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Appendix A

Related Technical and Background Studies

Excellence in
Transportation Planning

1. Background and Relevant Previous Transportation Studies

The Brampton Transportation and Transit Master Plan (TTMP) set the long-term framework for the combined transportation system required for planned growth in the City of Brampton to 2031. The TTMP identifies the roads required to accommodate both the auto and transit trips and the network of transit service to attract a range of transit markets.

The North West Brampton transportation and corridor studies identify the additional requirements to support the expansion of the urban boundary to include the North West Brampton area. This work included the needs assessment for a north-south freeway.

Highlights from some of the most pertinent studies are provided in the remainder of this section.

1.1 Fletchers Meadow (Secondary Plan Area 44) Transportation and Mixed-use GO Station Node Study, September 1998

Main objectives of the study were to develop transportation plan for future development of Secondary Plan area bounded by Wanless Drive on the north, McLaughlin Road on the east, the Canadian National Railway line on the south, and Creditview Road on the west, and to integrate this plan with the proposed GO station node located near Bovaird Drive and Creditview Road.

Key components of the proposed secondary plan include: a network of collector roads provides direct access to the GO station and mixed-use node located in the northeast quadrant of Creditview Road and Bovaird Drive intersection; ability to construct a grade separation on Creditview Road where it crosses the CNR line; and transit-supportive development to encourage a high transit modal split.

1.2 Fletchers Meadow Secondary Plan, Traffic Study, August 2003

The objective of this study was to identify if any significant transportation facilities need to be in place at the end of 2006 with the commensurate level of development in the Fletcher's Meadow Secondary Plan area, beyond the currently existing and committed facilities.

The study provided the following conclusions regarding the capacity of the roads in the Fletchers Meadow Secondary Plan area:

- Bovaird Drive: By 2006, with widening of Bovaird Drive to 6 lanes, and Chinguacousy Road to 4 lanes and provision of dedicated turn lanes, the

intersection will continue to operate at saturated levels, primarily because of development in Fletchers Meadow.

- Sandalwood Parkway: Sandalwood Parkway at Chinguacousy Road should be considered for signalization by 2004 and built with dedicated left-turn lanes on each approach.
- Wanless Drive: As a four-lane facility in 2006, Wanless Drive will have capacity to accommodate anticipated demands. Wanless Drive at McLaughlin Road and Wanless Drive at Chinguacousy Road should be considered for signalization by 2006 and built with dedicated left-turn lanes on each approach.
- Creditview Road: Realigned Creditview Road, north of Bovaird Drive, will exceed capacity of a 2-lane roadway as a result of site traffic accessing the road system south of Sandalwood Parkway. This section should be constructed as a 4-lane cross-section during the initial realignment.
- Chinguacousy Road: Chinguacousy Road will be approaching the capacity of a 4-lane roadway north and south of Bovaird Drive by the 2006 horizon year. If improvements are made to 4-lane the Creditview Road re-alignment north and south of Bovaird Drive within 5 years, the need for six lanes on Chinguacousy Road could be deferred. This realignment, along with the 6-lane section of Bovaird Drive to the east, could accommodate diversion of traffic from Chinguacousy Road such that the near capacity conditions could be alleviated.

1.3 North-South Transportation Corridor Study, Final Report, September 2003

The study identifies the purpose of the North-South Transportation Corridor in the City of Brampton as follows:

- Provide connectivity in the Provincial 400-series network between the proposed new GTA east-west multi-modal corridor and Highways 401 and 407.
- Provide opportunities for transportation mode choices in a north-south, multi-modal corridor, potentially including HOV lanes and inter-regional transit services in the corridor.
- Support municipal planning objectives by providing transportation capacity to accommodate planned growth in the west GTA, particularly the Bramwest Secondary Plan Area and proposed North West Brampton Expansion Area.
- The study identifies some feasible options for the north-south, multi-modal corridor between Highways 401 and 407 and northern limits of Brampton:
    - Brampton /Southeast- Halton Hills to 407
    - Bramwest to 407
    - Common section from Brampton to Mayfield Rd

- In the North West Brampton Expansion Area, there are technically feasible routings for the north-south, multi-modal corridor between Winston Churchill Boulevard and Mississauga Road.
- There are opportunities for the north-south corridor to cross the Credit River Valley between the Trans Canada Pipeline corridor and the immediate vicinity of Heritage Road.
- South of Credit River Valley, there are technically feasible options for the north-south, multi-modal corridor through the northern part of the Bramwest Secondary Plan area and through the southeast portion of the Town of Halton Hills. Options for an alignment through southeast Halton Hills are clearly preferred over alternatives that stay entirely within Brampton because they can provide direct connections to Highways 401 and 407, and significant adverse impacts on the Bramwest and Meadowvale area road networks and development lands are avoided.
- At Highways 401 and 407 in Halton Region, there are technically feasible options for the north-south corridor to interchange with Highways 401 and 407.
- Future studies and further network planning will substantially determine the optimum ultimate network requirements.

1.4 Northwest Brampton Transportation Infrastructure Review, April 2005

The purpose of this study was to recommend the transportation infrastructure and preliminary servicing needs required to support the development of the proposed urban expansion in the northwest part of Brampton. The study identified existing transportation Needs, future transportation deficiencies and recommended a preferred transportation network.

The study identified the following key features of a preferred future road network to accommodate 2031 travel demand with the full development of North West Brampton:

- a new North-South Highway (consisting of 6 lanes) between Highways 401 and 407 and Mayfield Road
- Bramwest Parkway at minimum 6 lanes between Highway 407 and the North-South Highway;
- Bovaird Drive at 6 lanes between the North-South Highway and Main Street
- Mississauga Road and Chinguacousy Road at 6 lanes throughout Study Area
- Mayfield Road at 4 lanes between Winston Churchill Boulevard and McLaughlin Road
- Sandalwood Parkway extension at 4 lanes between Winston Churchill Boulevard and Creditview Road

The study also concluded:

- a development scenario of 20 percent of the development potential of North West Brampton would likely trigger the need for the North-South Transportation Corridor assuming every other secondary plan area is fully developed and the growth in other municipalities also occurs first
- if growth in North West Brampton was concentrated in the Mount Pleasant Community as a first phase of development, the development could reach 25 percent of total North West Brampton development potential before the North-South Transportation Corridor would be required
- if development in North West Brampton proceeds sooner than the 2021 timeframe contemplated in the study forecasts (i.e., based upon early release of the Mount Pleasant Community), more than 25 percent of the development potential of North West Brampton could occur without the need for the North-South Transportation Corridor if other secondary plan areas have not reached their full build-out state

The study identified the following key elements of the future transit network:

- station at Mount Pleasant which will function as the major intermodal transit station for North West Brampton, with a bus terminal, commuter parking, and passenger drop-off and pick-up facilities
- full two-way all-day service on the Georgetown GO line
- local surface transit service throughout the new residential and employment areas in North West Brampton, connecting with transit routes and services in the rest of Brampton and also focusing on the Mount Pleasant GO station
- extension of HOV/RBL/BRT service on Bovaird Drive to the North-South Corridor

The study recommended a travel demand management strategy comprising: rideshare and carpool strategy; carpool lots; network of HOV lanes on arterial roads and provincial highways; use of non-auto modes (public transit, walking, cycling); employee incentives; telecommuting of telework; enforcement; and education and training.

1.5 Transportation and Transit Master Plan, Final Report, September 2004

The City's Transportation and Transit Master Plan defines a long-term multi-modal transportation strategy to guide the City's growth over the next 30 years. The Master Plan had the following policy recommendations related to the Study Area:

- work with GO Transit to implement service expansion on the Georgetown GO service (i.e. upgrade to all-day service to the Georgetown station
- work with Peel Region to protect for and implement transit priority and supporting geometric changes in other potential BRT corridors such as Bovaird Drive and Steeles Avenue

- introduce Brampton Transit service to Mount Pleasant GO station, when it opens, from adjacent neighborhoods
- make the west edge of the City (i.e. west of McLaughlin Road to Mississauga Road and beyond) a priority for road improvements

The City's Transportation and Transit Master Plan recommends the following improvements related to the Study Area:

- development of the Bram West Arterial Road, together with a new interchange at Highway 407 by 2011
- widening and completion of new roads in the west and east edges of the urbanized city, to accommodate new development areas by 2011
- expansion of the Bus Rapid Transit to Bovaird Drive (between Mount Pleasant GO station and Airport Road) by 2021
- all-day two-way GO service on the Georgetown line and the Milton line by 2021
- construction of Halton/Peel north-south freeway to Bovaird Drive or beyond by 2021

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Appendix B

Technical Agencies Contacts, Notification Letter, and Notice of Study Commencement

Excellence in Transportation Planning

CITY OF BRAMPTON

Mount Pleasant Community Transportation Strategy

and

Creditview Road and Sandalwood Parkway Extension

Class Environmental Assessment Study

PUBLIC MEETING #1

The City of Brampton completed the Transportation and Transit Master Plan in 2004, which set the City's long-term framework for the transportation system for planned growth for the next twenty-five years. This Master Plan also identified the roads and the network of transit service to serve the Mount Pleasant Community outlined on the key plan below. Since then, additional transportation studies have provided more details about the roads and transit projects needed to support the Mount Pleasant Community in conjunction with the component studies that will address land use, urban design and environmental issues.

Mount Pleasant Transportation Strategy

The City of Brampton is now undertaking the Mount Pleasant Community Transportation Strategy and is carrying out a Class Environmental Assessment Study for the proposed re-alignment of Creditview Road and extension of Sandalwood Parkway at the same time. These studies will address the transportation requirements for the first phase of expansion of the urban boundary in North West Brampton, considering a wide range of options to satisfy future travel demands, and establishing the need for future transportation improvements. The City will focus on innovative, pedestrian-friendly and transit-oriented community road and transit projects needed to support the proposed new community.

Creditview and Sandalwood Corridors

The proposed Creditview Road re-alignment and Sandalwood Parkway extension in the Mount Pleasant community are subject to the requirements of the Municipal Class Environmental Assessment (2000) process. These projects will be planned using the four-phase Class Environmental Assessment process approved by the Ministry of the Environment. They will assess environmental, social, economic and technical criteria and will address the interests of area residents, stakeholders and local businesses in selecting the preferred projects. The City has retained the services of ENTRA Consultants to lead these studies.

The Mount Pleasant Community Study Area is shown on the adjacent Key Plan

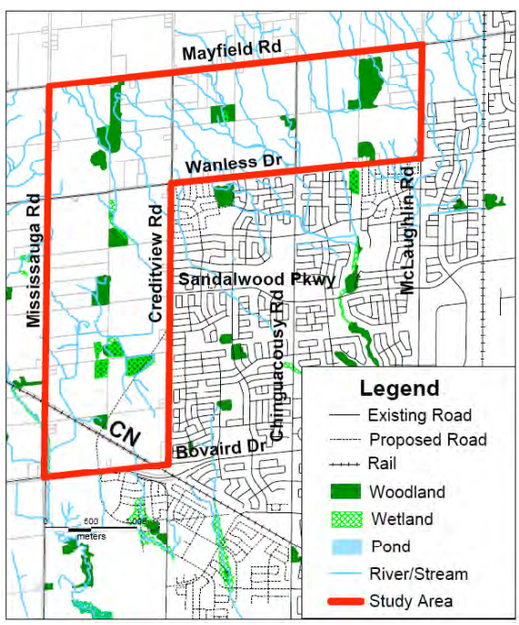
The first of three public meetings will be held:

Date: **Tuesday, April 25, 2006**
Place: **Peel Region Police Association Hall (10675 Mississauga Road, Brampton, ON L7A 0B6)**
Time: **5:00pm – 7:00pm** **Open House**
7:00pm – 7.30pm **Presentation**

Your involvement is important

The City of Brampton appreciates your input and ideas. Please take a moment to get involved. We encourage you to take an opportunity to make comments, identify issues and provide additional information:

- Come to a Public Meeting. Notices for meetings will be placed in the local newspaper
- Submit your written comments to the City
- Add your name to our mailing list



Mount Pleasant Community Study Area – Key Plan

Information requests or questions may be directed to the individuals identified below:

Mr. Kant Chawla, MCIP, RPP
Policy Planner
City of Brampton
2 Wellington Street West
Brampton, Ontario, L6Y 4R2
Tel: 905-874-2410
Fax: 905-874-2099
E-mail: kant.chawla@brampton.ca

Ms. Angela Iannuzziello, P. Eng.
President
ENTRA Consultants
2800 Fourteenth Avenue, Suite 210
Markham, Ontario, L3R 0E4
Tel: 905-946-8900
Fax: 905-946-8966
E-mail: asi@entraconsultants.com

April 6, 2006

Dear Sir/Madam:

RE: Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study

The City of Brampton has initiated the Mount Pleasant Community Transportation Strategy and is carrying out a Class Environmental Assessment Study for the proposed re-alignment of Creditview Road and extension of Sandalwood Parkway at the same time. These studies will address the transportation requirements for the first phase of expansion of the urban boundary in North West Brampton, considering a wide range of options to satisfy future travel demands, and establishing the need for future transportation improvements. The City will focus on innovative, pedestrian-friendly and transit-oriented community road and transit projects needed to support the proposed new community.

The proposed Creditview Road re-alignment and Sandalwood Parkway extension in the Mount Pleasant community are subject to the requirements of the Municipal Class Environmental Assessment (2000) process. These projects will be planned using the four-phase Class Environmental Assessment process approved by the Ministry of the Environment. They will assess environmental, social, economic and technical criteria and will address the interests of area residents, stakeholders and local businesses in selecting the preferred projects. The City has retained the services of ENTRA Consultants to lead these studies.

On behalf of the City of Brampton, we are inquiring whether or not your agency/organization wishes to participate in the study.

The first Public Consultation Session for this study is scheduled for April 25, 2006. Two additional Public Consultation Sessions are planned. Agency meetings are also planned during Phase 2 (early fall) of the study. These meetings are to provide opportunities for focused discussions related to key study issues and interests, and agency input.

Please use the attached fax-back form to advise the City of your agency's desire to be kept informed and/or involved in this study (i.e., be sent notices of public consultation centres), designated contact for further correspondence and areas of interest.

If you wish to provide additional information with respect to the work of the Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Extension Class Environmental Assessment Study, please contact either of the two representatives listed below.

Mr. Kant Chawla, MCIP, RPP
Policy Planner
City of Brampton
2 Wellington Street West
Brampton, Ontario, L6Y 4R2
Tel: 905-874-2410
Fax: 905-874-2099
E-mail: kant.chawla@brampton.ca

Ms. Angela Iannuzziello, P. Eng.
President
ENTRA Consultants
2800 Fourteenth Avenue, Suite 210
Markham, Ontario, L3R 0E4
Tel: 905-946-8900
Fax: 905-946-8966
E-mail: asi@entraconsultants.com

Yours very truly,

ENTRA Consultants

Angela S. Iannuzziello, P.Eng
President

cc: Mr. K. Chawla, City of Brampton
Encl.

CITY OF BRAMPTON
www.city.brampton.on.ca

Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study
Technical Agencies Contact List

ENTRA CONSULTANTS

Name		Title	Agency	Address	Phone	Ext.	Fax	E-mail
Edward	Soldo	Manager, Transportation Services	Region of Halton	1151 Bronte Road, Oakville, ON L6M 3L1	905-825-6000	7475	905-825-8822	soldoa@halton.ca
Andrew	Pearce	Manager of Engineering & Construction	Town of Caledon	6311 Old Church Road, Caledon ON L7C 1J6	905-584-2272		905-584-4325	andrew.pearce@caledon.ca
Haiging	Xu	Senior Transportation Planner	Town of Caledon	6311 Old Church Road, Caledon ON L7C 1J6	905-584-2272		905-584-4325	haiging.xu@caledon.ca
Mike	Wolczyk	Mgr., Marketing and Planning	GO Transit	20 Bay Street, Suite 600, Toronto, ON M5L 2W3	416-869-3600	5424	416-869-1563	michaelw@gotransit.com
John	McTaggart	Sr. Engineering Services Officer	Canadian National Railways	MacMillan Administration Bldg., 1 Administration Building, Concord, ON L4K 1B9	905-669-3155			John.McTaggart@cn.ca
Roger	Hanmer	Regional Director	Ministry of Transportation	Bldg D, 2nd Fl., 1201 Wilson Ave., Downsview, ON M3M 1J8	416-235-5400		416-235-5266	roger.hanmer@mto.gov.on.ca
Shawn	Carey	EA Coordinator, Central Region	Ministry of Environment	5775 Yonge Street, 9th Floor, Toronto, ON M2M 4J1	416-326-4886		416-325-6347	shawn.carey@ene.gov.on.ca
John	Almond	Area Supervisor Halton/Peel/Toronto Area	Ministry of Natural Resources	50 Bloomington Road W., R.R.2 Aurora, ON L4G 3G8	905-713-7385		905-713-7359	john.almond@mnr.gov.on.ca
Audrey	Bennett	Director, Prov. Planning & Env. Services Br.	Ministry of Municipal Affairs	777 Bay Street, Toronto, ON	416-585-6072		416-585-4006	Audrey.Bennett@mah.gov.on.ca
John	Budz	District Manager, Halton-Peel District	Ministry of Environment	Suite 300, 4145 North Service Rd., Burlington, ON L7L 6A3	905-319-1389		905-319-9902	john.budz@ene.gov.on.ca
Charles	Bouskill	Director, Regional Services Branch	Ministry of Culture	5th Fl., 180 Dundas St. W., Toronto, ON M7A 2R9	416-314-6680		416-314-6686	charles.bouskill@mci.gov.on.ca
Bill	Aird	Senior Environmental Officer	Canadian Transportation Agency	15 Eddy Street, Ottawa, ON K1A 0N9	819-953-9924		819-953-8353	bill.aird@cta-otc.gc.ca
Lawrence	Button	Chief Administrative Officer	Peel Regional Police	750 Hurontario Street, Brampton, ON, L6V 3W6	905-453-3311		905-451-1638	larry.button@peelpolice.on.ca
Terry	Irwin	Fire Chief	Brampton Fire and Emergency Services	8 Rutherford Road South, Brampton, ON L6W 3J1	905-874-2723		905-874-2727	terry.irwin@brampton.ca
Ted	Drewlo	Planning Department	Town of Halton Hills	1 Halton Hills Drive, Halton Hills, ON L7G 5G2	905-873-2601		905-877-3524	planning@town.halton-hills.on.ca
John	Melito	Superintendent, Planning	Dufferin-Peel Catholic District School Boarc	Catholic Education Centre, 40 Matheson Blvd. W., Mississauga, ON L5R 1C5	905-890-0708	24440	905-890-7610	john.melito@dpcdsb.org
Randy	Wright	Planning Department	Peel District School Board	HJA Brown Education Centre, 5650 Hurontario Street, Mississauga, Ontario, L5R 1C6	905-890-1099	2212	905-890-6698	randy.wright@peelsb.com
Bob	Sasaki	Tranportation and Works Department	City of Mississauga	300 City Centre Drive, City Hall, Mississauga, ON L5B 3C1	905-615-3200	5125	905-615-3172	robert.sasaki@mississauga.ca
Bob	Smith	Senior Land Representative, Eastern Region	TransCanada	11200 Weston Road, P.O. Box 790, Maple, ON L6A 1S7	705-721-0831		905-832-7391	bob_smith@transcanada.com

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FAX-BACK FORM

ENTRA CONSULTANTS

TO: Angela Iannuzziello, President, ENTRA Consultants Inc.

