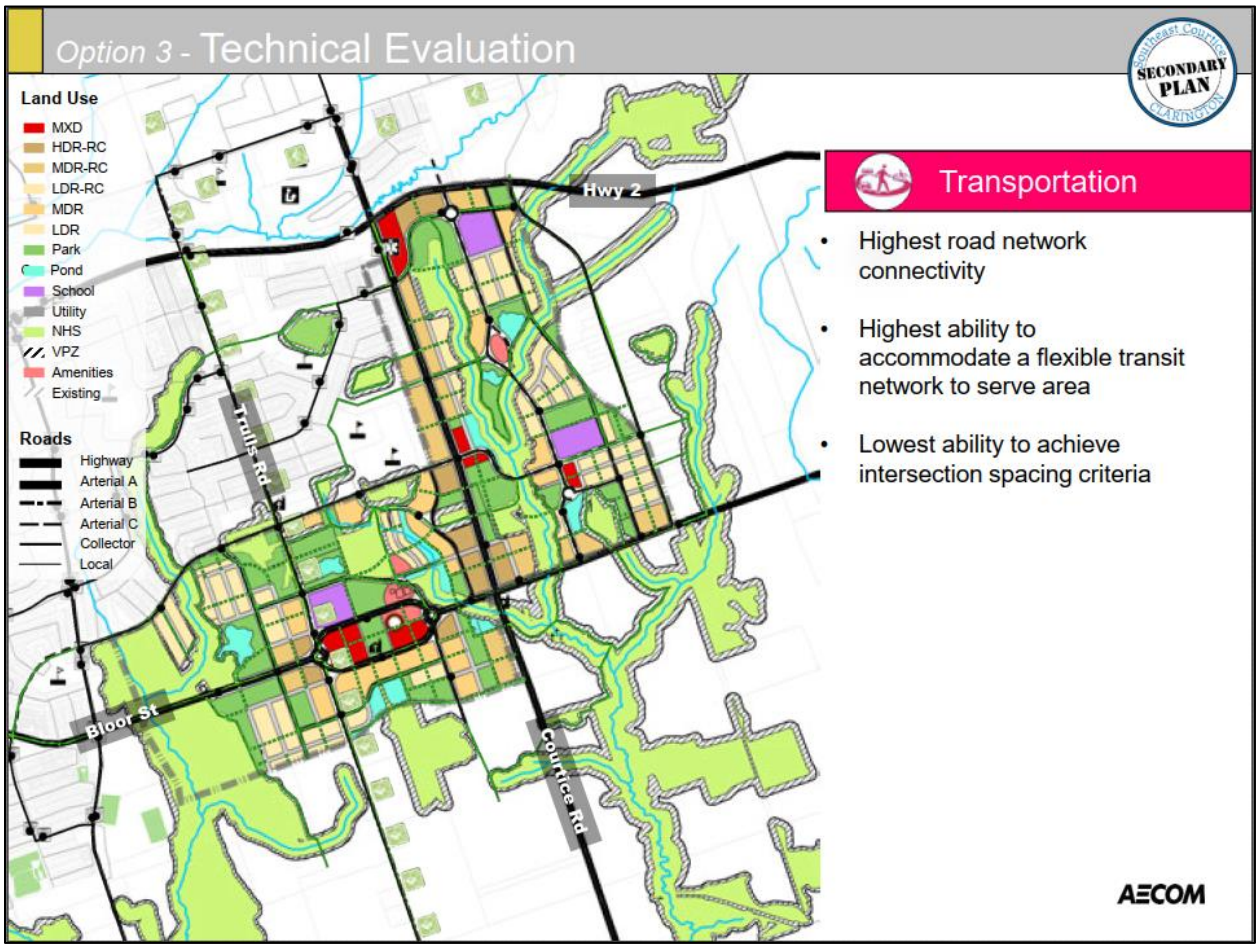
Exhibit E-3: Alternative 2 – Priority Green (Cluster) Road Network



Land Use Alternative 3- Community Focus (Knit)

Land use Alternative 3 seeks to balance the competing demands of an improved yield, while protecting, conserving, enhancing and restoring some of the lands that are recognised to have ecological value and the potential to return to its natural conditions. Recognizing the prominent intersections within the neighborhood, high-rise built up areas will be at the intersections of Trulls Road and Bloor Street; Bloor Street and Courtice Road, Meadowglade Road and Courtice Road; and Courtice Road and Highway 2. The road network in Alternative 3 will be optimized, augmented by a strong trail and path network to support walking and cycling. The roads and pedestrian network have maximum connectivity in this scenario, and minor roads support more connected and gridded structure (**Exhibit E-4**).

Exhibit E-4: Alternative 3- Community Focus (Knit) Road Network



Evaluation of Alternative Road Networks

To assist in selection of the Preferred Solution an evaluation matrix was developed to compare the alternative solutions, obtain an understanding of their potential to impact the area technical, natural, socio-economic, and cultural environment and to identify the advantages and disadvantages associated with each option. Criteria utilized for this evaluation consists of technical and economic considerations as well as natural and cultural environmental components.

A simple scoring method was utilized to present a visual comparison of the alternatives that ranged from Least Preferred moving incrementally to Most Preferred using the scoring as illustrated in **Exhibit 8-5** of this report. A more preferred option indicates that the alternative strikes a balance between addressing the problem/opportunity and in minimizing impacts to the area environment (technical, natural, socio-economic, and cultural). Advantages and disadvantages associated with each alternative has been descripted in **Section 8.3** of this report with detailed Evaluation presented in **Appendix H**.

Climate Change

Climate Change was included as a criterion in the evaluation of the alternatives. The potential to impact carbon dioxide and Green House Gas (GHG) emissions was considered along with the resiliency of the Study Area to future extreme weather events. The planned SEC TMP infrastructure will improve vehicle flow and address capacity potentially reducing delays and vehicle idling. It will also assist in making the Study Area more pedestrian and cycling friendly which could decrease vehicular use and result in a reduction in vehicular GHG emissions. Carbon sequestration was considered in the development of the alternatives by provision of parklands, Natural Heritage Systems, and habitat linkages. Likewise, the SECSP alternatives incorporate green areas and corridor cross-section design that maximizes the boulevard width for streetscaping therefore allowing for the planting of street trees and increased vegetation. The SECSP also allows for the inclusion of infrastructure design that can be more resilient to extreme weather events and flooding. The associated drainage infrastructure necessary for the Study Area can be designed to consider climate change and potentially minimize the potential for flooding. Low Impact Development (LID) features can also be incorporated to increase infiltration. These measures can assist in making the Study Area less susceptible to flooding and ultimately less vulnerable to climate change. During the additional MCEA phases to follow the aspect of climate change can be explored further and measures incorporated into the future detail design for the various projects to mitigate climate change.

Recommended Transportation Network

The alternative land use plans and road networks were reviewed and technically evaluated against a list of factors and criteria in order to identify and develop recommended community and road structure plan that balances and achieves the goals of the Municipality of Clarington and key stakeholders. The goal was to optimise yield, while protecting, conserving, enhancing and restoring lands recognised to have ecological value and potential to return to its natural conditions. **Exhibit E-5** shows the Recommended Transportation, Parks and Open Space Plan.

The comprehensive evaluation based on the insight from the technical studies, comments received from the public, municipality staff, agencies and landowners as part of public workshops and subsequent correspondence, and also steering committee workshop yielded a comprehensive road network that results in extended and new connected corridors. The recommended transportation network includes:

- Realignment of Hancock Road;
- Extensions of Meadowglade Road, Sandringham Road, Granville Drive, Farmington Drive;

Exhibit E-5: Recommended Transportation, Parks and Open Space

Source: SECSP- Recommended, Municipality of Clarington, June 2020

- A variety of new Collector Roads;
- Potential alternative layout configurations for Arterial A roads in the following locations (subject to detailed feasibility review through future studies):
  - Courtice Road: Bloor Street northerly to Highway 2 and southerly to the location of the planned Courtice GO Station, and
  - Bloor Street: Courtice Road westerly approximately 1 kilometre to the future Granville Drive intersection with Bloor Street and easterly to Hancock Road;
- The Overall transportation plan also includes maximised considerations for transit service;
- The proposed transportation network is designed to encourage walkability through a connected grid network with block lengths of no more than 200 metres;

- The street network ensures ample connectivity within the community and appropriate links outside of the community;
- The street network adheres to the Region's minimum intersection spacing while reducing the number of water crossings; and
- The proposed plan supports a robust active transportation network to provide a safe, direct and comfortable route for cyclists and pedestrians. The active transportation network includes sidewalks, mid-block connections no further that 100 metres apart, bicycle lanes and trails to further create connections and permeability throughout the community.

Refined Transportation Network

The recommended plan was further refined to address comments received from public, review agencies and other stakeholders on recommended land use scenarios and the transportation network. **Exhibit E-6** shows the Refined Transportation, Parks and Open Space Plan adopted by the Council of the Municipality of Clarington in December 2020.

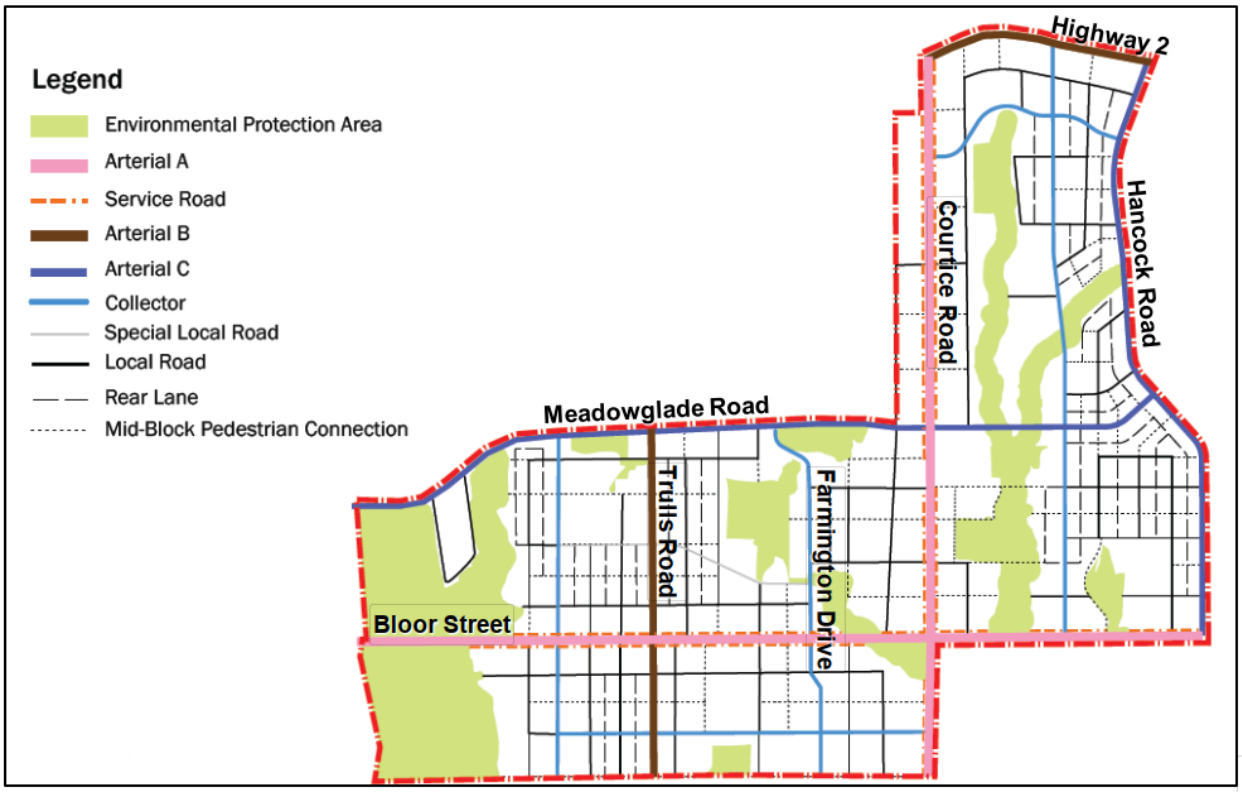
Exhibit E-6: Refined Transportation, Parks and Open Space

Source: SECSP- Municipality of Clarington, December 2020.

Proposed Road Network

The proposed road network comprises Arterial Roads, Collector Roads, Local Roads and Laneways (**Exhibit E-7**). A Special Local Road is also identified providing the functional requirements of a Collector Road. The road network has been placed with consideration to the intersection spacing and signalized intersection spacing principles contained in Durham Region's Arterial Corridor Guidelines. Based on the historical road grid in the southern part of Durham, alternate spacing of signalized intersections every 300 and 500 metre on east-west Type A and B Arterials is permitted. In a north-south direction, signalized intersections may occur at a spacing of every 700 metres along Type A Arterials and may also occur at approximately 500 to 550 metres along Type B Arterials. Intersections are generally permitted every 300 metres along Type C Arterials.

Exhibit E-7: Proposed Road Network



Source: SECSP Transportation Report, AECOM 2021

Proposed Transit Network

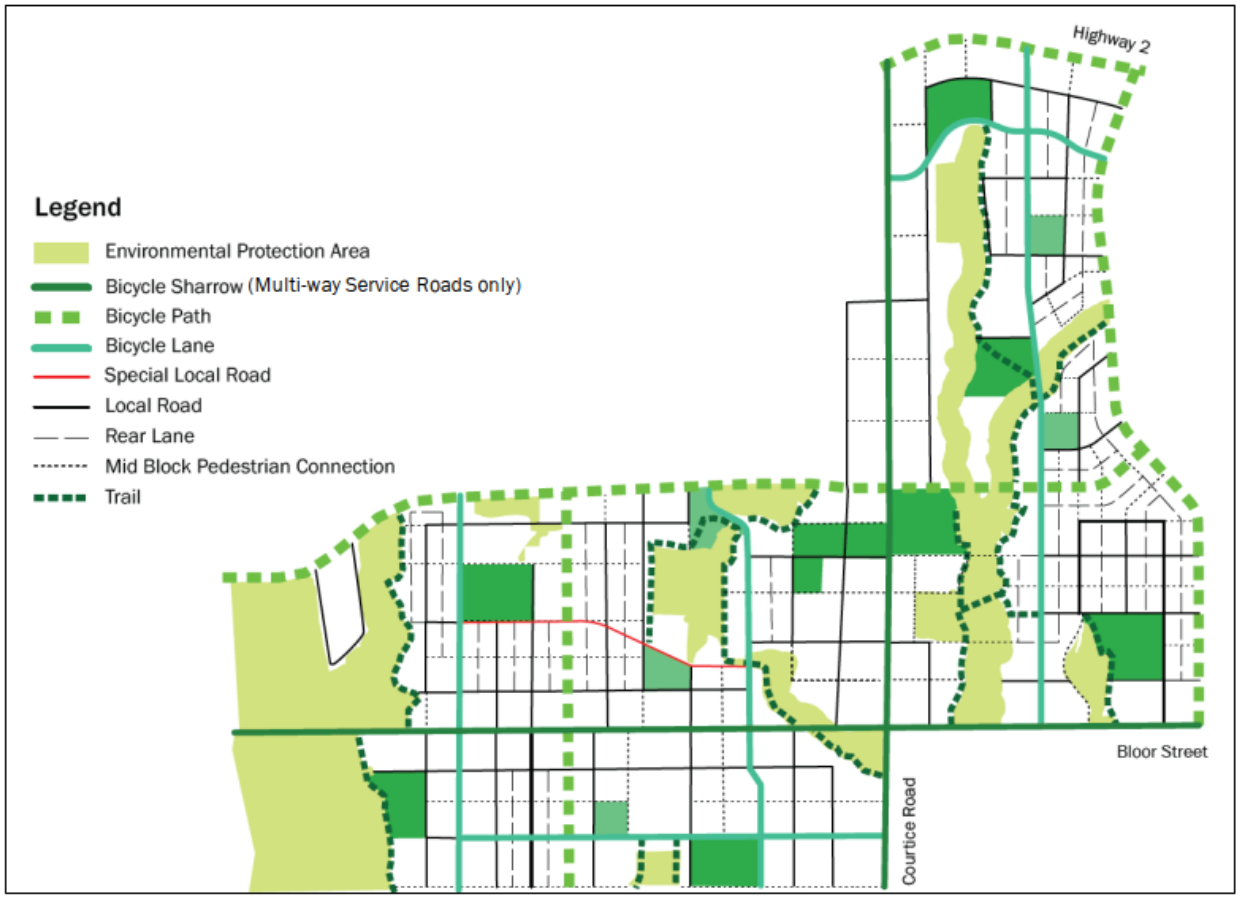
A transit-oriented development approach has been adopted to promote the creation of a sustainable and complete community within Study Area. The following transit principles are planned for the Study Area:

- Highway 2, Courtice Road, Bloor Street and Trulls Road are encouraged to serve as primary Transit Corridors supporting rapid transit infrastructure for efficient inter-regional travel;
- Meadowglade Road and Hancock Road are encouraged as Secondary Transit routes to provide sustainable travel options to all users;
- Sidewalks should connect directly to transit shelters;
- Transit stops should be located in close proximity to activity nodes and building entrances and on the far side of intersections to improve road efficiency & commuter safety; and
- Transit stops should include a shelter and include basic amenities, including seating, trash receptacles, lighting, and route information.

Proposed Active Transportation

A mixture of on- and off-street cycle lanes and several trails have been identified in the Study Area (see **Exhibit E-8**). Continuity of active transportation infrastructure, including safe and direct connections across roadways, has been considered critical to attracting a high level of use and the overall success of these facilities. All signalized intersections along study corridors within the Study Area will meet Region of Durham guidelines and requirements and will also provide pedestrian crossing facilities. Bicycle paths and bicycle lanes on all Type A, B, and C Arterials will continue through all signalized intersections and provide connections within the Study Area and to adjacent neighbourhoods beyond the boundaries of the Study Area.

Exhibit E-8: Proposed Active Transportation Network

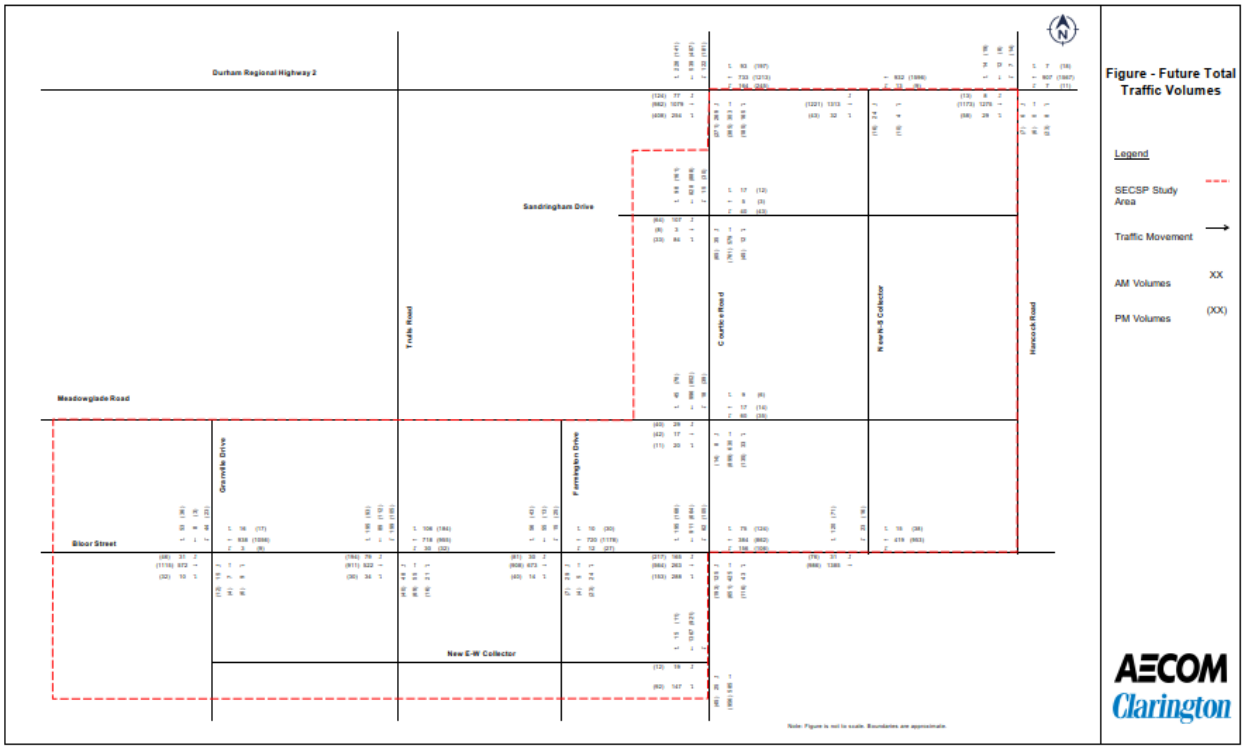


Source: SECSP Transportation Report, AECOM 2021

Future Total Traffic Operations

Traffic operations in the Future Total Conditions are generally shown to be acceptable, with all study intersections operating at an overall LOS D or better. Eight critical movements were reported during the AM peak hour, up from three in the Future Background Conditions, and fourteen critical movements were reported during the PM peak hour, up from eight in the Future Background Conditions. See **Exhibit E-9** below.

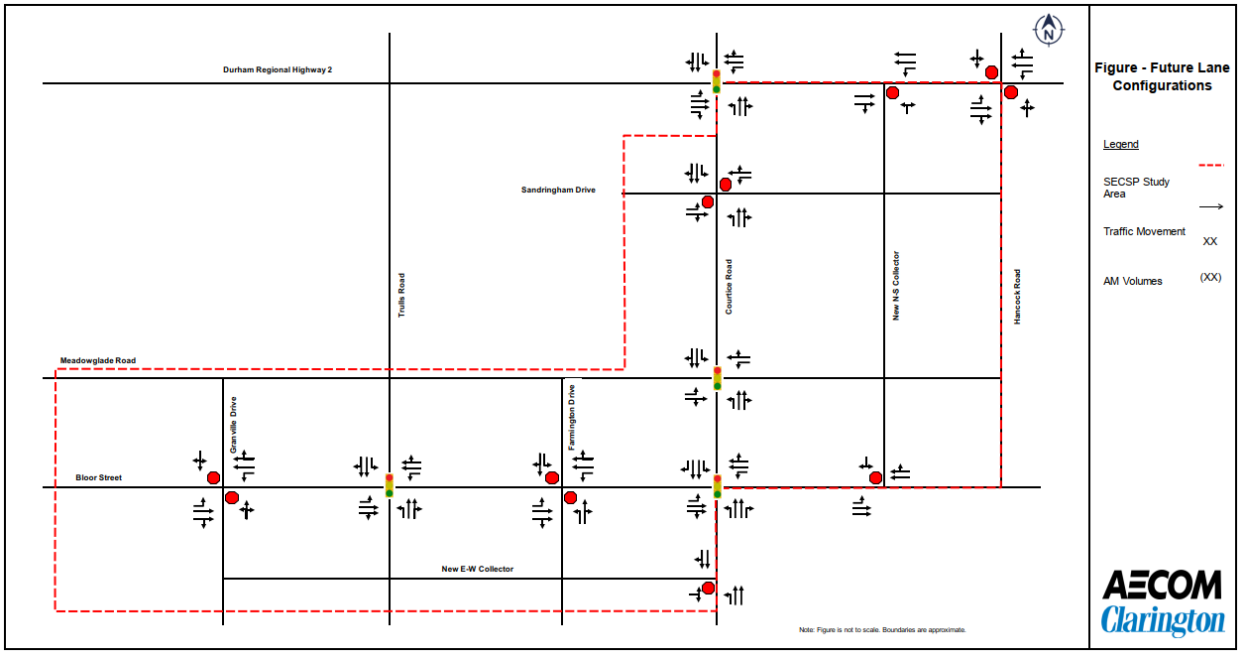
Exhibit E-9: Future Total Traffic Volumes – 2031 AM and PM Peak Hours



Source: SECSP Transportation Report, AECOM 2021.

Exhibit E-10 shows the final lane configurations and intersection controls used in the Future Total Conditions traffic analysis and recommended for implementation. As an additional consideration, although some of the unsignalized collector road intersections with Regional Highway 2, Courtice Road and Bloor Street only demonstrate the need for a shared approach (that is, a shared left-through-right lane) it is recommended that the approach lane be constructed somewhat wider in order for the potential eventual need for separate approach lanes.

Exhibit E-10: Future Lane Configurations and Intersection Controls



Source: SECSP Transportation Report, AECOM 2021.

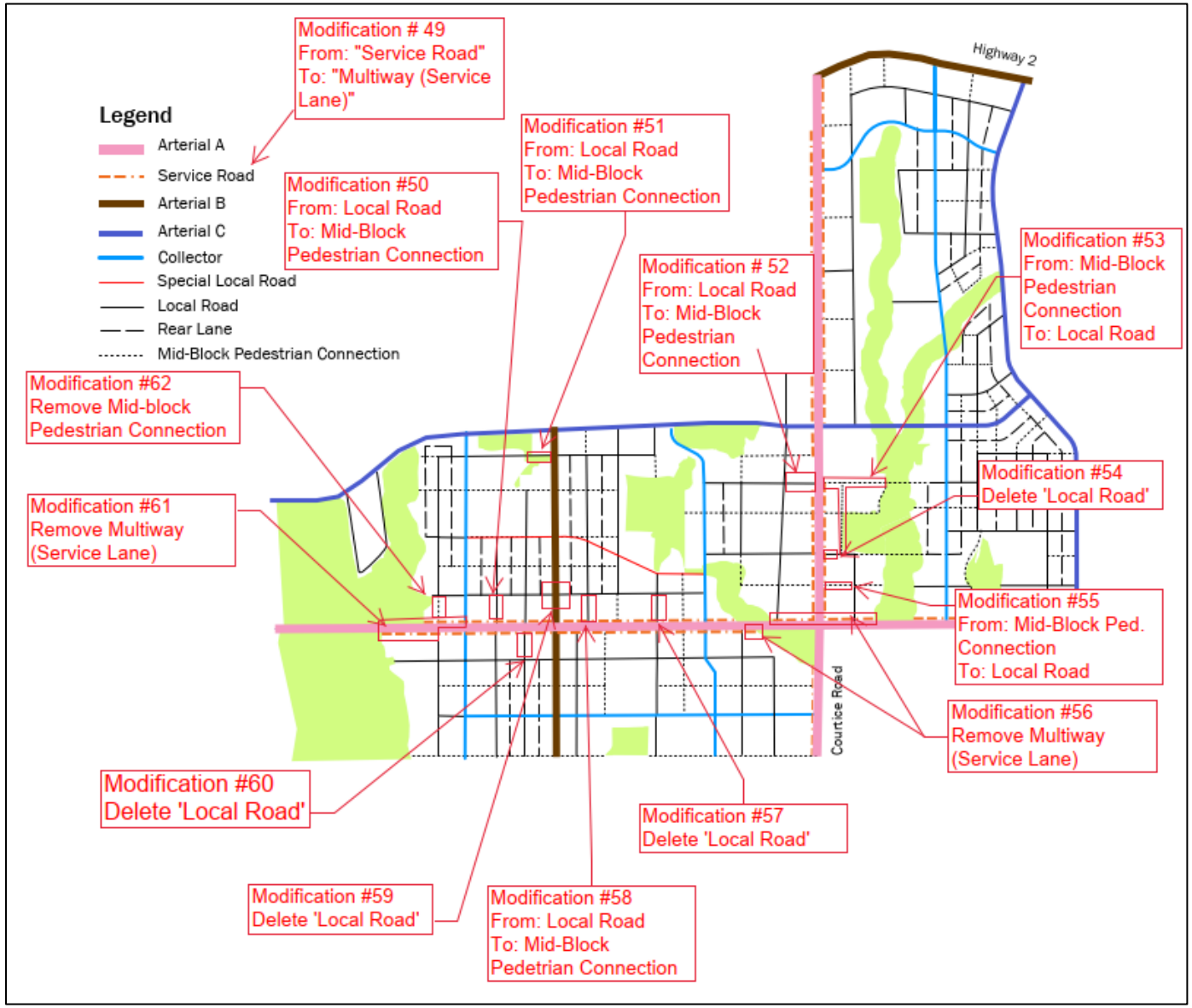
Modified Transportation Network

The Southeast Courtice ‘s December 2020 Refined Transportation, Parks and Open Space Plan have been subject to further modifications in response to Durham Region’s comments. **Exhibit E-11** shows the modified version of Southeast Courtice Transportation, Parks and Open Space Plan approved by the Durham Region’s Commissioner of Planning and Economic Development on March 02, 2022. Subsequently, there have been some modifications to the proposed Road Network and proposed Active Transportation Network as shown in **Exhibit E-12** and **Exhibit E-13**. Red Mark-ups on **Exhibit E-11** to **Exhibit E-13** show the 2022 approved modifications by Durham Region.

Exhibit E-11: Modified Transportation, Parks and Open Space

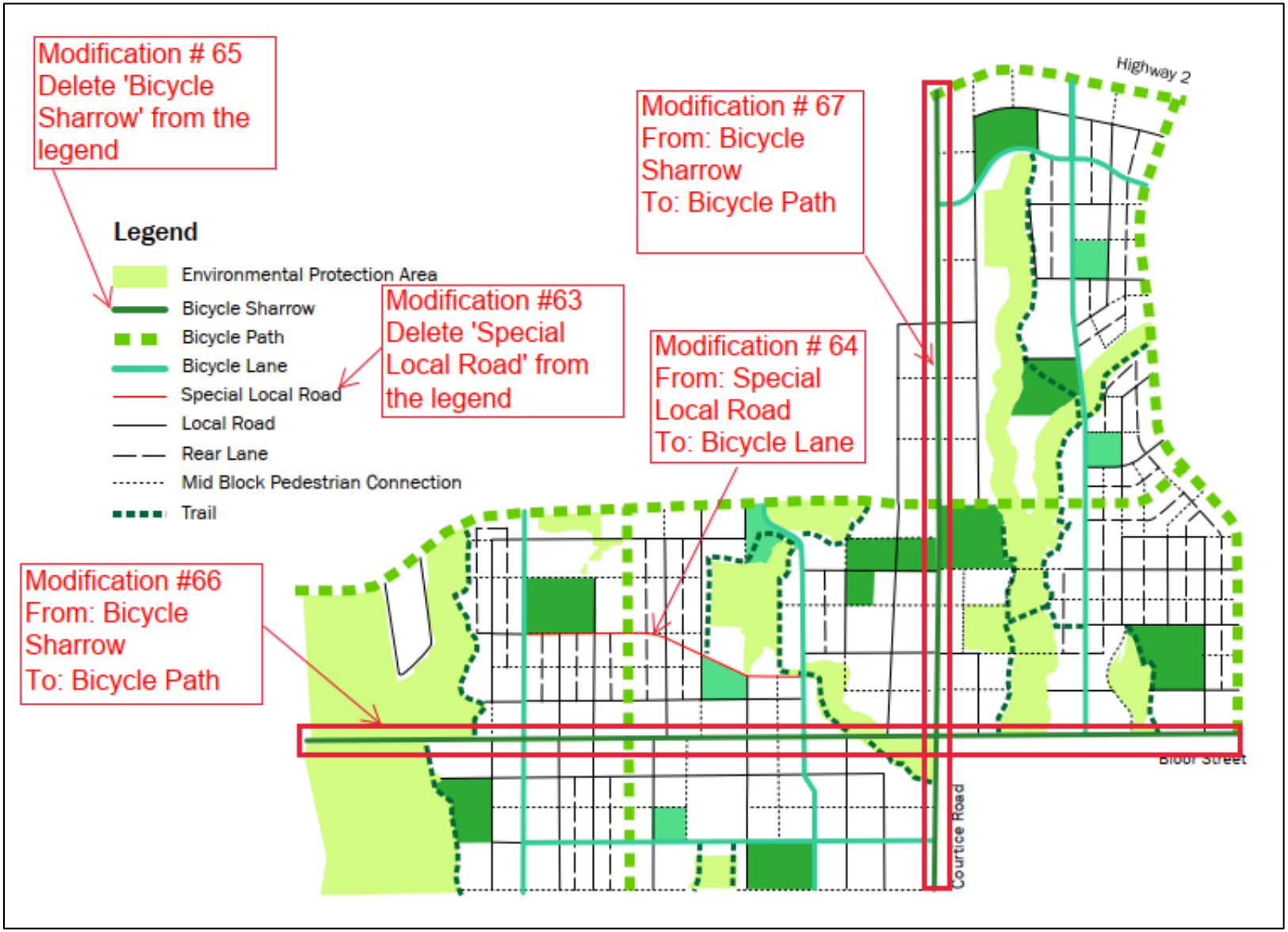
Source: Municipality of Clarington, Final Mapping Modifications for SECSP, Approved by Durham Region, March 2022.

Exhibit E-12: Modified Road Network



Source: Municipality of Clarington, Final Mapping Modifications for SECSP, Approved by Durham Region, March 2022.

Exhibit E-13: Modified Active Transportation Network



Source: Municipality of Clarington, Final Mapping Modifications for SECSP, Approved by Durham Region, March 2022.

Implementation Plan

Infrastructure Cost Estimates and Phasing

The preliminary (planning level) cost estimate was undertaken based on high-level per-kilometre costs ($millions per kilometre) to reflect the basic cost per length of road. The cost estimates reflect the basic costs associated with the work required to build the roadways and exclude the costs associated with property acquisition and general servicing (i.e., water, sewer, storm sewer) of the lands within the Study Area. See **Exhibit E-14**. More refined preliminary and detailed design work will be completed during subsequent work activities.

Exhibit E-14: Construction Estimates, MCEA Schedule, and Potential Timing

Roads	Description	Project Value ($millions)	MCEA Project Schedule	Near Term (1-5 years)	Medium Term (5-10 Years)	Long Term (10+ years)
Durham Region Roads						
Bloor Street	Reconfiguration of Bloor Street	$21M	Schedule 'C'		⟷	
Courtice Road	Reconfiguration of Courtice Road	$18M	Schedule 'C'			⟷
Clarington Roads						
Sandringham Drive Extension	Collector from Courtice Road to new Hancock Road alignment; approximately 0.7 kilometres	$3M	Schedule 'B' /'C'*			⟷
Meadowglade Road Extension	Arterial from existing terminus to new Hancock Road alignment; approximately 2.0 kilometres	$8M	Schedule 'C'	⟷		
New East-West Collector (South of Bloor Street)	Collector from Granville Drive Extension to Courtice Road; approximately 1.1 kilometres	$4M	Schedule 'C'	⟷	⟷	⟷
Granville Drive Extension	Collector from Meadowglade Road to new East-West Collector (south of Bloor); approximately 0.9 kilometres	$4M	Schedule 'C'	⟷	⟷	
Farmington Drive Extension	Collector, approximately 1.0 kilometres	$4M	Schedule 'C'	⟷		
New North-South Collector (east of Courtice Road)	Collector from Highway 2 to Bloor Street; approximately 1.8 kilometres	$7M	Schedule 'C'		⟷	⟷
Hancock Road Re-alignment	Highway 2 to Bloor Street	$7M	Schedule 'C'			⟷

Note: * MCEA Classification to be confirmed in the future when additional information will be available.

The projects that constitute the Modified Network Solution have also been classified based on potential implementation timing as follows:

- Near-Term – implementation within 1-5 years;
- Mid-Term – implementation within 5-10 years; and
- Long-Term – implementation within 10-20+ years.

A potential phasing of improvements was estimated (**Exhibit E-14**) based on a variety of factors pertaining to landowner development aspirations, Transportation Master Plans and capital infrastructure budgets, municipal and other agency approvals, further studies and designs, permits, funding commitments, property acquisition, utility relocations, as well as engagement of participating versus not participating landowners in the Study Area. The proposed phasing is subject to refinement as the development of the SECSP lands initiates and comes to fruition.

Future MCEA Requirements

A Master Plan Approach #1 was followed in the development of SEC TMP which means that more detailed investigation/work will be required to implement specific Schedule B and C projects that are recommended as part of the SEC TMP.

The Transportation infrastructure projects that require additional MCEA study are listed **Exhibit E-14**. The MCEA Schedule has been determined by considering the level of environmental impact and the anticipated approximate cost of each project.

Schedule B projects will be required to prepare a Project File Report. Schedule C projects will be required to complete Phases 3 and 4 of the MCEA Process, including the development and evaluation of alternative designs to implement the Preferred Solution(s), identification of the Preferred Design, mitigation recommendations, and additional consultation to allow for public, agency, and Indigenous Community input as well as the filing of an Environmental Study Report (ESR).

As part of this process, the Landowners group will take the lead for the EAs for the Clarington road projects identified within the SEC TMP with the Municipality as a co-proponent. It is anticipated that Durham Region will include Class EA studies for Bloor Street and Courtice Road as part of its capital road program and nine-year forecast based on the timelines identified in **Exhibit E-14**.

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Appendices

Appendix A. SECSP Planning Background Report

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Appendix I. SECSP Urban Design and Sustainability Guidelines

Acronyms and Abbreviations

%.....Percent
AA .....Archaeological Assessment
AECOM.....AECOM Canada Ltd.
BHCHL.....Built Heritage and Cultural Landscape
BHR.....Built Heritage Resources
CEL .....Courtice Employment Land
CHL.....Cultural Heritage Landscapes
CLOCA.....Central Lake Ontario Conservation Authority
CO_2 .....Carbon Dioxide
CTMP.....Clarington Transportation Master Plan
DRT.....Durham Region Transit
DRTPM .....Durham Region Transportation Planning Model
EA .....Environmental Assessment
ESR.....Environmental Study Report
GHG.....Greenhouse Gas
GGH…….... Greater Golden Horseshoe
HVA.....Highly Vulnerable Aquifer
IPZ.....Intake Protection Zone
km .....kilometre

km/h .....kilometres per hour
KPRDSB .....Kawartha Pine Ridge District School Board
PVNCCDSB ..Peterborough Victoria Northumberland and Clarington Catholic District School Board
LID.....Low Impact Development
LOS.....Level of Service
m .....metre
MCEA.....Municipal Class Environmental Assessment
MECP.....Ministry of Environment, Conservation and Parks
MTSA .....Major Transit Station Area
NEP.....Niagara Escarpment Plan
MNRF.....Ministry of Northern Development, Mines, Natural Resources and Forestry
NHS.....Natural Heritage System
MTCS.....Ministry of Tourism, Culture and Sport
MTO .....Ontario Ministry of Transportation
MUP .....Multi-Use Path
ORMCP.....Oak Ridges Moraine Conservation Plan
OEAA .....Ontario Environmental Assessment Act
PCN.....Primary Cycling Network
PHF.....Peak Hour Factor
PIC .....Public Information Centre
PPS.....Provincial Policy Statement
ROP .....Regional Official Plan
RCP.....Regional Cycling Plan
ROW .....Right-Of-Way
SECSP.....Southeast Courtice Secondary Plan
SEC TMP .....Southeast Courtice Transportation Master Plan
SAR.....Species at Risk
SGR .....Significant Groundwater Recharge Areas
SWS.....Subwatershed Study
SWH.....Significant Wildlife Habitat
SWM .....Stormwater Management
TMC .....Turning Movement Counts
TMP.....Transportation Master Plan
WHPA .....Wellhead Protection Areas

1. Introduction and Study Background

1.1 Study Background

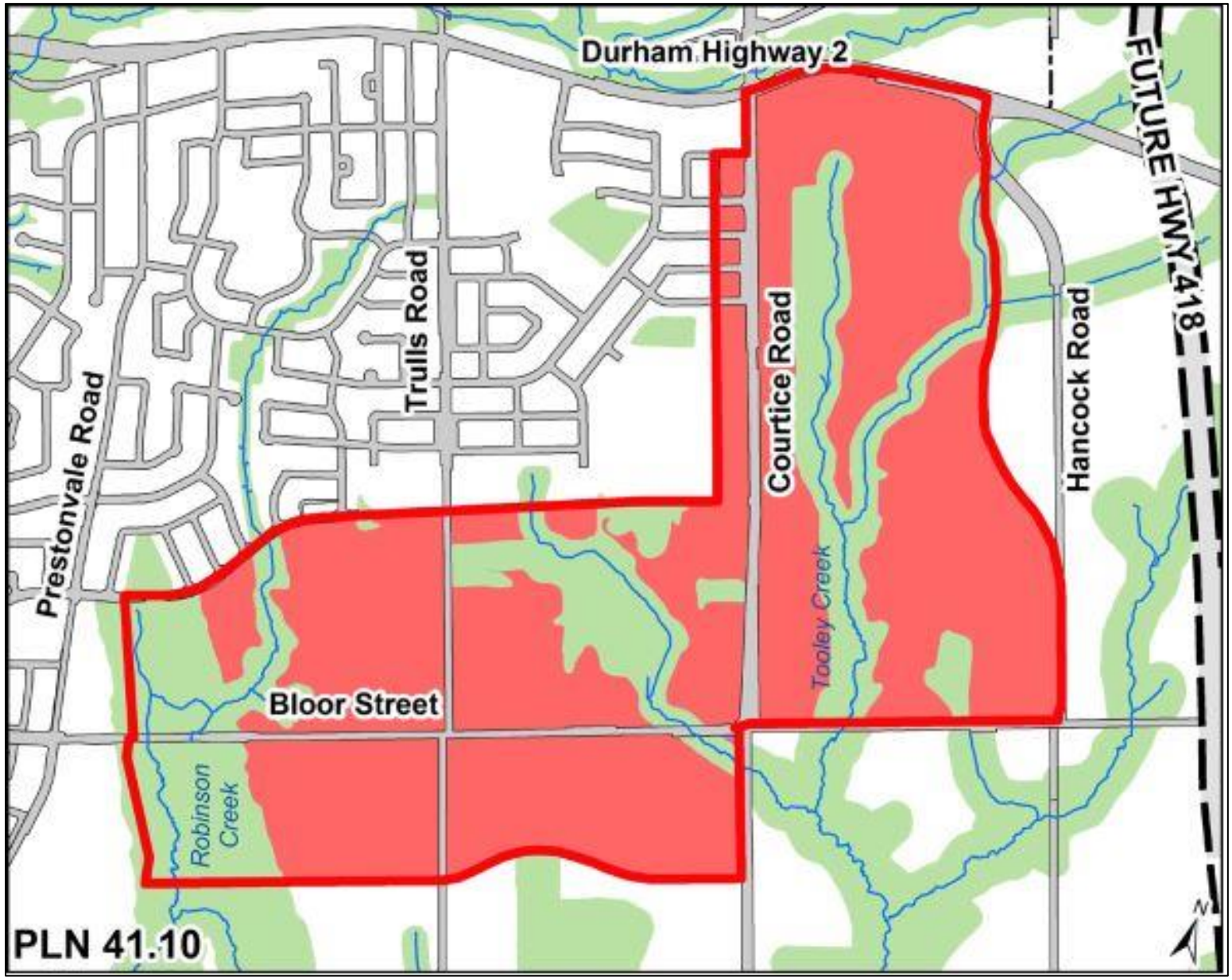
The Municipality of Clarington has initiated the completion of several secondary plans to guide development for various localized areas within the municipality. These secondary plans will conform with the Municipality of Clarington Official Plan, the Durham Region Official Plan, Provincial Policies and Plans of managing foreseeable growth to achieve the Municipality's desire for liveable, healthy neighbourhoods that are compatible with the surrounding natural environment.

AECOM Canada Ltd. (AECOM) has been retained by the Municipality of Clarington to assist in the preparation of the Southeast Courtice Secondary Plan (SECSP) and the Southeast Courtice Transportation Master Plan (SEC TMP) through the integrated planning process. The primary objective of the current study is to prepare a Transportation Master Plan for the Southeast Courtice neighbourhood in Courtice, Ontario and document the completion of Phases 1 and 2 of the Municipal Class Environmental Assessment (MCEA) process.

1.2 Study Area

The SEC TMP study area, herein after called the 'Study Area' is located at the eastern edge of the Courtice Urban Area between Durham Highway 2 to the north, Hancock Road to the east, Prestonvale Road to the west and about 500 metres south of Bloor Street to the south (**Exhibit 1-1**).

Exhibit 1-1: Study Area



1.3 Purpose of Southeast Courtice Transportation Master Plan

The Secondary Plan for Southeast Courtice consists of five main priorities that include sustainability and climate change, urban design, affordable housing, community engagement, and co-ordination of effort.

The purpose of the SEC TMP is to:

- Identify the recommended infrastructure to accommodate existing and planned land use within the Study Area;
- Develop an implementation plan to prioritize infrastructure planning and construction; and
- Complete the Transportation Master Plan using an integrated Environmental Assessment (EA) planning process.

1.4 Related Studies

1.4.1 Robinson Creek and Tooley Creek Subwatershed Study

The Study Area is located within the watersheds of the Robinson Creek and Tooley Creek. The Subwatershed Study (SWS) Existing Conditions Report was released for public comment, and a public meeting was held in November 2019. The second phase of the SWS is nearing completion. In this phase, a Subwatershed Management Report will be prepared. It will provide direction regarding stormwater management (SWM) controls, low impact development measures and groundwater recharge/infiltration parameters. It will also include natural heritage strategies which will protect, rehabilitate and enhance the environment within the Study Area. The consultants preparing the SWS, Central Lake Ontario Conservation Authority (CLOCA) and staff have been working together to ensure the necessary policies have been included in the Secondary Plan prior to the report being finalized. After the Secondary Plan is adopted, the development approvals process will provide additional opportunity for the implementation of the Subwatershed Study recommendations.

1.4.2 Courtice Employment Lands and Major Transit Area Secondary Plan

The Courtice Employment Lands (CEL) and Major Transit Station Area (MTSA) Secondary Plan is located adjoining to, and immediately south of, the SECSP. Two north/south collector roads are proposed to connect these two secondary plans just north of the proposed GO Station site, within the CEL and MTSA Secondary Plan Area. The SECSP, and its integrated EA, will take the lead in establishing the alignment of these collector roads and will establish land uses, policies, mobility and connectivity options that respond and complement the planning for the CEL and MTSA.

2. Environmental Assessment Process

2.1 Municipal Class Environmental Assessment Process

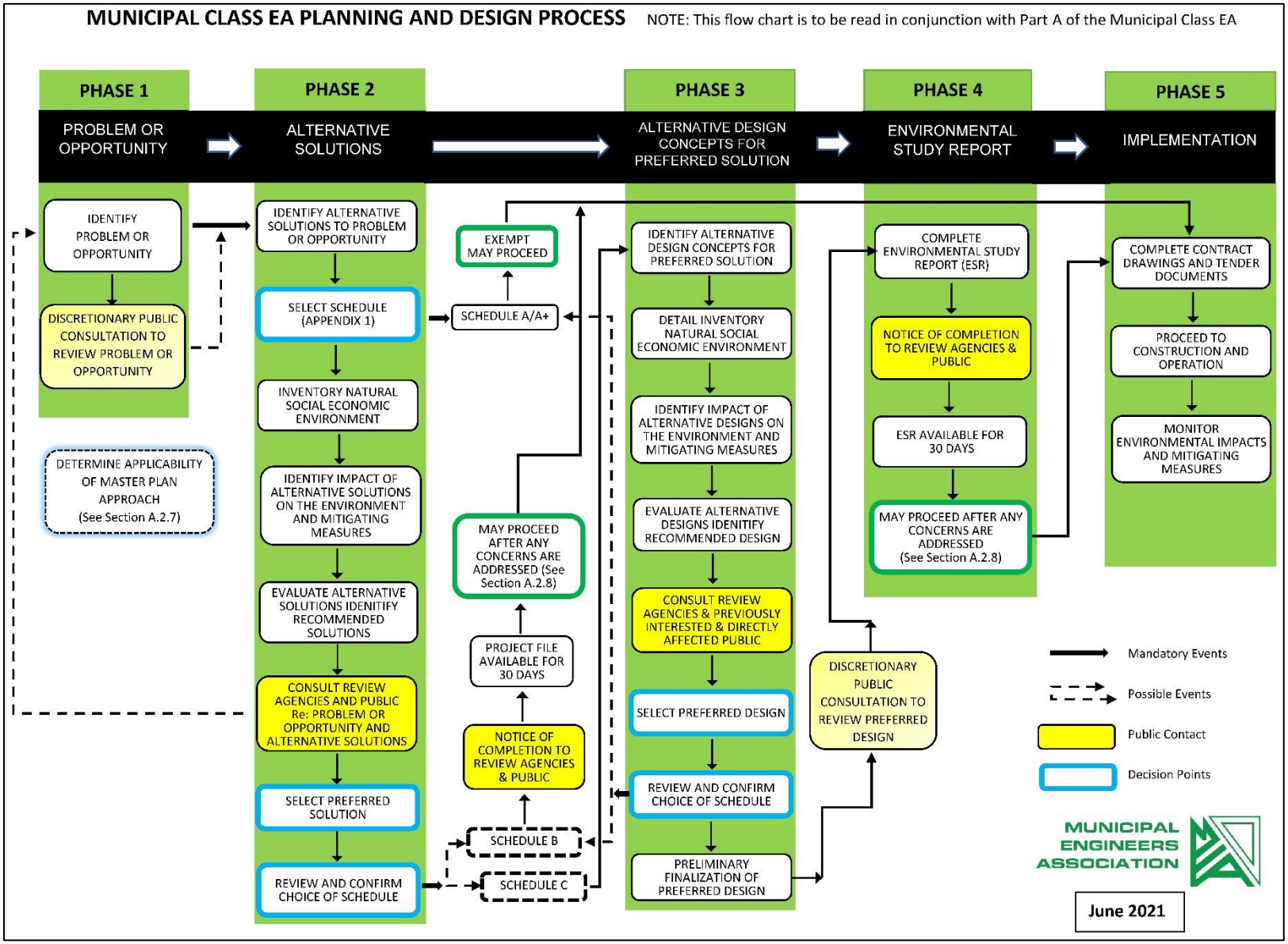
The purpose of the Ontario EA Act (OEAA) is to provide for *"…the betterment of the people of the whole or any part of Ontario by providing for the protection, conservation and wise management in Ontario of the environment."* The term "environment" is broadly defined and includes the built, natural, socio-economic and cultural environments. The Act applies to provincial ministries and agencies, municipalities and public bodies (i.e., Conservation Authorities and Metrolinx).

The OEAA provides for two types of EA planning and approval processes that include an Individual EA (Part II of the EA Act) and a Class EA (Part II.1 of the EA Act). The Class EA is a planning process that has been approved under the OEAA for a class or group of undertakings. A Class EA follows an approved planning process designed to protect the environment and to ensure compliance with the OEAA. Provided that the approved process is followed, a proponent is considered to have complied with Section 13 (3)(a) of the OEAA, and can therefore proceed to implementation without further approval under the Act.

As illustrated in **Exhibit 2-1**, the Municipal Class EA (MECA) planning process generally involves five phases as summarized below:

- **Phase 1** – Identify the problem(s) or opportunities to be addressed and the need and justification.
- **Phase 2** – Identify alternative solutions to address the problem / opportunity; evaluate these based on their potential to impact the area environment and establish the Preferred Solution following consideration of public and agency input.
- **Phase 3** – Develop alternative design concepts to implement the Preferred Solution, evaluate the alternatives by considering potential environmental impacts and select the Preferred Design following the receipt of public and agency input.
- **Phase 4** – Documentation of the Class EA process in an Environmental Study Report (ESR) followed by a 30-day public review period.
- **Phase 5** – Implementation - complete contract drawings and documents, proceed to construction and operation, and monitor construction for adherence to environmental provisions and commitments.

Exhibit 2-1: MCEA Planning and Design Process



Source: Municipal Engineers Association, June 2021.

2.2 MCEA Project Schedules and Classifications

Municipal projects are classified into one of four Project Schedules as defined in the MCEA document based on the works proposed, the potential for environmental impact, and anticipated costs. The applicable schedule determines the level of MCEA planning required. The MCEA Project Schedules include the following:

- **Schedule A**: These are projects that are limited in scale with minimal potential for adverse environmental effects and generally consist of municipal maintenance and operational activities. These projects are exempt from the EA Act and may proceed to implementation.
- **Schedule A**+: These projects are also exempt from the EA Act; however, the public is to be advised prior to project implementation.
- **Schedule B**: These projects have some potential for adverse environmental effects and a screening process is required that involves mandatory contact with directly affected public and relevant review agencies to inform them of the project and ensure that their concerns are addressed. Schedule B projects require the completion of Phases 1 and 2 with implementation in Phase 5. The Class EA process is documented in a Project File Report that that is made available for a 30-day public and agency review period. If there are no outstanding concerns, then the municipality can proceed to implementation.
- **Schedule C**: These projects have the potential for significant environmental effects and must proceed under the full MCEA planning and documentation process and complete Phases 1 to 4 with implementation in Phase 5. Schedule 'C' projects require the preparation of an Environmental Study Report (ESR) that is made available for a 30-day public and agency review period. If there are no outstanding concerns, then the municipality can proceed to implementation.

Note: Projects classified as Schedule A and A+ were historically considered pre-approved; however, the approval of Ontario Bill 108 (More Homes, More Choice Act) resulted in an amendment to the EA Act so that these low impact projects are now considered exempt from the Act.

2.3 Integrated Master Planning Process

The SECSP study provides direction for the design and development of a new community in the Municipality of Clarington which will accommodate both residential and mixed-use areas; and play an integral role in the Municipality meeting the growing

population projections. The Secondary Plan also lays out the infrastructure requirements that will support the expanded urban area including a modified and new road network.

The MCEA document (October 2000, as amended 2007, 2011, & 2015) acknowledges that for certain undertakings it is more efficient to plan municipal infrastructure as part of an overall system rather than as an individual project. The MCEA process provides for the development of long-range plans that integrate infrastructure requirements for existing and future land use with EA planning principles. These are known as Master Plans.

The MCEA also provides opportunity to integrate the requirements of the Ontario EA Act with the requirements of the Planning Act. This method prevents duplication of effort and allows for improved environmental protection. The “Integrated Approach” as outlined in the Municipal Class EA document (Municipal Engineers Association, October 2000, as amended in 2007, 2011 and 2015) is an approved process under the OEAA; and is identified as a cost-effective method of meeting the requirements of both the Planning Act and MCEA processes.

An integrated approach was utilized for the preparation of the SECSP and SEC TMP so as to co-ordinate and integrate the planning and approval processes for the proposed development in accordance with the Planning Act and the OEAA. The SEC TMP has followed MCEA Approach #1 involving a broad level of assessment and preparation of the Master Plan at the conclusion of MCEA Phases 1 and 2. However, further investigation will be required prior to implementing the Schedule B and C projects recommended by the SEC TMP. Under Approach #1, the Master Plan becomes the basis for, and is used in support of, future investigations for the recommended Schedule B and Schedule C projects. Schedule B projects will require the preparation and filing of a Project File Report, for public review while Schedule C projects will require the completion of Phases 3 and 4 of the MCEA process prior to filing an Environmental Study Report (ESR) for public review.

The public review period also provides opportunity to make a request for an order to comply with Part II of the EA Act; however, this cannot be made on the SEC TMP itself, but only for the individual MCEA Schedule B or C projects identified within the SEC TMP. On July 21, 2020, the COVID-19 Economic Recovery Act (Bill 197) was passed that amended the OEAA. In accordance with Bill 197 the process is now available only for concerns related to Aboriginal or Treaty Rights. Concerns will no longer be filed with the Ministry of Environment, Conservation and Parks (MECP) but will now be addressed to the proponent. For non-aboriginal concerns, the process is now replaced with an additional 30-day window for the MECP to decide what action should be taken in response to a concern raised by the general public (i.e., disregard, elevate project or approve with conditions).

3. Planning Context

3.1 Provincial, Regional and Local Plans and Polices

This section provides a summary of the provincial, regional and local plans and policies that were reviewed to make certain that the project conforms to the broader goals of the provincial, regional and local government. Refer to **Appendix A 'SECSP Planning Background Report', AECOM 2020** for further details on planning background studies.

3.1.1 Provincial Planning

The Province of Ontario has plans and policies which are relevant to the development of this project. These plans and policies serve as important elements of the planning framework, provide insight into key provincial and municipal objectives, and also help guide development and land use within Durham Region and the Municipality of Clarington. These plans and policies have been reviewed and are summarized below as they relate to the study.

3.1.1.1 Provincial Policy Statement

The Provincial Policy Statement 2020 (PPS) provides policy direction on land use planning and development for matters of provincial interest. This includes the protection of provincial resources, public health and safety, and the quality of the natural and built environment. These objectives are to be achieved through efficient land use planning. Through land use designations and policies, municipal official plans and secondary plans are the most important vehicle for implementing the PPS.

The PPS focuses growth and development within urban and rural settlement areas. Development within these areas must meet the full range of current and future needs of its population by employing efficient development patterns and avoiding significant or sensitive resources and areas which may pose a risk to public health and safety. Land use patterns should promote a mix of housing, including affordable housing, employment, recreation, parks and open spaces, and transportation choices that increase the use of active transportation and transit before other modes of travel.

From a transportation perspective, reducing the number and length of vehicle trips and supporting the use of active transportation and public transit are important goals. The planning of a multimodal transportation system should be a part of a co-ordinated, integrated and comprehensive approach to planning within municipalities undertaken by single and upper-tier municipalities.

The SECSP will lead to a new neighbourhood that includes a mix of housing and other uses. In keeping with PPS, the SECSP has directed the highest densities to the Durham Regional Corridors and has been designed around the existing natural and cultural heritage resources in the area. As a result, the SECSP will conform with the PPS.

3.1.1.2 A Place to Grow – Growth Plan for Greater Golden Horseshoe

The Growth Plan for the Greater Golden Horseshoe 2020 (Growth Plan) provides guidance on where and how to grow within the Greater Golden Horseshoe (GGH). This includes requiring municipalities to maintain a three-year supply of serviced land for residential development.

Building on the direction of the PPS, the Growth Plan supports the achievement of complete communities, a thriving economy, a clean and healthy environment, and social equity. These goals will be achieved by promoting access to transit and active transportation and increasing the amount and variety of housing that is provided.

Complete communities provide for the needs of all parts of society. This includes providing retail and office uses to locations that support active transportation and have existing or planned transit. The design of the street should adopt a complete streets approach to ensure the needs and safety of all road users are considered and appropriately accommodated. To address the issue of housing affordability the Growth Plan provides direction for a range and mix of housing to be offered with a priority on access to transit and amenities.

The Growth Plan promotes integrated planning between land use and necessary infrastructure, such as stormwater. The SECSP is informed by the Robinson / Tooley Subwatershed Plan which evaluates the current and future drainage needs in the plan area. The co-ordination of these two projects will also ensure the development in the area is appropriately responsive to the natural environment.

3.1.1.3 Greenbelt Plan

The Greenbelt Plan (2017), identifies where urbanization should not occur in order to provide permanent protection to the agricultural land base and the ecological and hydrological features, areas and functions occurring on this landscape. The Greenbelt Plan, together with the Growth Plan, the Niagara Escarpment Plan (NEP) and the Oak Ridges Moraine Conservation Plan (ORMCP), builds on the Provincial Policy Statement (PPS) to establish a land use planning framework for the GGH that supports a thriving economy, a clean and healthy environment and social equity.

Protected Countryside lands identified in the Greenbelt Plan are intended to enhance the spatial extent of agriculturally and environmentally protected lands while at the same

time improving linkages between areas and the surrounding major lake systems and watersheds. Collectively, the lands form the Greenbelt. The Protected Countryside (as shown in the Greenbelt Plan) is made up of an Agricultural System and a Natural System, together with a series of settlement areas.

Although the SECSP area is outside of the Protected Countryside of the Greenbelt Plan, the principles of the Greenbelt Plan provide valuable guidance for the co-ordination and development of the SECSP area, such as minimizing fragmentation of the green spaces, protecting natural heritage, and building resilience to mitigate climate change.

3.1.2 Regional Planning Context

3.1.2.1 Regional Municipality of Durham Official Plan

The Durham Regional Official Plan (2020 consolidation) (ROP) contains policies that guide the type and location of land uses in the Region to 2031. The ROP provides policies to ensure an improved quality of life and secure the health, safety, convenience and well-being of present and future residents of the Region. Amendment #171 to the Durham ROP incorporates key network recommendations from the Durham 2017 Transportation Master Plan.

The ROP designates the lands as Living Areas and Regional Corridors along Highway 2, Courtice Road and Bloor Street. Lands designated Living Area permit the development of communities incorporating the widest possible variety of housing types, sizes and tenure to provide living accommodations and address various socio-economic factors. Development applications in Living Areas must consider having a compact built form, including providing intensive residential and mixed uses along arterial road and transit routes. Consideration must also be given to urban design, pedestrian connections, grid pattern of roads, and the availability of services and infrastructure.

The ROP establishes a framework for Regional Corridors. Corridors are considered the main arteries of the Region’s urban structure. Corridors are to be developed to include, among other things, the promotion of pedestrian activity and public transit ridership through well designed development, a mix of uses at higher densities, and sensitive urban design that orients development to the corridor, complemented by the consolidation of access points and preserving and enhancing cultural heritage resources.