FAX: 905-946-8966

RE: **Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study, City of Brampton** **Our File: 24-17C**

CONTACT NAME: MARIE HEATON

TITLE: BIOLOGIST.

MUNICIPALITY / AGENCY: ONTARIO MINISTRY OF NATURAL RESOURCES

ADDRESS: 50 BLOOMINGTON ROAD WEST
AURORA, ON

POSTAL CODE: L4G 3G8

PHONE: 905 713 7361

FAX: 905 713 7361

E-MAIL: MARIE.HEATON@MNR.GOV.ON.CA

	YES	NO
Wish to be kept informed/involved in this study	✓	
Remove from contact list		
Will attend April 25, 2006 Public Consultation Session		

Agency's areas of interest and preliminary comments:

WETLANDS, WOODLANDS AND WATERCOURSES WITHIN STUDY AREA.

24-17Cmtgs 04-06 [illegible]

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FAX-BACK FORM

ENTRA CONSULTANTS

TO: Angela Iannuzziello, President, ENTRA Consultants Inc.

FAX: 905-946-8966

RE: **Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study, City of Brampton** **Our File: 24-17C**

CONTACT NAME: _____

TITLE: _____

MUNICIPALITY / AGENCY: ONTARIO MINISTRY OF NATURAL RESOURCES

ADDRESS: 50 BLOOMINGTON ROAD WEST
AURORA, ON

POSTAL CODE: L4G 3G8

PHONE: _____

FAX: 905 713 7361

E-MAIL: _____

	YES	NO
Wish to be kept informed/involved in this study	✓	
Remove from contact list		
Will attend April 25, 2006 Public Consultation Session		

Agency's areas of interest and preliminary comments:

WETLANDS, WOODLANDS AND WATERCOURSES WITHIN STUDY AREA.

↳ 24-17 TAC

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FAX-BACK FORM

ENTRA CONSULTANTS

TO: Angela Iannuzziello, President, ENTRA Consultants Inc.

FAX: 905-946-8966

RE: **Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study, City of Brampton** **Our File: 24-17C**

CONTACT NAME: Mel Kayama

TITLE: Transportation Planning Analyst

MUNICIPALITY / AGENCY: City of Mississauga

ADDRESS: 3484 Semple Ct.
Miss. ON.

POSTAL CODE: L5C 4R1

PHONE: 905-615-3200 Ext. 5748

FAX: 905-615-3173

E-MAIL: mel.kayama@mississauga.ca

	YES	NO
Wish to be kept informed/involved in this study	✓	
Remove from contact list		
Will attend April 25, 2006 Public Consultation Session		

Agency's areas of interest and preliminary comments:

To be kept informed of study / remain on mailing list, but do not expect to be attending any technical mtgs.

Ministry of the Environment
5775 Yonge Street
8th Floor
North York, ON M2M 4J1

Ministère de l'Environnement
5575, rue Yonge
8e étage
North York, ON M2M 4J1

Central Region
Région du Centre

Ontario

Tel: (416) 326-6700
Fax: (416) 325-6345

May 19, 2006

Mr. Kant Chawla, MCIP, RPP
Policy Planner
City of Brampton
2 Wellington Street West
Brampton, ON L6Y 4R2

RE: Mount Pleasant Community Transportation Strategy and Creditview Road Re-alignment and Sandalwood Parkway Extension
City of Brampton
Class Environmental Assessment
Notice of Commencement
Our File: EA 05-02-05

Dear Mr. Chawla:

This letter is our response to your Notice of Commencement for the above noted project. This response acknowledges that the City of Brampton has indicated that its study is following the approved environmental planning process for a Schedule C project under the *Municipal Engineers Association Municipal Class Environmental Assessment* (Class EA).

On the basis of our review of the information submitted, we are providing the following general comments to assist you and your project team members in the proposed undertaking:

Ecosystem Protection and Restoration

- Any impacts to ecosystem form and function must be avoided where possible and City of Brampton's Environmental Study Report (ESR) should describe mitigation measures and how project planning will protect and enhance the local ecosystem.

- Our records indicate that there are Rare Species of flora and/or fauna adjacent to the Study Area. MNR should be contacted to determine if special measures or additional study will be necessary to preserve and protect these significant species.

- The Region of Peel and City of Brampton Official Plan policies related to ecosystem protection within the Study Area should be referenced to ensure that all environmental protection policies are satisfied. The ESR should also discuss the

levels of growth proposed for the area, how this proposal addresses those levels of growth.

Groundwater/Surfacewater

- Our records show that there are several watercourse crossings along the Study Area, therefore the ESR must include a sufficient level of information to demonstrate that there will be no negative impacts on the natural features or ecological functions of the watercourses. Measures should be included in the planning and design process to ensure that any watercourses are protected and restored as part of the proposed road improvements. Opportunities for ecological restoration include activities such as:
    - re-establishing aquatic ecosystem linkages;
    - restoring natural streambanks; and,
    - re-establishing riparian cover.

- Measures should be included in the planning and design process and described in the ESR to ensure that sediment discharge from construction activities and roadway operations will be minimized and that there will be no ecological impacts to local watercourses. Exposed areas should be kept to a minimum at all times in order to minimize the potential for erosion. The MOE *Guidelines for Evaluating Construction Activities Impacting on Water Resources* (Guideline B-6) should be utilized during planning and construction phase of this project.

- Additional stormwater runoff from new pavement can impact receiving watercourses and cause flooding. Quality and quantity control measures to treat stormwater runoff should be considered for all new impervious areas and, where possible, existing road surfaces. We recommend a Stormwater Management Plan/Report be prepared as part of the Class EA process and included in the ESR. Strategies to address potential water quantity and erosion impacts related to stormwater draining into streams and wetlands/sensitive environmental features should be described in this plan, and these should ensure that adequate (Enhanced) water quality is maintained. This plan should integrate existing background information including sub-watershed information, existing drainage conditions, future drainage conditions, stormwater management options, information on erosion and sediment control during construction, and should include information on maintenance and monitoring commitments. The MOE's *Stormwater Management Planning and Design Manual* (2003) should be referenced in the ESR and utilized when designing stormwater control methods.

- Our records indicate that there are a number of ground water wells in the Study Area. Care should be taken to ensure that those water supplies will not be adversely affected by construction activities. The primary concerns include the contamination and potential disruption of groundwater movement, particularly in the case of shallow wells. Background data should be obtained to define existing water quality and quantity and their relationships, and this information should be included in the ESR.

- De-watering associated with construction activities may temporarily impact local groundwater wells and interfere with baseflow to streams. In addition, the dispersal of pumped water can affect a receiving watercourse. A temporary PTTW will be required should any de-watering taking exceed 50,000 litres per day. Please note that the Ministry of the Environment has implemented a new Permit to Take Water (PTTW) program. Consultation with the Permit to Take Water Manual (April 2005) is recommended for information on how the new Water Taking and Transfer Regulation 387/04 under the *Ontario Water Resources Act* and improvements to the PTTW program have been implemented. Studies prepared as part of the Class EA process should be carried out to a sufficient level of detail to determine if a PTTW, or any other approvals, will be required for this undertaking. The ESR should clearly identify if a PTTW or any other approvals are expected to be necessary.

- If construction activities are likely to encounter groundwater water, then an assessment of impact is required. The ESR should include a description of the City of Brampton's plans and commitments to prevent and mitigate negative impacts until the aquifer has recovered.

- We recommend preparing a Contingency Plan for dealing with potential adverse effects on surface water (e.g. spills) and groundwater (e.g. well impacts), and including a description of this plan in the ESR.

- We recommend consultation with MNR, the Department of Fisheries and Oceans (DFO), and your local conservation authority as part of the Class EA planning process to solicit their input on any Groundwater/Surface Water concerns and to determine if any subsequent approvals or permits are required from the agencies.

Dust and Noise

- The ESR should consider the potential impacts of increased noise levels due to potentially higher traffic volumes resulting from this project. The proponent should explore all potential measures to mitigate significant noise impacts during the assessment of alternatives. Please refer to the *MTO/MOE Noise Protocol (1996)*.

- Dust and noise control measures should be addressed and included in the construction plans to ensure that nearby residential and other sensitive land uses within the Study Area are not adversely affected during construction activities. If dust suppressants are proposed to be used, we recommend the use of non-chloride based compounds to protect water quality.

Contaminated Soils

- Since the removal and/or movement of soils may be required, they should be tested for contaminants resulting from previous land uses or dumping. If the soils are contaminated, the proponent must decide how and where they are to be disposed

of, consistent with *Part XV.1 of the Environmental Protection Act (EPA)* and the Records of Site Condition Regulation (O.Reg. 153/04) which details the new requirements related to site assessment and clean up. More information is available online at our website via the Brownfields link. If contaminated sites are identified in or adjacent to the Study Area, the MOE Halton-Peel District Office in Burlington should be contacted.

Transmission Lines/ Rail Line

- Our records indicate that power transmission lines and a rail line cross the western portion on the study area. City of Brampton should consult with the owner during the Class EA process.

Mitigation and Monitoring

- Design and construction report(s) and plans should be based on a best management approach that centres on the prevention of impacts, protection of existing environment, and opportunities for rehabilitation and enhancement of any impacted areas.

- All waste generated during construction activities must receive proper disposal in accordance with MOE requirements.

- Contractors must be made aware of all environmental considerations so that all environmental standards and commitments for both construction and operation work are met. Mitigation measures should be clearly referenced in the ESR and regularly monitored during the construction stage of the project. In addition, we encourage proponents to conduct post-construction monitoring to ensure all mitigation measures have been effective and are functioning properly. The proponent's construction and post-construction monitoring plans should be documented in the ESR.

Class EA Process

- The ESR report should provide clear and complete documentation of the planning process in order to allow traceability of decision-making. It must also demonstrate how the consultation provisions of the Class EA have been fulfilled, including documentation of all public consultation efforts undertaken during the planning process. Additionally, it should identify all concerns that were raised and how they have been addressed throughout the planning process. The Class EA also directs proponents to include copies of comments submitted on the project, and the proponent's responses.

- The Class EA requires the consideration of the effects of each alternative on all aspects of the environment. Therefore, the ESR should include a level of detail (e.g. hydrogeologic investigations) such that all potential impacts can be identified and appropriate mitigation measures be developed.

- Any supporting studies conducted during the Class EA process (e.g. natural environment, hydrology) should be referenced and included as part of the ESR.

- We have listed above several ministry guides available to assist you in planning this project. These are available at http://www.ene.gov.on.ca under the publications link. We encourage the proponent to review all the available guides and reference those applicable throughout the ESR.

- Please include, in the ESR a list of all subsequent permits/approvals that may be required for the implementation of the preferred alternative.. The proponent should consider if the proposed project will require approval under the *Canadian Environmental Assessment Act* (CEAA) and document this in the ESR.

Thank you for the opportunity to comment on this project. Please ensure that MOE Central Region, **EA and Planning Coordinator**, is placed on the project mailing list and forward our office the Notice of Completion when completed. Should you or any members of your project team have any questions regarding the above, please feel free to contact me at (416) 326- 5745. Myself or any of Central Region's EA and Planning Coordinator's would be pleased to assist you.

Yours sincerely,

L. Byers

Lori Byers MCIP, RPP
Environmental Assessment and Planning Coordinator
Air, Pesticides and Environmental Planning

c. J.Budz, Halton-Peel District Office, MOE
Central Region EA File
A & P File

ENTRA
CONSULTANTS

Appendix C

Public Information Centre #1 Material

Excellence in
Transportation Planning

CITY OF BRAMPTON

Mount Pleasant Community Transportation Strategy

and

Creditview Road and Sandalwood Parkway Extension

Class Environmental Assessment Study

PUBLIC MEETING #1

The City of Brampton completed the Transportation and Transit Master Plan in 2004, which set the City's long-term framework for the transportation system for planned growth for the next twenty-five years. This Master Plan also identified the roads and the network of transit service to serve the Mount Pleasant Community outlined on the key plan below. Since then, additional transportation studies have provided more details about the roads and transit projects needed to support the Mount Pleasant Community in conjunction with the component studies that will address land use, urban design and environmental issues.

Mount Pleasant Transportation Strategy

The City of Brampton is now undertaking the Mount Pleasant Community Transportation Strategy and is carrying out a Class Environmental Assessment Study for the proposed re-alignment of Creditview Road and extension of Sandalwood Parkway at the same time. These studies will address the transportation requirements for the first phase of expansion of the urban boundary in North West Brampton, considering a wide range of options to satisfy future travel demands, and establishing the need for future transportation improvements. The City will focus on innovative, pedestrian-friendly and transit-oriented community road and transit projects needed to support the proposed new community.

Creditview and Sandalwood Corridors

The proposed Creditview Road re-alignment and Sandalwood Parkway extension in the Mount Pleasant community are subject to the requirements of the Municipal Class Environmental Assessment (2000) process. These projects will be planned using the four-phase Class Environmental Assessment process approved by the Ministry of the Environment. They will assess environmental, social, economic and technical criteria and will address the interests of area residents, stakeholders and local businesses in selecting the preferred projects. The City has retained the services of ENTRA Consultants to lead these studies.

The Mount Pleasant Community Study Area is shown on the adjacent Key Plan

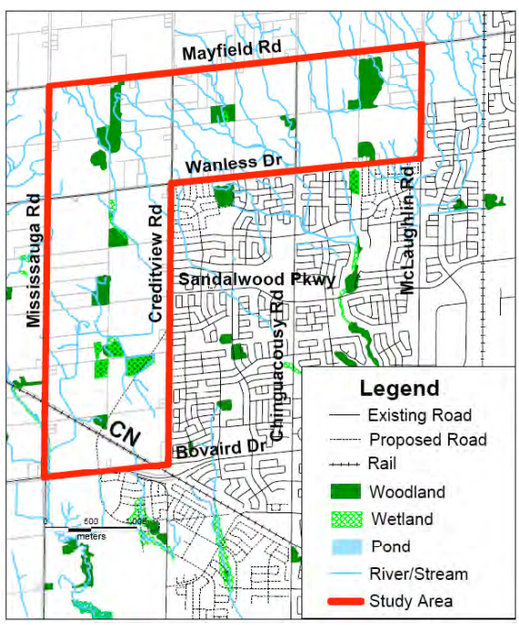
The first of three public meetings will be held:

Date: **Tuesday, April 25, 2006**
Place: **Peel Region Police Association Hall (10675 Mississauga Road, Brampton, ON L7A 0B6)**
Time: **5:00pm – 7:00pm** **Open House**
7:00pm – 7.30pm **Presentation**

Your involvement is important

The City of Brampton appreciates your input and ideas. Please take a moment to get involved. We encourage you to take an opportunity to make comments, identify issues and provide additional information:

- Come to a Public Meeting. Notices for meetings will be placed in the local newspaper
- Submit your written comments to the City
- Add your name to our mailing list



Mount Pleasant Community Study Area – Key Plan

Information requests or questions may be directed to the individuals identified below:

Mr. Kant Chawla, MCIP, RPP
Policy Planner
City of Brampton
2 Wellington Street West
Brampton, Ontario, L6Y 4R2
Tel: 905-874-2410
Fax: 905-874-2099
E-mail: kant.chawla@brampton.ca

Ms. Angela Iannuzziello, P. Eng.
President
ENTRA Consultants
2800 Fourteenth Avenue, Suite 210
Markham, Ontario, L3R 0E4
Tel: 905-946-8900
Fax: 905-946-8966
E-mail: asi@entraconsultants.com

CITY OF BRAMPTON

Mount Pleasant Community Transportation Strategy

and

Creditview Road and Sandalwood Parkway Transportation Corridors

Class Environmental Assessment Study

Information Package

For

Public Meeting #1

April 25, 2006

CITY OF BRAMPTON

Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study

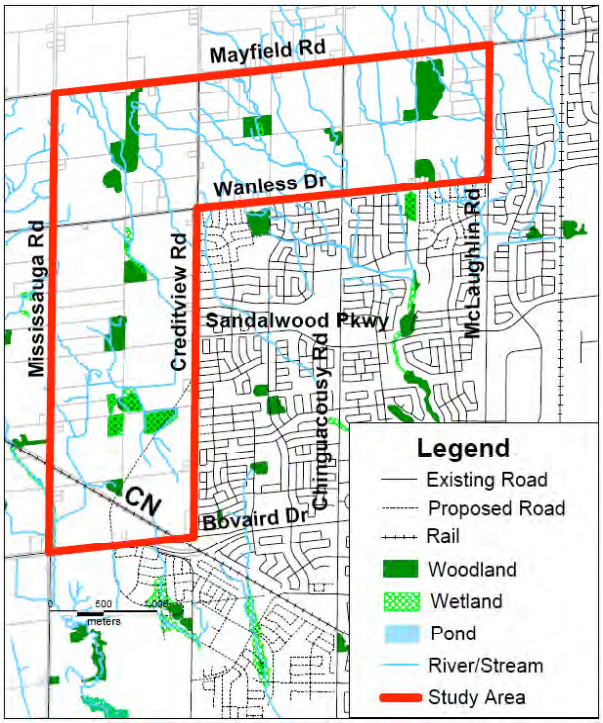
Study Context

The City of Brampton completed the Transportation and Transit Master Plan in 2004, which set the City's long-term framework for the transportation system for planned growth for the next twenty-five years. This Master Plan also identified the roads and the network of transit service to serve the Mount Pleasant Community outlined on the key plan at right. Since then, additional transportation studies have provided more details about the roads and transit projects needed to support the Mount Pleasant Community in conjunction with the component studies that will address land use, urban design and environmental issues.