Schedule C, Map C2 (as amended by ROP Amendment 171) shows the Road Network. Bloor Street and Courtice Road are both shown as a Type A arterial. Pertinent to the Study Area, Meadowglade Road is shown as a Type C Arterial with a future extension running eastward to Courtice Road. The ROP promotes an urban environment and infrastructure that encourages and supports active transportation by ensuring safe,

direct, comfortable, attractive and convenient connections. Development will promote pedestrian connectivity and permeability to arterial roads by minimizing the amount of reverse lot frontage along the arterial road, promoting alternatives to reverse lot frontage such as window streets and cul-de-sacs adjacent to the arterial road, providing noise attenuation, and establishing direct visual and pedestrian connections from proposed land uses and/or local streets to the arterial road.

The Transit Priority Network as outlined in ROP Schedule C, Map C3 (as amended by ROP Amendment 171) identifies Durham Highway 2 as a Rapid Transit Spine. Future Freeway Transit is shown running north-south to the east of the Study Area, between Highways 401 and 407. Rapid Transit Spines are planned to provide dedicated transit lanes in most arterial road sections. Development adjacent to Rapid Transit Spines are to provide for higher density and mixed uses, with buildings oriented towards the street to reduce walking distances to transit facilities, facilities walkways, trails and other pedestrian and cycling facilities. Freeway Transit facilitates long-distance inter-regional and inter-municipal transit trips within the Highway 407, 412 and 418 corridors.

3.1.2.2 Durham Region Transportation Master Plan 2017

The 2017 Durham Region Transportation Master Plan (Durham TMP) is an update to the 2005 Transportation Master Plan and is a strategic planning document that defines the policies, programs and infrastructure modifications needed to manage anticipated transportation demands to the year 2031 and beyond, and to support the development pattern designed in the ROP. All modes of transportation, including walking, cycling, public transit, auto and goods movement, are considered in the Durham TMP. The Durham TMP recommends a complete streets approach, for road planning, design, operation and maintenance, where needs of all travel modes and road users are considered as appropriate and feasible within the context of each project, in order to offer safety, comfort and convenience to all users (i.e., pedestrians, cyclists, transit riders and motorists) regardless of their age and ability. A key element of the Durham TMP is the development of a ‘Road Network’ that will meet existing and future needs of the Region. The Durham TMP recommends a preferred set of road network improvements for 2031 that will support forecasted transportation demand based on the population growth in the Region.

3.1.2.3 Durham Regional Cycling Plan 2021

The Durham Regional Cycling Plan 2021 (RCP) is a strategic planning document that defines policies, programs and infrastructure needed to support cycling in the region. The RCP addresses the needs of the cycling network by recommending a Primary Cycling Network (PCN) that balances the needs of cycling at both the regional and local level, while making recommendations to enhance safety and accessibility, promote

sustainability, reduce environmental impacts and support economic development. The RCP has identified a section of Bloor Street within the Study Area as a proposed In-boulevard multi-use pathway (MUP). The MUP on Bloor Street extends to the west beyond the Study Area and will be connected to an MUP along Townline Road. The RCP also identifies the existing and proposed 'Cycling Lane' along Trulls Road which extends in both directions beyond the Study Area.

3.2 Local Planning Context

3.2.1 Clarington Official Plan

The Municipality of Clarington Official Plan 2017 (Office Consolidation 2018) refines the key policy directions established by the Province and Regional Municipality of Durham (Durham Region) to come to a Clarington specific policy framework. The purpose of the Clarington Official Plan is to guide and manage development in Clarington to the year 2031. The Clarington Official Plan has been prepared in recognition of three key principles which provide direction for the policies of the Plan: sustainable development, healthy communities and growth management.

The Municipality of Clarington touches on a number of transportation-related items in Section 19, Connected Transportation Systems. The goal of the Clarington Official Plan relating to connected transportation systems is to facilitate the movement of people and goods by means of an integrated, accessible, safe, and efficient transportation system providing a full and practical range of mobility options.

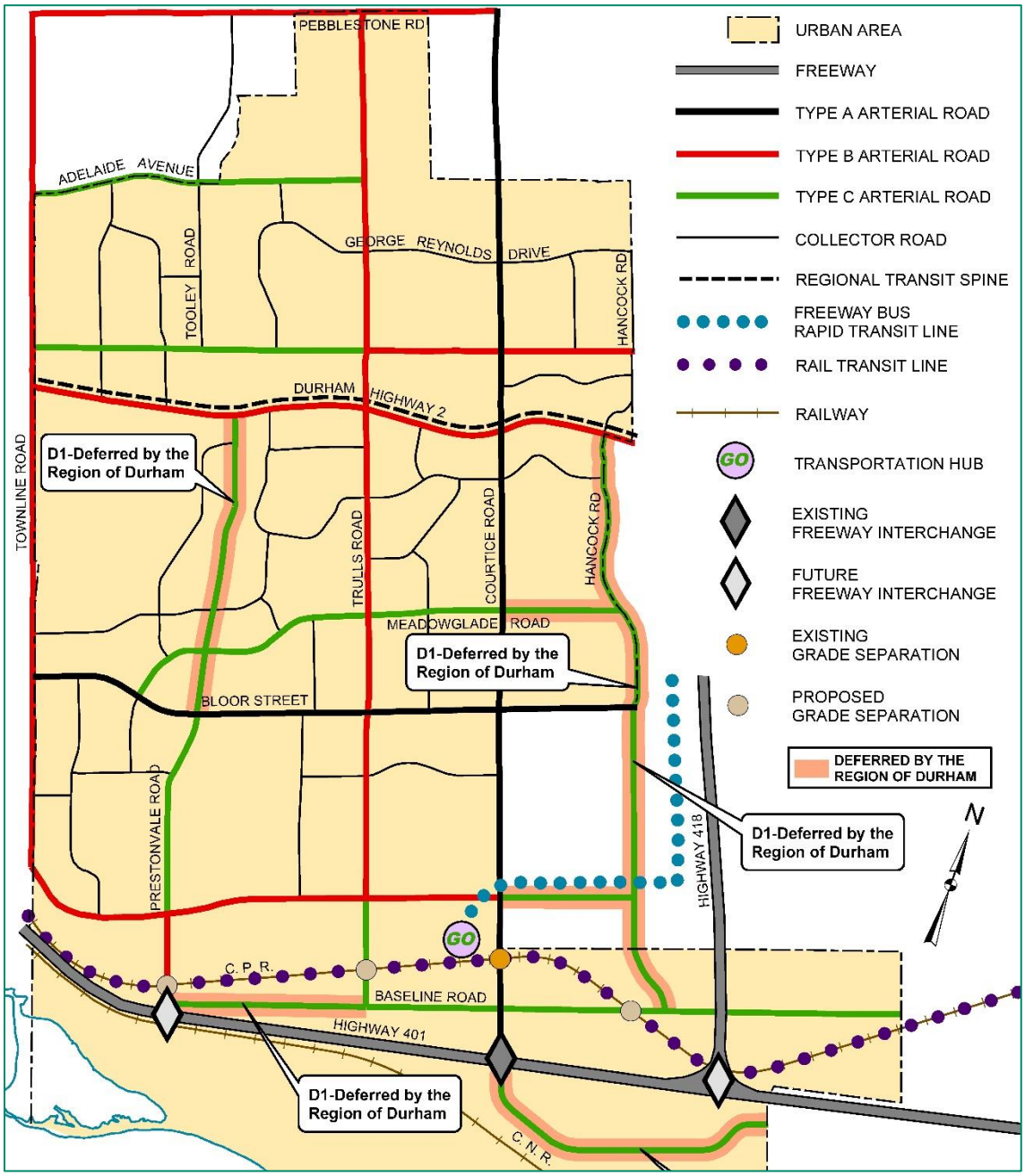
Particular to the Study Area, the Clarington Official Plan notes how public transportation will be the responsibility of the Province and Durham Region. The Municipality will encourage the future growth of Clarington through key freeway and arterial roadways, particularly the new Highway 418 directly east of the Study Area, with Regional Highway 2 functioning as a main commercial roadway.

Exhibit 3-1 is an extract from Clarington's Official Plan (Map J2) illustrating the existing and planned road network in and in the vicinity of the Study Area.

Within the Official Plan, S.19.5.2 outlines that an Active Transportation Master Plan will be developed in co-ordination with their complete streets and Transportation Master Plan initiatives.

The Clarington Official Plan acknowledges the growing role of cycling in providing an inclusive and active transportation network, which is reflected in the development of bike lanes and trails and the Municipality's goal of improving the cycling network to provide a safe and inviting environment that is welcoming to more users.

Exhibit 3-1: Clarington Official Plan Future Proposed Road Network



Source: Excerpt from Map J2 Transportation Network Roads and Transit, Official Plan, Municipality of Clarington, June 2018.

3.2.2 Clarington Transportation Master Plan

The Clarington Transportation Master Plan (CTMP) identifies a number of initiatives pertaining to planning, active transportation, transportation hubs, and transit. As

identified in the CTMP, the future Courtice GO Station is anticipated along Courtice Road north of the Canadian Pacific Rail corridor. A number of municipal and other road/highway improvements and projects have been identified in the CTMP.

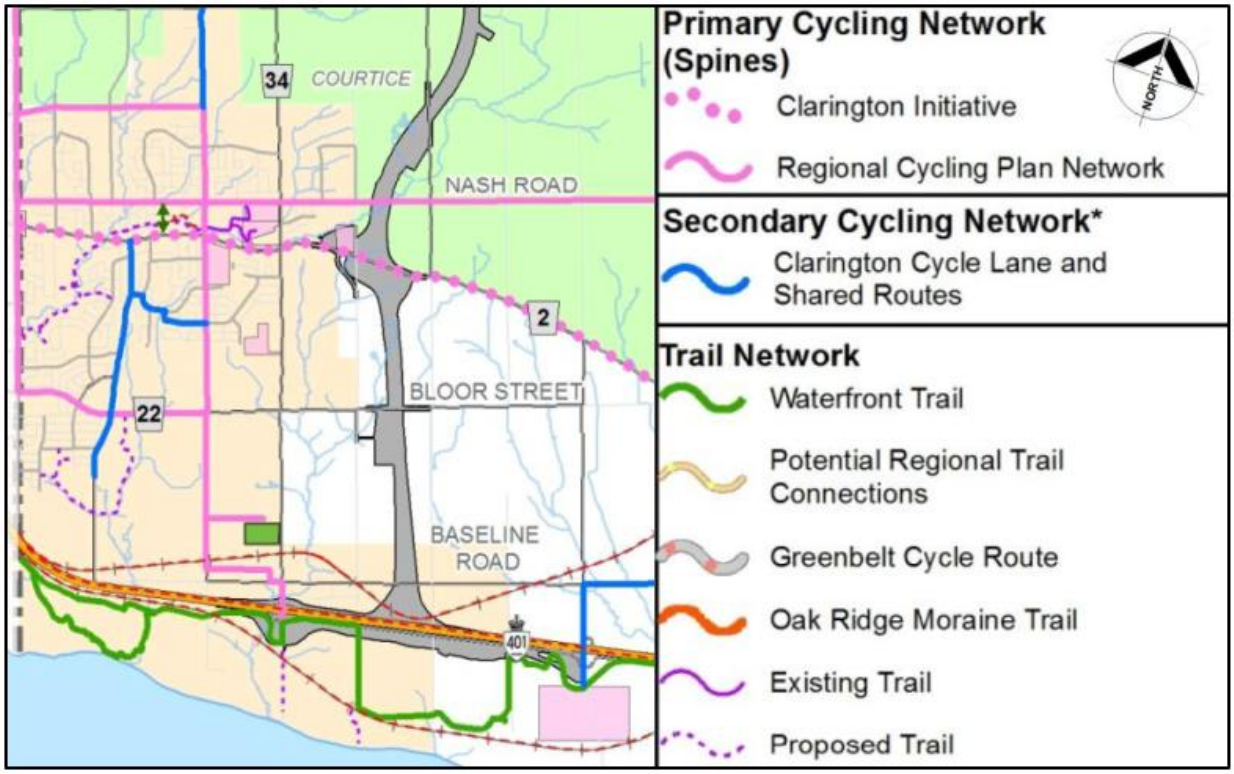
Exhibit 3-2 is an extract from CTMP (Plan ES-5) illustrating the existing and planned road network in and in the vicinity of the Study Area.

Exhibit 3-2: CTMP Future Proposed Road Network

Source: Excerpt from Clarington's Transportation Master Plan (Plan ES-5).

The CTMP outlines a number of existing and future active transportation linkages throughout the Municipality. The CTMP acknowledges that there is a need to provide complete routes and that there are a number of sections of the network that need improvements. The CTMP has identified a number of existing trails within the Study Area that are either on-road cycling lanes or shared routes that need improvements. This includes some of the existing infrastructure along Trulls Road and Prestonvale Road. The CTMP also establishes where some proposed cycling and trail facilities are planned; this includes additional infrastructure along Bloor Street, Prestonvale Road, and Regional Highway 2. **Exhibit 3-3** is an extract from CTMP (Plan ES-1) illustrating the existing and planned active transportation network in and in the vicinity of the Study Area.

Exhibit 3-3: CTMP Active Transportation Map



Source: Excerpt from CTMP (Plan ES-1).

4. Consultation and Public Engagement

Engagement with review agencies, key stakeholders, Indigenous Communities, and the public is a key component of the MCEA process. The preparation of this Master Plan has been supported by a thorough public engagement strategy, including a range of public consultation initiatives, including online and in-person events.

At the project start a Communication Plan was prepared to detail the method of notification proposed for this project and to demonstrate that the notification requirements of both the *Planning Act* and the *Ontario EA Act* are being fulfilled. For this study the Municipality's consultation unit, Clarington Communications, took the lead for all public, agency and Indigenous Community consultation and engagement efforts, with the assistance of AECOM.

A project contact list was created early in the planning process that included external agencies, key stakeholders, interested parties, Indigenous Communities, and area residents and businesses. The project contact list was updated and revised during the process, as appropriate.

4.1 Agencies and Key Stakeholders

The agencies, services and organizations consulted during this process included the following:

- **Municipal**
  - Regional Municipality of Durham
  - City of Oshawa
  - CLOCA
- **Provincial**
  - Infrastructure Ontario
  - MECP
  - Ministry of Education
  - Ministry of Municipal Affairs and Housing
  - Ministry of Natural Resources and Forestry (MNRF)
  - Ministry of Tourism, Culture and Sport (MTCS)
  - Ontario Ministry of Transportation (MTO)
  - Ontario Growth Secretariat
  - Parks Ontario

- **Federal**
  - Environment and Climate Change Canada
- **Emergency Services**
  - Clarington Emergency and Fire Services
  - Durham Regional Police Service
- **Local Services & Organizations**
  - Kawartha Pine Ridge District School Board (KPRDSB)
  - Peterborough Victoria Northumberland and Clarington Catholic District School Board (PVNCCDSB)
  - Simcoe County District School Board
  - Conseil Scolaire Catholique MonAvenir (French Separate)
  - Accessibility Advisory Committee of Clarington
  - Agricultural Advisory Committee of Clarington
  - Clarington Heritage Committee
  - Conseil Scolaire Viamonde (French Public)
  - Durham Region Land Division
- **Utilities**
  - Bell Canada
  - Enbridge Gas Distribution Inc.
  - Hydro One Networks Inc.
  - Ontario Power Generation
  - Elexicon Energy

4.1.1 Indigenous Communities

As per MECP's direction dated April 27, 2020, a total of eight Indigenous communities were identified to be consulted during this study that included the following:

- Alderville First Nation
- Beausoleil First Nation
- Chippewas of Georgina Island First Nation
- Chippewas of Rama First Nation (Chippewas of Mnjikaning)
- Curve Lake First Nation
- Hiawatha First Nation

- Mississaugas of Scugog Island First Nation
- Huron-Wendat Nation

Additionally, the Williams Treaties, Metis Nation of Ontario, and Oshawa Durham Region Metis Council were consulted.

4.1.2 Public

Members of the public that were included in consultation activities consisted of residents, businesses and property owners within the Study Area, as well as individuals who expressed interest in the project. Additional consultation was undertaken with the area landowners group. See **Section 4.6** for further details on consultation with landowners.

4.2 Notifications

Project notifications were distributed to those identified on the project contact list as well as area residents. Key notifications included the Notice of Study Commencement and Notice of Study Completion, as well as invitations to Public Information Centres (PICs) and Statutory Public Meetings. In keeping with the requirements of the MCEA planning and design process, official project notices were published in the Clarington This Week and Orono Weekly Times which have general circulation in the Study Area. To ensure consultation efforts reached as many interested stakeholders as possible, notices were also posted on the Clarington's website. See **Appendix B.1a-c** for records of notifications.

4.2.1 Notice of Study Commencement and PIC#1

A combined Notice of Study Commencement and an invitation to PIC#1 (scheduled for June 27, 2018) was issued to inform the public and key stakeholders of the commencement of the study and to invite them to participate in the process by attending PIC#1. The Notice included information about the Southeast Courtice Secondary Plan study and the planned integrated approach, the purpose of the public meeting as well as the date, time and location of PIC#1 and project team contact information. The notice was made available to interested parties the week of June 10, 2018 by the following means:

- Published in the Clarington This Week on June 13, 2018, and June 20, 2018;
- Published in the Orono Weekly Times on June 20, 2018;
- Direct mail letter and email to the key stakeholders;

- Notice mailed directly to area residents and property owners within the Study Area and a radius of 120 metres;
- Posted on the Municipality's website at: Southeast Courtice Secondary Plan - Clarington; and
- Posted to the Municipality's social media accounts.

Over 800 people were invited to PIC#1. **Appendix B.1a** contains the notice, letters, newspaper tear sheets and social media advertisement related to PIC#1.

4.2.2 Notice of PIC#2

A Notice of PIC#2 (scheduled for November 5, 2019) was issued to the public and key stakeholders to extend an invitation to participate in a second public meeting for the SECSP. The notice was distributed to individuals on the project contact list and included information about the study, including a map of the Study Area; information about SECSP Plan study, MCEA process for new major roads and the Integrated Planning Approach, project team contact information, the purpose of PIC#2, date, time and location of the meeting.

The notice was issued the week of October 20, 2019 by the following means:

- Published in the Clarington This Week on October 23, 2019, and October 31, 2019;
- Published in the Orono Weekly Times on October 23, 2019 and October 30, 2019;
- Direct mail letter and email to the key stakeholders;
- Notice mailed directly to area residents and property owners within the Study Area and a radius of 120 metres;
- Posted on the Municipality's website at: Southeast Courtice Secondary Plan - Clarington; and
- Posted to the Municipality's social media accounts.

Appendix B.1b contains the notice, letters and newspaper tear sheets related to PIC#2.

4.2.3 Notice of Statutory Public Meeting

A Notice of Statutory Public Meeting (scheduled for June 23, 2020) was distributed to the public, key stakeholders, agencies and Indigenous communities to extend an invitation to attend a virtual public meeting to review the draft SECSP and collect input on Urban Design and Sustainability Guidelines that were prepared to advance the vision

of the Secondary Plan. The Notice included information on the proposed plan including a map of the Study Area, information on the MCEA process for new or realigned major roads, the Integrated Planning Approach, and the purpose of the study. The notice was made available to stakeholders and Indigenous communities by the following means:

- Published in in the Orono Weekly Times on June 3, 10 and 17, 2020 and Clarington This Week on June 4, 11 and 18, 2020;
- Direct mail letter and email to those on the project Contact List;
- Direct mail letter and email to eight Indigenous communities, Williams Treaties, Metis Nation of Ontario, and Oshawa Durham Region Metis Council with a potential interest in the Study;
- Notice directly mailed to area residents and property owners within the Study Area and a radius of 120 metres;
- Posted on the Municipality's website at: Southeast Courtice Secondary Plan - Clarington; and
- Posted to the Municipality's social media accounts.

In addition to receiving a notice of public meeting, external agencies and internal departments were requested to provide their comments regarding the Draft Secondary Plan and the Draft Urban Design and Sustainability Guidelines.

Appendix B.1c contains the notice, letters and newspaper tear sheets related to the Statutory Public Meeting.

4.2.4 Notice of Council's Decision

A Notice of Council's decision regarding Draft Official Plan Amendment (OPA)124, Draft SECSP and the Draft Urban Design and Sustainability Guidelines was sent to the landowners within the Secondary Plan area and interested parties following the ratification of decisions made by Planning and Development Committee at the Statutory Public meeting held on June 23, 2020. The standard notice was modified to provide further explanation to the recipient as to why they were receiving the Notice from the Municipality and explained in plain language what the resolution meant. See **Appendix B.1d** for records of notification on Council's decision.

4.2.5 Notice of Study Completion

A Notice of Completion will be issued to the public and those on the project contact list including key stakeholders, agencies and Indigenous communities, and include information about the study and recommendations, Environmental Assessment process,

public review period, and project team contact information. The Notice will be made available by means of publication in news media, direct mail, email, posting on the Municipality's website and social media accounts.

4.3 Project Web Page

To facilitate public participation and to provide information, a project web page (www.clarington.net/SoutheastCourtice) was created on the Municipality of Clarington's website. The site was utilized to post key study information such as:

- All project notifications (Notice of Study Commencement and PIC#1, Notice of PIC#2, and Notice of Statutory Public Meetings);
- Public meeting information and other materials (display boards, comment forms, and study updates);
- Contact information for the project team to allow individuals to provide feedback and ask questions about the study; and
- Technical reports and Clarington's Staff Reports.

Since the project web page was created in October 2017, it has been visited by over 4,939 different people.

4.3.1 Online Engagement (Online Interactive Mapping Project)

An online mapping survey was launched in November 2019 to provide an opportunity for more audiences to be involved and provide feedback on the project. The online interactive mapping project was available for several weeks following the second PIC to allow the public to provide their comments on how they use the lands within the Study Area and how they would like to use the lands in the future.

To receive feedback, a '**build your own neighbourhood mapping tool'** was also made available. Using this tool, residents were able to populate an interactive map. The goal was for the public to show where they would like low-rise buildings (detached homes), mid-rise buildings (townhomes) and high-rise buildings (apartments) for residential housing to be located. The public was also encouraged to show where they wanted to see parks, trails, cycling paths, and commercial land within the Study Area.

In addition, a survey was made available regarding the three land use options that were presented at the Public Information Session. The feedback received from the public via the Online Engagement tool specific to the three land use options is summarized in **Exhibit 4-1**.

Exhibit 4-1: Summary of Comments Received from Public through Online Engagement Tool

Survey Question	Response/Feedback Received
What aspects of the Traditional Neighborhood option do you like?	■ Parks and water features be more central, not along major arteries.
What aspects of the Traditional Neighborhood option do you have concerns with?	■ If properties deemed park or water feature, are the owners compensated, bought or expropriated?
Are there any elements that are missing and you think should be included in Traditional Neighborhood option?	■ Walking path.
What aspects of the Priority Green option do you like?	■ Walking areas, lots of trees.
What aspects of the Community Focus option do you like?	■ Shopping areas, Trails.
What aspects of the Community Focus option do you have concerns with?	■ Some nominal park may be ok; both a park and stormwater pond seem too much.

4.4 Public Information Centres/Meetings

As noted above, the municipality hosted three public meetings (two PICs and one Statutory Public Meeting) for the study to fulfill the requirements of the Planning Act. These were scheduled to occur at key points in the project schedule to offer stakeholders and Indigenous communities an opportunity to learn about the project and provide feedback on the study. The details related to each of these events are provided below.

4.4.1 Public Information Centre #1

PIC#1 was held as a drop-in session at the South Courtice Arena in the Municipality of Clarington on June 27, 2018. The purpose of this PIC was to:

- Introduce the project to the public by defining the Study Area;
- Provide a summary on the process and study priorities;
- Introduce the Integrated MCEA Planning process which was being undertaken simultaneously with the Secondary Plan;
- Provide stakeholders and Indigenous communities with the opportunity to meet and speak with members of the project team; and
- Discuss the next steps in the process and how to participate in the study.

Over 60 visitors attended the session that included area residents, business owners, agencies and developers. Attendees were quite interested in the planning process that will create the framework for future development of the Study Area. A summary of transportation related concerns received via the comment forms are included in **Exhibit 4-2**.

Exhibit 4-2: Summary of PIC#1 Transportation Related Comments

Topic	Comment Received
Traffic and Road	■ Concerned regarding traffic due to number of schools in area. ■ Concerned regarding the traffic lights at Courtice Road and Nash Road.

Copies of PIC#1 materials including the display boards and comment sheets can be found at **Appendix B.2a**. All comments were collected under a master comments list, and were addressed as the project proceeded to the next stages.

4.4.2 Public Information Centre #2

PIC#2 was held on November 5, 2019, at the Garnet B. Rickard Recreation Complex (in Bowmanville, Clarington) using an informal drop-in style format. The purpose of PIC#2 was to present the following:

- Provide an update on the project;
- Provide an overview of existing policy direction, best practices in neighbourhood design relevant to development in Courtice;
- Review three proposed land use options and associated road network;
- Review the unique competing development objective of each proposed land use option including the configuration of the roads; and
- Discuss the next steps in the process and how to participate in the study.

Approximately 90 visitors attended the meeting. A total of three comment forms, and two comment letters were received at or following the event. A summary of questions / comments received via the comment forms and discussions with members of the project team and the project team's responses are included in **Exhibit 4-3.** The feedback received from the public was considered in selection of the preferred transportation system.

Copies of PIC#2 materials including the display boards and comment sheets can be found in **Appendix B.2b**.

Exhibit 4-3: Summary of PIC#2 Comments Received

Question/Topic	Response/Comment Received
What aspects of the Traditional Neighborhood option do you like?	■ Brings middle class people to the town; ■ Commercial centres are located only at major intersections; ■ High density residential in a good planning concept on a regional basis to manage urban sprawl; ■ Best use of servicing infrastructure and optimize land use benefits within growing/expanding urban area; ■ No mobility challenges crossing major roads; and ■ Continuation of Meadowglade Road.
What aspects of the Traditional Neighborhood option do you have concerns with?	■ Parks are needed for brain relive during the weekend; ■ Lack of planning for next major flooding scenario; ■ Impacts on natural heritage and wildlife connectivity; ■ Extension of Farmington Drive; and ■ Extension of Meadowglade Road will create a raceway and have potential ecological impact.
Are there any elements that you feel are show-stoppers and are not appropriate in Traditional Neighborhood option?	■ Number of water crossings; and ■ Development in ecologically sensitive or moderate constraints areas.
Are there any elements that are missing, and you think should be included in Traditional Neighborhood option?	■ Walkability.
What aspects of the Priority Green option do you like?	■ Winding roads that go around ecologically sensitive areas create visual pleasure and slow down the traffic; ■ Fewer water crossings, less expensive; ■ Integration of ponds and parks; ■ Continuous wildlife corridors; ■ Cutting that impacts turtles during resting; and ■ Smart roadways that minimize roadside maintenance.
What aspects of the Priority Green option do you have concerns with?	■ Need to incorporate green infrastructure concepts including turtle/wildlife underpasses; ■ Brings more expenses than income to the Town; ■ Keeping retail away from main intersections; placements of schools; ■ Urban area development potential is underutilized; ■ Mobility challenges along major roads; and ■ Limited continuation of Meadowglade Road.
Are there any elements that you feel are show-stoppers and are not appropriate in Priority Green option?	■ Ideally wants no development in un-developed areas; and ■ A landscape amenity through public lands.
Are there any elements that are missing, and you think should be included in Priority Green option?	■ Landscape plans with locally appropriate native plant species for pollinators and food/forage for migratory birds.
What aspects of the Community Focus option do you like?	■ More affordable housing; ■ Walkability and balance; ■ Encourage/enable children to walk to schools without crossing busy main roads and at the same time have the effect of reducing the number of cars on the road; ■ Encourage/enable people to walk to local stores etc. rather that having to travel by car all the time; and ■ As many trails as possible to support walking and cycling.

Question/Topic	Response/Comment Received
What aspects of the Community Focus option do you have concerns with?	■ Lack of watershed/floodplain space; ■ Need more forested areas and wetlands; ■ Traffic circles along Bloor will create problem as people are already using Bloor to get to the Highway 401; ■ Awkward mobility issues with parks opposite each other crossing major roads; ■ Extension of Meadowglade road should be excluded; and ■ Doesn't like the connectedness of the community and the roundabouts near Hope Fellowship.
Are there any elements that you feel are show-stoppers and are not appropriate in Community Focus option?	■ Connection of Meadowglade road and Prestonvale Road to Farmington Road; and ■ Not a big fan of split road on the south side of their property.
Are there any elements that are missing and you think should be included in Community Focus option?	■ Raised pedestrian crossings at major intersections; ■ Smaller entry exit lanes to and from the property would be helpful; and ■ Question asked if stop lights warranted on new roads emptying onto Courtice Road or other main arteries.
Transportation and Traffic	■ Acknowledged that traffic circles are great ideas; ■ Suggested a major intersection circle such as Bloor and Courtice Road be tied with two lanes; ■ Integrate bike lanes into the traffic circles; ■ Plan bike lanes on all new or refurbished roads; ■ Plan connected bike/ walking paths through all park lands and green space; ■ Through traffic should be discouraged on Bloor St between Trulls Rd and Courtice Rd if the Community Core is there; and ■ Concerned about good flow of traffic regardless of plan because Courtice Rd already very busy.
Green space	■ Increase green space around creeks and streams; and ■ More focus on making green spaces available to everyone is best.
Cost and Property	■ Enquired about property acquisition and how that would be paid; ■ Enquired about how landowners to get fair sale price of land if it gets designated a water reservoir/pond?; and ■ Enquired if an expropriation of property will be an option.
Preferred Option	■ Blend of Priority Green and Community Focus plans; ■ Option 3 overall the most; ■ Combination of Option 3 and a little bit of Option 2; and ■ Option 1: 60%; Option 2:10% and Option 3: 30%.

4.4.3 Statutory Public Meeting

The Statutory Public Meeting was held at Council's Planning and Development Committee virtually on June 23, 2020. The purpose of the Statutory Public Meeting was to:

- Present and review the Secondary Plan and the Guidelines to Council and the public; and
- Provide an opportunity to the public to formally comment on the draft Secondary Plan and the draft Guidelines.

A total of 63 people attended virtually and approximately 40 comments were submitted. A summary of the comments received from the public and landowners group during and after the Statutory Public Meeting is provided in **Exhibit 4-4**. Refer to **Sections 4.7** and **4.8** for the comments received from the Agencies and Indigenous Communities.

Exhibit 4-4: Summary of Comments from Public and Landowners Group during Statutory Public Meeting

Comments From	Summary of General Public Comments
General Public	■ General inquiries about the planning process, timing of construction, project completion, and clarification on the boundary of the Secondary Plan. ; ■ Inquiries about the details related to the Secondary Plan project and the impacts on specific properties within the Study Area; ■ Inquiries about decisions on future and surrounding land uses, proposed densities, housing, roads/extensions, traffic and servicing; ■ Inquiries about Secondary Plan boundary adjustments, street realignments, future infrastructure, stormwater management, and noise and odour from nearby potential industrial facilities; ■ Support environmentally protected lands and features/habitat, increased vegetation, parks, schools, community facilities, transportation and neighbourhood connectivity; ■ Specific concerns related to seasonal maintenance of roads, wildlife protection, Tooley Creek, groundwater and the impact to property development potential; ■ Received support and gratitude from the public; ■ Request for additional lands to be designated for high density/mixed use along Durham Highway 2 and resizing the adjacent park; ■ Request to shift the Neighbourhood Park and the elementary school south of Bloor Street, as well as realignment of Farmington Drive; ■ Inquired about approximate alignment of the collector road south of Bloor Street; ■ Inquired about the impact of the Secondary Plan on the existing road network; ■ Inquired about Land use designation on their properties; and ■ Reshape the Environmental Review Area.

Comments From	Summary of General Public Comments
Landowners Group	■ Several sets of comments regarding the Secondary Plan and the Urban Design and Sustainability Guidelines including comments on policy and guideline, and land use provisions that were more aligned with developer expectations (height, density and built form); and ■ Detailed comments regarding school and park locations, the environmental constraints overlay and the extent of the environmental Study Area.

Additionally, the Statutory Public Meeting Staff report (PSD-021-2020) was released for public review as part of the June 23, 2020 Special Meeting of the Planning and Development Committee agenda. The Staff Report provided an overview of the planning process for the Secondary Plans initiated by the municipality, a brief overview of the planning policy framework in which the Secondary Plan was developed, a summary of public and agency comments received to date, as well as an overview of the SECSP and the Urban Design and Sustainability Guidelines. A copy of the comment-response table was included in Attachments 3, 4 and 5 of the Staff Report PSD-055-20 (Recommendations Report) and published on the Project web page for public review.

Refer to **Appendix B.2c** for copies of Statutory Public Meeting materials including the display boards, comments received from the public and landowners group, and project team's responses. A copy of the Staff Reports PSD-021-2020 and PSD-055-20 (Recommendations Report) are also included in **Appendix B.2c**.

4.5 Steering Committee

The SECSP study was supported by a Steering Committee, formed to oversee project management activities, and discuss issues that arose during the project. Members of the Steering Committee consisted of the Municipality of Clarington's Staff, Durham Region staff, a representative from CLOCA, school boards, the landowners group, and the lead Consultant for the Municipality. Communication with the Steering Committee in the form of meetings and workshops was undertaken at project milestones as summarized in the subsections that follow.

4.5.1 Steering Committee Meetings

Steering Committee Meetings (COMs) were held at the completion of Phase 1, Phase 2 and Phase 3 of the Secondary Plan (see **Exhibit 4-5**). It included a formal presentation of ideas, discussions, and brainstorming to address project management and issue-oriented discussions. See **Appendix B.3a** for records of Steering Committee Meetings.

Exhibit 4-5: Steering Committee Meetings

Meeting	Date	What Discussed
Steering Committee Meeting #1	September 5, 2018	■ Project overview; ■ Steering Committee scope of work; ■ Overview of Terms of Reference (TOR); ■ Project Schedule; ■ Communication Plan; ■ Vision and Intent (Objectives and Sustainability); and ■ Sustainable System Integrated Model (SSIM).
Steering Committee Meeting #2	November 28, 2018	■ SSIM introduction; ■ SSIM's relevance to SECSP; ■ Moving toward Net Zero; and ■ Ideation Workshop.
Courtice Planning Day, Steering Committee Meeting #3	May 10, 2019	■ Overview of Background Analysis; ■ Overview of Key Performance Indicators (KPIs); ■ Overview of Big Moves; ■ Best Practices; and ■ Alternate Land Use Concepts.

4.5.2 Steering Committee Workshops

Steering Committee Workshops (SCWs) were held to generate land use concepts and select a preferred land use plan. These workshops included a presentation of ideas, discussions, brainstorming group discussions, and a hands-on approach to the generation of plans and ideas. See **Exhibit 4-6** for further details. See **Appendix B.3b** for records of Steering Committee Workshops.

4.6 Consultation with Landowners Group and Interested Parties

There are approximately 60 landowners within the Study Area. Ownership is a mixture of parcel sizes, including larger farm parcels and single residential lots. All landowners in the area received notice of PIC#1 and PIC#2 held and Statutory Public Meeting. As noted in **Exhibit 4-4** the landowners group provided several comments regarding the Secondary Plan and the Urban Design and Sustainability Guidelines during and after the Statutory Public Meeting. See **Appendix B.2** for records of consultation. The major landowners group[1] within the Study Area had representatives in the Steering Committee and attended the Steering Committee Workshops and Meetings as noted in **Section 4.5** above.

1. The Landowners Group represented by Delta Urban Inc. as well as two developer/landowners were members of the project Steering Committee.

Exhibit 4-6: Steering Committee Workshops

Meeting	Date	What Discussed	Summary of Comments/Concerns Raised
Steering Committee Workshop #1	December 13, 2018	■ Project schedule; ■ Design approach; ■ Vision and Direction; and ■ Goals/ KPIs/Benchmarks.	■ The Region of Durham noted that the traffic movement with limited number of access points should be considered as the main purpose of the regional roads; ■ Delta Group requested clarity on the ROW of Courtice Road & Bloor Street; ■ Durham Region clarified the required ROW width for Type A Arterials; and ■ Delta Group acknowledged that access to the high density residential blocks along Regional arterial roads will be limited.
Steering Committee Workshop #2	September 3, 2019	■ Background analysis and key takeaways (Phase 1); ■ Best practices, ■ Presentation of land use alternatives; ■ Analysis and assessment of alternative land uses.	■ Redwood Lands Development provided comments on the proposed design on September 4, 2019; ■ Delta Urban landowners group provided comments on SCW materials including proposed land use scenarios (provided to the landowners group prior to the workshop) on August 30, 2019; and ■ The Municipality of Clarington sent a follow-up email to participants on September 05, 2019, and further clarified some items discussed in the meeting.
Steering Committee Workshop #3	May 12, 2020	■ Project update; ■ Overview of Draft Secondary Plan; Functional; Servicing; EA; Draft Urban Design and Sustainability Guidelines (UDSG); and ■ Next steps in the study.	■ -

Additional meetings were held with the major landowners group to gather their feedback on the Robinson and Tooley Creek Subwatershed Study background report, and on the proposed land use options. **Exhibit 4-7** provides a summary of consultation with landowners. See **Appendix B.4** for the records of consultation.

Exhibit 4-7: Summary of Additional Technical Meetings with Landowners Group and Interested Parties

Consultation Method	Date	Summary of the Consultation
Subwatershed Study Technical Meeting	June 19, 2019	■ Delta Urban landowners group provided comments on Robinson and Tooley Creek Subwatershed Study Background Report on August 23, 2019.
Landowners Meeting	October 9, 2019	■ Reviewed the alternative land use concepts, and provided the opportunity to provide feedback; and ■ Of the over 60 landowners invited, approximately 30 attended the meeting.

4.7 Consultation with Agencies and Key Stakeholders

Review agencies and key stakeholders identified on the project contact list were issued a notification letter along with the Notice of the Statutory Public Meeting on June 2 and 22, 2020. The June 2 notification letter included a link to the Draft SECSP for review and comment. The June 22nd notification letter provided a background summary on the Project's previous notifications, a link to the PIC#1 and PIC#2 materials, noting that the previous notifications were published in the Clarington's local newspapers (Orono Times and Clarington this week) and mailed directly to all property owners within the Study Area. Refer to **Appendix B.1c** for the records of the notification letters to the Agencies. As well as being included on the general project contact list, additional discussions and meetings were held with CLOCA as a key agency with specific interests within the Study Area. A representative from CLOCA was also a member of the Steering Committee and was actively involved in the study and the decision-making process.

A summary of comments/feedback received from agencies is included in **Exhibit 4-8**. Records of consultation activities with agencies and key stakeholders is provided in **Appendix B.5**.

Exhibit 4-8: Summary of Consultation with Agencies and Key Stakeholders

Agency	Summary of Consultation Notes
MECP	■ MECP provided comment on Notice of Study Commencement on December 17, 2019; ■ The project team provided the list of new major roads requiring Schedule C MCEA through an email dated on December 18, 2019; ■ MECP provided their areas of interest with respect to MCEA process on April 27, 2020; ■ MECP provided comments on Notice of Statutory Public Meeting on June 9, 2020; and ■ Meeting held with the MECP on October 20, 2020; the project team provided an overview of the SECSP, overview of the integrated EA approach, the current status of SECSP, and Questions and Answers.
CLOCA	■ Support environmental protection, recommend conservation and appropriate mitigation measures to be incorporated, and helped strengthen the policy structure of the Secondary Plan; ■ Encouraged sustainable initiatives; including low-impact development, SWM features within the road network and open space system; be incorporated throughout the Secondary Plan and Urban Design Guidelines; ■ Maintaining ecological integrity is necessary to conserve natural features within the area. This includes minimizing creek crossings and ensuring trails are planned and constructed carefully; ■ Recommendations relating to meeting the Durham Region Official Plan's woodland cover target of 30% to support ecosystem health; the creation of green streets; low-impact developments; and proposed roads and modifications related to potential flooding, drainage, and overall topography; ■ To achieve "complete streets" design, CLOCA encouraged that the streets incorporate active transportation routes (bike lanes), permeable paving, trees and vegetation as well as stormwater planters; and ■ New development should be separated from designated vegetated protection zones to minimize impacts.
Regional Municipality of Durham	■ Provided guidance on Regional Corridor and general land use policies and Regional servicing as it relates to future development in the Study Area; ■ Supportive of the Secondary Plan with regard to higher density, built form requirements along Regional Corridors; ■ Policy direction to ensure that adequate access and spacing of arterial roads to accommodate higher traffic volumes as well as for all modes of transit were provided; ■ Policy suggestions have strengthened how the public realm and surrounding land uses are shaped, while promoting an attractive community design; ■ Noted that there is a high degree of respect for natural systems in Secondary Plan area which is complemented by referencing the existing Clarington Official Plan policies; ■ Encouraged an increase in tree planting along pedestrian routes; ■ Suggested policy changes to enhance pedestrian routes, provide better connectivity within the street network, on trails and within development blocks in order to allow for a more walkable community to and from nearby transit stops and amenities; ■ Further comments for the proposed roads and extensions recommended ensuring all street users, especially cyclists, be accommodated by adhering to Provincial road design standards; and ■ Required design consistency for the active transportation network including trails, crossings, and sidewalks.
School Boards	■ The KPRDSB and the PVNCCDSB support the configuration of the neighbourhoods and the proposed elementary school locations identified in the Secondary Plan; ■ While the Boards are pleased with the direction and potential population in the SECSP, they note continuous monitoring of development within and around the area will be conducted by the Boards to determine whether additional elementary or secondary school sites are required; and ■ The KPRDSB has indicated their desire for the two sites located north of Bloor Street while the PVNCCDSB has requested the site south of Bloor Street.
Other Agencies and Clarington Departments	■ Comments have been received from Durham Regional Police Service, Canada Post, and Bell Canada. These agencies suggested minor policy modifications to the Secondary Plan or Urban Design and Sustainability guidelines; ■ Generally, comments from other agencies are more pertinent at the development application stage; ■ The Clarington Legislative Services Department, Financial Services, and the Clarington Fire & Emergency Services Department generally had no objections to the Secondary Plan; and ■ Staff from Clarington's Public Works Department – Infrastructure Division are on the Secondary Plan Steering Committee and provided continuous and invaluable input to the Secondary Plan and Urban Design and Sustainability Guidelines since the beginning of the project.

4.8 Consultation with Indigenous Communities

The Municipality of Clarington was committed to proactively identifying and addressing potential impacts of the project on the interests and rights of Indigenous Communities within and in proximity to the Study Area. Consultation with Indigenous Communities has been important for the project in order to identify and address specific cultural and heritage interests, as well as potential impacts to established or asserted Indigenous or treaty rights or Land Claims that Indigenous Communities may have.

Consultation activities with Indigenous Communities were conducted in accordance with the guidelines provided in the MEA MCEA (October 2000, as amended in 2007, 2011 and 2015) and the Code of Practice – Consultation in Ontario's EA Process (January 2014). The communities identified in **Section 4.1.2** were provided with a notification letter a long with the Notice of the Statutory Public Meeting on June 22, 2020. The notification letter provided a background summary on the Project's previous notifications, a link to the PIC#1 and PIC#2 materials, noting that the previous notifications were published in the Clarington's local newspapers (Orono Times and Clarington this week) and mailed directly to all property owners within the Study Area. Refer to **Appendix B.1c** for the records of the notification letters to the Indigenous Communities.

Of the eight communities that were consulted during this study, one community provided follow-up communication which the project team sought to address. Records of Indigenous correspondence are included in **Appendix B.6** and summarized in **Exhibit 4-9**.

Exhibit 4-9: Summary of Indigenous Comments

Community	Date	Method	Summary of Comments Received	Summary of Municipality of Clarington's Commitments
Curve Lake First Nation	July 15, 2020	Letter	■ The Curve Lake First Nation provided valuable information to the Secondary Plan process, raising concern for potential environmental impacts to drinking water quality, fish and wild game, territorial lands, archaeology and Aboriginal heritage and culture.	■ Curve Lake First Nation was identified as an interested party for the two ongoing subwatershed studies for Robinson Creek and Tooley Creek; ■ Municipality of Clarington had a discussion with the Curve Lake First Nation on July 14, 2022; identifying their consultation interests; ■ Municipality of Clarington provided an overview of the Southeast Courtice Secondary Plan and the Project Status, through an email dated on July 14, 2022; and ■ Municipality of Clarington is in process of setting consultation agreement with Curve Lake First Nation. The goal of this agreement is to identify who to send materials to; what materials to send and how, topics /issues that Curve Lake First Nation are interested in; and applicable fees.
Curve Lake First Nation	July 17, 2020	Letter	■ Curve Lake First Nation noted that although they may not always have representation at all stakeholder meetings, as right holders, they wish to be kept appraised throughout all phases of this project. It was also noted that the letter does not constitute consultation, but it does represent the initial engagement process.	■ Same as above.
Oshawa and Durham Region Metis Council	June 22, 2020	Email	■ Oshawa and Durham Region Metis Council acknowledged receipt of Notice of public meeting.	■ No response required.

5. Existing Conditions

5.1 Natural Environment

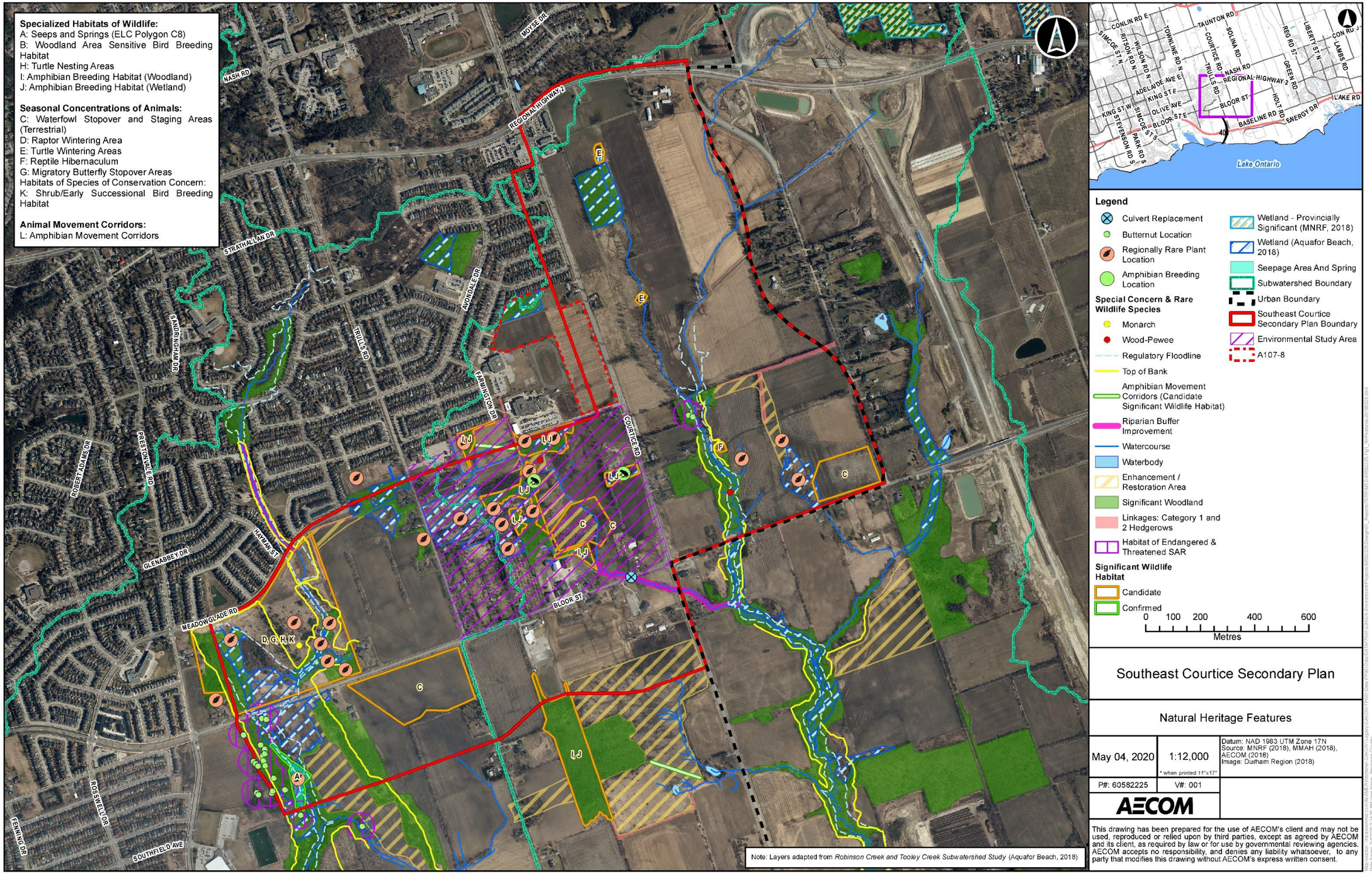
To provide information regarding the existing natural environment within the area of study and identify any sensitive environmental features or constraints, a Natural Resources Background Study was completed. The Study Area is located between the Robinson Creek valley in the West and Hancock Road in the east and extends from south of Bloor Street northwards to Durham Highway 2. Currently, there is a mix of parcel sizes and land uses within the Plan Area, which vary from larger farm parcels to smaller residential and commercial lots. The Study Area is 25% within the Robinson Creek Watershed and 75% within the Tooley Creek Watershed.

The results of the review are summarized in the subsections that follow. Please refer to **Appendix C** to review the Natural Resources Background Analysis, SWS Integration (AECOM, 2020) in its entirety.

5.1.1 Terrestrial Ecology

Natural heritage features within the Study Area are largely associated with the watercourses of Robinson and Tooley Creeks. They include a number of Significant Woodlands (defined as woodlots >1 hectare) and wetlands (>0.5 hectare) that have not been evaluated. One Significant Valleyland is present, associated with Robinson Creek in the west. Watercourses provide existing or potential natural linkages connecting woodlots and wetlands that can function as wildlife corridors. Butternut and Barn Swallow are two Species at Risk (SAR) recorded within the Study Area. Field studies have confirmed the presence of Special Concern breeding birds, amphibian breeding sites and regionally rare plant species. Several areas of candidate Significant Wildlife Habitat (SWH) were identified. One seeps and springs area was identified as confirmed SWH along with two amphibian breeding habitat areas. Other locations will require further study to determine the presence of potential seasonal waterfowl stopover and staging, raptor wintering, turtle wintering, turtle nesting, reptile hibernaculum, shrub/early successional breeding bird habitats, and butterfly migration to confirm designation as a SWH. Regionally rare plant species are located within the Study Area. **Exhibit 5-1** illustrates the natural heritage features within the Study Area. Please refer to **Appendix C** for further details.

Exhibit 5-1: Natural Heritage Features



5.1.2 Aquatic Ecology

The headwaters of Robinson Creek originate north of Bloor Street. Robinson Creek drains into Lake Ontario through a portion of the Provincially Significant McLaughlin Bay Wetland Complex and Darlington Provincial Park. Watercourses as illustrated in **Exhibit 5-1** are predominantly cool water thermal regime and provide habitat for 11 common fish species including a migratory run of Rainbow Trout.

The Tooley Creek subwatershed originates near the Lake Iroquois Shoreline at Nash Road, and outlets into Lake Ontario through the Tooley Creek Coastal Marsh. Watercourses are predominantly cool water thermal regime with limited coldwater habitat in the upper reaches. 13 common fish species inhabit the Tooley Creek subwatershed including a migratory run of Rainbow Trout. Refer to **Appendix C** for further details.

5.1.3 Surface Water

The Study Area consists of several first and second order streams within the Robinson Creek and Tooley Creek subwatersheds and wetlands. Regulatory Floodplains have been identified which restrict or eliminate the potential for land development. There are no major SWM ponds in the Study Area. However, there are several SWM ponds adjacent to the Study Area that drain through it. There are also several online ponds within the Study Area that are likely used for either agricultural or fire-safety purposes. Refer to **Appendix C** for further details.

5.1.4 Hydrogeology

The Study Area is located within the Iroquois Plain physiographic region, which is a gently sloping lowland area along the Lake Ontario shoreline (Chapman and Putnam, 1984). The Robinson Creek and Tooley Creek Subwatershed Study Report (Aquafor Beech Ltd., 2018) has identified several hydrogeologically sensitive areas within the Study Area.

The dominant soil types within the Study Area are fine and coarse textured glaciolacustrine deposits and sandy silt to silty sand till (Newmarket Till) that overlie Ordovician shale and limestone bedrock of the Blue Mountain and Lindsay Formations.

The hydrogeologically sensitive areas were identified on the basis of surficial geology, groundwater recharge and discharge areas, watercourse characteristics, and the locations of wetlands and water wells.

The Robinson and Tooley watersheds are located south of the Oak Ridges Moraine and regional groundwater flow across watersheds and the Study Area is north-south towards Lake Ontario. Three main aquifer systems are present in the area, the Oak Ridges Moraine Aquifer; Thorncliffe Formation; and Scarborough Formation. Additionally, shale bedrock also acts as a weak aquifer system.

As noted in **Section 5.1.3**, the Study Area consists of several first and second order streams within the Robinson Creek and Tooley Creek subwatersheds and wetlands, where groundwater discharges. Groundwater discharge to the streams is shown in **Exhibit 5-2**.

Most of the Study Area is serviced by municipal water. People living in the un-serviced areas obtain their drinking water from private wells and numerous businesses rely on groundwater for commercial and industrial use.

Refer to **Appendix C** for further details.

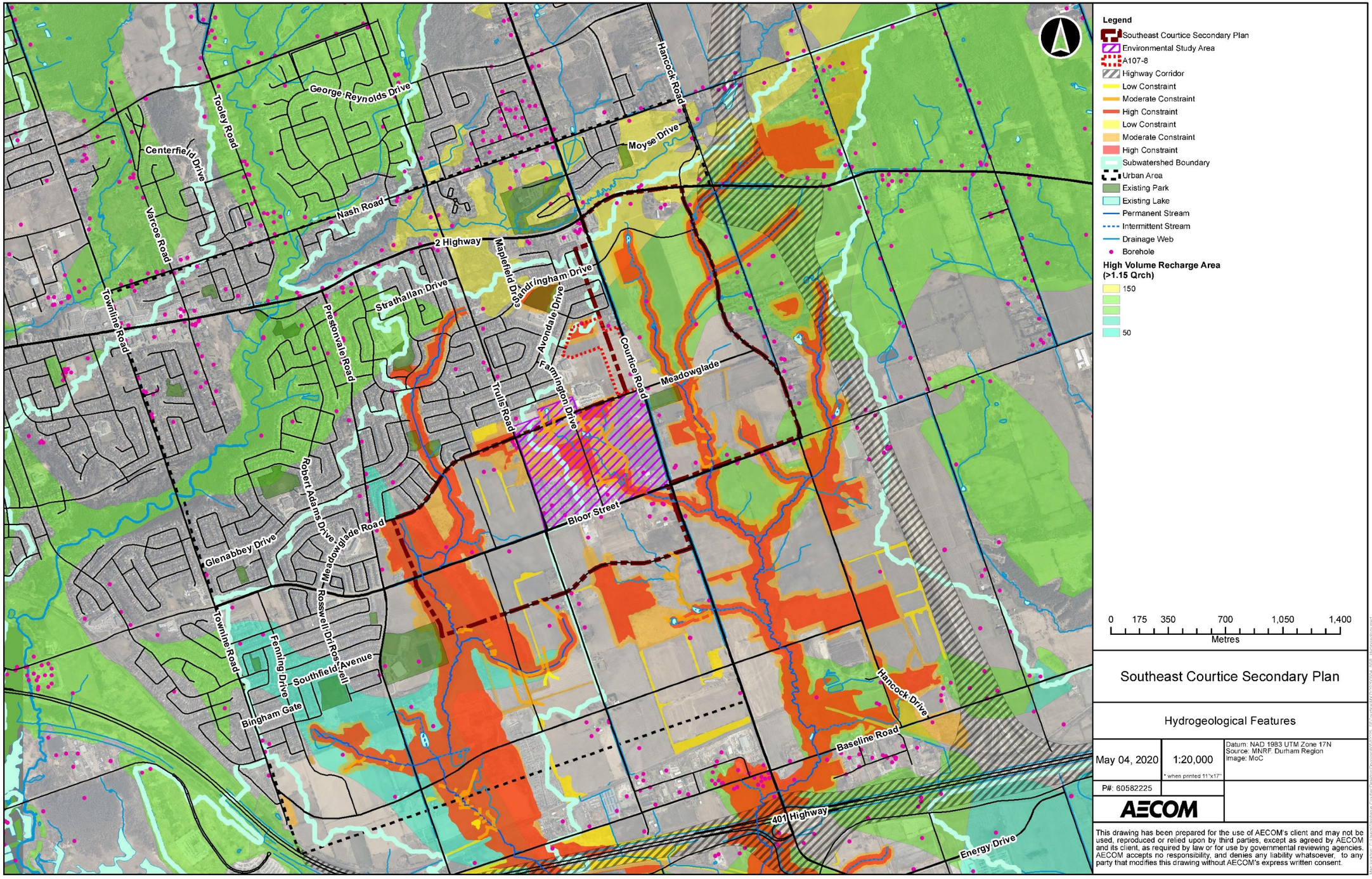
5.1.5 Source Water Protection

The Study Area is located within the Central Lake Ontario Source Protection Area and is part of the Credit Valley- Toronto and Region – Central Lake Ontario (CTC) Source Protection Region. It is subject to the CTC Source Protection Plan.

Based on a review of MECP's Source Protection Information Atlas, the Study Area is not located within the limits of a Wellhead Protection Area (WHPA) or an Intake Protection Zone (IPZ); however, portions of the Study Area are identified as a Highly Vulnerable Aquifer (HVA), meaning that it is more susceptible to contamination from both human and natural impacts on water quality, due to its location near ground surface, or the type of material found in the ground around the aquifer. Certain legally binding and non-binding source protection policies applicable to road salt, organic solvents. and other potential contaminants may apply to these areas.

Additionally, Significant Groundwater Recharge Areas (SGRA) have been identified in the northern part of the Study Area that support local stream and wetlands. The **Exhibit 5-2** identifies the hydrogeological features within the Study Area.

Exhibit 5-2: Hydrogeological Features



5.2 Socio-Economic Environment

5.2.1 Demographics

Durham's population has increased significantly from 247,473 in 1976 to 645,862 at the time of the 2016 census. According to Durham Region's Official Plan the population and employment forecasts for the Region to the year 2031 are 960,000 and 350,000, respectively. Additionally, according to the Growth Plan 2020, Durham Region is forecast to grow to 1.3 million people and 460,000 jobs by the year 2051.

Clarington has been experiencing strong population growth over the past several years. Between 2011 and 2016, the population of the municipality grew from 84,548 to 92,013, an average annual growth rate of 1.7%.

According to the Municipality of Clarington's Official Plan, the population and employment forecasts provided in **Exhibit 5-3**. shall be used to plan and manage growth and guide land use decision making to 2031. The Study Area is anticipated to undergo significant growth and development, with planned population of approximately 12,000 residents.

Exhibit 5-3: Clarington Population and Employment Forecasts to 2031

Forecasts	2031
Urban Population	124,685
Rural Population	15,655
Total Population	140,340
Employment	38,420

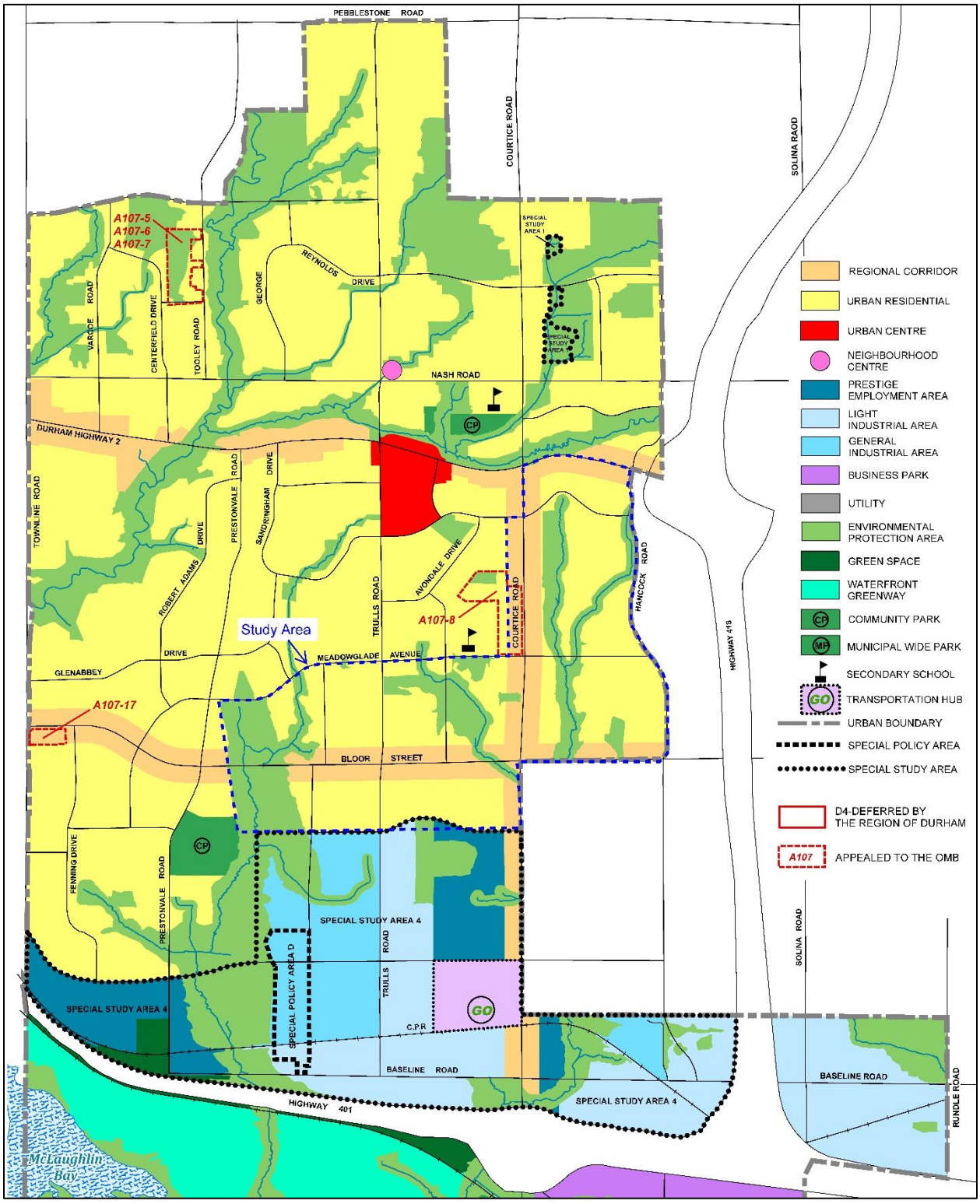
Source: Clarington Official Plan, 2018.