The City of Brampton is now undertaking the Mount Pleasant Community Transportation Strategy and is carrying out a Class Environmental Assessment Study for the proposed re-alignment of Creditview Road and extension of Sandalwood Parkway at the same time. These studies will address the transportation requirements for the first phase of expansion of the urban boundary in North West Brampton, considering a wide range of options to satisfy future travel demands, and establishing the need for future transportation improvements.

Study Area

The Mount Pleasant Community Study Area is shown on the Key Plan at right.



Mount Pleasant Community Study Area

Study Purpose

The Mount Pleasant Community is envisioned as an innovative pedestrian-friendly and transit-oriented community, where both the road network and community-friendly transit services are planned and implemented in conjunction with one another.

The Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study will provide a clear and defensible strategy for the provision of roads and transit in support of the planned community and the mobility needs of future residents and workers.

The Study purpose is twofold and will address:

- transportation requirements for the first phase of urban expansion in North West Brampton (i.e., Mount Pleasant);
- Creditview Road and Sandalwood Parkway alignments in the Mount Pleasant Community in accordance with the requirements of Phases 1 through 4 of the Municipal Class Environmental Assessment (2000).

Public Meeting #1

Public consultation is an essential component of the preparation of the Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study. Public consultation is planned throughout the study to receive input from the public and agencies on the development of the transportation network.

The purpose of this PIC is to provide an overview of the Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study objectives and process and to allow the public the opportunity to review and provide input on:

- the proposed study process;
- the existing environmental and transportation situation in and adjacent the Study Area, including key features, roads, transit and travel characteristics;
- transportation interests that have been identified by the study team (to-date) and opportunities, constraints and considerations in dealing with each of the identified study interests; and
- a Preliminary Problem/Opportunity Statement.

Study Issues

The review of previously completed transportation studies for the City of Brampton, and the assessment of existing environmental features and existing and future roadway operations were used to identify transportation related interests to be addressed in the Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study:

Future Alignment of Creditview Road

There is need to determine the potential future alignment of Creditview Road in the Study Area.

Provision and Design of New Spine Road

There is need to determine the role, functional classification and ultimate cross-section of a new Spine Road in the Mount Pleasant Community.

Rail/Road Crossing Treatment

There is need to confirm the location and timing of the road/rail grade separation for Creditview Road at the CNR line, as well as whether it is an underpass or overpass.

Need for Sandalwood Parkway Extension

There is need to examine opportunities to extend the roadway between Creditview Road and Mississauga Road and confirm the need and timing for the Sandalwood Parkway extension.

Impact of Proposed GO Georgetown Yard

Through coordination with this study, there is need to ensure the ongoing Georgetown North Corridor Rail Expansion EA does not preclude any reasonable alternatives for the location, alignment and design of future Creditview Road or, in any manner, compromise the objectives and future design for the Mount Pleasant Community.

Future Transit Service Requirements

There is a need to identify new transit routes along the existing roadways and proposed Spine Road in the Study Area that can attract and will be supported by future riders.

Trails and Pathways

New pathways and the extension of the existing pathways will need to reflect the recommendations of the City of Brampton Transportation and Transit Master Plan and PathWays Master Plan.

Approved Fletcher's Meadow Secondary Plan

The alignment and design of Creditview Road, as well as the collector roads, transit, and pedestrian and cycling facilities in the Study Area, will need to reflect planned future uses and facilities in the approved Fletcher's Meadow Secondary Plan area.

Preliminary Problem/Opportunity Statement

The City of Brampton will continue to grow over the next 25 years, reaching a population of approximately 680,000 people and employment of more than 320,000 jobs. To this end, the City has defined an urban expansion area to accommodate future growth in a phased manner. As the first phase of future urban expansion in North West Brampton, the Mount Pleasant Community is forecast to reach a population of more than 40,000 people and employment of over 3,000.

The existing transportation system of roads, transit, pedestrian linkages, and pathways will not adequately accommodate the mobility needs of future residents and workers. With planned urban growth in the absence of appropriate road and transit improvements, levels of congestion on area roads are likely to increase, present levels of mobility and safety may decline, residents may experience negative social impacts and declining quality of life, future network operational flexibility may be compromised, and costs attributable to maintaining and enhancing the transportation system may increase.

In accordance with the Municipal Class Environmental Assessment, the City of Brampton, in consultation with the Steering Committee, developed the following problem definition.

The City of Brampton has initiated this Class Environmental Assessment Study to:

1. Prepare a community-wide transportation strategy for the Mount Pleasant Community in accordance with the policies outlined in the Brampton Official Plan. This study will result in the completion of the road and transit strategy and the identification of proposed collector and arterial roads in compliance with Phase 2 of the Class EA.
2. Determine the final location of extensions of Creditview Road and Sandalwood Parkway in the Mount Pleasant Community in compliance with Phase 4 (completion) of the Class EA.
3. Identify potential additional projects (road and transit) in Brampton, beyond the boundaries of the Study Area, that may be required to accommodate development of the Mount Pleasant Community.

The objectives of the City of Brampton in completing the Study are to:

- Protect the environment through the wise management of resources.
- Recognize technical criteria, environmental constraints and opportunities, and the interests of stakeholder and interest groups, local businesses and area residents in selecting a preferred group of servicing projects.
- Identify and protect, through the Official Plan, the proposed routes for new or extended transportation facilities so that

local landowners and developers can proceed with their plans knowing the location of transportation facilities in the area.

- Identify a group of transportation projects that will be required for construction at stages over the long-term (i.e., 2031).
- Document the study process in compliance with all relevant phases of the Class Environmental Assessment process and exceed the requirements of the Class Environmental Assessment for Municipal Projects.

Next Steps

In future phases of the study, the study team will be:

- refining the issues to be addressed by the study including opportunities, constraints and considerations;
- refining future needs, in conjunction with the development of the Mount Pleasant Community Plan;
- identifying and assessing alternative solutions, including developing evaluation criteria and identifying impacts and mitigation measures;
- receiving comments on the evaluation of alternative solutions from the public (PIC #2);
- identifying a preferred solution;
- completing and evaluating alternative design concepts in accordance with the Municipal Class EA process;
- presenting preferred concepts to the public to receive comments (PIC #3); and
- finalizing the Transportation Strategy and Creditview Road and Sandalwood Parkway alignments and designs.

For more information on the Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study, contact:

Mr. Kant Chawla, MCIP, RPP
Policy Planner
City of Brampton
2 Wellington Street West
Brampton, Ontario, L6Y 4R2
Tel: 905-874-2410
Fax: 905-874-2099
E-mail: kant.chawla@brampton.ca

Ms. Angela Iannuzziello, P.Eng.
President
ENTRA Consultants
2800 Fourteenth Avenue, Suite 210
Markham, Ontario, L3R 0E4
Tel: (905) 946-8900
Fax: 905-946-8966
E-mail: asi@entraconsultants.com

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WELCOME

TO

CITY OF BRAMPTON TRANSPORTATION STRATEGY AND CREDITVIEW ROAD AND SANDALWOOD PARKWAY TRANSPORTATION CORRIDORS CLASS ENVIRONMENTAL ASSESSMENT STUDY

Public Meeting #1
April 25, 2006

AGENDA
Open House: 5:00pm – 7:00pm
Presentation: 7:00pm – 7:15pm

Please Sign-In

All participants are encouraged to complete a comment form

PLANNING CONTEXT

Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study

The Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study is one of the initial studies to support a Secondary Plan for the Mount Pleasant Community. Other component studies comprise:

- Land Use and Urban Design Study
- Subwatershed Planning Study

The Mount Pleasant Community area itself is part of the City's 2,400-hectare (6,000-acre) Northwest Brampton Urban Expansion Area that was supported by a comprehensive range of background studies

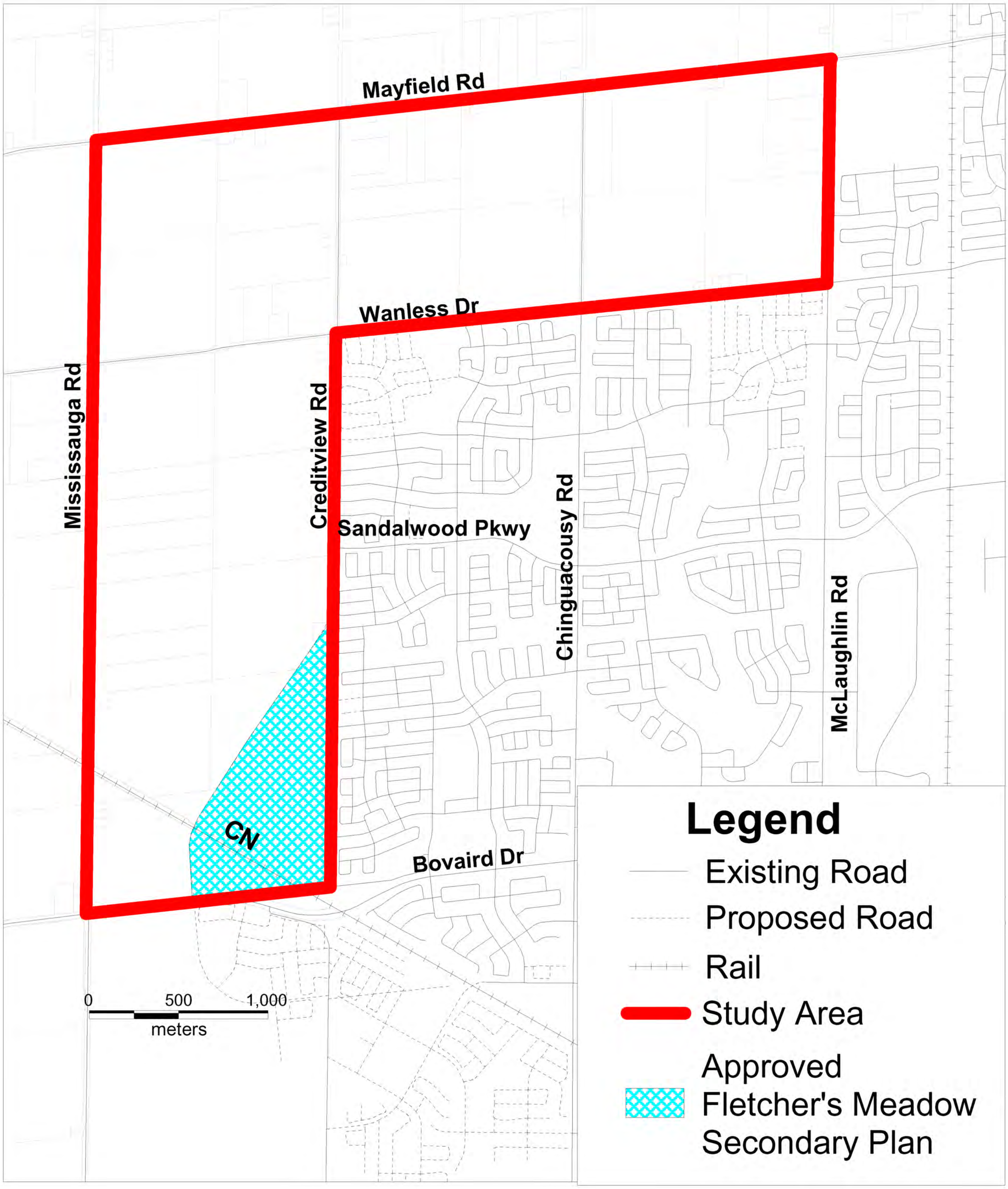
The Northwest Brampton Urban Expansion was implemented by Official Plan Amendments to the Region of Peel and Brampton Official Plans. These amendments are currently under appeal to the Ontario Municipal Board

In June 2003, City Council directed that the Mount Pleasant Community lands represent the first phase of development within Northwest Brampton

The Mount Pleasant Transportation Study and the other two component studies are being completed to establish the preliminary land use concepts, environmental protection and infrastructure requirements, including road and transit facility needs, for incorporation into a secondary plan for the Mount Pleasant Community, once the Northwest Brampton amendments are finally approved

STUDY AREA

Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study



STUDY PURPOSE

Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study

The Mount Pleasant Community is envisioned as an innovative pedestrian-friendly and transit-oriented community, where both the road network and community-friendly transit services are planned and implemented in conjunction with one another.

The Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study will provide a clear and defensible strategy for the provision of roads and transit in support of the planned community and the mobility needs of future residents and workers. The Study purpose is twofold and will address:

- Transportation requirements for the first phase of urban expansion in Northwest Brampton (i.e., Mount Pleasant)

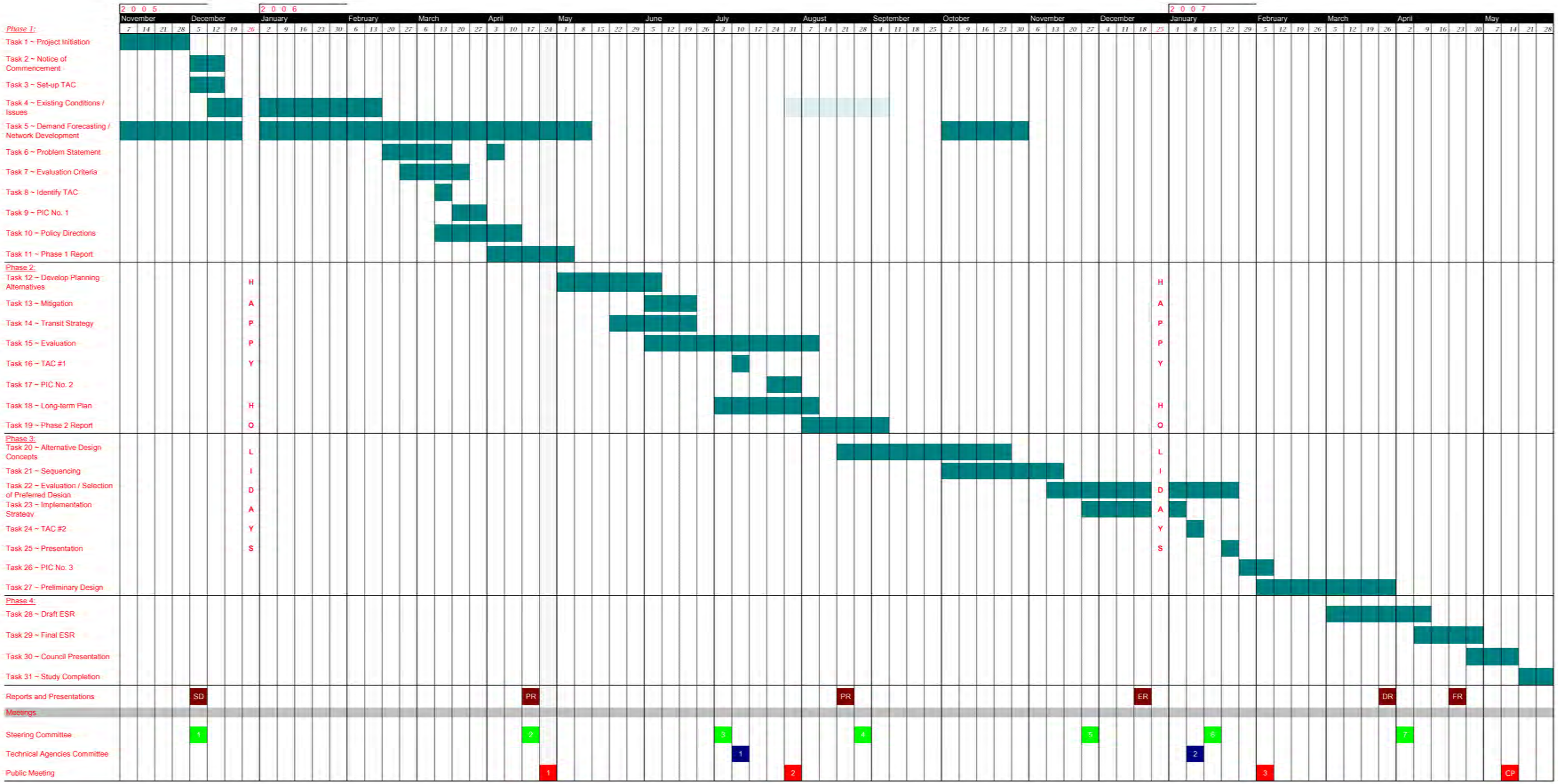
- Creditview Road and Sandalwood Parkway alignments in the Mount Pleasant Community in accordance with the requirements of Phases 1 through 4 of the Municipal Class Environmental Assessment (2000).