5.2.2 Land Use

The Municipality of Clarington Official Plan indicates that the Study Area is part of the Courtice Urban Area as illustrated in Map A1 (Land Use West Clarington Rural Area). Land use within the Study Area is designated as 'Regional Corridor', 'Urban Residential', 'Urban Centre' and 'Environmental Protection Area' as shown in the Clarington Official Plan Map A2 (Land Use Courtice Urban Area). 'Prime Agricultural' lands abut the existing built out urban area on the southeast corner of the Courtice Urban Area. See **Exhibit 5-4**.

The predominant agricultural land use in the 'Prime Agriculture' Area is common field crop, and there is no specialty crop grown on the 'Prime Agriculture' Area surrounding the Study Area (AECOM, 2020). Please refer to **Appendix D '**Agricultural Impact Assessment' (AECOM, 2020) for further details on the Study Area in the context of agricultural areas.

Exhibit 5-4: Land Use



Source: Excerpt from Map A2, Land Use, Courtice Urban Area, Official Plan, Municipality of Clarington, 2018.

Environmental Protection Areas include natural heritage features, hydrologically sensitive features, lands within the regulatory floodplain of a watercourse, headwater drainage features with a “Protection” classification and hazard lands associated with valley systems, including slope and erosion hazards. Areas associated with Environmental Protection Areas support their ecological integrity and include vegetation protection zones and other natural heritage areas.

Bloor Street, Courtice Road and Highway 2 and adjacent lands are designated as Regional Corridors within the Study Area. These are Priority Intensification Areas and the routes for future transit service. Regional Corridors align with the Medium Density Regional Corridor and High Density/Mixed Use designations shown on Schedule A. Regional Corridors are locations of the highest densities, tallest buildings and greatest mix of uses, in order to concentrate population in areas with good access to transit and amenities.

The lands designated as Urban Centre are to be developed as the main concentrations of activity in the community and provide an array of retail and personal service, office, residential, cultural, community, recreational and institutional uses. The community town centre intended to address the majority of the community’s retail needs is located to the northwest of the Study Area along Durham Highway 2.

Urban Residential areas are predominantly residential areas, outside of the Regional Corridors, which will feature built form of a lower density and height in ground-related units. The predominant use of lands designated Urban Residential is for housing purposes. Other uses supportive or compatible with residential uses may be permitted.

The lands south of the Study Area are also located within the Courtice Urban Area. These lands are designated for Employment Uses and have been identified as a Major Transit Station area. These lands contain the Courtice GO Station.

5.2.3 Noise

Noise sensitive land uses generally consist of residential areas (i.e., single family dwellings, townhomes, apartment buildings), hospitals, nursing homes, campgrounds, educational facilities and day care centres, as well as hotels/motels, and places of worship.

As noted, the Study Area is predominantly greenfield consisting of larger parcels of vacant, rural lands. Residential farm properties are scattered throughout fronting onto Highway 2, Hancock Road, and Bloor Street. A residential subdivision abuts the Study Area to the west of Courtice Road at the north end. The Holy Trinity Catholic Secondary School fronts onto the west side of Courtice Road and the Beyond Our Dreams Preschool is located in the southwest quadrant of the Courtice Road / Bloor Street

intersection. There are also several places of worship in proximity that include the Ebenezer United Church located south of Bloor Street east of Courtice Road, the Hope Fellowship Church on Bloor Street just west of Courtice Road and the Methodist Church located at Trulls Road, south of Avondale Drive.

It is noted that existing noise conditions and impacts associated with the SECSP would be addressed as part of the future separate MCEA and detailed design process completed for the identified road projects. Likewise, noise considerations for the forthcoming developments will be addressed through the municipal development land use process. These Noise and Vibration Assessments will include predictions of potential impacts at sensitive receiver locations and will identify locations where consideration for mitigation is required. The assessments should be prepared in accordance with municipal and provincial guidelines for transportation noise and vibration assessments.

5.2.4 Air Quality

As noted above, the Study Area is predominantly greenfield consisting of larger parcels of vacant, rural and agricultural lands. As the future SECSP comes to fruition, it is recommended to complete air quality assessments to predict total emissions including contaminants of interest and Greenhouse Gas emissions. The results from the analysis would provide help identify any potential issues and allow for the development of mitigation measures.

5.3 Cultural Environment

5.3.1 Archaeological Resources

A Stage 1 Archaeological Assessment (AA) was completed to identify the geography, land use history, previous archaeological field work and current conditions of the Study Area to determine its archaeological potential. Documentary sources, historic maps, detailed mapping and satellite imagery were analyzed in order to evaluate the archaeological potential of the Study Area.

A data search of Ontario Archaeological Site Database (OASD) on March 13, 2018 identified six registered archaeological sites within the Study Area that require additional archaeological assessment. See **Appendix E ‘**Stage 1 Archaeological Assessment’ (AECOM, 2020) for further details on identified archaeological sites within the Study Area.

The Stage 1 archaeological assessment property inspection was conducted on August 29, 2018 in accordance with *Section 1.2 Property Inspection* in the *Standards and*

Guidelines for Consultant Archaeologists (MTCS 2011). During the field review of the SECSP, landscape features, such as waterways and undisturbed agricultural/wooded terrains, were documented to provide insight into areas of archaeological potential.

Within the 278.99 hectare Study Area, undisturbed areas that are in proximity to waterways, historic travel routes, historic homesteads, previously registered sites, physiographic features such as elevation, and other archaeological resources are identified as having a high potential necessitating a Stage 2 AA if these areas will be disturbed by future construction. The results of the Stage 1 assessment indicate that the majority of the Study Area contains archaeological potential and will require a Stage 2 archaeological assessment prior to any future development.

The review was documented in the Stage 1 Archaeological Assessment, SECSP and EA (AECOM, 2020).

5.3.2 Built Heritage Resources and Cultural Heritage Landscapes

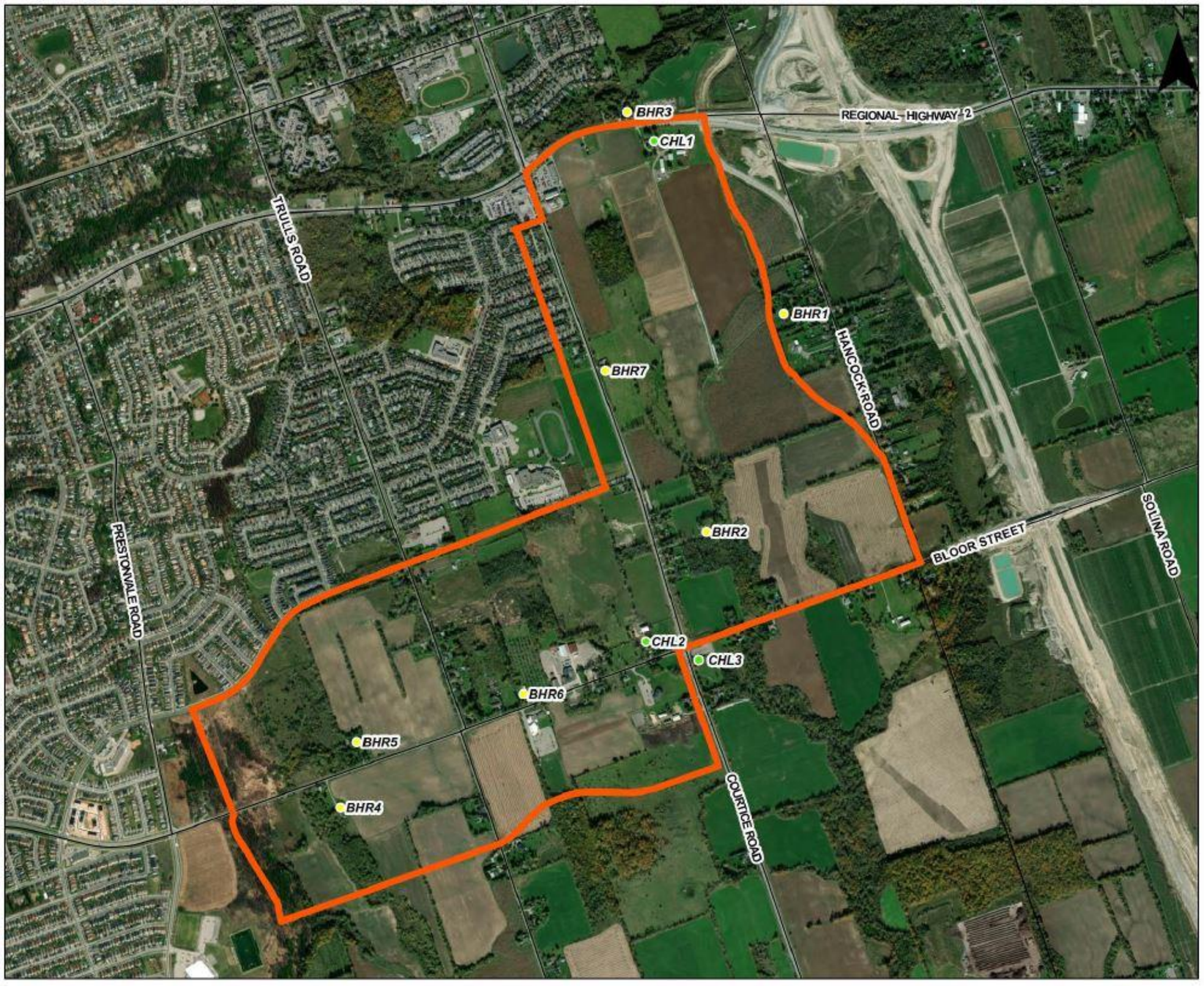
A Built Heritage and Cultural Landscape (BHCHL) Screening Assessment was completed to identify known and potential cultural heritage resources within the Study Area. The BHCHL Screening Assessment was conducted according to the Ontario Heritage Tool Kit, Heritage Property Evaluation.

In total, three Cultural Heritage Landscape (CHL) and seven Built Heritage Resources (BHR) were identified as part of the BHCHL screening. This includes one primary[2], two secondary[3], and three candidate[4] resources that are located within the Study Area, and one primary resource, one secondary resource and one candidate resource that are located adjacent to the Study Area. These resources were identified as having heritage value by the Municipality of Clarington. However, the Built Heritage Resource located south of Bloor Street (BHR#4) has been removed. Additionally, one property with potential heritage value was identified as part of the field review completed by AECOM in August 2018. See **Exhibit 5-5** for the location of above noted heritage resources.

See **Appendix F** ‘Built Heritage and Cultural Heritage Landscape Screening’ (AECOM, 2020) for further details.

2. Primary properties refer to those that were the best examples of a particular style of architecture within the Municipality of Clarington.
3. Secondary properties refer to those that were constructed with a vernacular interpretation of a particular style of architecture.
4. Candidate resources refer to properties that the Heritage Committee considers to have potential heritage value, but haven’t been fully evaluated.

Exhibit 5-5: Built Heritage Resources and Cultural Heritage Landscapes identified in the Study Area



Legend

- Study Area Location
- Study Area
- Built Heritage Resource
- Cultural Heritage Landscape

0 125 250 500 750
Meters

Southeast Courtice Secondary Plan and EA
Built Heritage Resources and Cultural Heritage Landscapes

Study Area

Jan 2019	1:12,500	Datum: NAD 1983 UTM Zone 17N

AECOM

Note: As per Municipality of Clarington's update (October 2022), the BHR4 no longer exists.

6. Transportation Network Study

6.1 Existing Transportation System

6.1.1 Existing Roads

The major roadways within the Study Area include the following (shown on **Exhibit 6-1**):

- **Hancock Road** is a north-south municipal road under the jurisdiction of Clarington and is classified as a Type C Arterial within the defined Study Area. Hancock Road is a two-lane roadway extending from Bloor Street to north of Nash Road with a posted speed limit of 60 kilometre per hour. No active transportation facilities are currently present.
- **Courtice Road** is a north-south regional road under the jurisdiction of Durham and is classified as a Type A Arterial Road within the defined Study Area. Courtice Road is a two-lane roadway extending from the Darlington Energy Complex south of Highway 401 to Taunton Road. The posted speed limit is 60 kilometre per hour and 80 kilometre per hour, north and south of Bloor Street, respectively. No active transportation facilities are currently present.
- **Trulls Road** is a north-south municipal road under the jurisdiction of Clarington and is classified as a Type B Arterial Road within the defined Study Area. Trulls Road is a two-lane road (with cycling lanes in some areas) extending from Baseline Road West to Taunton Road, and has a posted speed limit of 50 kilometre per hour.
- **Highway 2** is an east-west regional road under the jurisdiction of Durham and is classified as a Type B Arterial Road within the defined Study Area. Highway 2 is a four-lane roadway extending from downtown Oshawa to Bowmanville. Highway 2 contains a two-way left turn lane and a posted speed of 60 kilometre per hour west of Courtice Road, and 70 kilometre per hour east of Courtice Road. No active transportation facilities are currently present.
- **Bloor Street** is an east-west regional road west of Courtice Road, and a municipal road east of Courtice Road. Bloor Street is classified as a Type A Arterial Road within the defined Study Area. Bloor Street is a two-lane roadway in the Study Area with posted speeds ranging from 50 to 70 kilometre per hour, depending on the segment.

Exhibit 6-1: Existing Road Network

Source: SECSP Transportation Report, AECOM 2021.

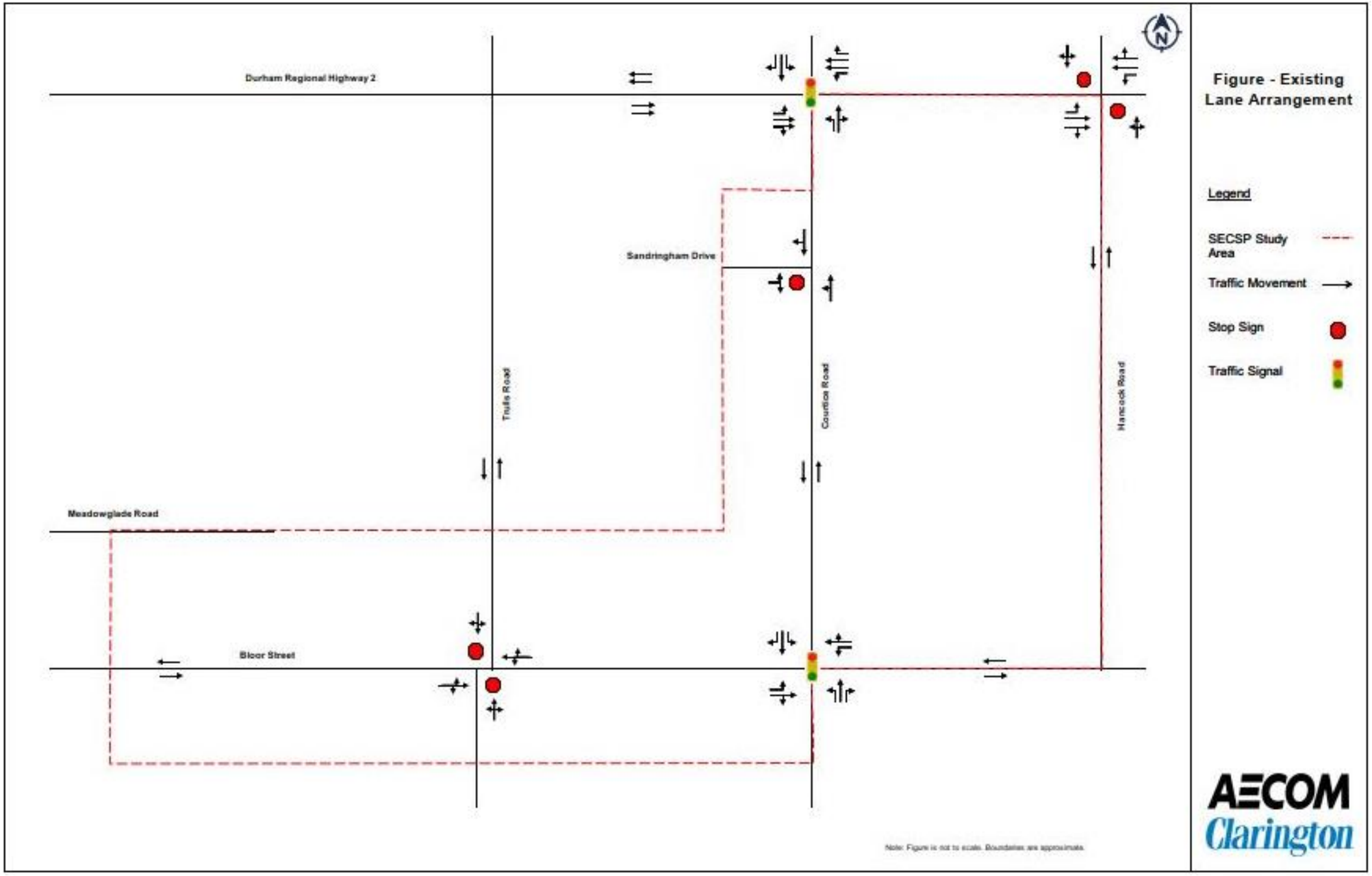
- **Sandringham Drive** is a two-lane discontinuous curvilinear road extending from Highway 2 to Courtice Road (with a missing segment from east of Trulls Road to west of Avondale Drive). Sandringham Drive is designated as a Collector Road in the Clarington Official Plan. Sandringham Drive has a posted speed limit of 50 kilometre per hour.
- **Meadowglade Road** is a two-lane curvilinear road extending from Bloor Street in the southwest to Granville Drive in the northeast. Meadowglade Road is designated as a Type C Arterial in the Regional and Clarington Official Plans. The road features curbside cycling lane markings east of Prestonvale Road and a posted limit of 50 kilometre per hour.

The following were identified as key study intersections within the Study Area to be considered in the traffic review:

- Highway 2 intersections at:
  - Courtice Road (signalized); and
  - Hancock Road (unsignalized with STOP signs on Hancock Road approaches).
- Bloor Street intersections at:
  - Trulls Road (unsignalized with STOP signs on Trulls Road approaches); and
  - Courtice Road (signalized).
- Courtice Road intersection at:
  - Sandringham Drive (unsignalized with a STOP sign on Sandringham Drive approach).

Exhibit 6-2 shows lane configurations and locations of the key intersections within the Study Area.

Exhibit 6-2: Lane Configuration



Source: SECSP Transportation Report, AECOM 2021.

6.1.2 Existing Transit

Based on the September 6, 2022 Durham Region Transit (DRT) service schedule, three DRT bus Routes 902A, 902B and 411 are operating within the Study Area. See **Exhibit 6-3**.

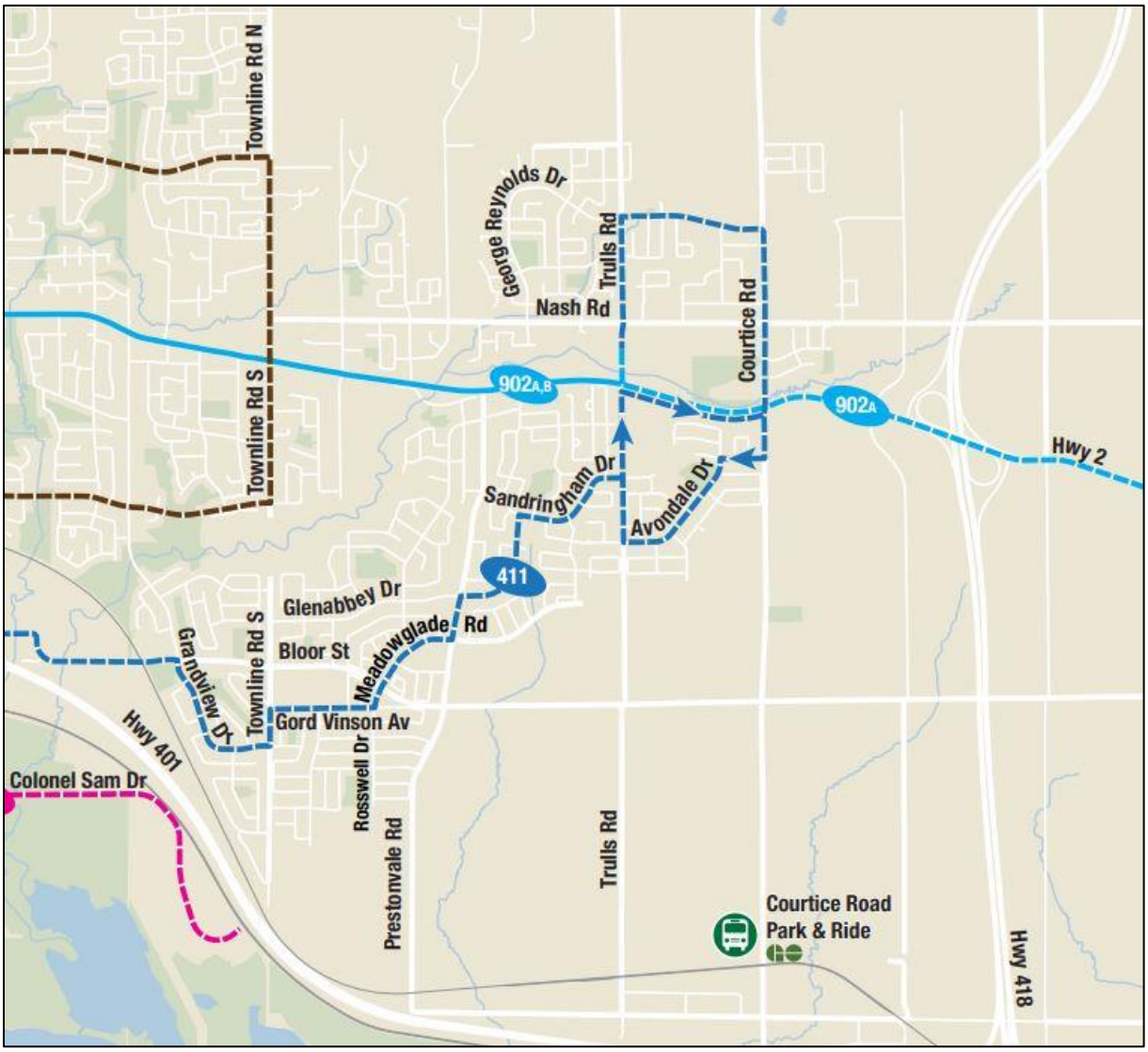
- The DRT bus Route 902A (Bowmanville) - services along Highway 2 in the Study Area connecting the Oshawa GO Station, Oshawa Centre Terminal to Simpson Northbound Station at King Street East in Bowmanville. The following list the DRT Route #902A stops within the Study Area:
  - Durham Highway 2 at Courtice Road; and
  - Durham Highway 2 at Hancock Road.
- The DRT bus Route # 902B (Oshawa Centre Terminal) travels from Trulls Southbound at Durham Highway 2 and ends in Oshawa Centre Terminal. The following list the DRT bus Route #902B stops within the Study Area:
  - Trulls Southbound at Durham Highway 2.
- The DRT bus Route #411 South Courtice operating between Oshawa Centre Terminal and generally Trulls Road at Highway 2, services the Study Area. The following list the DRT bus Route #411 stops within the Study Area:
  - Prestonvale Road Northbound at Glenabbey Drive;
  - Glenabbey Drive Northbound @ Found;
  - Sandringham Drive Eastbound @ Yorkville;
  - Sandringham Drive Northbound at Hillhurst; and
  - Sandringham Eastbound @Trulls.

The closest transit terminal is the Oshawa Centre Terminal providing connections with a variety of DRT Routes such as 403, 405, 410, 902 and 917. Oshawa GO Station is also in close proximity and provides connections to the GO Transit Lakeshore East Line.

GO Bus Route 90 was discontinued due to the implementation of DRT's new Route 902A connecting Oshawa GO and Bowmanville.

The GO Transit Courtice Road Park and Ride is also located south of the Study Area.

Exhibit 6-3: Existing Transit



Source: Durham Region Transit System Map: Effective September 2022.

6.1.3 Existing Pedestrian Facilities

The Study Area is generally rural and undeveloped with no dedicated pedestrian facilities. Along the periphery or just beyond the Study Area, there is a variance on which roadways have sidewalks provided for pedestrian movement. Some arterials and collector roadways have sidewalks provided on both sides (e.g., Regional Highway 2, Trulls Road north of Avondale Drive), whereas others only have a sidewalk along one side (e.g., Courtice Road in the vicinity of Sandringham Drive). Some streets that pass through residential areas have sidewalks provided on both sides (e.g., Sandringham Drive), while others have a sidewalk along one side (e.g., Meadowglade Road east of Prestonvale Road).

Some network gaps exist where development has yet to be constructed, and many streets do not have sidewalks on either side (e.g., Hancock Road, Trulls Road south of Avondale Drive, Courtice Road south of Sandringham Drive, Regional Highway 2 east of Courtice Road) given the rural undeveloped nature of the lands.

6.1.4 Existing Cycling Facilities

Currently within the Study Area, there are very limited cycling facilities present. There are dedicated bicycle lane markings on both sides of the roadway on Meadowglade Road east of Prestonvale Road, and on Trulls Road generally between Regional Highway 2 and Avondale Drive. No other dedicated cycling facilities exist within the Study Area.

6.1.5 Existing Traffic Volumes

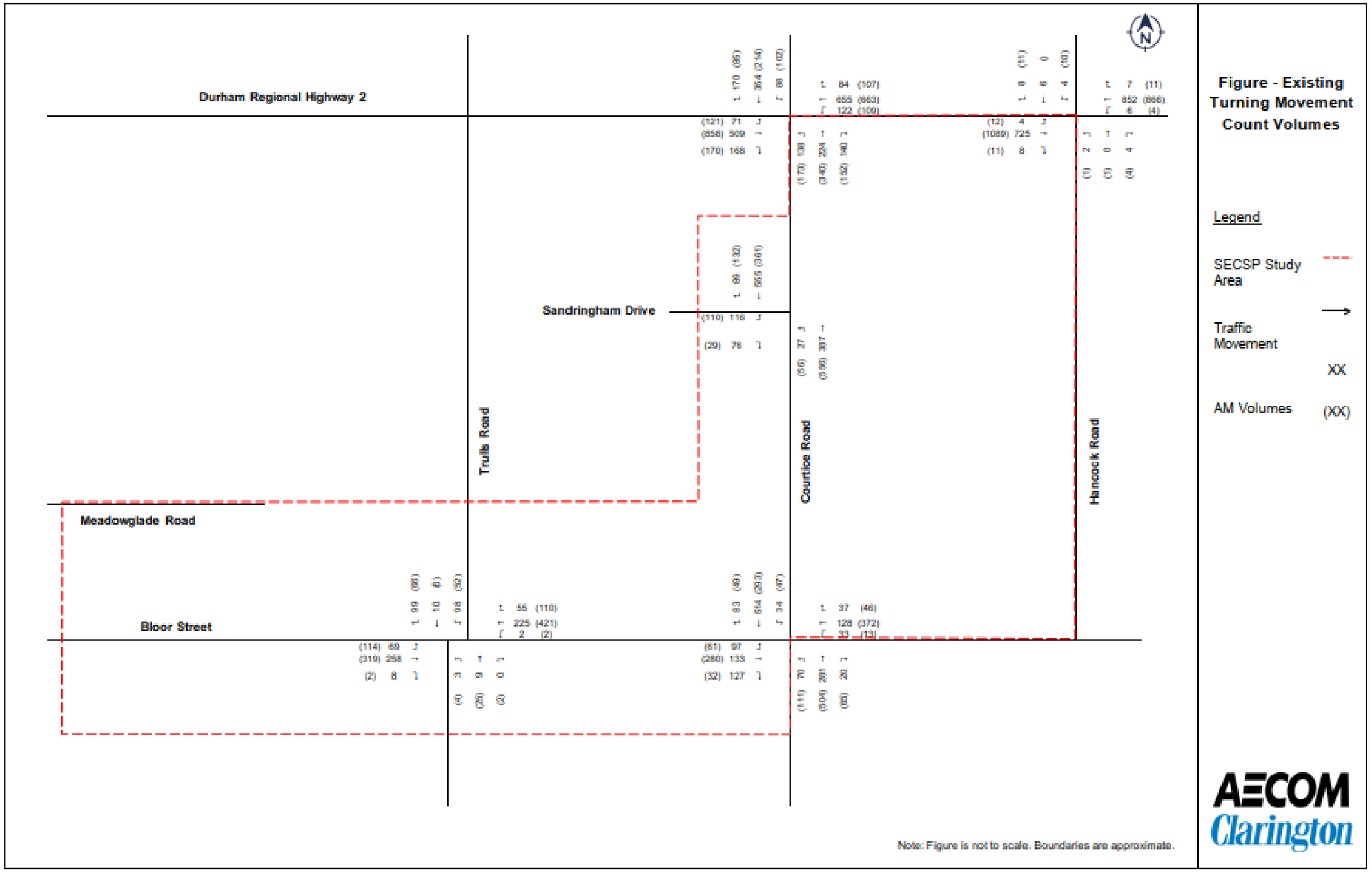
Vehicle turning movement counts (TMCs) for the study intersections were obtained at the initiation of this study in 2018 and supplemented with more recently available data from the Region of Durham for the weekday AM and PM peak hours. See **Appendix G** 'Transportation Report (AECOM, 2021) for further details on TMC data. The balanced[5] turning movement volumes of the studied intersections for the Existing Conditions (2020) on a typical weekday during both the AM and PM peak hours are shown in the following **Exhibit 6-4**.