STUDY SCHEDULE

CITY OF BRAMPTON
www.city.brampton.on.ca

ENTRA CONSULTANTS

Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study

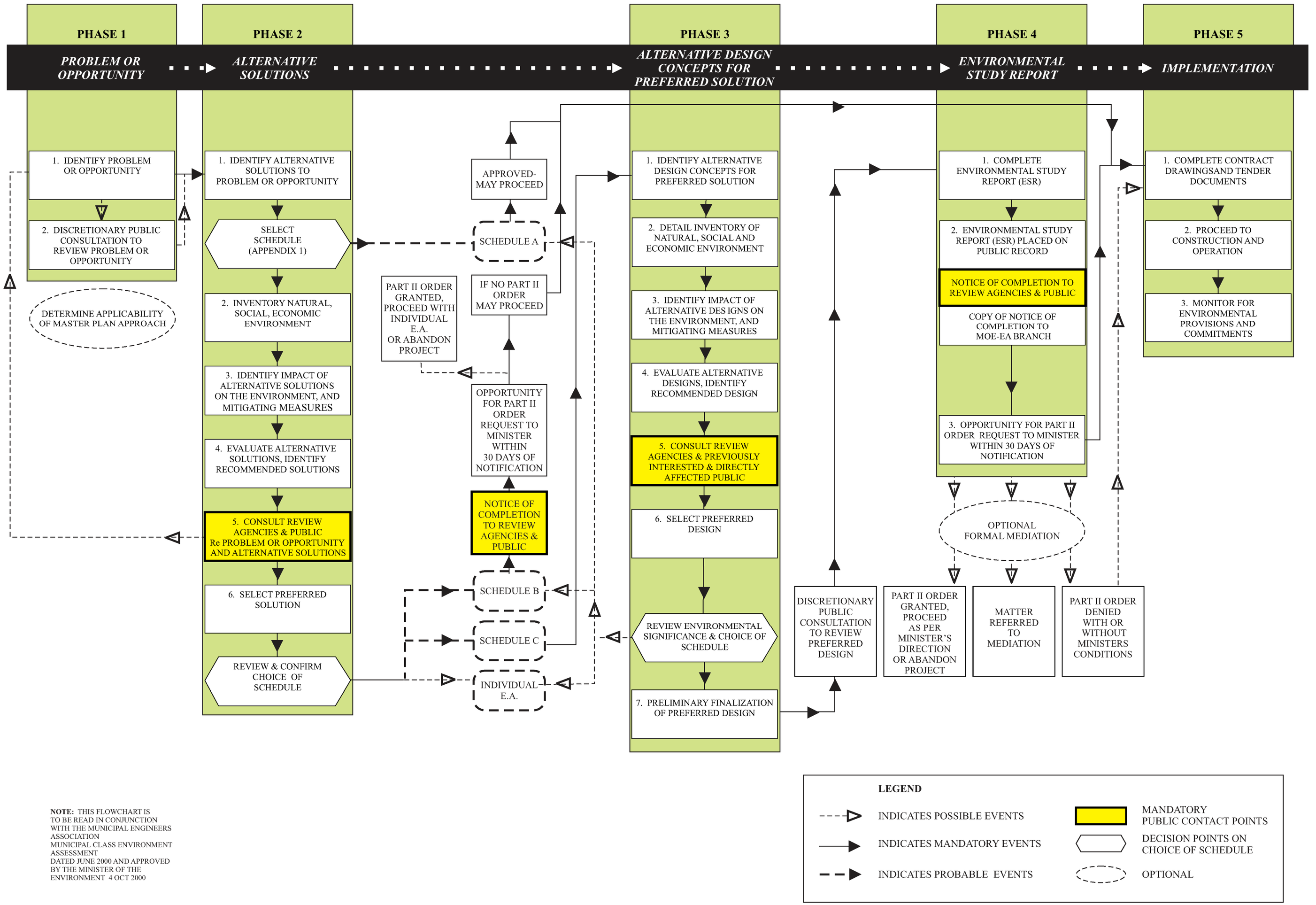


Meetings
- # Technical Steering Committee
- # Technical Agencies Committee
- # PIC

Reports
- SD Study Design
- PR Progress
- ER Natural Environmental Assessment, Stage 3 Archaeological Assessment, Built Heritage and Cultural Landscapes Assessment, Preliminary Geotechnical Investigation and Pavement Design
- DR Draft Final
- FR Final

MUNICIPAL CLASS EA PLANNING AND DESIGN PROCESS

Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study



NOTE: THIS FLOWCHART IS TO BE READ IN CONJUNCTION WITH THE MUNICIPAL ENGINEERS ASSOCIATION MUNICIPAL CLASS ENVIRONMENT ASSESSMENT DATED JUNE 2000 AND APPROVED BY THE MINISTER OF THE ENVIRONMENT 4 OCT 2000

TRANSPORTATION INTERESTS

Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study

Previously completed transportation studies for the City of Brampton and an assessment of existing and future roadway operations were used to identify transportation-related interests to be addressed in the Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study:

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There is need to determine the potential future alignment of Creditview Road in the Study Area

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Approved Fletcher's Meadow Secondary Plan

The alignment and design of Creditview Road, as well as the collector roads, transit, and pedestrian and cycling facilities in the Study Area, will need to reflect planned future uses and facilities in the approved Fletcher's Meadow Secondary Plan area

PRELIMINARY PROBLEM/ OPPORTUNITY STATEMENT

Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study

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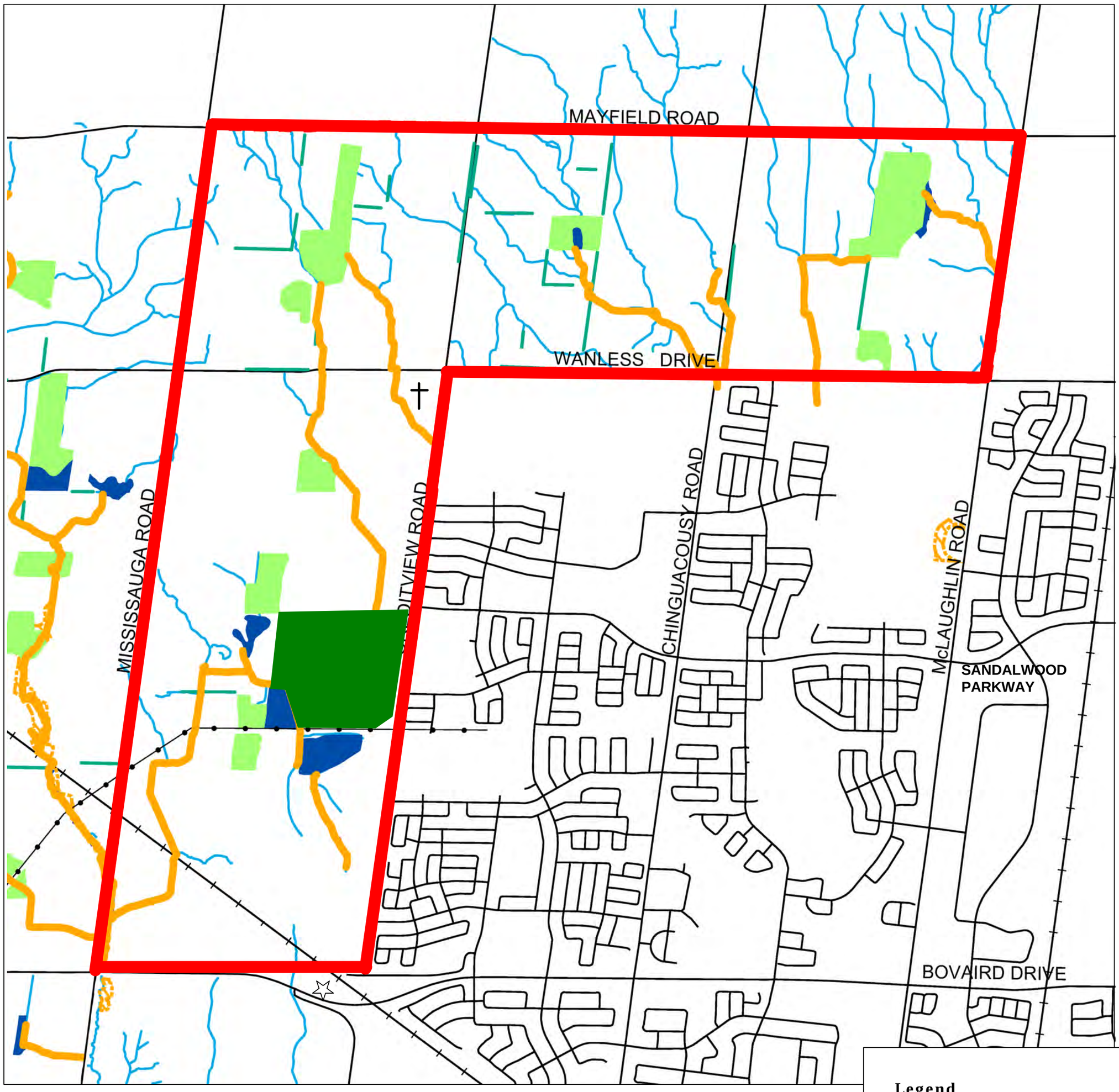
3. Identify potential additional projects (road and transit) in Brampton, beyond the boundaries of the Study Area, that may be required to accommodate development of the Mount Pleasant Community

PHYSICAL FEATURES

Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study

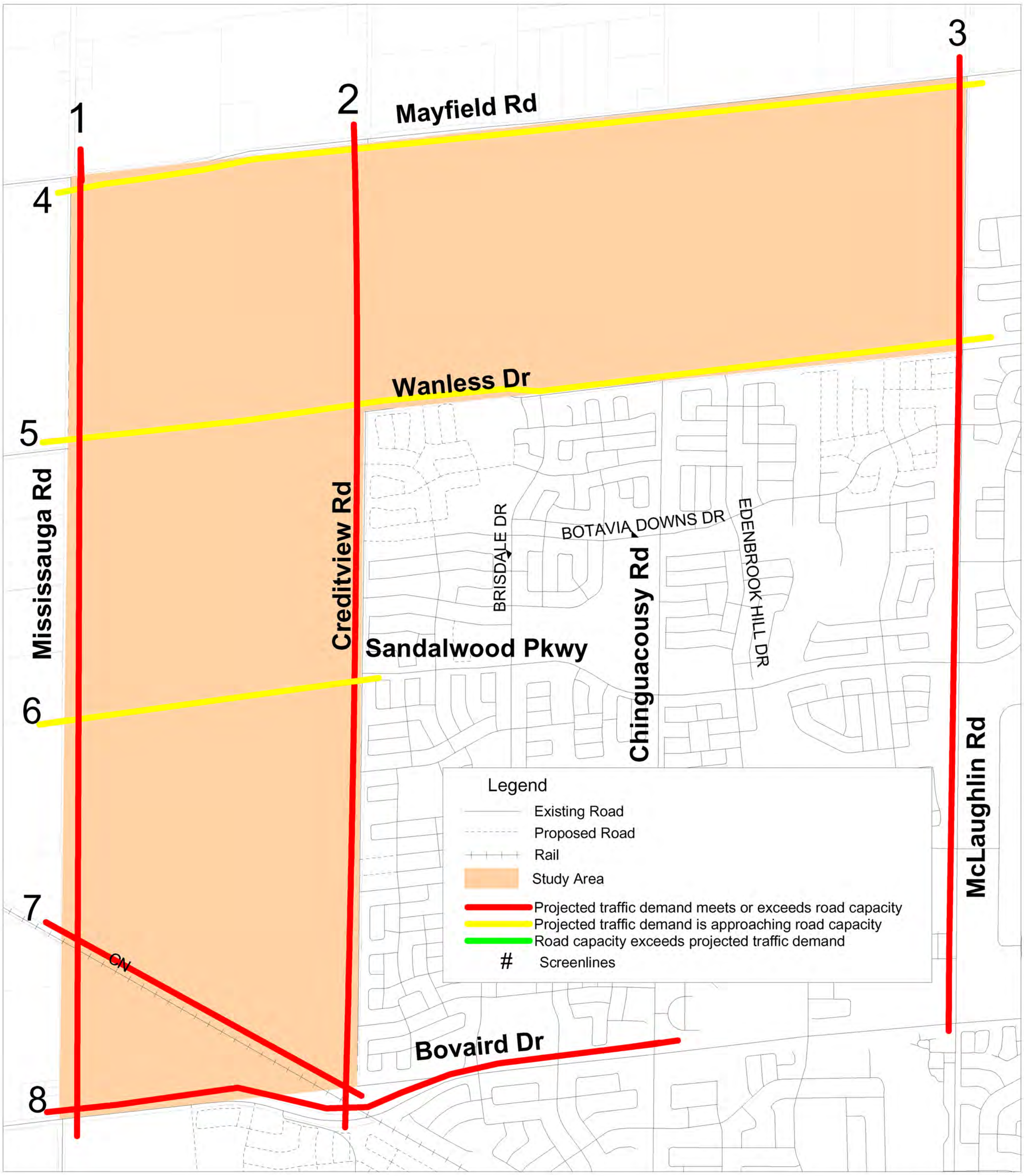


Source: Northwest Brampton Phase 02 Urban Environmental Open Space Study, Proposed Environmental Features Schedule "D"

2031 SCREENLINE

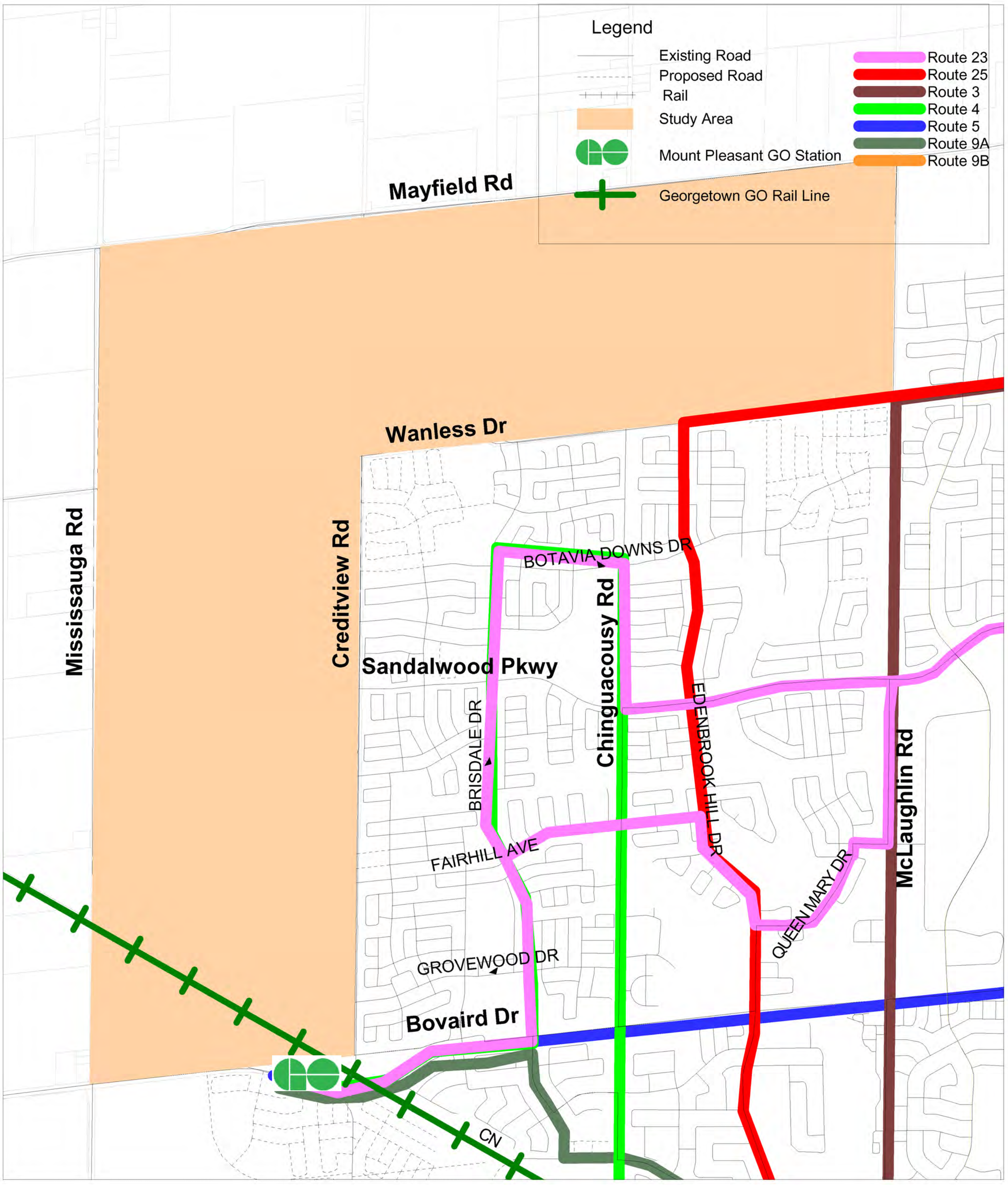
TRAFFIC CONDITIONS

Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study



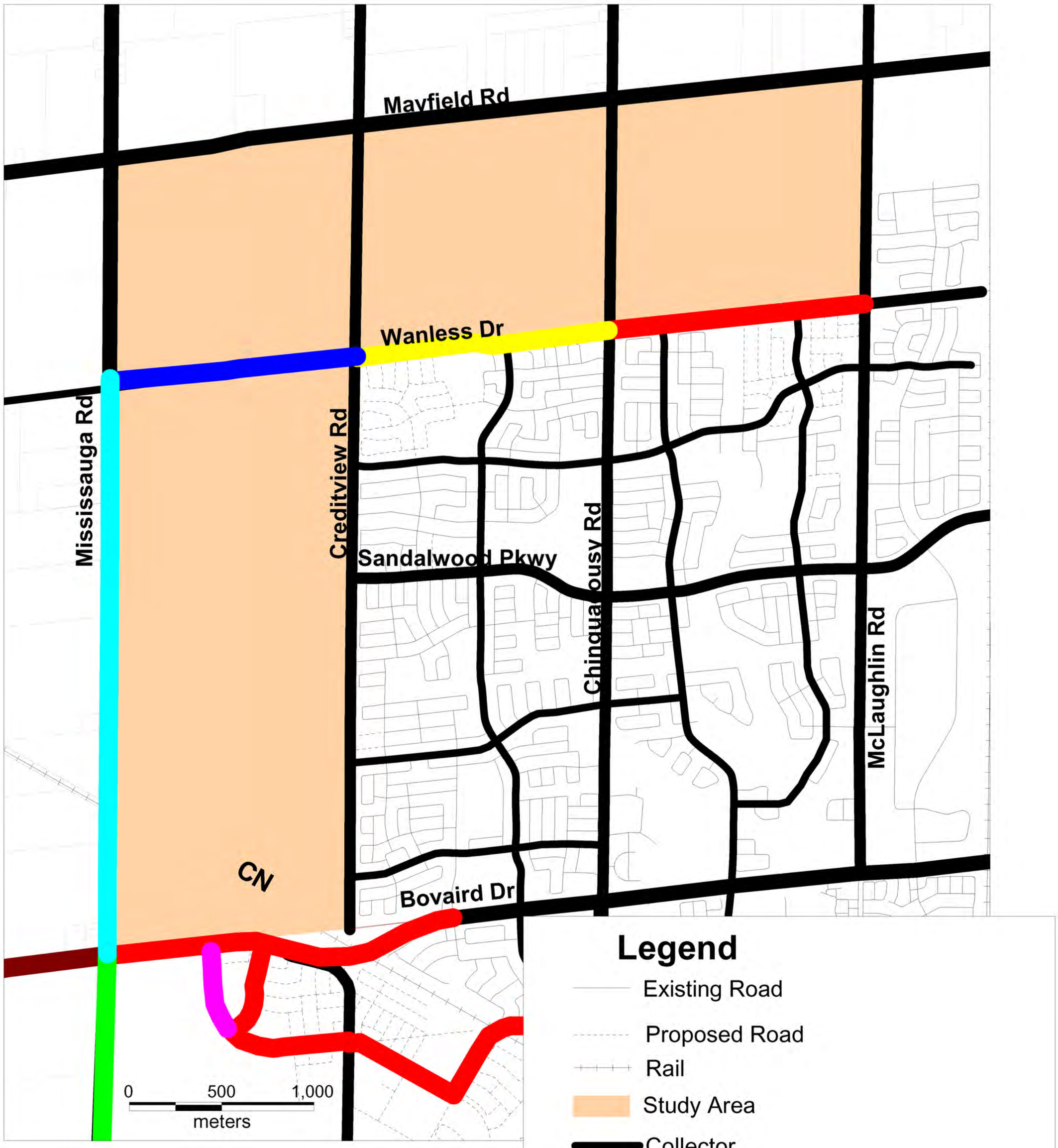
EXISTING TRANSIT

Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study



AREA ROADWAY IMPROVEMENTS

Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study



NEXT STEPS

Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study

In future phases of the study, the study team will be:

- Refining the issues to be addressed by the study including opportunities, constraints and considerations
- Refining future needs, in conjunction with the development of the Mount Pleasant Community Plan
- Identifying and assessing alternative solutions, including developing evaluation criteria and identifying impacts and mitigation measures
- Receiving comments on the evaluation of alternative solutions from the public (PIC #2)
- Identifying a preferred solution
- Completing and evaluating alternative design concepts in accordance with the Municipal Class EA process
- Presenting preferred concepts to the public to receive comments (PIC #3)
- Finalizing the Transportation Strategy and Creditview Road and Sandalwood Parkway alignments and designs

MOUNT PLEASANT COMMUNITY TRANSPORTATION STRATEGY AND CREDITVIEW ROAD AND SANDALWOOD PARKWAY TRANSPORTATION CORRIDORS CLASS ENVIRONMENTAL ASSESSMENT STUDY

Public Meeting #1

April 25, 2006

AGENDA

Open House: 5:00pm – 7:00pm

Presentation: 7:00pm – 7:15pm

CITY OF BRAMPTON
www.city.brampton.on.ca

ENTRA
CONSULTANTS INC.