6.1.6 Traffic Operations in Existing Conditions

The turning movement volumes, the intersection lane configurations and traffic control devices were used to develop models in Synchro to replicate existing traffic conditions on a typical weekday in 2020 during both the AM and PM peak hours. All timing parameters for the signal timing plans were replicated in the respective AM and PM peak hour Synchro models, including the phasing setup, offsets, minimum and maximum green times, and clearance times. Heavy vehicle percentages were added separately for each intersection movement. In addition, a peak hour factor (PHF) of 0.92 was used at each intersection, as per the Region's *Design Specifications for Traffic Control Devices, Pavement Markings, Signage and Roadside Protection* guideline for the analysis of the peak hour conditions.

5. The factored turning movement volumes were balanced to compensate for imbalanced turning movement counts due to variance in data collection dates.

Exhibit 6-4: Existing Traffic Volumes – 2020 AM and PM Peak Hours



Source: SECSP Transportation Report, AECOM 2021.

Based on the lane configurations, the AM and PM peak hour volumes were assessed in Synchro and reported using both the Synchro *Intersection: Lanes, Volumes, Timings* and *Highway Capacity Manual 2000* methodologies. See **Appendix G** for Synchro analysis outputs.

In general, traffic operations in the Existing Conditions are shown to be acceptable, with all study intersections operating at an overall Level of Service (LOS) C or better. Only one movement was noted to operate at a critical level (i.e., at LOS E or worse, or with a v/c ratio of 0.85 or above, or with an average delay of 55 seconds or more at signalized intersections, and 35 seconds or more at unsignalized intersection) during the AM peak hour, and three movements are operating at a critical level during the PM peak hour; as follows:

- At the intersection of Courtice Road & Regional Highway 2:
  - The westbound left-turn movement was found to operate at LOS F with a delay of 110.6 seconds and a v/c ratio of 0.99 during the PM peak hour, representing at-capacity conditions；
- At the intersection of Courtice Road & Sandringham Drive:
  - The shared eastbound left/right-turn movement found to operate at LOS F with a delay of 71.9 seconds and a v/c ratio of 0.87 during the AM peak hour, and at LOS F with a delay of 57.9 seconds during the PM peak hour; and
- At the intersection of Bloor Street & Trulls Road:
  - The shared southbound left/through/right-turn movement was found to operate at LOS E with a delay of 42.9 seconds during the PM peak hour.

See **Appendix G** for further details on Existing Traffic Operations.

7. Problem and Opportunity Statement

Following a review of existing and future conditions, background information, and other relevant data the following problem / opportunities were identified in the Transportation Report (**Appendix G**) for the Study Area:

- Regional and Municipal planning policy identify residential and employment growth within the SECSP area; and
- Improved transportation service is required to meet the needs of new development with the planning area.

Additional problem / opportunities identified as part of this Master Transportation Plan study include the following:

- Strategically located along three regional corridors and in close proximity to the Courtice Employment lands and future public transit, the Study Area is positioned to absorb a significant portion of the projected growth for the Courtice urban area. A combination of corridor improvements, road extensions and new roads will be required to support the development of the Study Area;
- Streets with a range of transportation options, including public transit and active transportation to accommodate all users of all abilities will be a priority addressing the policy focus on moving towards a low carbon environment;
- The future Courtice GO Station as part of Metrolinx's "Big Move" Regional Transportation Plan, Highway 2 Durham Rapid Transit, and enhanced local Durham Region Transit (DRT) service are planned to increase general public transit connectivity and service, promoting transit as an alternative travel mode for the area and surrounding community; and
- Regional and municipal cycling facilities and active transportation additions are planned throughout the Study Area as both primary, short-term and long-term improvements. The CTMP identifies a desire for active transportation to see an increase in mode share over the years, by making walking and cycling more practical and attractive.

8. Proposed Alternative Solutions and Evaluation

8.1 Development of the Proposed Alternative Solutions

After confirming the need for a balanced transportation plan (incorporating new roads, active transportation, transit servicing, and balanced planning policies promoting an environmentally sustainable development plan), a variety of alternative solutions were considered in the development of alternative methods to address the problem/opportunity statement. The development of alternative transportation network followed an integrated approach aligned with the development of various land use scenarios for the SECSP. The three land use plans and associated road networks were developed based on varying levels of development yield, preserving environmental features, and creating community focus points (creation of landmark nodes and elements). A Do Nothing Scenario was also considered in the development of alternative solutions. The components of proposed land use scenarios were utilized in the assessment of the transportation alternatives. Through this process, three transportation networks plus the Do Nothing Scenario were identified and evaluated. The layout of the road network in different land use scenarios was developed with consideration of the following:

- A multi-modal comprehensive transportation service taking into account both transit and active transportation;
- Build upon the previously contemplated and planned road network elements identified in both the Clarington and Durham Region Official Plans and Transportation Master Plans;
- Promote spine road capacity improvements along the existing arterial road network;
- Promote arterial connections to existing and planned freeway infrastructure;
- Extend collector roads from existing adjacent developed areas into the Study Area to create longer collector roads that integrate and connect communities;
- Plan collector road alignments to respect the topography of the Study Area and capitalize on view and window corridors adjacent to natural heritage lands, where appropriate;
- Create a collector and local road network that creates appropriate block sizes that allow for 80% transit coverage with most residences / jobs within a 400-metre walking distance;

- A further 10 to 15% of residences and workplaces should be within a 600 to 800 metres walking distance in order to achieve the standards outlined in the DRT Five-Year Service Strategy;
- Layout communities to promote walking and cycling in lieu of vehicular movements;
- Plan an integrated cycling and pedestrian spine network to the future Courtice GO Station to ensure there are no gaps or hindrances to active transportation in the figurative *last mile* to the GO station;
- Plan cycling facilities that reflect the utilitarian versus recreational nature of different cyclists, and also the variability in cycling skills;
- Road-based solutions, new or improved transit service, active transportation provisions (walking and cycling), land development strategies and policies were considered in the development of alternative methods;
- Avoid or minimize crossings of watercourses;
- Avoid or minimize intrusion into natural heritage lands, such as wetlands, woodlots, and areas of significant natural interest, where possible; and
- Avoid cultural and built heritage resources, where possible.

8.1.1 Do Nothing

The future ‘Do Nothing’ alternative is an assessment of the future transportation network where future development and growth are considered but no changes are made to the transportation system including the active transportation network, transit services or the road network. The ‘Do Nothing’ strategy is considered as an alternative for comparison purposes only, as a benchmark to compare potential impacts to the natural, cultural, and socio-economic environment resulting from the alternatives under consideration. As part of the Class EA process, this alternative is included to highlight whether the proposed infrastructure improvement alternatives provide sufficient benefits to outweigh potential negative impacts.

8.1.2 Land Use Alternative 1 – Traditional Neighborhood (Extend)

Land use Alternative 1 includes continuation of the existing approach to development in the community of Courtice. The proposed scheme reflects a distribution of density across the neighborhood, with the majority of higher density blocks within the Regional Corridors. It maximizes the developable land area assuming that medium and low constraint lands are developable.

The road network in this scenario includes a full extent of major road with increased water crossings, and minor roads consistent with a traditional suburban layout (**Exhibit 8-1**).

8.1.3 Land Use Alternative 2 - Priority Green (Cluster)

Land use Alternative 2 places a greater emphasis on natural areas by minimizing impacts to sensitive areas and maximising habitat linkages. The development is clustered into character districts, that draw their sense of place and identify from an adjacent waterfront, a peripheral ring of forest greens, a next-door pedestrian friendly mixed-use community zone or a nearby naturalized landscape amenity such as arboretum or a wetland park.

The overall built form seeks to intensify along the local and regional corridors with commercial focus just north of the Courtice Road and Bloor Street intersection. The highest concentration of residential density is located along Bloor Street, between Trulls Road and Courtice Road.

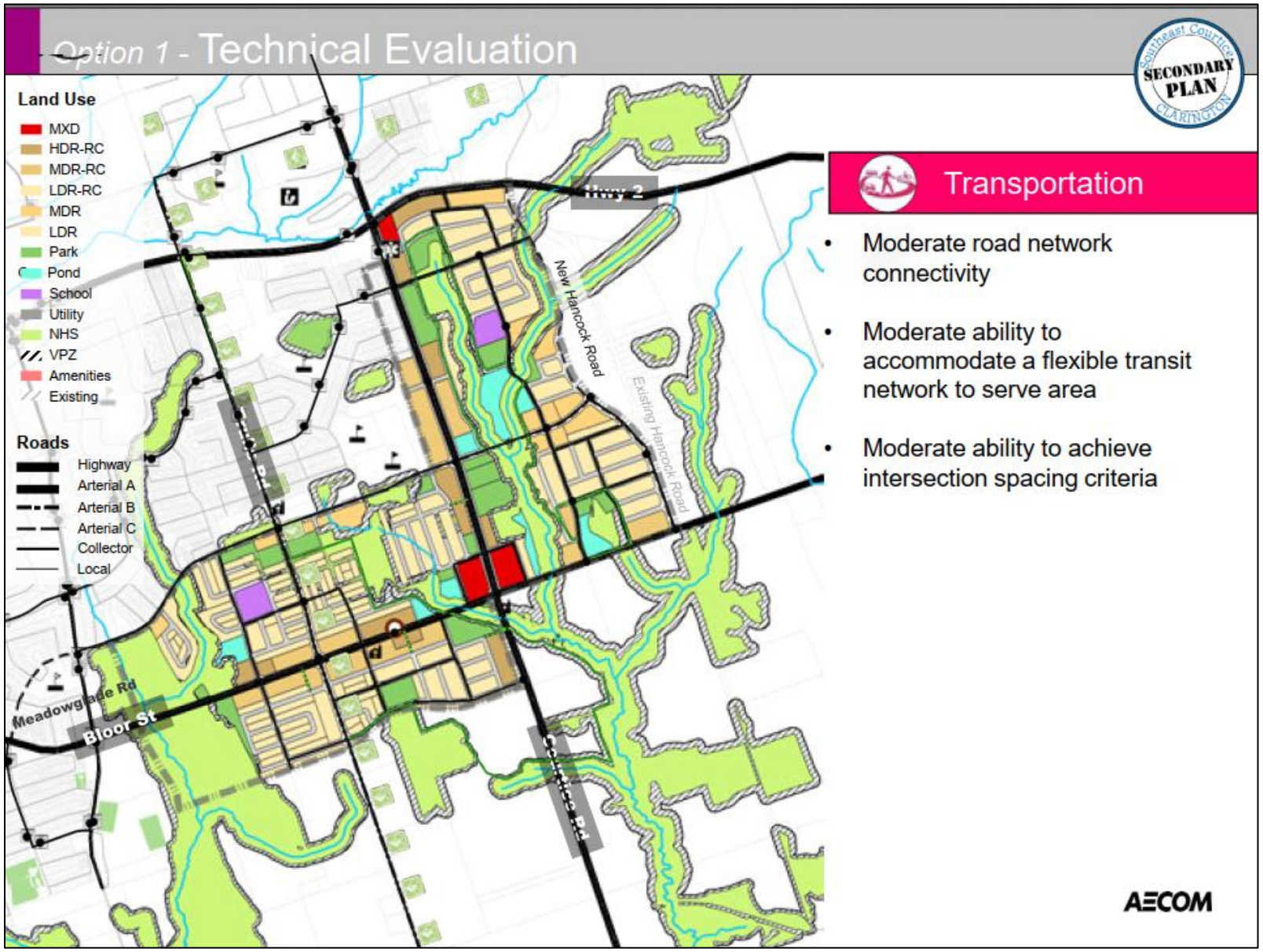
The road network in this scenario includes a limited extension of the major road network where feasible, increased mobility options, with minor roads following the landscape configurations. Water crossings will be limited in this scenario where possible (**Exhibit 8-2**).

8.1.4 Land Use Alternative 3 - Community Focus (Knit)

Land use Alternative 3 seeks to balance the competing demands of an improved yield, while protecting, conserving, enhancing and restoring some of the lands that are recognised to have ecological value and the potential to return to its natural conditions. Recognizing the prominent intersections within the neighborhood, high-rise built up areas will be at the intersections of Trulls Road and Bloor Street; Bloor Street and Courtice Road, Meadowglade Road and Courtice Road; and Courtice Road and Highway 2. Development is distributed to provide local amenities within close proximity to the majority of residents. A blend of Low Impact Development (LID) and SWM ponds with wider roads provide increased opportunities for LID implementation.

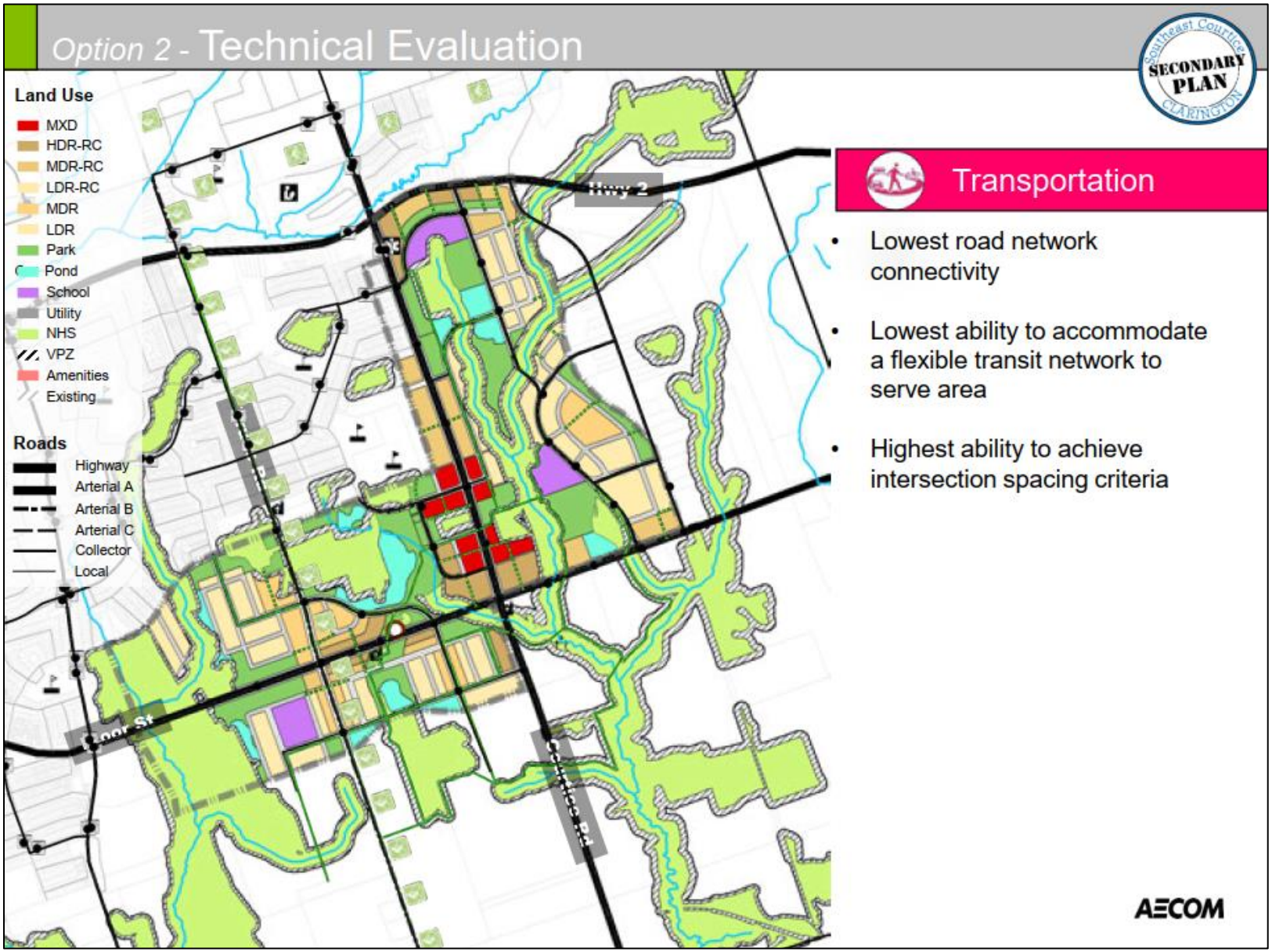
The road network in Alternative 3 will be optimized, augmented by a strong trail and path network to support walking and cycling. The roads and pedestrian network have maximum connectivity in this scenario, and minor roads support more connected and gridded structure (**Exhibit 8-3**).

Exhibit 8-1: Alternative 1- Road Network



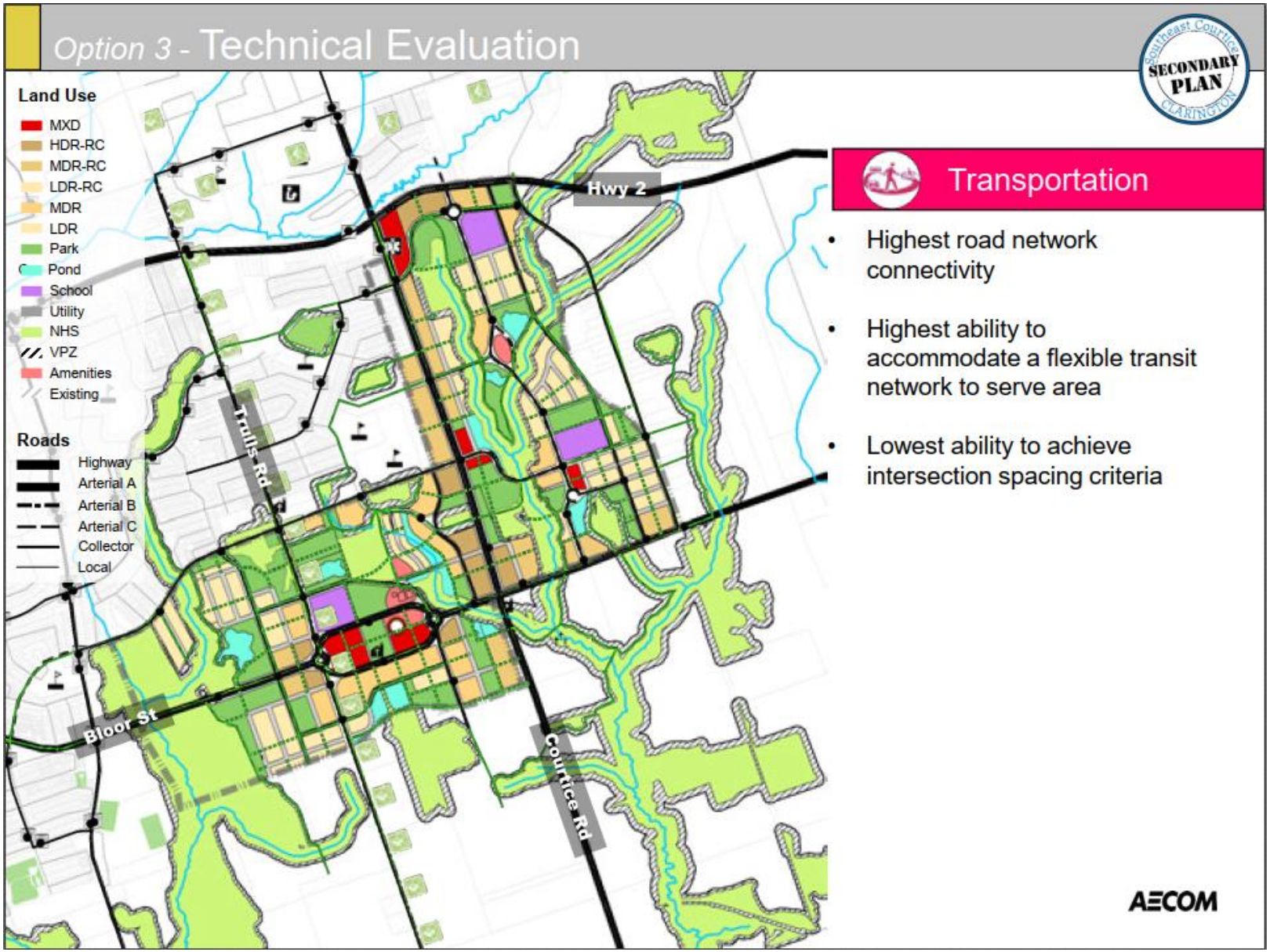
Source: AECOM, 2019.

Exhibit 8-2: Alternative 2 Road Network



Source: AECOM, 2019.

Exhibit 8-3: Alternative 3 Road Network



Source: AECOM, 2019.

8.2 Evaluation Framework and Criteria

To assist in selection of the Preferred Solution an evaluation matrix was developed to compare the alternative solutions, obtain an understanding of their potential to impact the area technical, natural, socio-economic, and cultural environment and to identify the advantages and disadvantages associated with each option. Criteria utilized for this evaluation is presented in **Exhibit 8-4** and consists of technical and economic considerations as well as natural and cultural environmental components.

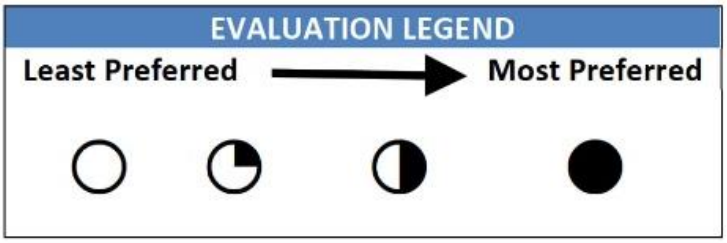
Exhibit 8-4: Evaluation Criteria

Category	Sub-category	Evaluation Criteria
Technical Environment	Road Network and Auto Traffic	■ Provides improved road network connectivity. ■ Accommodates future traffic growth and capacity. ■ Ability to achieve intersection spacing criteria.
Technical Environment	Active Transportation	■ Improves walking and cycling connections between key destinations within the Study Area (e.g., parks, schools, shopping, GO Station, transit stops, etc.) and with surrounding neighbourhoods. ■ Provides safer, dedicated, physically separated, continuous walking and cycling facilities. ■ New route connections in the network. ■ Community accessibility and mobility.
Technical Environment	Transit	■ Ability to accommodate a flexible transit network to serve the area. ■ Improves surface transit connections. ■ Access to Public Transit.
Natural Environment	Natural Heritage System (NHS) and Parkland	■ Provision of Natural Heritage System (I.e., wetlands, Areas of Natural and Scientific Interest (ANSI), Significant Woodlands, Significant Valleylands, etc.) and Parkland.
Natural Environment	Wildlife and Habitat Linkages	■ Potential impacts to area wildlife, including Species at Risk (SAR). ■ Potential impacts to habitat linkages.
Natural Environment	Fisheries/Aquatic	■ Potential impacts to fish/fish habitat and aquatic species, including SAR.
Natural Environment	Surface Water / Drainage	■ Opportunities for implementing Low Impact Development (LID) features to offset hard-surface impervious area. ■ Integration of SWM Ponds with Parks and NHS features.
Natural Environment	Groundwater / Source Protection	■ Potential to impact area groundwater resources and recharge.
Cultural Environment	Archaeological Resources	■ Potential to impact archaeological resources.
Cultural Environment	Built Heritage and Cultural Heritage Landscapes	■ Potential to impact Built Heritage and Cultural Heritage Landscapes.
Socio-Economic Environment	Provincial and Municipal Planning Policy	■ Consistency with Provincial and Municipal Policies (e.g., Provincial Policy Statement, Growth Plan, Durham Region Official Plan, Municipality of Clarington Official Plan, Durham Region Transportation Plan, Municipality of CTMP, etc.). ■ Supports and aligns with various City guidelines, policies, and strategies such as Complete Streets Guideline and Cycling Network Plan.
Socio-Economic Environment	Urban Design / Land Use	■ Organizing Principles (i.e., Grid Network of Streets, Open Space Network etc.). ■ Accommodates existing and future land use. ■ Permeability - opportunities to improve with off-street networks.
Socio-Economic Environment	Noise	■ Potential for noise impacts during construction and in the long term.
Socio-Economic Environment	Air Quality	■ Potential to improve air quality and reduce greenhouse gas emissions.
Socio-Economic Environment	Climate Change	■ Potential for project to impact climate change and for climate change to impact project. ■ Ability to adapt or be resilient to future extreme weather conditions and events. ■ Carbon footprint (CO_2 emissions) and potential impacts to existing vegetation (carbon sinks). ■ Consistency with municipal climate change initiatives.
Implementation	Engineering Feasibility and Constructability	■ Key technical challenges and complexity. ■ Ability to stage construction with managed impacts to rail and road traffic, and to the area community.
Implementation	Construction & Maintenance Costs	■ Relative order-of-magnitude construction costs for roads, bridges, and utilities (excluding property). ■ Level of maintenance required to operate and maintain infrastructure.

8.3 Evaluation of Alternatives

A simple scoring method was utilized to present a visual comparison of the alternatives that ranged from Least Preferred moving incrementally to Most Preferred using the scoring as illustrated in **Exhibit 8-6** below. A more preferred option indicates that the alternative strikes a balance between addressing the problem/opportunity and in minimizing impacts to the area environment (technical, natural, socio-economic, and cultural). The final evaluation summary is presented in **Exhibit 8-6**. The subsections that follow summarize the advantages and disadvantages associated with each option. For additional details and to view the full evaluation matrices, please refer to **Appendix H**.

Exhibit 8-5: Evaluation Scoring Method



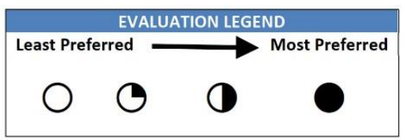
8.3.1 Future ‘Do Nothing’

Since no improvements to transportation infrastructure are proposed with this option, there will be no construction and therefore no potential to impact the natural heritage features of the area (i.e., Natural Heritage System, wildlife, fish/fish habitat, groundwater etc.) or existing archaeological and built heritage resources. Costs will also be lower in comparison to the other alternatives since no improvements are proposed. However, while the Future ‘Do Nothing’ alternative has some advantages in this regard it also has some significant disadvantages.

A key drawback of this alternative is that it does not address the problems and opportunities identified for the Study Area. This option proposes a "do nothing/status quo" approach where little to no infrastructure improvements would be completed. It is therefore not consistent with Provincial and Municipal policies, nor does it provide opportunity to implement planning and urban design principles. It does not accommodate future traffic growth associated with the proposed secondary plan development and does not improve road connectivity. There are no new active transportation connections or improvements to existing facilities. The transit network and connectivity will also not expand to accommodate growth.

Exhibit 8-6: Evaluation Summary

Evaluation Summary	Future 'Do Nothing'	Alternative 1 Traditional Neighborhood (Extend)	Alternative 2 Priority Green (Cluster)	Alternative 3 Community Focus (Knit)
	■ "Do nothing/status quo" approach where little to no infrastructure improvements are proposed. **Screened out**	■ Continuation of existing approach to development in Courtice; ■ Full extent of major road network implemented; ■ Moderate road network connectivity; and ■ Minor roads conform to a traditional suburban layout.	■ Limited extension of the major road network where feasible; ■ Minor roads to follow landscape- limit incursions into natural areas; ■ Low road network connectivity; ■ Decreases major roadway extensions and water crossings where possible, maximising habitat linkages and limiting impact on the existing environment; and ■ The overall built form seeks to intensify along the local and regional corridors and a commercial focus just north of the Courtice Road, Bloor Street intersection, the highest concentration of residential density is located along Bloor Street, between Trulls Road and Courtice Road.	■ Maximizes connectivity of road network, pedestrian network, and natural connections across Study Area; ■ Minor roads support a more connected, gridded structure; ■ Road network augmented by strong trail and path network to support walking and cycling; ■ Development is distributed to provide local amenities (parks, schools, commercial activities, etc.) within close proximity to the majority of residents; and ■ A blend of LID and SWM Ponds with wider roads provide increased opportunities for LID implementation.
Transportation / Technical	○	◑	◔	●
Natural Environment	●	○	◑	◔
Cultural Environment	●	◔	◑	◑
Socio-Economic Environment	○	◔	●	◑
Implementation	●	◔	◑	●
Total	○	◔	●	◑



It offers a low potential to implement improvements to area drainage including quality/quantity control and / or incorporate Low Impact Design features that could assist in making the area more resilient to extreme weather events.

Given the above this option was screened out since it does not address the identified problems and opportunities.

8.3.2 Alternative 1 (Traditional June)

This alternative will address the identified problems and opportunities as it proposes improvements that will accommodate future growth and capacity. It is therefore consistent with the Provincial and Municipal policy framework. Of the alternatives, this option provides a moderate road network connectivity and a moderate ability to achieve intersection spacing criteria. It will accommodate a flexible transit network to service the subject area. Walkability associated with this option is moderate in comparison to Alternatives 2 and 3. The moderate road network extent will have a moderate construction complexity and therefore moderate construction and maintenance costs.

A disadvantage of this option is that it provides the least amount of Natural Heritage System (NHS) and Parkland area. It also offers the least amount of habitat connections of the alternatives and has the greatest potential to impact fish/fish habitat given that it requires the most amount of watercourse crossings of the alternatives. No habitat connection is provided between the west and main branches of Tooley Creek across Courtice Road or between the west branch of Tooley Creek and Robinson Creek. A small park and SWM pond provide some buffer on the east side of Robinson Creek valley both north and south of Bloor Street. Of the alternatives it has an increased potential to impact Built Heritage resources. The East Wetland (on north side of Bloor) will also be separated from the Tooley Creek valley by a roadway.

As this option will provide the least amount of NHS and Parkland area it will therefore offer a reduced amount of vegetation in comparison to other alternatives to act as a carbon sink and assist in reducing GHG emissions and in minimizing climate change impacts. The narrow roads / ROW provide less opportunity for LID implementation and a lower potential to improve resiliency to future extreme weather events.

8.3.3 Alternative 2 (Priority Green)

Alternative 2 limits the extension of the major road network where feasible and minor roads follow the landscape and limit incursions into natural areas. This alternative will address the identified problems and opportunities as it proposes improvements that will accommodate future growth and capacity. It is therefore consistent with Provincial and Municipal policies. The proposed multi-modal improvements provide enhanced

opportunities for alternative forms of travel (i.e., active transportation and transit). As it offers the least extensive road network of the infrastructure-based alternatives it will have the lowest construction complexity and the lowest construction and maintenance costs.