PLANNING CONTEXT

- This Transportation Strategy and Class EA study is one study to support a Secondary Plan for Mount Pleasant Community
- Other component studies comprise:
  - Land Use and Urban Design Study
  - Subwatershed Planning Study
- Mount Pleasant Community area is part of Northwest Brampton Urban Expansion Area implemented by OPAs
- In June 2003, City Council directed Mount Pleasant Community lands represent the first phase of development within Northwest Brampton

STUDY PURPOSE

Is to address:

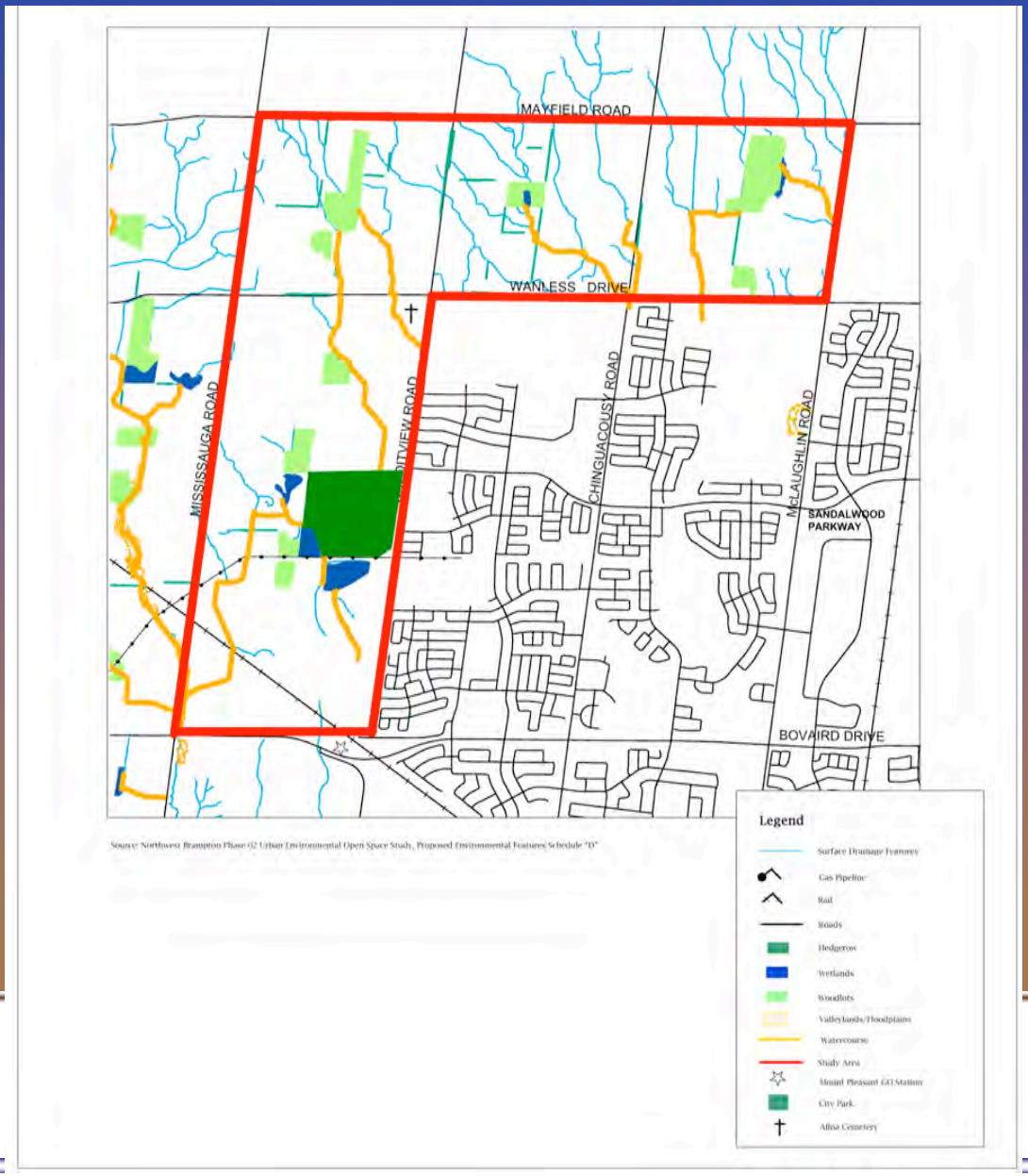
- Transportation requirements for the first phase of urban expansion in Northwest Brampton (i.e., Mount Pleasant)
- Creditview Road and Sandalwood Parkway alignments in the Mount Pleasant Community in accordance with the requirements of Phases 1 through 4 of the Municipal Class EA

STUDY AREA

CITY OF BRAMPTON
www.city.brampton.on.ca

ENTRA
CONSULTANTS INC.

PHYSICAL FEATURES



Source: Northwest Brampton Phase 02 Urban Environmental Open Space Study, Proposed Environmental Features Schedule "D"

CITY OF BRAMPTON
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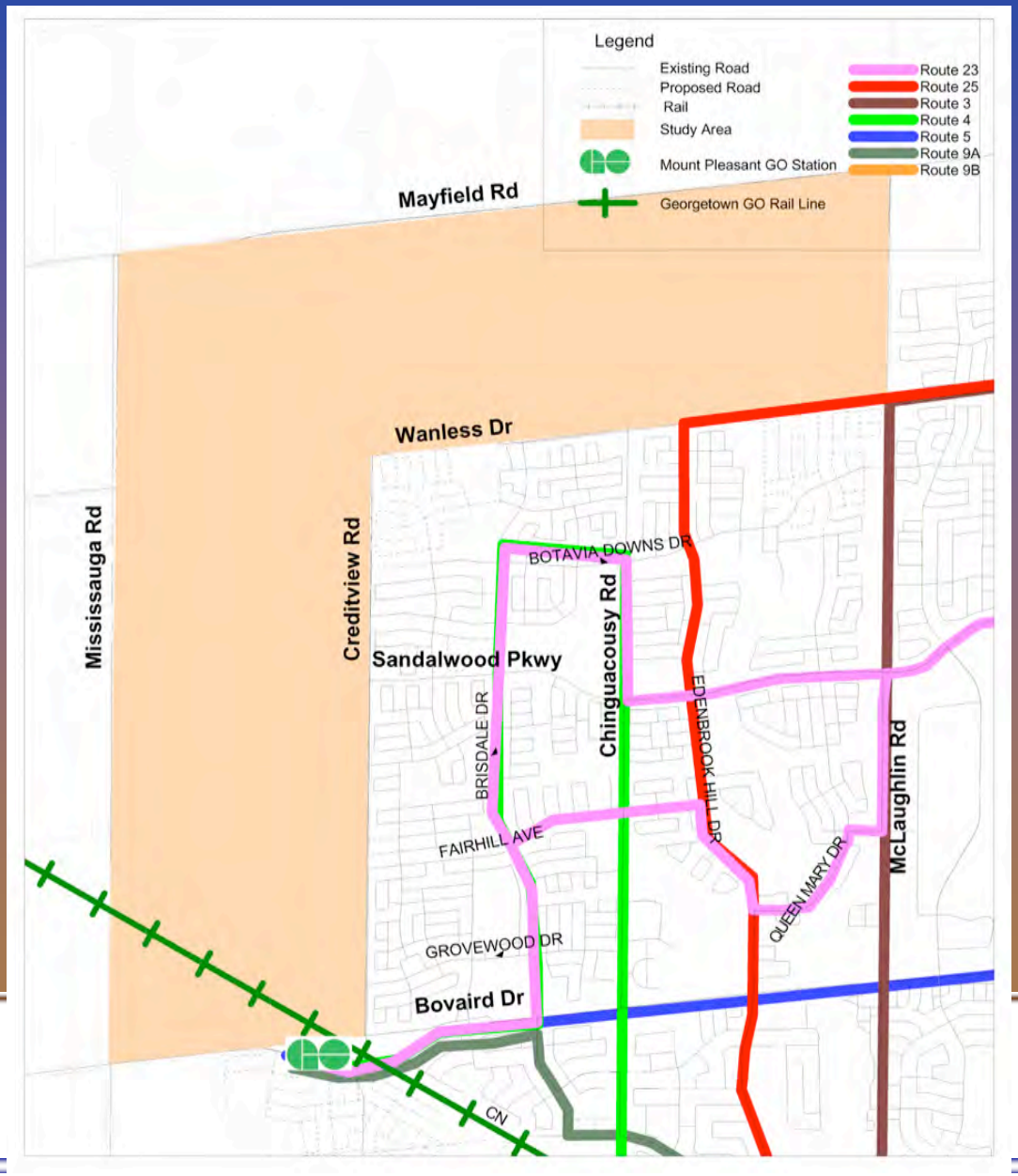
EXISTING TRANSIT



CITY OF BRAMPTON
www.city.brampton.on.ca

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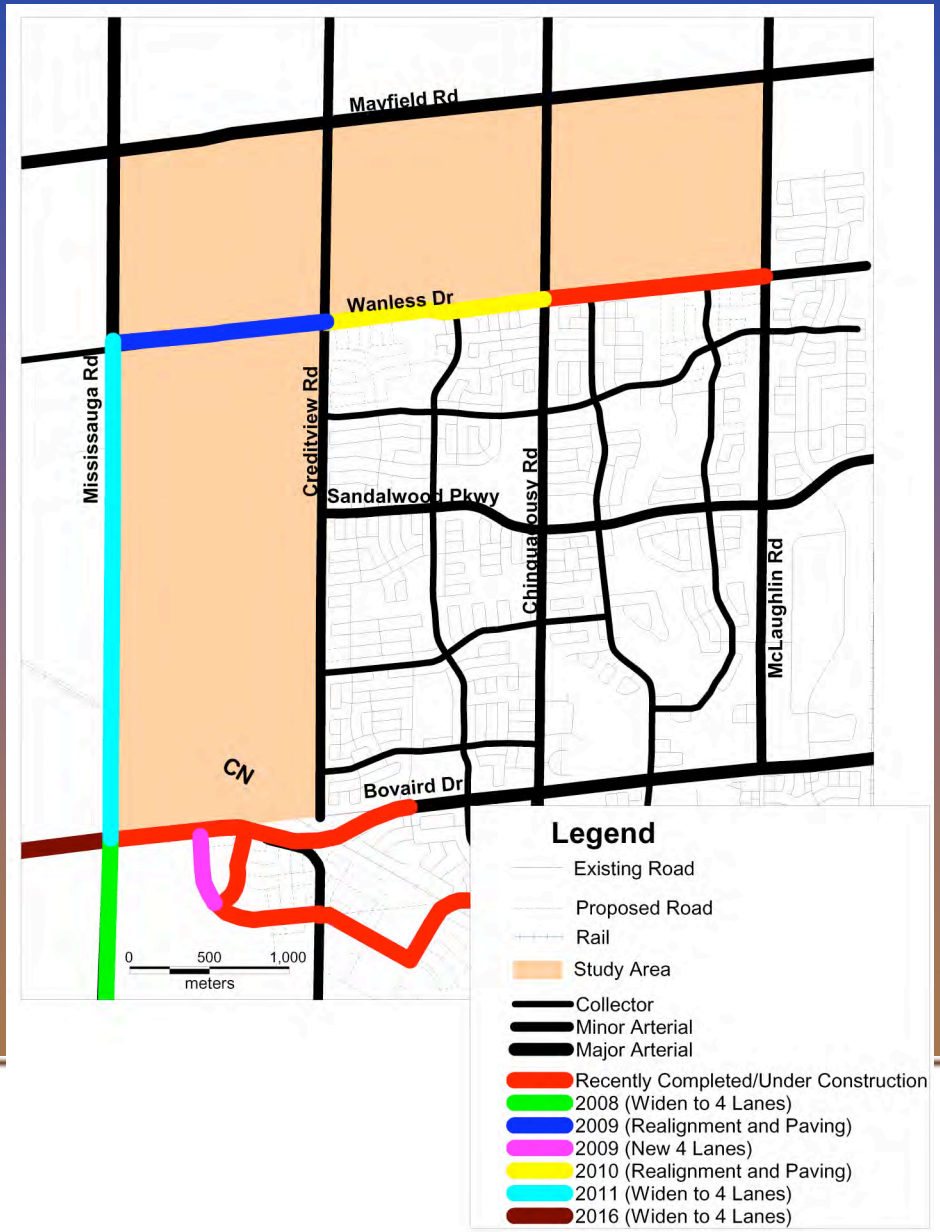
AREA ROAD IMPROVEMENTS



CITY OF BRAMPTON
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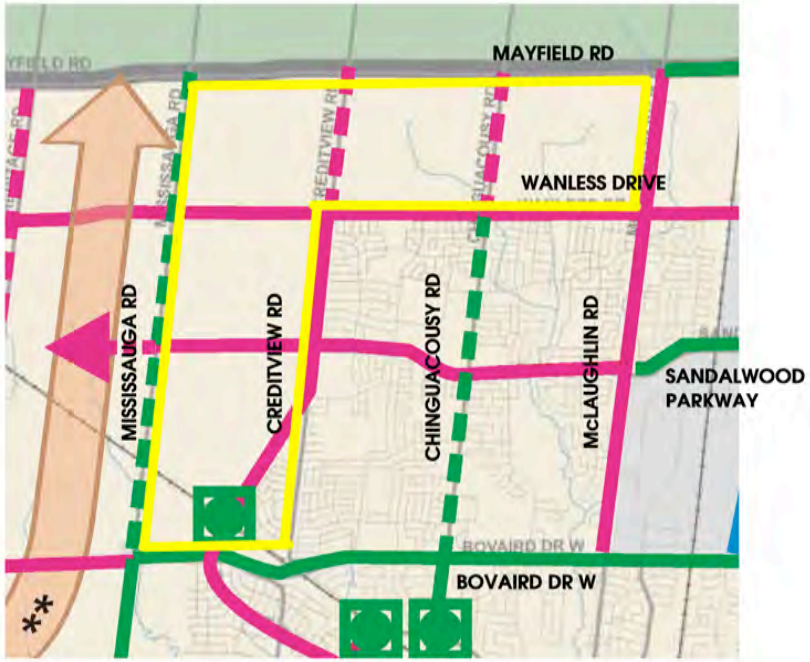
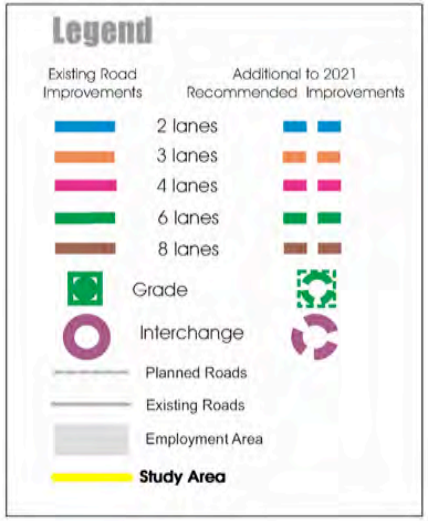
ENTRA
CONSULTANTS INC.