This option also has the least potential to impact the natural environment given that the land use/road network design places a greater emphasis on natural areas and limits impacts on sensitive areas. It provides the greatest amount of NHS area and a moderate amount of Parkland area. It also provides a high amount of habitat linkages. The east wetland (on north side of Bloor) is linked through a park to Tooley Creek valley. It offers a broad area of core habitat between Courtice and Trulls Roads consisting of a mosaic of NHS, park and SWM pond and a broad continuous band along the west branch of Tooley Creek. It provides a habitat connection between the west and main branches of Tooley Creek across Courtice Road (but is bisected by two roads). A habitat connection is also provided between the west branch of Tooley Creek and Robinson Creek across Trulls Road through the park and NHS. It has a low potential to impact fish/fish habitat with minimal watercourse crossings. The road network & land use design allows for Parks and SWP areas to be integrated with natural areas to increase developable lands while maximizing natural area retention. Of the alternatives it provides the widest roads and ROW offering the best opportunity for LID implementation which will also assist in making the subject area more resilient to climate change and future extreme weather events.

A disadvantage of this option is that it provides the lowest road network connectivity, but it does provide the highest ability to achieve intersection spacing criteria. It also has the lowest potential to accommodate a flexible transit network to service the subject area and walkability associated with this option is considered to be low. The lowest overall network connectivity limits the road-based active transportation network for walkers and cyclists.

8.3.4 Alternative 3 (Community Focus)

Alternative 3 provides the highest road connectivity with the lowest ability to achieve intersection spacing criteria. Minor roads are designed to support a more connected, grid like structure. This alternative will address the identified problems and opportunities as it proposes improvements that will accommodate future growth and capacity. It is therefore consistent with Provincial and Municipal policy. Of the alternatives it has the highest road network connectivity. It also maximizes the connectivity of the pedestrian network, and natural connections across the Study Area. The road network is augmented by a strong trail and path network to support walking and cycling, and it has the highest ability to accommodate a flexible transit network to service the subject area.

It provides a moderate amount of NHS and the greatest amount of parkland area and a high amount of habitat connections. It has a moderate potential to impact fish/fish habitat. The road network and land use design allow for Parks and SWP areas to be integrated with natural areas to increase developable lands while maximizing natural area retention. It provides a mixture of LID and SWM ponds and a good integration of SWM ponds with Parks and NHS features. The wider roads and ROW provide more opportunity for LID implementation. The increased vegetation and opportunities to incorporate LID features can also assist in minimizing climate change impacts and potentially making the area more resilient to future extreme weather conditions.

While the proposed additions to the road network have the potential to impact two rural cultural heritage landscapes, the reconfiguration of Bloor Street, east of Trulls Road, will allow for the retention of a 19th Century built heritage resource.

This option has the lowest ability to achieve intersection spacing criteria. As this alternative has the most extensive road network length, it will require the greatest construction complexity and the highest construction and maintenance costs of the alternatives.

8.4 Climate Change

Increased temperatures worldwide have resulted in climate changes that create extreme weather events. Climate change concerns relate to the increased concentration of greenhouse gases in the atmosphere which can result in a rise in the global mean surface temperature. The document *Considering Climate Change in the EA Process* (MECP, 2017) outlines the MECP's expectations for considering climate change. The EA process is to consider how a project might impact climate change and how climate change may impact a project. To address climate change one approach involves reducing a project's impact on climate change (i.e., mitigation) and the second approach involves increasing the resilience of a local ecosystem to climate change (i.e., adaptation).

As noted, Climate Change was included as a criterion in the evaluation of the alternatives. The potential to impact carbon dioxide and Green House Gas emissions was considered along with the resiliency of the Study Area to future extreme weather events.

Transportation infrastructure projects can result in potential impacts to climate change that relate to the loss of vegetation and the release of vehicular greenhouse gas emissions. The planned SECSP infrastructure will improve vehicle flow and address capacity potentially reducing delays and vehicle idling. It will also assist in making the

SECSP area more pedestrian and cycling friendly which could decrease vehicular use and result in a reduction in vehicular greenhouse gas emissions.

Carbon sequestration is also one tool to assist in reducing greenhouse gas levels. Vegetation can act as a carbon sink and assist in removing carbon dioxide from the atmosphere. The provision of parklands, Natural Heritage Systems, and habitat linkages were considered in the development of the alternatives. Likewise, the SECSP alternatives incorporate green areas and corridor cross-section design that maximizes the boulevard width for streetscaping therefore allowing for the planting of street trees and increased vegetation.

The SECSP also allows for the inclusion of infrastructure design that can be more resilient to extreme weather events and flooding. The associated drainage infrastructure necessary for the SECSP area can be designed to consider climate change and potentially minimize the potential for flooding. LID features can also be incorporated to increase infiltration. These measures can assist in making the SECSP area less susceptible to flooding and ultimately less vulnerable to climate change.

During the additional MCEA phases to follow the aspect of climate change can be explored further and measures incorporated into the future detail design for the various projects to mitigate climate change.

8.5 Recommended Transportation Network

The alternative land use plans and road networks were reviewed and technically evaluated against a list of factors and criteria in order to develop the optimal community and road structure plan that balances and achieves the goals of the Municipality of Clarington and key stakeholders. The goal was to optimise yield, while protecting, conserving, enhancing and restoring lands recognised to have ecological value and potential to return to its natural conditions. **Exhibit 8-7** and **Exhibit 8-8** show the Recommended Land Use Plan and Recommended Transportation, Parks and Open Space Plan, respectively. The comprehensive evaluation based on the insight from the technical studies, comments received from the public, municipality staff, agencies and landowners as part of public workshops and subsequent correspondence, and also steering committee workshop yielded a comprehensive road network that results in extended and new connected corridors. The recommended transportation network includes:

- Realignment of Hancock Road;
- Extensions of Meadowglade Road, Sandringham Road, Granville Drive, Farmington Drive;
- A variety of new Collector Roads;

- Potential alternative layout configurations for Arterial A roads in the following locations (subject to detailed feasibility review through future studies):
  - Courtice Road: Bloor Street northerly to Highway 2 and southerly to the location of the planned Courtice GO Station, and
  - Bloor Street: Courtice Road westerly approximately 1 kilometre to the future Granville Drive intersection with Bloor Street and easterly to Hancock Road;
- The overall transportation plan also includes maximised considerations for transit service;
- The proposed transportation network is designed to encourage walkability through a connected grid network with block lengths of no more than 200 metres;
- The street network ensures ample connectivity within the community and appropriate links outside of the community;
- The street network adheres to the Region's minimum intersection spacing while reducing the number of water crossings; and
- The proposed plan supports a robust active transportation network to provide a safe, direct and comfortable route for cyclists and pedestrians. The active transportation network includes sidewalks, mid-block connections no further that 100 metres apart, bicycle lanes and trails to further create connections and permeability throughout the community.

Exhibit 8-7: Recommended Land Use Plan

Source: SECSP- Recommended, Municipality of Clarington, June 2020.

Exhibit 8-8: Recommended Transportation, Parks and Open Space Plan

Source: SECSP- Recommended, Municipality of Clarington, June 2020.

8.6 Refined Transportation Network

The Recommended Plans were further refined to address comments received from public, review agencies and other stakeholders on recommended land use scenarios and the transportation network during and after June 2020's Statutory Public Meeting. **Exhibit 8-9** and **Exhibit 8-10** show the Refined Land Use Plan and Refined Transportation, Parks and Open Space Plan adopted by the Council of the Municipality of Clarington in December 2020.

The following summarizes the changes made to the recommended Land Use Plan:

- The High Density/Mixed Residential designation at Durham Highway 2 and Courtice Road has been expanded south along Courtice Road and east along Durham Highway 2;
- Farmington Drive has been shifted eastward south of Bloor Street; and
- The elementary school, neighborhood park and parkette have shifted south of Bloor Street.

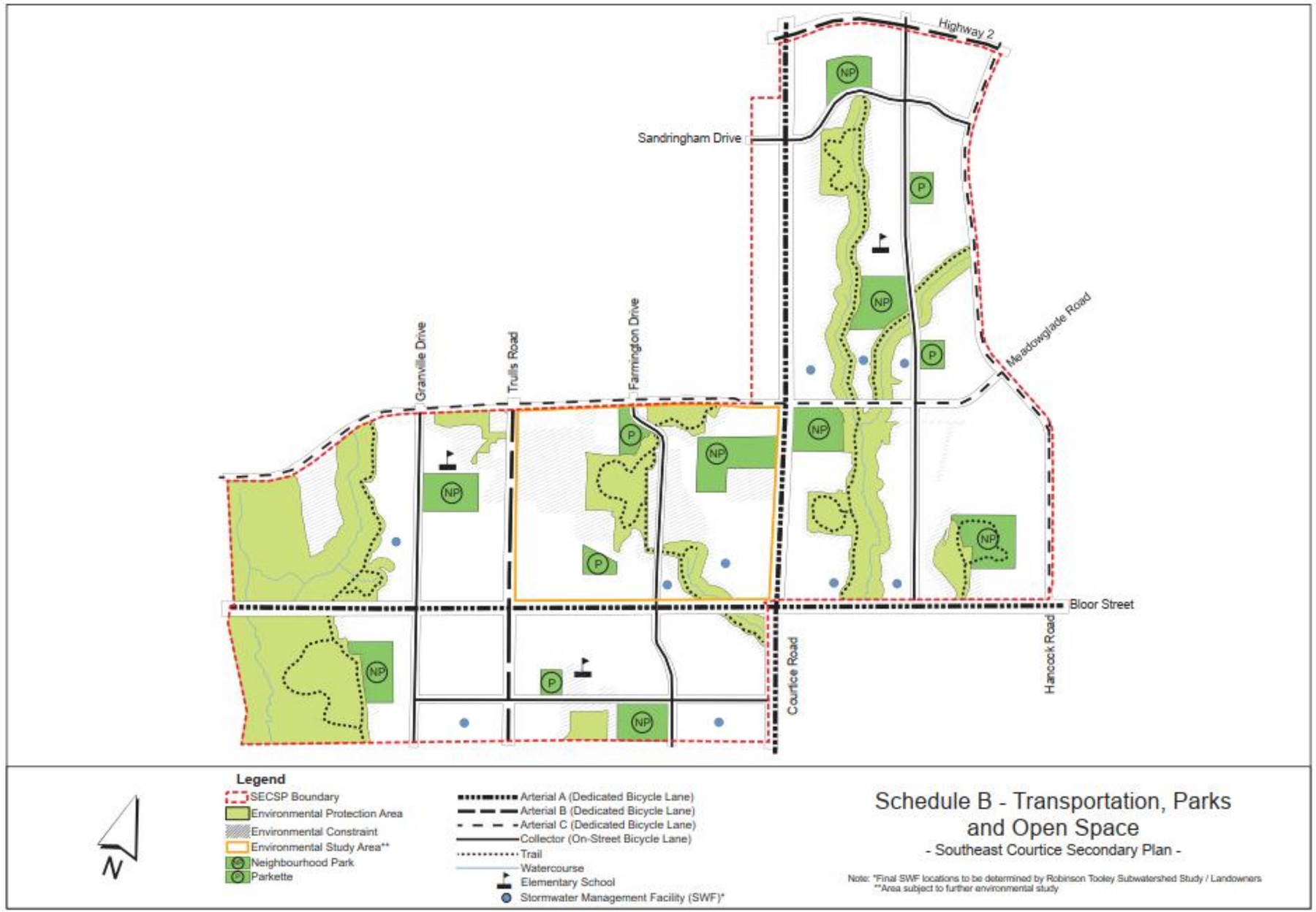
The following summarizes the changes made to the Recommended Transportation, Parks and Open Space Plan:

- Farmington Drive, south of Bloor Street has been shifted eastward;
- Elementary school symbol south of Bloor Street has been shifted westward;
- Neighbourhood Park south of Bloor Street has been relocated to the south; and
- Parkette south of Bloor Street has been relocated to the west.

Exhibit 8-9: Refined Land Use Plan

Source: SECSP- Municipality of Clarington, December 2020

Exhibit 8-10: Refined Transportation, Parks and Open Space



Source: SECSP- Municipality of Clarington, December 2020

9. Southeast Courtice Transportation Master Plan Recommendations

9.1 Proposed Road Network

The proposed road network comprises Arterial Roads, Collector Roads, Local Roads and Laneways (**Exhibit 9-1** and **Exhibit 9-2**). A Special Local Road is also identified providing the functional requirements of a Collector Road. While these streets serve an important functional role facilitating movement, they are equally important as a place for people to meet and socialize. Refer to **Appendix G** for the layout of the proposed street network, and general cross-section typology for the various roads. The detailed layout of the local road network fabric is to be confirmed through subsequent development phases as development proponents move forward with Draft Plans of Subdivision. That said, the layout of the Arterial and Collector road network is fixed, unless a subsequent Secondary Plan amendment or EA Report is prepared.

The Courtice Road and Bloor Street Type A Arterials can be configured in the traditional Regional Road layout, but may also be developed as Multi-ways which would fulfil the function of Type A Arterials as an efficient and high-volume route for different modes of transportation, while also allowing for lower-volume parallel one-way service lanes running adjacent to the primary part of the corridor. A Multi-way design is beneficial to Southeast Courtice because it separates high-volume vehicular traffic from local access along the service lanes. The design also allows for a traffic-calmed public realm immediately adjacent to the built-form. This allows for a more dynamic streetscape and pedestrian environment that achieves the vision of a vibrant, walkable, mixed-use community along Courtice Road and Bloor Street.

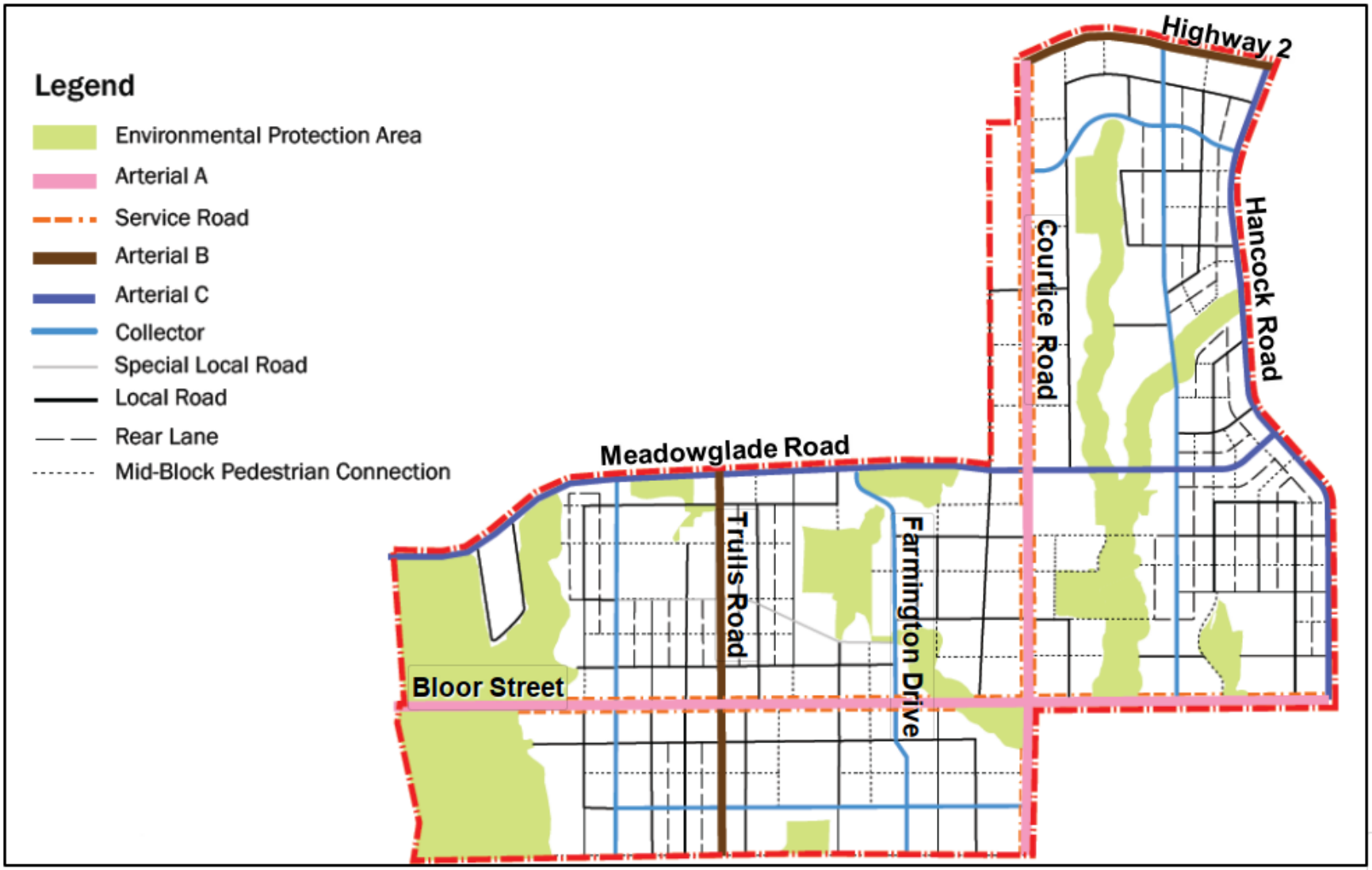
The overall road network has been placed with consideration to the intersection spacing and signalized intersection spacing principles contained in Durham Region’s Arterial Corridor Guidelines. Based on the historical road grid in the southern part of Durham, alternate spacing of signalized intersections every 300 and 500 metre on east-west Type A and B Arterials is permitted. In a north-south direction, signalized intersections may occur at a spacing of every 700 metres along Type A Arterials and may also occur at approximately 500 to 550 metres along Type B Arterials. Intersections are generally permitted every 300 metres along Type C Arterials.

Exhibit 9-1: Proposed Road Characteristics

Road	Type	ROW (m)	Proposed Travel Lane for Motorist	Cycling Facilities	Pedestrian Sidewalks	Street Parking
Courtice Road*	Arterial A	45 / 40	Two travel lanes in each direction	Service Lane with Bicycle Sharrows on both sides / Bicycle Path on one side*	Sidewalk with offset on both sides	Street parking on one side of each service lane*
Bloor Street*	Arterial A	45 / 40	Two travel lanes in each direction	Service Lane with Bicycle Sharrows on both sides / Bicycle Path on one side*	Sidewalk with offset on both sides	Street parking on one side of each service lane*
Trulls Road	Arterial B	30	Two travel lanes in each direction	Bicycle Path on one side	Sidewalk with offset on both sides	No Street Parking
Meadowglade Road	Arterial C	26	One travel lane in each direction	Bicycle Path on one side	Sidewalk with offset on both sides	No Street Parking
Hancock Road	Arterial C	26	One travel lane in each direction	Bicycle Path on one side	Sidewalk with offset on both sides	No Street Parking
New Roads/ Extension of the Existing	Collector	23	One travel lane in each direction	Bicycle Lane on both side	Sidewalk with offset on both sides	No Street Parking
Local Roads	Local	20	One travel lane in each direction	No dedicated cycling facility; bicycles in shared road space	Sidewalk with offset on one or both sides	Street parking on both sides

Note: The proposed plan contemplates potential alternative layout configurations for Arterial A roads.

Exhibit 9-2: Proposed Road Network



Source: SECSP Transportation Report, AECOM 2021.

9.2 Proposed Transit Network

A transit-oriented development approach has been adopted to promote the creation of a sustainable and complete community within Study Area. The SECSP has provided the framework to achieve a development pattern with approximately all residents within a five-minute walking distance of a transit stop. Specifically, there is to be 80% transit coverage with most residences / jobs within a 400-metre walking distance. A further 10 to 15% of residences and workplaces are to be within a 600 to 800 metres walking distance. The following transit principles are planned for the Study Area:

- Highway 2, Courtice Road, Bloor Street and Trulls Road are encouraged to serve as primary Transit Corridors supporting rapid transit infrastructure for efficient inter-regional travel;
- Meadowglade Road and Hancock Road are encouraged as Secondary Transit routes to provide sustainable travel options to all users;
- Sidewalks should connect directly to transit shelters;
- Transit stops should be located in close proximity to activity nodes and building entrances and on the far side of intersections to improve road efficiency & commuter safety; and
- Transit stops should include a shelter and include basic amenities, including seating, trash receptacles, lighting, and route information.

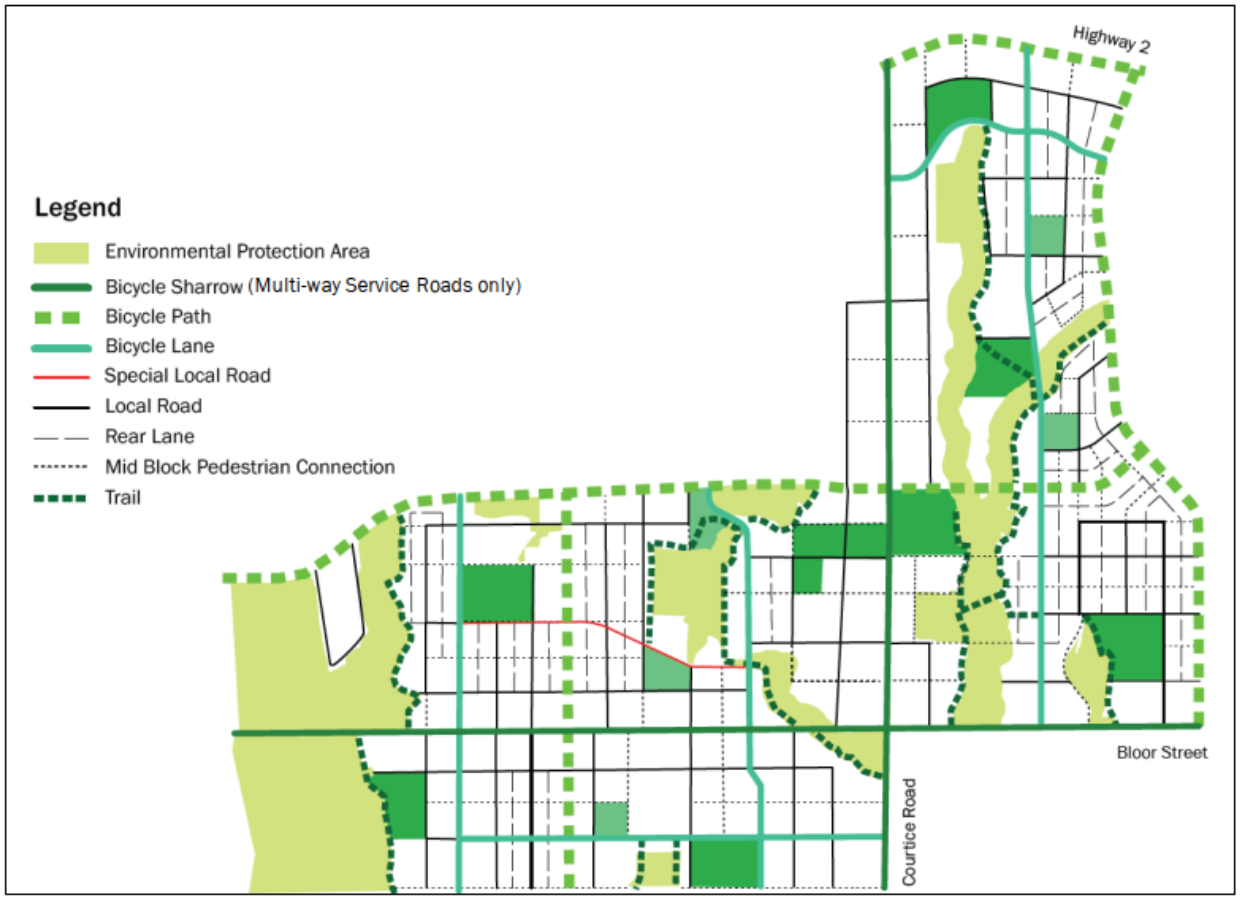
Additional details pertaining to transit-oriented development are contained in **Appendix I** ‘SECSP Urban Design and Sustainability Guidelines’ (AECOM, 2020).

9.3 Proposed Active Transportation

The network of routes for active transportation users in the Study Area need to be planned at a finer scale than the road network, based around the principles of providing small, connected blocks of development so that walking and cycling distances are minimized. A mixture of on- and off-street cycle lanes and several trails have been identified in the Study Area (see **Exhibit 9-3**).

Continuity of active transportation infrastructure, including safe and direct connections across roadways, is critical to attracting a high level of use and the overall success of these facilities. All signalized intersections along study corridors within the Study Area will meet Region of Durham guidelines and requirements and will also provide pedestrian crossing facilities. Bicycle paths and bicycle lanes on all Type A, B, and C Arterials will continue through all signalized intersections and provide connections within the Study Area and to adjacent neighbourhoods beyond the boundaries of the Study Area.

Exhibit 9-3: Proposed Active Transportation Network



Source: SECSP Transportation Report, AECOM 2021.

The active transportation facilities at Regional roads are subject to review and approval by the Region of Durham, and may change depending on geometry and constraints.

Refer to **Appendix G** for further details on design principles considered for active transportation in the Study Area.

9.4 Future Traffic Operation

9.4.1 Future Background Volumes

Future background traffic volumes were estimated in order to establish a baseline for traffic operations under a 2031 horizon year “do-nothing” scenario. Background growth rates were developed in co-operation with the Region of Durham with the use of the Durham Region Transportation Planning Model (DRTPM). The 2017 AM and 2031 AM Emme sub-area models representing the Study Area and surrounding road network

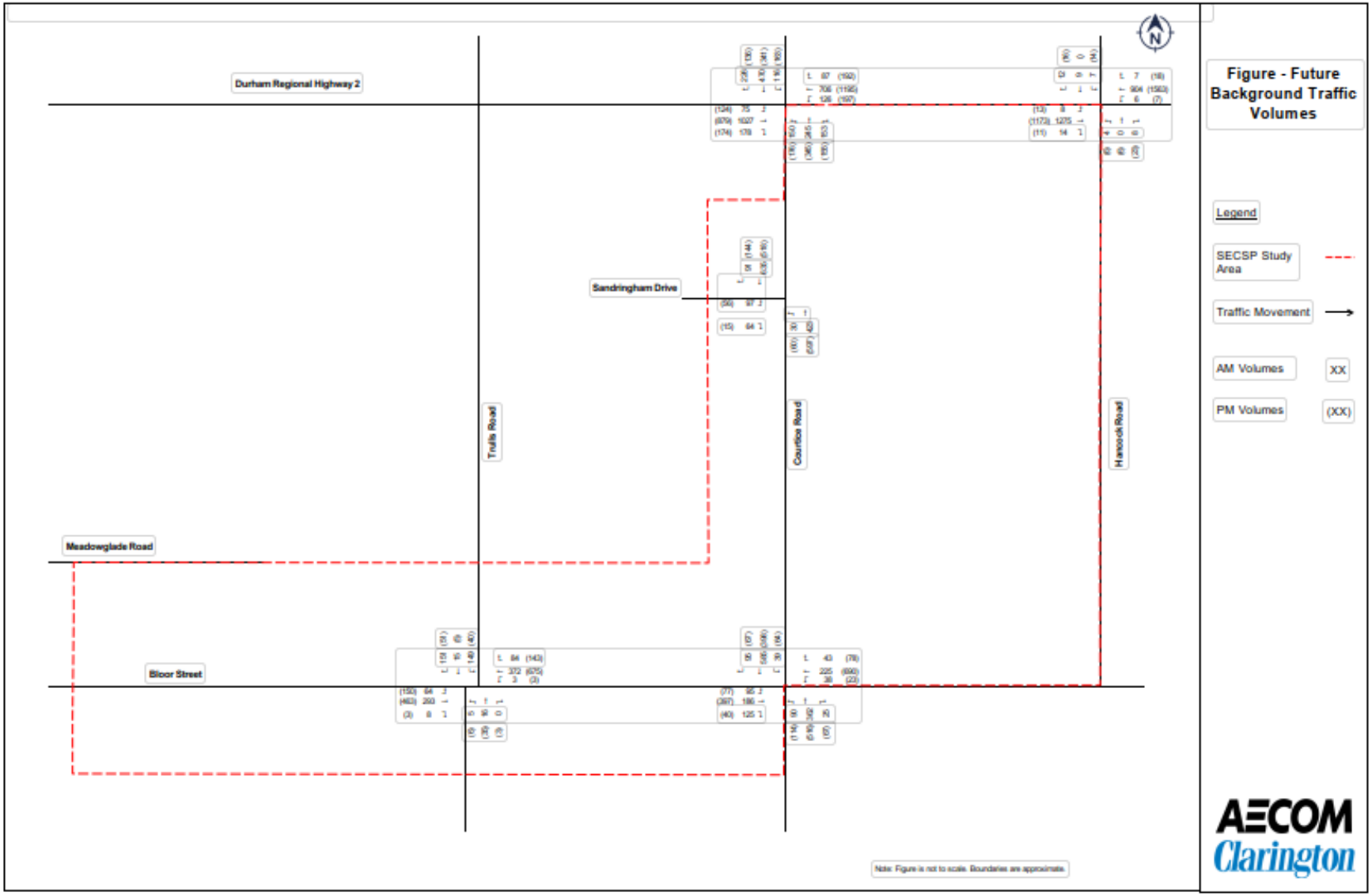
were provided by the Region of Durham and were used to develop the directional growth rates on each corridor within the Study Area. **Exhibit 9-4** shows a summary of the annualized directional growth rates for each leg of the study intersections. As shown in **Exhibit 9-4**, some Study Area corridors were indicated to have a negative growth rate. These reductions are noted to be a result of changes to the road network, causing the redistribution of traffic to other more-favourable links. The growth rates were applied to the Existing Conditions traffic volumes for the required number of years (i.e., 11 years from 2020 to 2031) to generate the 2031 Future Background Conditions AM peak hour volumes. In order to develop the PM peak hour Future Background turning movement volumes, the growth rates in the reverse-direction were applied on each Study Area corridor. It is noted that the projected traffic volumes in the adjacent secondary plan area (Southwest Courtice Secondary Plan) were superimposed onto the road network, and traffic volumes between adjacent intersections with no major origins/ destinations were balanced. **Exhibit 9-5** shows the balanced Future Background Conditions AM and PM peak hour traffic volumes in 2031.

Exhibit 9-4: Annualized Growth Rates between 2017 and 2031 Emme Model

Intersection	North Leg Southbound	North Leg Northbound	South Leg Southbound	South Leg Northbound	East Leg Westbound	East Leg Eastbound	West Leg Westbound	West Leg Eastbound
Highway 2 & Hancock Road	4.08%	3.41%	16.01%	5.08%	-0.54%	1.31%	0.31%	5.27%
Highway 2 & Courtice Road	2.62%	4.33%	0.15%	0.81%	0.31%	5.27%	0.22%	0.56%
Courtice Road & Sandringham Drive	0.15%	0.81%	0.65%	0.82%	-	-	-5.98%	-1.62
Bloor Street & Courtice Road	1.19%	2.80%	0.22%	2.33%	1.37%	4.89%	2.13%	-0.14
Bloor Street &Trulls Road	3.85%	-2.23%	2.94%	5.08%	4.01%	2.47%	2.54%	-0.70

Source: SECSP Transportation Report, AECOM 2021.

Exhibit 9-5: Future Background Traffic Volumes- 2031 AM and PM Peak Hours



Source: SECSP Transportation Report, AECOM 2021.

9.4.2 Future Background Traffic Operations

The Future Background Conditions AM and PM traffic volumes were assessed in the Synchro traffic model. In general, traffic operations in the Future Background Conditions are shown to be acceptable, with all study intersections operating at an overall LOS 'D' or better. Three critical movements were reported during the AM peak hour and eight critical movements were reported during the PM peak hour. The following movements were noted to operate at a critical level:

- **At the intersection of Courtice Road & Regional Highway 2:**
  - The shared eastbound through/right-turn movement was found to operate with a v/c ratio of 0.91 during the AM peak hour;
  - The shared westbound through/right-turn movement was found to operate with a v/c ratio of 0.94 during the PM peak hour, indicating near-capacity conditions;
  - The shared northbound through/right-turn movement was found to operate at LOS E with a delay of 63.6 seconds and a v/c ratio of 0.95 during the PM peak hour, indicating near capacity conditions; and
  - The southbound left-turn movement was found to operate at LOS E with a delay of 57.8 seconds during the PM peak hour.
- **At the unsignalized intersection of Courtice Road & Sandringham Drive:**
  - The shared eastbound left/right-turn movement was found to operate at LOS E with a delay of 49.3 seconds during the AM peak hour and at LOS E with a delay of 41.4 seconds during the PM peak hour.
- **At the intersection of Courtice Road & Bloor Street:**
  - The eastbound left-turn movement was found to operate at LOS E with a delay of 64.4 seconds during the PM peak hour; and
  - The shared westbound through/right-turn movement was found to operate with a v/c ratio of 0.91 during the PM peak hour.
- **At the unsignalized intersection of Bloor Street & Trulls Road:**
  - The shared northbound left/through/right-turn movement was found to operate at LOS F with a delay of 82.2 seconds; and
  - The shared southbound left/through/right-turn movement was found to operate at LOS F with a delay of 60.6 seconds and a v/c ratio of 0.90 during the AM peak hour and at LOS F with a delay of 158.8 seconds a and v/c ratio of 0.96 during the PM peak hour.

No queueing issues were identified in the Future Background Conditions traffic analysis. All reported 95th percentile queue lengths were noted to be accommodated within the respective movement's storage distance or the distance to its upstream intersection. See **Appendix G** for details.

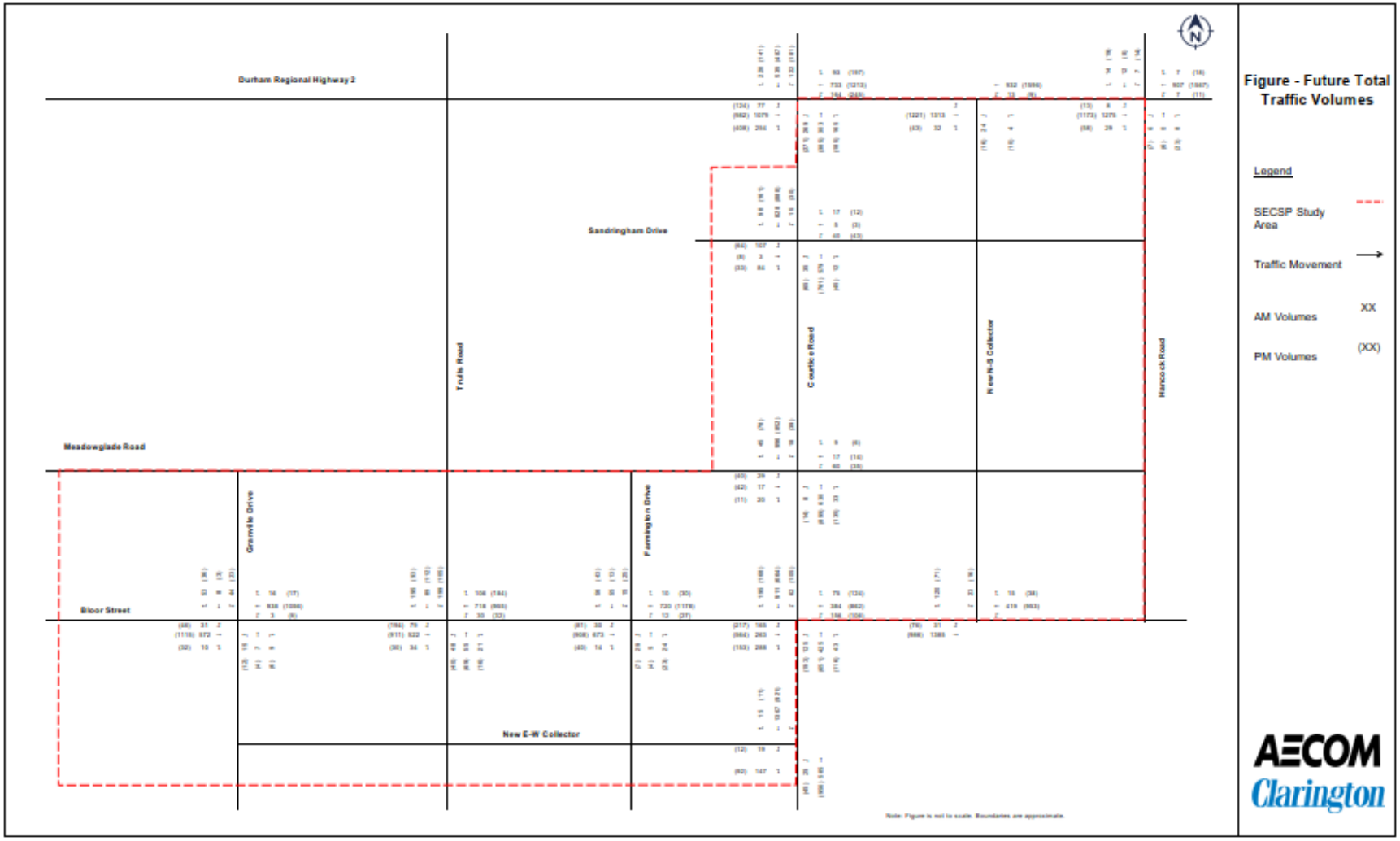
9.4.3 Future Total Traffic Operations

The SECSP development-related traffic volumes were superimposed onto the Future Background Conditions turning movement volumes to develop the Future Total Conditions traffic volumes (see **Exhibit 9-6**). The Future Total Conditions traffic volumes were entered into the expanded Synchro traffic model to replicate traffic conditions in the 2031 AM and PM peak hours for an ultimate full build-out scenario.

As in the Future Background Conditions, traffic operations in the Future Total Conditions are generally shown to be acceptable, with all study intersections operating at an overall LOS D or better. Eight critical movements were reported during the AM peak hour, up from three in the Future Background Conditions, and fourteen critical movements were reported during the PM peak hour, up from eight in the Future Background Conditions. The following movements were noted to operate at a critical level in the Future Total Conditions traffic operations analysis:

- **At the intersection of Courtice Road & Regional Highway 2:**
  - The eastbound through movement was found to operate with a v/c ratio of 0.92 during the AM peak hour;
  - The westbound left-turn movement was found to operate at LOS E with a delay of 61.8 seconds and a v/c ratio of 0.92 during the AM peak hour, indicating near-capacity conditions;
  - The shared westbound through/right-turn movement operates with a v/c ratio of 0.94 during the PM peak hour, indicating near-capacity conditions; and
  - The northbound left-turn movement was found to operate with a v/c ratio of 0.87 during the AM peak hour and at LOS E with a delay of 60.2 seconds and a v/c ratio of 0.87 during the PM peak hour.
- **At the unsignalized intersection of Regional Highway 2 & Hancock Road:**
  - The eastbound left-turn movement was found to operate at LOS E with a delay of 55.4 seconds and a v/c ratio of 0.87 during the PM peak hour.
- **At the unsignalized intersection of Courtice Road & Sandringham Drive:**
  - The eastbound left-turn movement was found to operate at LOS F with a delay of 124.2 seconds and v/c ratio of 0.90 during the AM peak hour and at LOS F with a delay of 168.0 seconds and a v/c ratio of 0.87 during the PM peak hour; and
  - The westbound left-turn movement was found to operate at LOS E with a delay of 42.8 seconds during the AM peak hour and at LOS F with a delay of 88.5 seconds during the PM peak hour.

Exhibit 9-6: Future Total Traffic Volumes – 2031 AM and PM Peak Hours

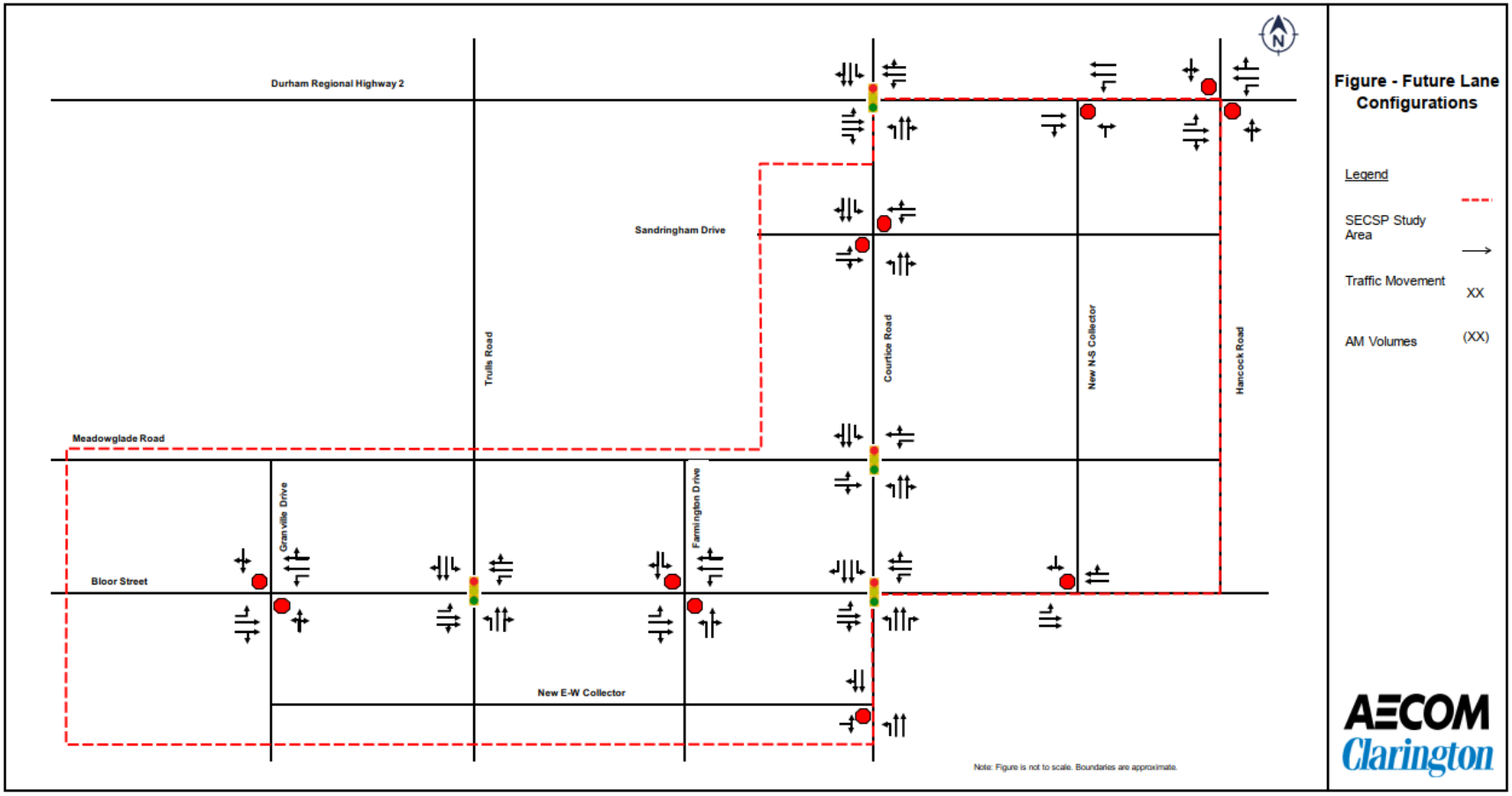


Source: SECSP Transportation Report, AECOM 2021.

- **At the intersection of Courtice Road & Meadowglade Road:**
  - The eastbound left-turn movement was shown to operate at LOS E with a delay of 63.9 seconds during the PM peak hour; and
  - The westbound left-turn movement was shown to operate at LOS E with a delay of 62.1 seconds during the PM peak hour.
- **At the intersection of Courtice Road & Bloor Street:**
  - The northbound left-turn movement was found to operate at LOS E with a delay of 74.1 seconds and a v/c ratio of 0.90 during the PM peak hour.
- **At the unsignalized intersection of Bloor Street & Granville Drive:**
  - The shared northbound left/through/right-turn movement was found to operate at LOS F with a delay of 91.2 seconds during the PM peak hour; and
  - The shared southbound left/through/right-turn movement was found to operate at LOS F with a delay of 60.5 seconds during the PM peak hour.
- **At the intersection of Bloor Street & Trulls Road:**
  - The eastbound left-turn movement was shown to operate at LOS E with a delay of 55.4 seconds and a v/c ratio of 0.87 during the PM peak hour.
- **At the unsignalized intersection of Bloor Street & Farmington Drive:**
  - The northbound left-turn movement was shown to operate at LOS F with a delay of 77.8 seconds during the AM peak hour and at LOS F with a delay of 103.4 seconds during the PM peak hour;
  - The southbound left-turn movement was shown to operate at LOS E with a delay of 35.6 seconds during the AM peak hour and at LOS F with a delay of 152.3 seconds during the PM peak hour; and
  - The shared southbound through/right-turn movement was shown to operate at LOS E with a delay of 44.5 seconds during the AM peak hour and at LOS F with a delay of 60.7 seconds during the PM peak hour.
- **At the intersection of Courtice Road & Bloor Street:**
  - The northbound left-turn movement operates at LOS E with a delay of 74.1 seconds and a v/c ratio of 0.90 during the PM peak hour.

The final lane configurations and intersection controls used in the Future Total Conditions traffic analysis and recommended for implementation are shown in **Exhibit 9-7**. As an additional consideration, although some of the unsignalized collector road intersections with Regional Highway 2, Courtice Road and Bloor Street only demonstrate the need for a shared approach (that is, a shared left-through-right lane) it is recommended that the approach lane be constructed somewhat wider in order for the potential eventual need for separate approach lanes.

Exhibit 9-7: Future Lane Configurations and Intersection Controls



Source: SECSP Transportation Report, AECOM 2021.

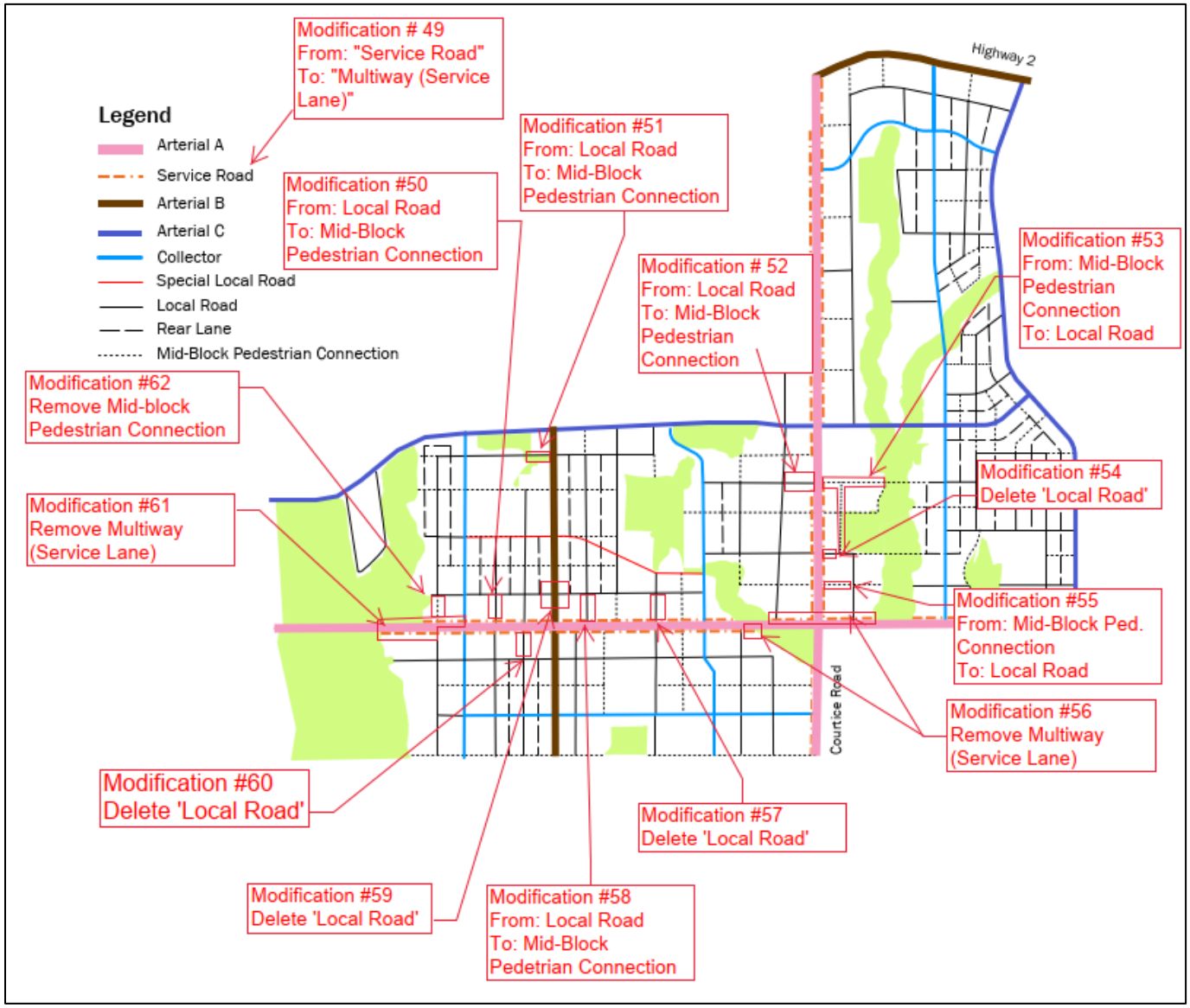
9.5 Modified Transportation Network

The Southeast Courtice ‘s December 2020 Refined ‘Transportation, Parks and Open Space’ Plans have been subject to further modifications in response to Durham Region’s comments. **Exhibit 9-8** shows the modified version of the Southeast Courtice Transportation, Parks and Open Space Plan approved by the Durham Region’s Commissioner of Planning and Economic Development on March 2, 2022. Subsequently, there have been some modifications to the proposed Road Network and proposed Active Transportation Network as shown in Exhibit 9-9 and 9-10. Redline mark-ups on **Exhibit 9-8** to **Exhibit 9-10** show the 2022 approved modifications by Durham Region. Refer to **Appendix B.5** for details of Durham Region comments on the SECSP.

Exhibit 9-8: Modified Transportation, Parks and Open Space Plan

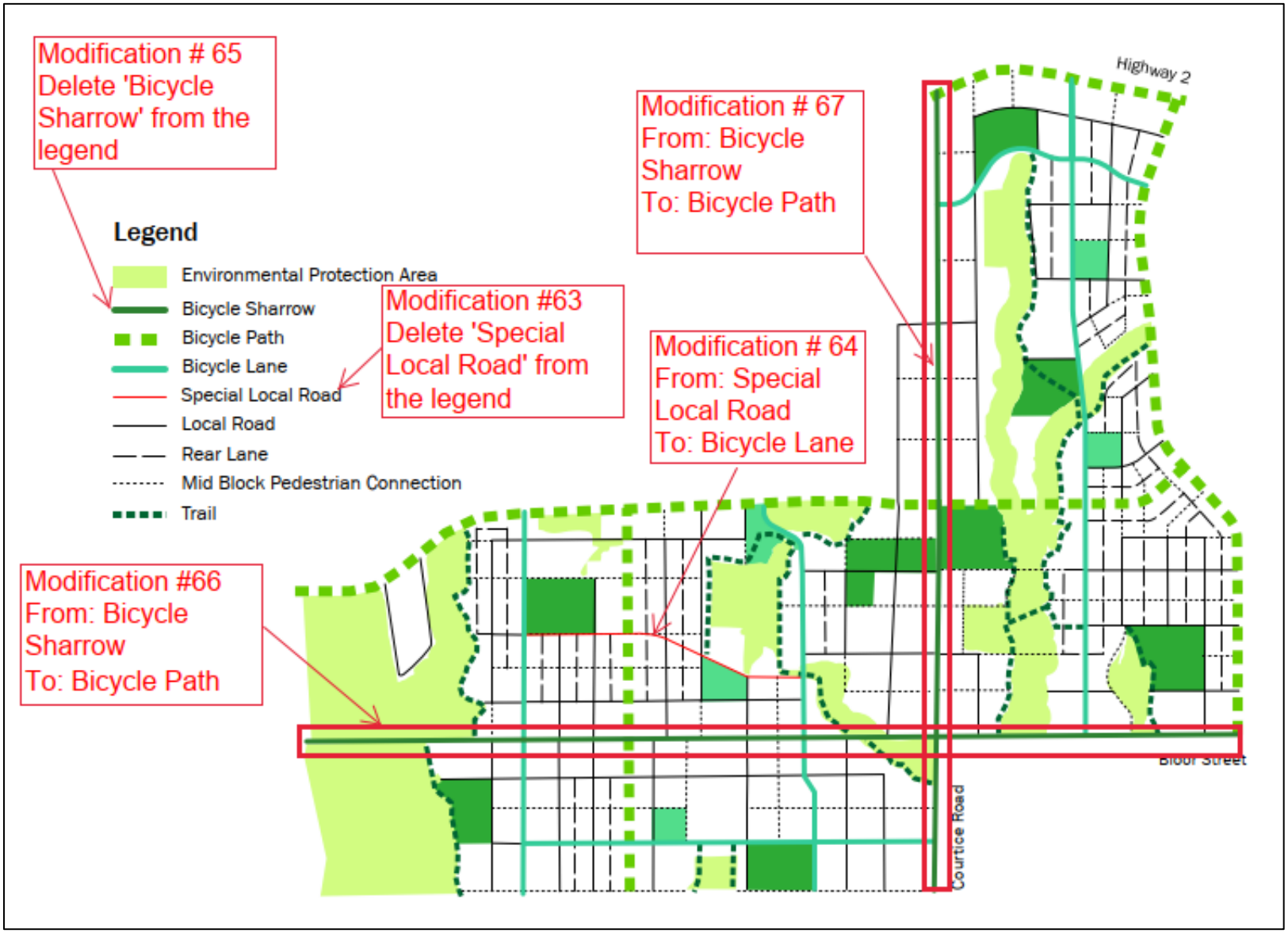
Source: Municipality of Clarington, Final Mapping Modifications for SECSP, Approved by Durham Region March 2022.

Exhibit 9-9: Modified Road Network



Source: Municipality of Clarington, Final Mapping Modifications for SECSP, Approved by Durham Region, March 2022.

Exhibit 9-10: Modified Active Transportation Network



Source: Municipality of Clarington, Final Mapping Modifications for SECSP, Approved by Durham Region, March 2022.

10. Implementation Plan

10.1 Infrastructure Cost Estimates and Phasing

The preliminary cost estimates presented in **Exhibit 10-1** are based on high-level per-kilometre costs ($millions per kilometre) to reflect the basic cost per length of road. The cost estimates reflect the basic costs associated with the work required to build the roadways and exclude the costs associated with property acquisition and general servicing (i.e., water, sewer, storm sewer) of the lands within the Study Area. More refined preliminary and detailed design work will be completed during subsequent work activities that are beyond the scope of this TMP. Through the future design, the project cost estimates will be developed and refined to reflect the final alignment and configuration of the individual roads, a more complete assessment of soil and groundwater conditions on the site, specific design treatments implemented to mitigate identified or potential environmental impacts, integration with plans for adjacent land uses, the addition of design features and supporting infrastructure that may be constructed in conjunction with the individual projects, and various construction staging and approaches. Therefore, the estimates presented in this report are considered as “Planning Level Cost Estimates” only.

The projects that constitute the Preferred Network Solution have also been classified based on potential implementation timing as follows:

- Near-Term – implementation within 1 to 5 years;
- Mid-Term – implementation within 5 to 10 years; and
- Long-Term – implementation within 10 to 20+ years.

The potential phasing and implementation of the road improvements is based on a variety of factors pertaining to landowner development aspirations, Transportation Master Plans and capital infrastructure budgets, municipal and other agency approvals, further studies and designs, permits, funding commitments, property acquisition, utility relocations, as well as engagement of participating versus not participating landowners in the Study Area. The noted potential phasing of improvements in the table below are estimates based on these factors and subject to refinement as the development of the SECSP lands initiate and come to fruition.

Exhibit 10-1: Construction Estimates, MCEA Schedule, and Potential Timing

Roads	Description	Project Value ($millions)	MCEA Project Schedule	Near Term (1-5 years)	Medium Term (5-10 Years)	Long Term (10+ years)
Durham Region Roads						
Bloor Street	Reconfiguration of Bloor Street	$21M	Schedule 'C'		↔	
Courtice Road	Reconfiguration of Courtice Road	$18M	Schedule 'C'			↔
Clarington Roads						
Sandringham Drive Extension	Collector from Courtice Road to new Hancock Road alignment; approximately 0.7 kilometres	$3M	Schedule 'B' /'C'*			↔
Meadowglade Road Extension	Arterial from existing terminus to new Hancock Road alignment; approximately 2.0 kilometres	$8M	Schedule 'C'	↔		
New East-West Collector (South of Bloor Street)	Collector from Granville Drive Extension to Courtice Road; approximately 1.1 kilometres	$4M	Schedule 'C'	↔	↔	↔
Granville Drive Extension	Collector from Meadowglade Road to new East-West Collector (south of Bloor); approximately 0.9 kilometres	$4M	Schedule 'C'	↔	↔	
Farmington Drive Extension	Collector, approximately 1.0 kilometres	$4M	Schedule 'C'	↔		
New North-South Collector (east of Courtice Road)	Collector from Highway 2 to Bloor Street; approximately 1.8 kilometres	$7M	Schedule 'C'		↔	↔
Hancock Road Re-alignment	Highway 2 to Bloor Street	$7M	Schedule 'C'			↔

Note: * MCEA Classification to be confirmed in the future when additional information will be available.

10.2 Future MCEA Requirements

The SECSP and SEC TMP were carried out using an Integrated Approach in accordance with Section A.2.9 of the MCEA, which addresses both Planning Act and OEAA requirements. As indicated, Master Plan Approach #1 was followed in the development of SEC TMP which means that more detailed investigation/work will be required to implement specific Schedule B and C project that are recommended as part of the SEC TMP.

The Transportation infrastructure projects that require additional MCEA study are listed **Exhibit 10-1.** The MCEA Schedule has been determined by considering the level of environmental impact and the anticipated approximate cost of each project.

Schedule B projects will be required to prepare a Project File Report. Schedule C projects will be required to complete Phases 3 and 4 of the MCEA Process, including the development and evaluation of alternative designs to implement the Preferred Solution(s), identification of the Preferred Design, mitigation recommendations, and additional consultation to allow for public, agency, and Indigenous Community input as well as the filing of an Environmental Study Report (ESR).

There may also be further opportunities to apply the Integrated Planning approach for some future projects. As per section A.2.9, Planning Act applications relating to Plan of Subdivision or Plan of Condominium could potentially utilize the integrated approach and address the requirements of both the Planning Act and the EA Act simultaneously. Applications may be initiated by the municipality or by a private sector developer or both as co-proponents. Efforts can be more cost efficient and streamlined if the requirements for EA and land use planning processes can be completed at the same time. The potential for this approach can be explored further for certain undertakings.

As part of this process, the landowners group will take the lead for the EAs for the Clarington road projects identified within the SEC TMP with the Municipality as a co-proponent. It is anticipated that Durham Region will include Class EA studies for Bloor Street and Courtice Road as part of its capital road program and nine-year forecast based on the timelines identified in **Exhibit 10-1**.

10.3 Additional Transportation Study

As the development beyond the Secondary Plan comes to fruition, additional transportation review and study will be required. This will include:

Transportation Study

Completion of additional transportation and traffic impact studies to satisfy the Durham and Clarington development approval process specific to submitted Draft Plans of Subdivision and Site Plans. The scope of work should be reviewed with municipal and regional staff to confirm the approach and assumptions, but it is generally noted that the work will include a comprehensive and detailed assessment of traffic conditions, demand forecasts, traffic impacts, improvement needs (road widenings, auxiliary turn lanes, traffic controls, pedestrian and bicycle facilities, and transit provisions, as appropriate), and basic design elements (e.g., turn lane storage lengths).

Transit Planning

Liaise with Durham Region Transit throughout the future development planning process to:

- Monitor the future growth and service demand needs;
- Plan for transit routes along the area arterial and collector road network; and
- Ensure that sufficient space is protected for transit stops as part of the road right-of-way (per the Region of Durham's Standard Drawings S-500 Series Transit and / or DRT's Transit Stop Guidelines, as appropriate).

10.4 Plan Monitoring

As transportation infrastructure is closely linked to land use planning and policy it is recommended that this document be reviewed and updated in conjunction with the statutory requirement to review the SECSP. The document may need to be revisited to reflect changes in municipal and provincial initiatives and policies and to reflect the rate of development and land use changes within the SESCP area of study. This will assist in ensuring that it is current and aligned with the Secondary Plan and other guiding policy and that it reflects growth and development in the SESCP area.

10.5 Environmental Effects and Mitigation

The transportation infrastructure projects as identified will require the completion of additional MCEA planning process that will include a review of the potential for adverse environmental effects and recommendations for mitigation to minimize impacts. The impacts and associated mitigation will be further documented in the individual EA documents to be prepared for the various projects.

11. References

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