LONG-TERM TRANSPORTATION NETWORK
(Recommendations from Previous Studies)

Roads

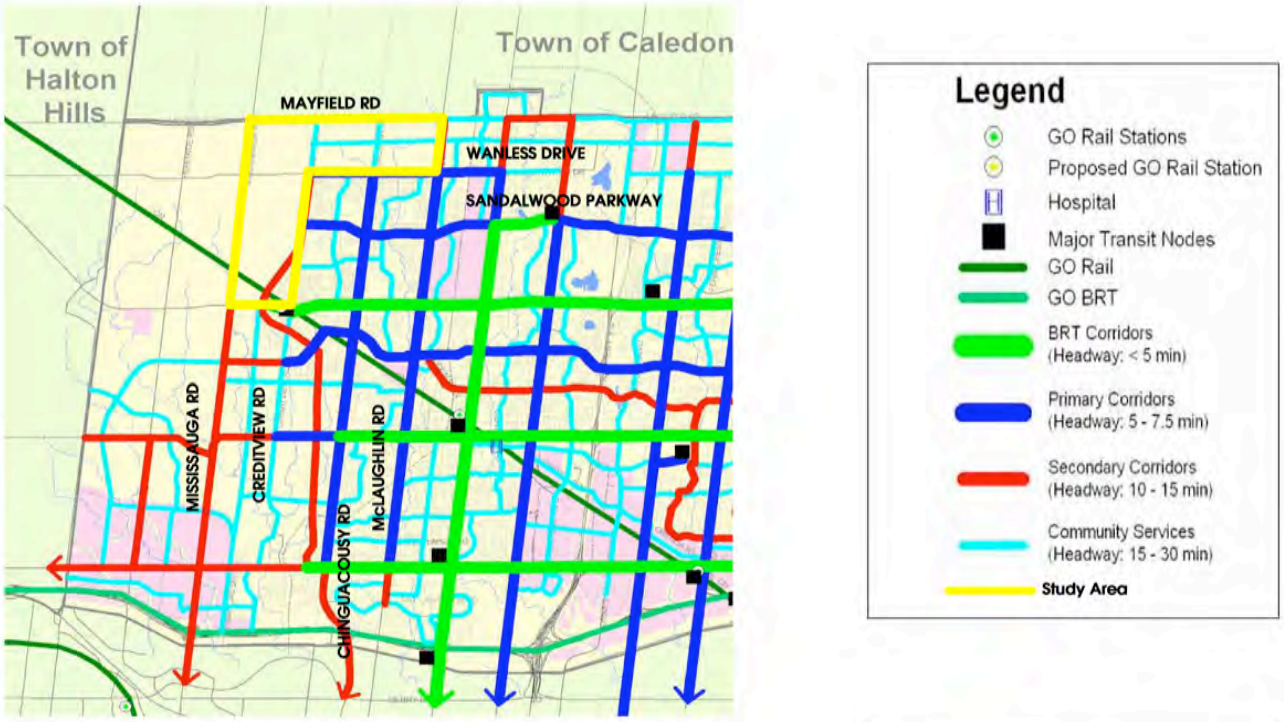




Source: Brampton Transportation and Transit Master Plan, Final Report, September 2004

LONG-TERM TRANSPORTATION NETWORK
(Recommendations from Previous Studies)

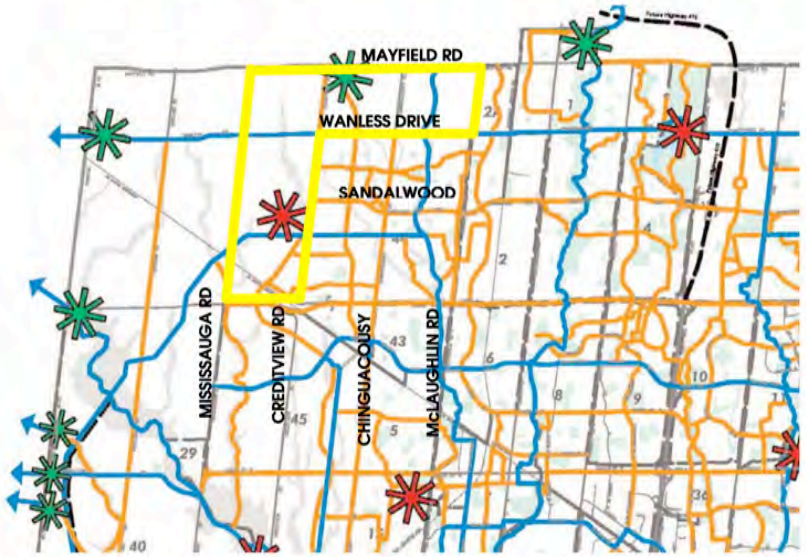
Transit

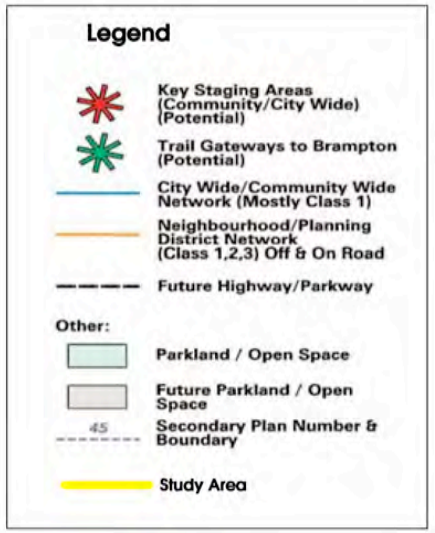


Source: Brampton Transportation and Transit Master Plan, Final Report, September 2004

LONG-TERM TRANSPORTATION NETWORK
(Recommendations from Previous Studies)

Paths





Source: City of Brampton Pathways Master Plan, June 2002

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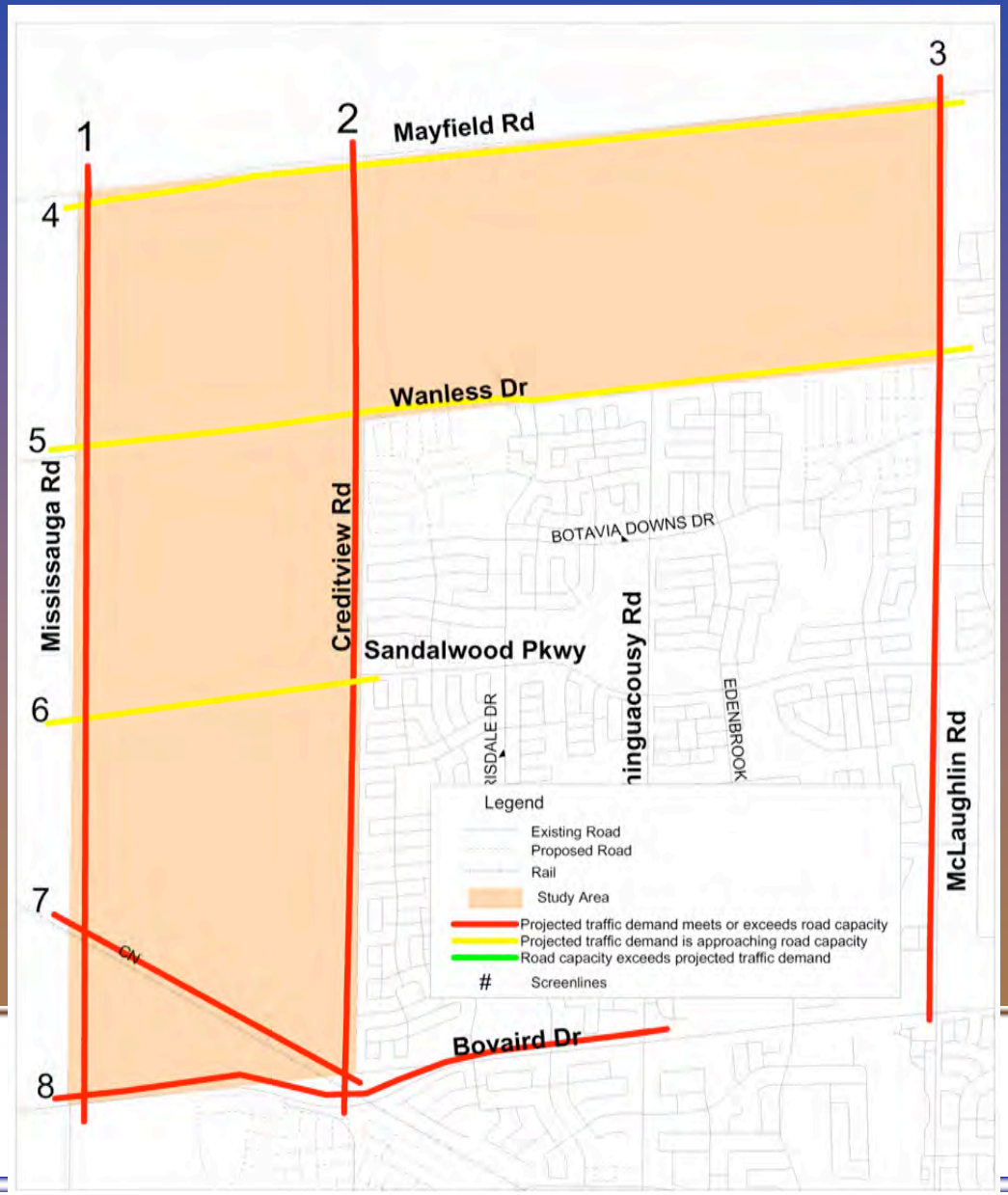
2031 SCREENLINE TRAFFIC CONDITIONS



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PRELIMINARY PROBLEM/ OPPORTUNITY STATEMENT

Brampton will continue to grow over the next 25 years, reaching a population of 680,000 people and 320,000 jobs

Mount Pleasant Community (first phase of Northwest Brampton urban expansion) is forecast to reach 40,000 people and over 3,000 jobs.

Existing transportation system will not adequately accommodate the mobility needs of future residents and workers.

- ~ levels of congestion are likely to increase;
- ~ present levels of mobility and safety may decline;
- ~ quality of life may decline;
- ~ operational flexibility of network may be compromised
- ~ costs to maintain and enhance transportation system may increase

PRELIMINARY PROBLEM/ OPPORTUNITY STATEMENT

This Class EA study is to:

1. Prepare a community-wide transportation strategy

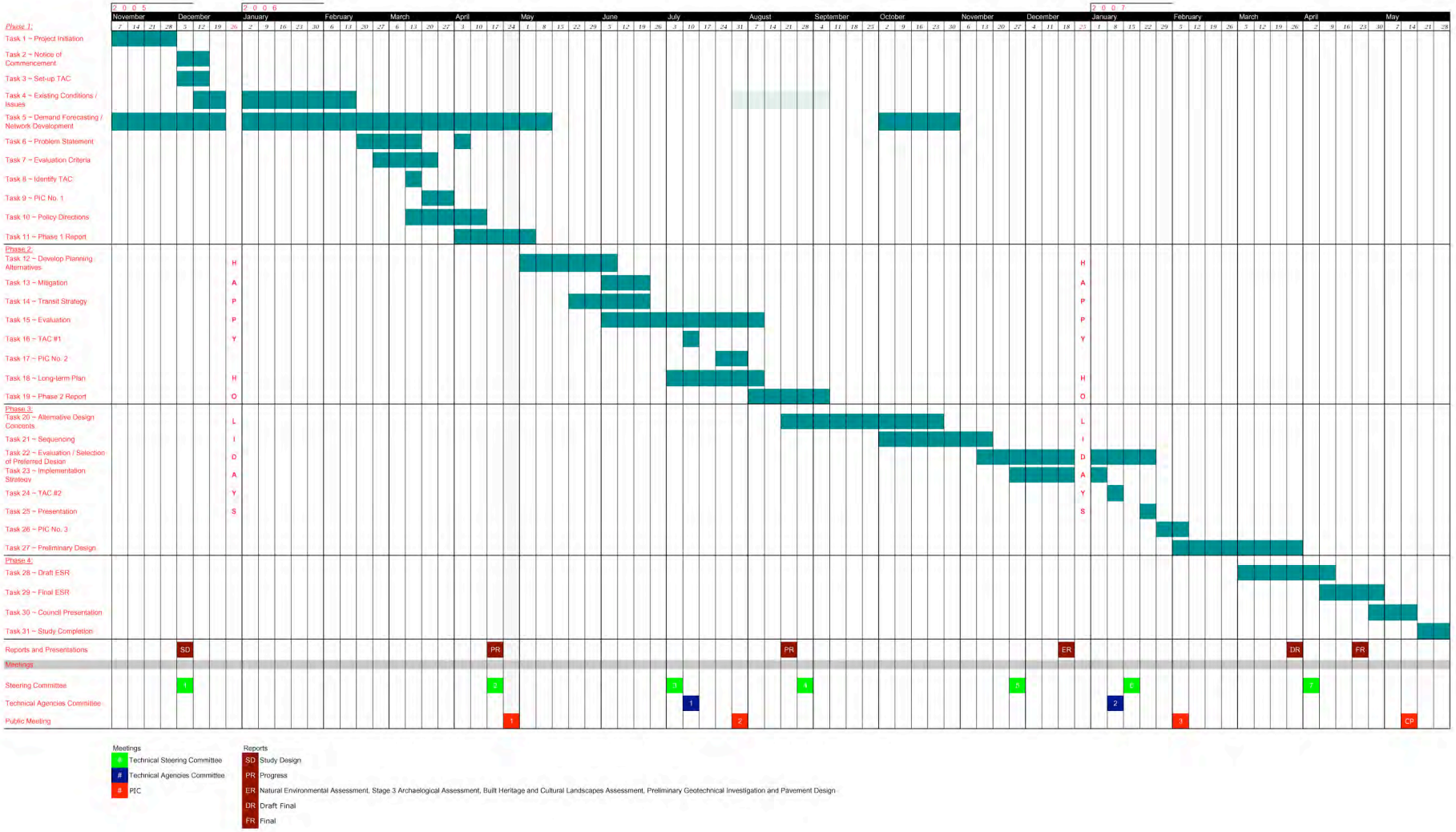
2. Determine the final location of extensions of Creditview Road and Sandalwood Parkway

3. Identify potential additional projects (road and transit)

TRANSPORTATION INTERESTS

- Future Alignment of Creditview
- Provision and design of new spine road
- Creditview/CNR crossing
- Sandalwood Parkway extension need
- Impact of Proposed GO Georgetown yard
- Future Transit service requirements
- Trails and pathways
- Approved Fletcher's Meadow Secondary Plan

STUDY SCHEDULE



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NEXT STEPS

- Refining the issues
- Refining future needs
- Assessing alternative solutions
- Comments on the evaluation of alternative solutions (PIC#2)
- Identifying a preferred solution
- Evaluating alternative design concepts
- Presenting preferred concepts (PIC#3)
- Finalizing the Transportation Strategy alignments and designs

MOUNT PLEASANT COMMUNITY
TRANSPORTATION STRATEGY AND CREDITVIEW
ROAD AND SANDALWOOD PARKWAY
TRANSPORTATION CORRIDORS CLASS
ENVIRONMENTAL ASSESSMENT STUDY

Public Meeting #1

QUESTIONS?

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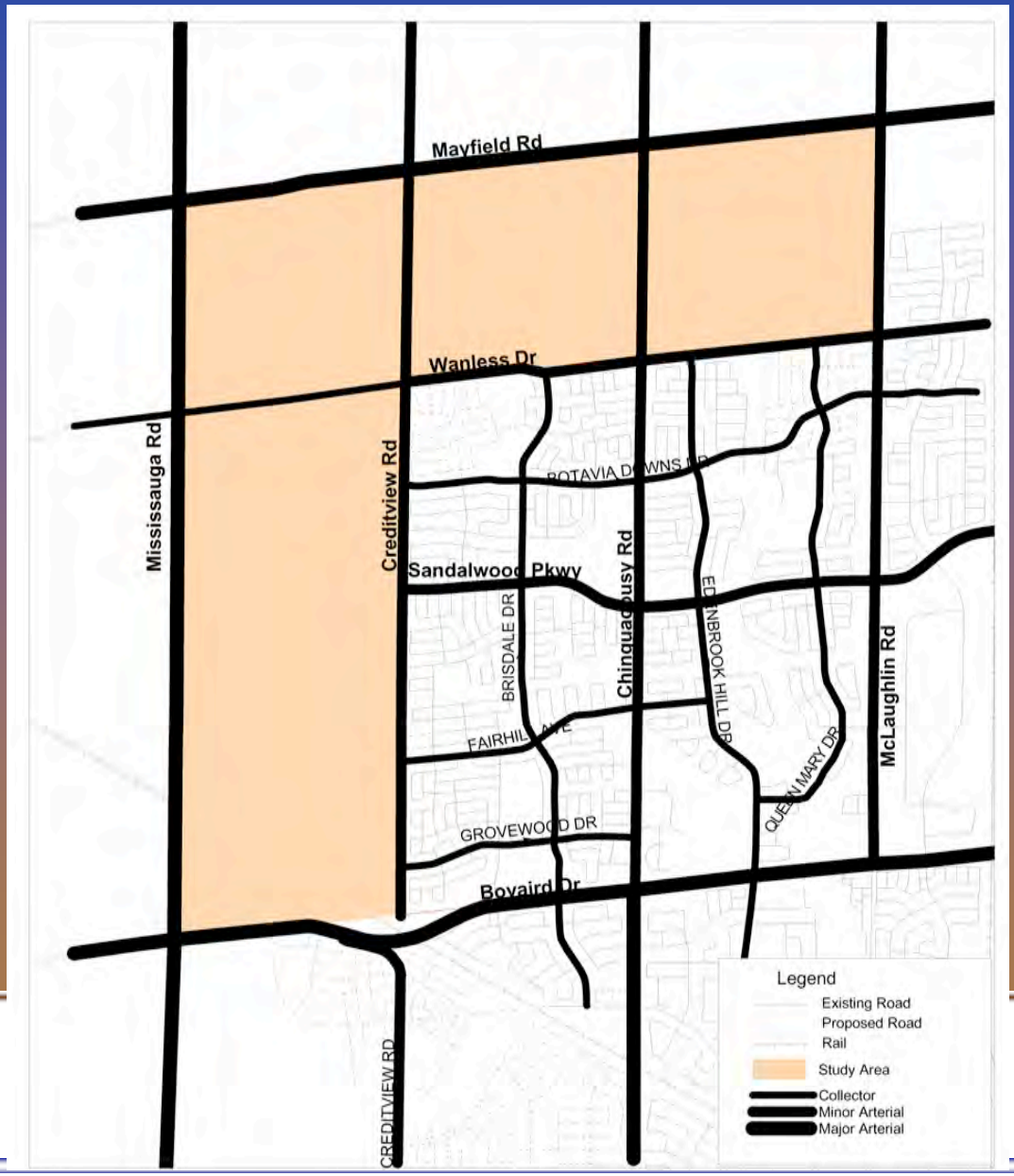
EXISTING ROADS



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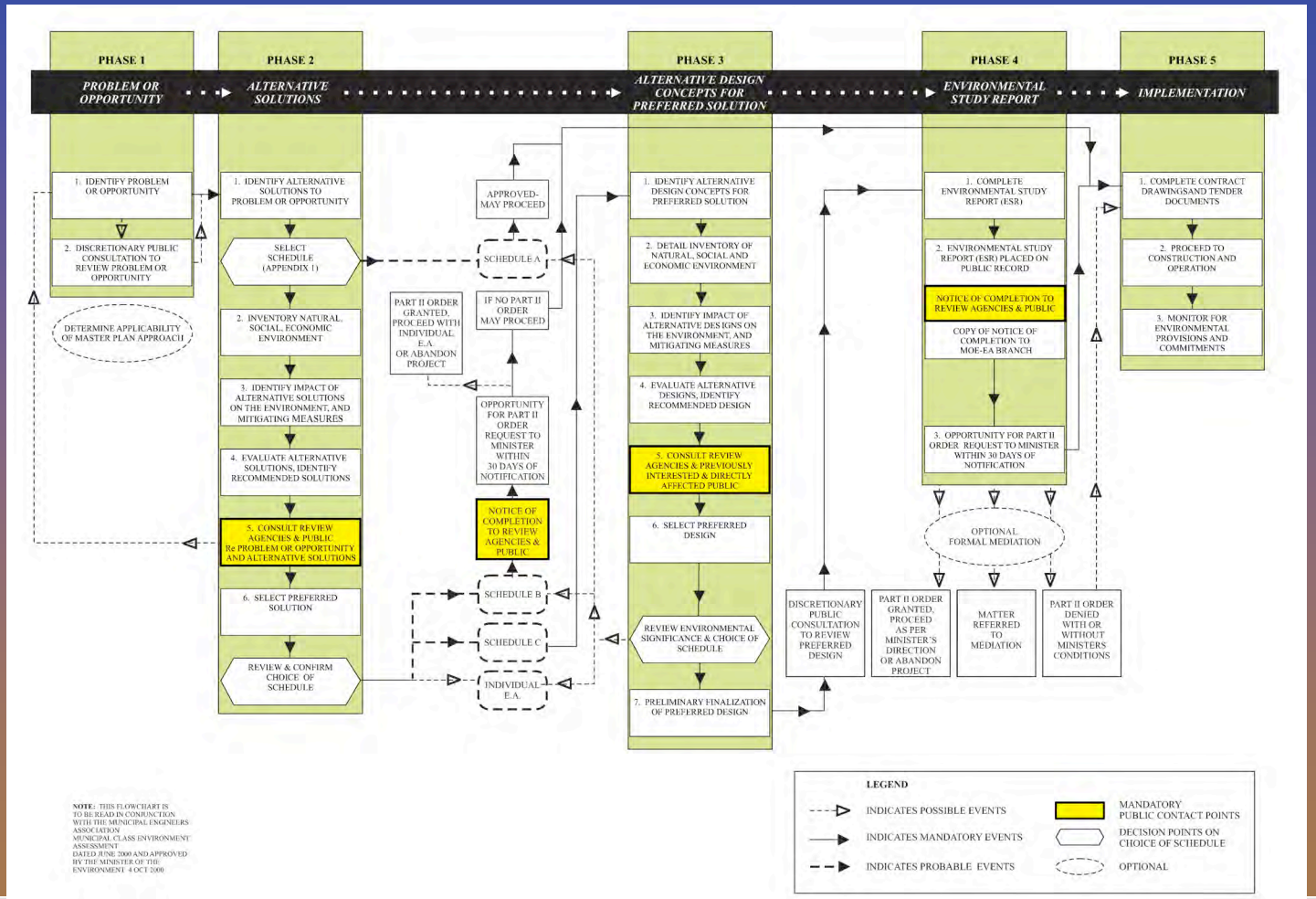
MUNICIPAL CLASS EA PLANNING AND DESIGN PROCESS



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COMMENT FORM

CITY OF BRAMPTON

Mount Pleasant Community Transportation Strategy and

Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study

PUBLIC MEETING #1

ENTRA CONSULTANTS

The City of Brampton is now undertaking the Mount Pleasant Community Transportation Strategy and is carrying out a Class Environmental Assessment Study for the proposed re-alignment of Creditview Road and extension of Sandalwood Parkway at the same time. As part of this study, the City is committed to consulting with the public by holding a series of public meetings and encouraging comments, input and feedback from the public.

Public input to this study is an important component of the study process. Will you please provide initial comments or information for the City's Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study, or identify transportation issues and opportunities that you feel that we should be addressing in this study. If you would like to have your name and organization added to our mailing list please complete this form and mail or deliver to the City of Brampton by May 12, 2006.

We are hosting this public meeting to receive your input as we begin this Study. Through this meeting, we will:

- outline the purpose and process for the study;
- highlight the previous work undertaken and key findings to date; and
- obtain your input on what you feel are the most important issues to be addressed through the study.

We have prepared this Comment Sheet to obtain your input and comments.

At this public meeting, we would like to collect these sheets or you may fax or mail it in by May 12, 2006 as noted on Page 5.

Kindly fill in the table below so we can understand your awareness of the study and help us to identify your interest in the project. Please note that the information collected will be kept on file and may be included in Study documentation, which is made available to the public. **Names and addresses will be kept confidential.**

Tell us a little about yourself (Please print)

	Check as many as apply to you.	
Are you from Brampton?	☑	Live in Brampton
	☑	Work in Brampton or business owner or operator
Are you from outside of Brampton?	☐	Live in Peel Region
	☐	Live outside of Peel Region
Nearest intersection to your residence	☐	Wanless Dr. / #10 Hwy
How did you become interested in this study?	☑	Newspaper Ad
	☐	New Development
	☐	Neighbours
	☐	Other sources:
Are you interested in development...?	☐	Current development interests
	☐	Future development interests
	☑	No interest in developing property
Do you have a different interest in the area?	☑	Preservation of open space

1. KEY STUDY INTERESTS:

A review of previously completed transportation studies for the City of Brampton and an assessment of existing and future roadway operations were used to identify transportation-related interests to be addressed in the Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study. Several of the interest items are related to providing transportation infrastructure in support of future development.

The presentation material provides a brief description of each of the key study interests. Please identify any additional opportunities, constraints and considerations you feel should be addressed in this study and provide an indication of the importance you place on the study interests.

Key Study Interests	Not Important	Somewhat important	Very Important
Future Alignment of Creditview Road			✓
Provision and Design of New Spine Road — Need a link from Creditview to the GO station, but that puts a higher priority on the redevelopment of Creditview		✓	
Rail/Road Crossing Treatment			✓
Need for Sandalwood Parkway Extension — needed to alleviate the high volume of commuter E-W traffic on Wanless Dr.			✓
Impact of Proposed GO Georgetown Yard — minimal impact? – need more information		✓	
Future Transit Service Requirements		✓	
Trails and Pathways — Incorporate bicycle pathways		✓	
Approved Fletcher's Meadow Secondary Plan ?			

Key Study Interests	Not Important	Somewhat important	Very Important
OTHER (not listed above) Safety — problems for pedestrians and bicyclists on Wanless DRIVE — no shoulder to speak of. Need bicycle pathway(s) along Wanless commuter traffic during rush hours on Wanless is heavy, and speed is a problem. We do not see a need for E-W roads between Wanless & Mayfield. The extension of Sandalwood would alleviate much of the commuter flow E-W			✓

2. EVALUATION CRITERIA:

The preferred Creditview Road and Sandalwood Parkway corridors will be determined by comparing a series of alternatives on the basis of several evaluation criteria. The weighting given to each evaluation criteria has an effect on the selection of the preferred alternative. To indicate the importance that you would place on the criteria, **please indicate the importance that you believe each group of criteria should represent in the evaluation.**

Evaluation Criteria	Not Important	Somewhat important	Very Important
TRANSPORTATION (includes issues such as accommodation of future demands, delay to drivers, travel safety)			✓ infrastructure must be in place b/f any urban dev.
NATURAL ENVIRONMENT (includes issues such as impacts on wetlands, marsh areas, woodlots, wildlife)			✓ very concerned about preservation of woodlots N. of Wanless
SOCIAL ENVIRONMENT (includes issues such as noise, property impacts, community planning issues)		✓	
ECONOMIC ENVIRONMENT (includes issues such as future development potential, accessibility to commercial uses)	✓		
CONSTRUCTION COST (capital cost to build roads) Do it right the first time.	✓		
OTHER (not listed above) Railway crossing on Mississauga Rd needs to be changed from a level crossing - bottleneck			✓

3. ANY OTHER COMMENTS?:

Please add any additional suggestions or comments you may have:

We have a major concern about sequencing - the watercourses must be dealt with as an overall drainage plan before any other physical development.

Name: JACK & JEAN ANDERSON
Address: 728 WANLESS DRIVE
Postal Code L7A 0A9
Phone: 905-846-0646
E-mail: janderson@netscape.ca

Thank you for your comments. If you would like to have your name or organization placed on our mailing list for future notifications, please complete this form and mail or fax to:

City of Brampton City Hall
2 Wellington Square
Brampton, Ontario L6Y 4R2 or
Attention: Mr. Kant Chawla, Policy Planner, Planning, Design and Development
Fax: 905-874-2099

All comments will be reviewed. Comments received by May 12, 2006 will be included in this phase of the study.

COMMENT FORM

CITY OF BRAMPTON

Mount Pleasant Community Transportation Strategy and

Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study

PUBLIC MEETING #1

The City of Brampton is now undertaking the Mount Pleasant Community Transportation Strategy and is carrying out a Class Environmental Assessment Study for the proposed re-alignment of Creditview Road and extension of Sandalwood Parkway at the same time. As part of this study, the City is committed to consulting with the public by holding a series of public meetings and encouraging comments, input and feedback from the public.

Public input to this study is an important component of the study process. Will you please provide initial comments or information for the City's Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study, or identify transportation issues and opportunities that you feel that we should be addressing in this study. If you would like to have your name and organization added to our mailing list please complete this form and mail or deliver to the City of Brampton by May 12, 2006.

We are hosting this public meeting to receive your input as we begin this Study. Through this meeting, we will:

- outline the purpose and process for the study;
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We have prepared this Comment Sheet to obtain your input and comments.

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Tell us a little about yourself (Please print)

	Check as many as apply to you.	
Are you from Brampton?	☑	Live in Brampton
	☑	Work in Brampton or business owner or operator
Are you from outside of Brampton?	☐	Live in Peel Region
	☐	Live outside of Peel Region
Nearest intersection to your residence	☐	Sandalwood + Van Kirk
How did you become interested in this study?	☑	Newspaper Ad
	☐	New Development
	☐	Neighbours
	☐	Other sources:
Are you interested in development...?	☑	Current development interests
	☑	Future development interests
	☐	No interest in developing property
Do you have a different interest in the area?	☐	_____

1. KEY STUDY INTERESTS:

A review of previously completed transportation studies for the City of Brampton and an assessment of existing and future roadway operations were used to identify transportation-related interests to be addressed in the Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study. Several of the interest items are related to providing transportation infrastructure in support of future development.

The presentation material provides a brief description of each of the key study interests. Please identify any additional opportunities, constraints and considerations you feel should be addressed in this study and provide an indication of the importance you place on the study interests.

Key Study Interests	Not Important	Somewhat important	Very Important
Future Alignment of Creditview Road			✓
Provision and Design of New Spine Road		✓	
Rail/Road Crossing Treatment			✓
Need for Sandalwood Parkway Extension		✓	
Impact of Proposed GO Georgetown Yard		✓	
Future Transit Service Requirements			✓
Trails and Pathways		✓	
Approved Fletcher's Meadow Secondary Plan		✓	

Key Study Interests	Not Important	Somewhat important	Very Important
OTHER (not listed above)_____			
_____			
_____			
_____			
_____			

2. EVALUATION CRITERIA:

The preferred Creditview Road and Sandalwood Parkway corridors will be determined by comparing a series of alternatives on the basis of several evaluation criteria. The weighting given to each evaluation criteria has an effect on the selection of the preferred alternative. To indicate the importance that you would place on the criteria, **please indicate the importance that you believe each group of criteria should represent in the evaluation.**

Evaluation Criteria	Not Important	Somewhat important	Very Important
TRANSPORTATION (includes issues such as accommodation of future demands, delay to drivers, travel safety)			✓
NATURAL ENVIRONMENT (includes issues such as impacts on wetlands, marsh areas, woodlots, wildlife)		✓	
SOCIAL ENVIRONMENT (includes issues such as noise, property impacts, community planning issues)			✓
ECONOMIC ENVIRONMENT (includes issues such as future development potential. accessibility to commercial uses)		✓	
CONSTRUCTION COST (capital cost to build roads)		✓	
OTHER (not listed above)_____			

3. ANY OTHER COMMENTS?:

Please add any additional suggestions or comments you may have:

Name:

Address:

Postal Code

Phone:

E-mail:

Thank you for your comments. If you would like to have your name or organization placed on our mailing list for future notifications, please complete this form and mail or fax to:

City of Brampton City Hall
2 Wellington Square
Brampton, Ontario L6Y 4R2 or
Attention: Mr. Kant Chawla, Policy Planner, Planning, Design and Development
Fax: 905-874-2099

All comments will be reviewed. Comments received by May 12, 2006 will be included in this phase of the study.

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ENTRA CONSULTANTS

CITY OF BRAMPTON

Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study

PUBLIC MEETING #1

April 25, 2006

ATTENDANCE REGISTER

NAME (please print)	ADDRESS & POSTAL CODE (please print)	E-MAIL
Allen Thompson	12722 Heritage Rd Caledon	allen.thompson@caledon.ca
ROBERT McBRIDE	BA CONSULTING GROUP. 300-45 ST. CLAIR AVE. W. TORONTO.	
M. Sharp Peel Regional Police Association	10675 Mississauga Rd Brampton L7A-0B6	msharp@peelpa.on.ca
Mr. & Mrs. W. FRIESEN	707 Wanless Dr. Brampt. L7A 0B4	
Willie Wade	1189 WANLESS DR BRAMPTON	
Jack + Jean Anderson	728 Wanless Dr.	LIAM_MARY@HOTMAIL jandersn@netscape.ca
Sabbir Saiyid	Region of Peel ~~Region~~	ssaiyids@peelregion.ca
Paul Aldunate	City of Brampton	Paul.Aldunate@brampton.ca
BRIAN WILSON	10799 CREDITVIEW RD L7A 0G6	SLWILSON@ROGERS.COM
Malik Majeed	City of Brampton	malik.majeed@brampton.ca
Derrick Andreychuk	Mattamy	derrick.andreychuk@mattamycorp.com
BILL WINTERHALT	CITY OF BRAMPTON	bill.winterhalt@brampton.ca
Keith & Catherine Monkman	Brampton	

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Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study

PUBLIC MEETING #1

April 25, 2006

ATTENDANCE REGISTER

NAME (please print)	ADDRESS & POSTAL CODE (please print)	E-MAIL
Bruce Reed	10378 Heritage Rd. Brampton	
Boni Korah	City of Brampton.	
Ohi Izirein	CITY OF BRAMPTON	ohi.izirein@brampton.ca
MARY JEAN TAIT	11351 CREDITVIEW RD	BRAMPTON
Ernst Braendli	91 Belmont Dr.	Brampton L6T 2K5
HAROLD VANLOOL	1760 MAYFIELD RD	CALEDON L7C 0Y8
Barb O'Kane	307 VanKirk DR	L7A 1M3
Michael Gagnon	21 Queen St. S. E. Ste 500	(905) 796-5790

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Appendix D

Public Information Centre #2 Material

Excellence in
Transportation Planning

CITY OF BRAMPTON

Mount Pleasant Community Transportation Strategy

and

Creditview Road and Sandalwood Parkway

Transportation Corridors

Class Environmental Assessment Study

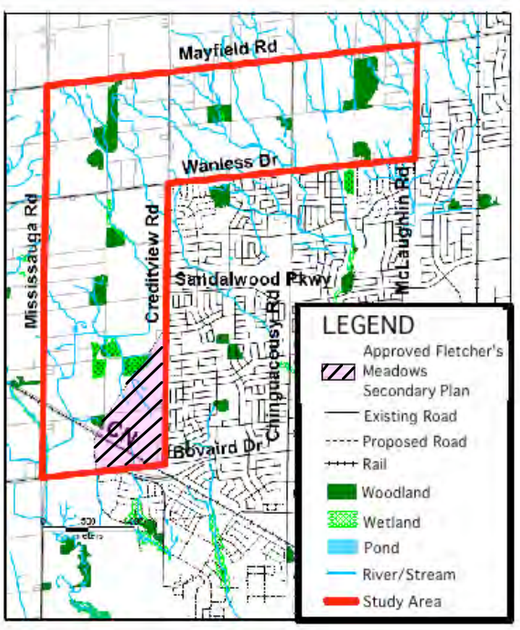
PUBLIC INFORMATION CENTRE #2

The City of Brampton is undertaking the Mount Pleasant Community Transportation Strategy and is carrying out a Class Environmental Assessment Study for the proposed re-alignment of Creditview Road and extension of Sandalwood Parkway at the same time. These studies will address the transportation requirements for the first phase of expansion of the urban boundary in North West Brampton, considering a wide range of options to satisfy future travel demands, and establish the need for future transportation improvements. The City is focused on innovative, pedestrian-friendly and transit-oriented community road and transit projects needed to support the proposed new community.

Creditview and Sandalwood Corridors

The proposed Creditview Road re-alignment and Sandalwood Parkway extension in the Mount Pleasant community are subject to the requirements of the Municipal Class Environmental Assessment (2000) process. These projects are being planned using the four-phase Class Environmental Assessment process approved by the Ministry of the Environment. The EA study will assess environmental, social, economic and technical criteria and will address the interests of area residents, stakeholders and local businesses in selecting the preferred alternative. The City has retained the services of ENTRA Consultants to lead these studies.

The Mount Pleasant Community Study Area is shown on the adjacent Key Plan



Mount Pleasant Community Study Area

The second of three public information centres will be held:

Date: **Wednesday, May 30, 2007**
Place: **Peel Region Police Association Hall (10675 Mississauga Road, Brampton, ON L7A 0B6)**
Time: **6:00pm – 8: 30 pm** **Open House**

This second Public Information Centre will present the transportation planning alternatives, the criteria used to evaluate the alternatives, the assessment findings and the preliminary preferred alternative.

Your involvement is important

The City of Brampton appreciates your input and ideas. We encourage you to take this opportunity to make comments, identify issues and provide additional information:

- Come to a Public Information Centre
- Submit your written comments to the City
- Add your name to our mailing list

Information requests or questions may be directed to the individuals identified below:

Ms. Janice Given, MCIP, RPP
Manager of Growth Management, Special Policy
City of Brampton
2 Wellington Street West
Brampton, Ontario, L6Y 4R2
Tel: 905-874-3459
Fax: 905-874-2099
E-mail: janice.given@brampton.ca

Ms. Angela Iannuzziello, P. Eng.
President
ENTRA Consultants
2800 Fourteenth Avenue, Suite 210
Markham, Ontario, L3R 0E4
Tel: 905-946-8900
Fax: 905-946-8966
E-mail: asi@entraconsultants.com

CITY OF BRAMPTON

Mount Pleasant Community Transportation Strategy

and

Creditview Road and Sandalwood Parkway Transportation Corridors

Class Environmental Assessment Study

Information Package

For

Public Meeting #2

May 30, 2007

CITY OF BRAMPTON

Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study

Study Context

The City of Brampton is undertaking the Mount Pleasant Community Transportation Strategy and is carrying out a Class Environmental Assessment Study for the proposed re-alignment of Creditview Road and extension of Sandalwood Parkway at the same time. These studies are addressing the transportation requirements for the first phase of expansion of the urban boundary in North West Brampton, considering a wide range of options to satisfy future travel demands, and establishing the need for future transportation improvements.

Study Area

The Mount Pleasant Community Study Area is shown on the Key Plan at right.

Mount Pleasant Community Study Area

Study Purpose

The Mount Pleasant Community is envisioned as an innovative pedestrian-friendly and transit-oriented community, where both the road network and community-friendly transit services are planned and implemented in conjunction with one another.

The Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study will provide a clear and defensible strategy for the provision of roads and transit in support of the planned community and the mobility needs of future residents and workers. The Study purpose is twofold and will address:

- transportation requirements for the first phase of urban expansion in North West Brampton (i.e., Mount Pleasant);
- Creditview Road and Sandalwood Parkway alignments in the Mount Pleasant Community in accordance with the requirements of Phases 1 through 4 of the Municipal Class Environmental Assessment (2000).

Study Process

The proposed Creditview Road re-alignment and Sandalwood Parkway extension in the Mount Pleasant community are subject to the requirements of the Municipal Class

Environmental Assessment (2000) process. These projects are being planned using the four-phase Class Environmental Assessment process approved by the Ministry of the Environment. The EA Study will assess environmental, social, economic and technical criteria and will address the interests of area residents, stakeholders and local businesses in selecting the preferred projects.

The Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study is one of the initial studies to support a Secondary Plan for the Mount Pleasant Community. Other component studies comprise Land Use and Urban Design and Subwatershed Planning Studies. The Mount Pleasant Transportation Study and the other two component studies are being completed to establish the preliminary land use concepts, environmental protection and infrastructure requirements, including road and transit facility needs, for incorporation into a secondary plan for the Mount Pleasant Community.

The following study activities have been completed:

- review of existing transportation-related documents and policies of the City, Region and Province;
- initial review of existing design standards, planning guidelines and transit objectives and future potential opportunities;
- inventory of existing roads, transit and transportation conditions;
- initial identification of significant natural features in North West Brampton;
- initial assessment of future needs; and
- refinement of study interests, including opportunities, constraints and considerations.

Public Consultation

Public consultation is an essential component of the preparation of the Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study. Public consultation is planned throughout the study to receive input from the public and agencies on the development of the transportation network.

Public Meeting #1 on April 25, 2006 provided an overview of the Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study objectives and process, and allowed the public the opportunity to review and provide input on the proposed study process, the existing environmental and transportation situation in and adjacent the Study Area, including key features, roads, transit and travel characteristics, transportation interests that have been identified by the study team (to-date) and opportunities, constraints and considerations in dealing with each of the identified study interests, and a Preliminary Problem/Opportunity Statement.

This second Public Meeting will present:

- the Problem/Opportunity Statement;
- transportation planning alternatives developed in response to the Problem/Opportunity Statement;
- the screening criteria used to evaluate the transportation planning alternatives;
- the evaluation of the transportation planning alternatives; and
- the preliminary preferred alternative.

Study Issues

The review of previously completed transportation studies for the City of Brampton, and the assessment of existing environmental features and existing and future roadway operations were used to identify transportation related interests to be addressed in the Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study:

- future alignment of Creditview Road
- provision and design of Mid-block Road
- rail/road crossing treatment
- need for Sandalwood Parkway extension
- impact of proposed GO train storage/layover facility
- future transit service requirements
- trails and pathways
- approved Fletcher's Meadow Secondary Plan

Problem/Opportunity Statement

The City of Brampton will continue to grow over the next 25 years, reaching a population of approximately 680,000 people and employment of more than 320,000 jobs. To this end, the City has defined an urban expansion area to accommodate future growth in a phased manner. As the first phase of future urban expansion in North West Brampton, the Mount Pleasant Community is forecast to reach a population of more than 40,000 people and employment of over 3,000.

The existing transportation system of roads, transit, pedestrian linkages, and pathways will not adequately accommodate the mobility needs of future residents and workers. With planned urban growth in the absence of appropriate road and transit improvements, levels of congestion on area roads are likely to increase, present levels of mobility and safety may decline, residents may experience negative social impacts and declining quality of life, future network operational flexibility may be compromised, and costs attributable to maintaining and enhancing the transportation system may increase.

In accordance with the Municipal Class Environmental Assessment, the City of Brampton, in consultation with the Steering Committee, developed the following problem definition.

The City of Brampton has initiated this Class Environmental Assessment Study to:

1. Prepare a community-wide transportation strategy for the Mount Pleasant Community in accordance with the policies outlined in the Brampton Official Plan. This study will result in the completion of the road and transit strategy and the identification of proposed collector and arterial roads in compliance with Phase 2 of the Class EA.
2. Determine the final location of extensions of Creditview Road and Sandalwood Parkway in the Mount Pleasant Community in compliance with Phase 4 (completion) of the Class EA.
3. Identify potential additional projects (road and transit) in Brampton, beyond the boundaries of the Study Area, that may be required to accommodate development of the Mount Pleasant Community.

The objectives of the City of Brampton in completing the Study are to:

- Protect the environment through the wise management of resources.
- Recognize technical criteria, environmental constraints and opportunities, and the interests of stakeholder and interest groups, local businesses and area residents in selecting a preferred group of servicing projects.

- Identify and protect, through the Official Plan, the proposed routes for new or extended transportation facilities so that local landowners and developers can proceed with their plans knowing the location of transportation facilities in the area.
- Identify a group of transportation projects that will be required for construction at stages over the long-term (i.e., 2031).
- Document the study process in compliance with all relevant phases of the Class Environmental Assessment process and exceed the requirements of the Class Environmental Assessment for Municipal Projects.

Innovative, Pedestrian-friendly and Transit-supportive Community

The Terms of Reference for this Study have the stated purpose of outlining the transportation and transit requirements for the Mount Pleasant Community, with particular attention to creating an innovative, pedestrian-friendly and transit-oriented community.

For the purpose of this study, the study Steering Committee has defined innovative, pedestrian-friendly and transit-oriented community as:

- transportation system meets the needs of all individuals in the community (including children, students, commuters, seniors and persons with disabilities);
- neighbourhoods are designed so that the majority of residents are within a comfortable walk of everyday needs (shopping, schools and so forth);
- a mix of land uses are located in a node around the Mount Pleasant GO station and along a Mid-block corridor (i.e., transit spine) at densities and in a form that support and can be supported by frequent transit;
- there is a connected system of pedestrian facilities and recreational pathways that support walking and cycling as viable alternatives for travel within the community and between adjacent communities;
- roadways are continuous and connected within the community and to adjacent communities, and designed to encourage and support safe and convenient travel by alternative modes (i.e., walking, cycling and transit);
- transit is introduced into the community early, as people move in, and is an attractive, convenient and viable travel alternative for all residents and workers in the community; and
- frequent transit service comprises a hierarchy of Primary and Secondary Transit Corridors and Community Transit, and inter-regional service connections.

Community Design Principles

The Community Design Principles established by the Study Steering Committee for use in the Mount Pleasant Community lead to the identification of design requirements for key transportation infrastructure in Mount Pleasant.

Sandalwood Parkway

As a Minor Arterial Road, it will have a basic 36.0m right-of-way and will generally conform to the City's typical design standards.

Sandalwood Parkway is expected to:

- provide a direct and continuous road connection between Creditview Road and Mississauga Road;
- define the north edge of the City Park;
- serve a key activity node at the intersection with north-south Mid-block Road; and
- have a high level of transit service.

Creditview Road

In the Brampton Official Plan, Creditview Road is designated as a Minor Arterial Road and as the extension of James Potter (a Minor Arterial Road), north of Bovaird Drive. This results in a basic right-of-way of 36.0m.

The Study Steering Committee has identified the opportunity to use the James Potter design standards for horizontal and vertical alignment for Creditview Road, if necessary, where reduced design speeds are considered to be appropriate.

The use of these standards and the resulting alignment for Creditview Road is reflected in the Community Design Principles for the Mount Pleasant Community and the recommended preliminary preferred alternative.

Creditview Road is expected to:

- define one of the edges of (wraps around) the Urban Core around the GO station;
- carry busier through traffic away from the centre of the community;
- provide City-wide park users direct access to the park, avoiding local traffic;
- as a primary road within the Urban Core, Creditview Road will have an 'urban' form. This is envisioned to include: medium- to high-density residential uses, commercial and mixed-use, minimal building setbacks, enhanced streetscape treatment (e.g., widened treed boulevards, possibly planted central median, decorative pedestrian sidewalk, pedestrian-scaled street lights and so forth); and
- have a high level of transit service.

CNR Grade Separation

With respect to future Creditview Road, it is considered critical that it crosses the existing CNR line as an underpass. An underpass is considered more desirable for several reasons:

- an overpass typically requires greater vertical separation, resulting in longer grades which could negatively impact driver sightlines, intersection opportunities and access to the Mount Pleasant GO Station;
- as a community defining landmark an overpass is not desirable and would be a major visual obstruction with limited to restricted development around the crossroads;
- an underpass does not create a visual obstruction within the community, particularly in such a key location that will become one of the primary community gateways;
- an underpass can be more effectively designed and landscaped to create an attractive community threshold;
- an underpass provides better pedestrian access and environment; and
- an underpass is more efficient in land use and allows development closer to the crossing and adjacent intersections, allows buildings to form part of the underpass.

The CNR grade separation feasibility and detailed design is being completed as an initial stage of the work in Phase 3 of the EA.

Mid-block Road

From an urban design perspective, the Mount Pleasant Community is envisioned as having a north-south (generally) mid-block pedestrian-friendly road. This road is expected to:

- be the main community road, combining transit and local traffic functions, and be supported in its focal role by the adjacent built form and land uses;
- be somewhat mid-block between Mississauga Road and Creditview Road, allowing it to maintain a 'community' character by appropriately allocating traffic towards the edges of the community;

- necessarily manifest into a variety of characters as it moves northward away from the Urban Core which is such a defining element of the community;
- be marked by a pattern of land uses, built form and open space features along its extent;
- hug a number of natural heritage features that form part of the 'Green Shoreline' characterizing the Mount Pleasant Community;
- have a pedestrian scale by minimizing the road cross-section, minimizing the extent of roadway pavement, and creating a strong relationship (both visual and physical) between the tow sides of the road;
- promote transit supportive land use to maximize transit ridership; and
- have the highest level of transit service in the community.

Transportation Planning Alternatives

Transportation planning alternatives were developed in response to the study interests that were identified, and the Problem/Opportunity Statement presented at Public Meeting #1.

Do Nothing Alternative

This transportation planning alternative comprises doing nothing to the existing arterial road network beyond currently planned improvements and normal maintenance.

The Do Nothing alternative represents the "status quo" and is identified as a measure of baseline conditions upon which the other transportation planning solutions can be evaluated and compared. By definition, the Do Nothing alternative does not meet the City's commitment to an innovative, pedestrian-friendly and transit-supportive Mount Pleasant community.

Alternative 1

This transportation planning alternative comprises the following road improvements and additions:

- Creditview Road as a Minor Arterial Road (36.0m ROW) with a south re-alignment (Bovaird Drive – Mayfield Road) and widened to 4 lanes;
- 4-lane extension of Sandalwood Parkway as a Minor Arterial Road (36.0m ROW) from Creditview Road to Mississauga Road;
- a north-south collector road (26.0m ROW) (Creditview Road – Mayfield Road); and
- a grid network of collector roads in the Mount Pleasant Community; and
- required additional (beyond programmed improvements) arterial road improvements in the Study Area.

Enhanced local transit is extended to the Mount Pleasant Community. The transit network connects to the city-wide network as follows:

- a Secondary Transit Corridor along Creditview Road with 10- to 15-minute service frequency;
- a Secondary Transit Corridor on the north-south collector road with 10- to 15-minute service frequency that connects to and continues on an east-west collector road through the Mount Pleasant Community;
- Secondary Transit Corridor service on Sandalwood Parkway and Wanless Drive, between Creditview Road and the north-south collector road; and
- a network of Community Transit with 15- to 30-minute service frequency operates on the collector road network throughout the Mount Pleasant Community.

The community structure reflects Community Design Principles that include Transit Oriented Development (TOD) in an Urban Core around the Mount Pleasant GO station, including the majority of the lands in the Study Area located south of the CNR and Creditview re-alignment, and extending north along the major roadway corridor through the Mount Pleasant Community.

Alternative 2

This transportation planning alternative comprises the same road improvements and additions as Alternative 1.

Enhanced local transit is extended to the Mount Pleasant Community. The transit network connects to the city-wide network as follows:

- a Secondary Transit Corridor along Creditview Road with 10- to 15-minute service frequency;
- a Primary Transit Corridor on the north-south collector road with 5- to 7.5-minute service frequency that connects to and continues on an east-west collector road through the Mount Pleasant Community;
- Primary Transit Corridor service on Sandalwood Parkway and Wanless Drive, between Creditview Road and the north-south collector road; and
- a network of Community Transit with 15- to 30-minute service frequency operates on the collector road network throughout the Mount Pleasant Community.

The community structure reflects Community Design Principles that include Transit Oriented Development (TOD) in an Urban Core around the Mount Pleasant GO Station, including the majority of the lands in the Study Area located south of the CNR and Creditview re-alignment, and extending north along the major roadway corridor through the Mount Pleasant Community.

Alternative 3

This transportation planning alternative comprises the following road improvements and additions:

- a mid-block Minor Arterial Road (36.0m ROW) from Bovaird Drive to Mayfield Road with a re-alignment north of Wanless Drive to connect to Mayfield Road at existing Creditview Road;
- a 4-lane extension of Sandalwood Parkway as a Minor Arterial Road (36.0m ROW) from Creditview Road to Mississauga Road;
- Creditview Road is maintained in its existing alignment as a 2-lane collector road, with connections to the mid-block Arterial Road at the north and south ends of the community
- a grid network of collector roads in the Mount Pleasant Community; and
- required additional (beyond programmed improvements) arterial road improvements in the Study Area.

Enhanced local transit is extended to the Mount Pleasant Community. The transit network connects to the city-wide network as follows:

- a Secondary Transit Corridor along Creditview Road with 10- to 15-minute service frequency;
- a Secondary Transit Corridor on the mid-block Minor Arterial Road with 10- to 15-minute service frequency that connects to and continues on an east-west collector road through the Mount Pleasant Community;
- Secondary Transit Corridor service on Sandalwood Parkway and Wanless Drive, between Creditview Road and the mid-block Minor Arterial Road; and

- a network of Community Transit with 15- to 30-minute service frequency operates on the collector road network throughout the Mount Pleasant Community.

The community structure reflects Community Design Principles that include TOD in an Urban Core around the Mount Pleasant GO Station, including the majority of the lands in the Study Area located south of the CNR and Creditview re-alignment, and extending north along the major roadway corridor through the Mount Pleasant Community.

Alternative 4

This transportation planning alternative comprises the same road improvements and additions as Alternative 3.

Enhanced local transit is extended to the Mount Pleasant Community. The transit network connects the city-wide network and is as follows:

- a Secondary Transit Corridor along Creditview Road with 10- to 15-minute service frequency;
- a Primary Transit Corridor on the mid-block Minor Arterial Road with 5- to 7.5-minute service frequency that connects to and continues on an east-west collector road through the Mount Pleasant Community;
- Primary Transit Corridor service on Sandalwood Parkway and Wanless Drive, between Creditview Road and the mid-block Minor Arterial Road; and
- a network of Community Transit with 15- to 30-minute service frequency operates on the collector road network throughout the Mount Pleasant Community.

The community structure reflects Community Design Principles that include TOD in an Urban Core around the Mount Pleasant GO Station, including the majority of the lands in the Study Area located south of the CNR and Creditview re-alignment, and extending north along the major roadway corridor through the Mount Pleasant Community.

Screening Criteria

Screening criteria were used for evaluating the transportation planning alternatives and selecting an alternative (or alternatives) for further, more detailed evaluation.

The criteria reflect the study purpose articulated by the City for the Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study, the expectations that Mount Pleasant will be an innovative, pedestrian-friendly and transit-supportive community, the study interests, and the transportation, land use and environmental (natural, social and cultural) expectations identified at Public Meeting #1.

Transportation

- Provides for the safe and effective movement of people and goods
- Supports Community Design Principles by providing for continuous and connected roads that encourage and support convenient travel by all modes
- Meets the commuting needs of all Mount Pleasant residents
- Supports attractive, convenient and viable local transit within a comfortable walking distance of the majority of residents, while supporting strong connections to future inter-regional transit
- Reflects goals for transportation demand management and the provision of alternative modes of travel, including High-Occupancy Vehicles (HOV), bicycles and pedestrians

- Promotes integration of travel modes and transit services
- Meets forecasted future travel demands at acceptable levels of service
- Supports Community Design Principles by promoting the diversion of through traffic away from the planned north-south TOD corridor that is the centre of the community

Socio-Economic Environment

- Supports Community Design Principles by supporting community structure that comprises a mix of land uses in nodes and corridors at densities and in a form that supports and can be supported by frequent transit, walking and cycling
- Supports Community Design Principles by promoting a Core Area/Precinct with clearly defined edges
- Supports Community Design Principles by supporting community design with a pedestrian-scale and transit-supportive (generally) mid-block corridor of mixed uses and intensification
- Respects cultural and heritage resources
- Recognizes existing urban land uses in and adjacent the Study Area

Natural Environment

- Minimizes impact on the natural environment by respecting significant aquatic features
- Minimizes impact on the natural environment by respecting significant terrestrial features
- Supports the objective of improved air quality

Implementation

- Supports implementation in parallel with planned future growth
- Provides flexibility to respond to changes in community expectations and economic environment

Affordability

- Recognizes available funding sources (i.e., mechanisms)
- Roadway and transit infrastructure and capital costs are generally affordable
- Promotes a greater balance in transportation spending on auto and non-auto modes

Evaluation of the Transportation Planning Alternatives

Alternatives 1 and 2 are clearly preferred in comparison to the other alternatives based on a comprehensive assessment of the alternatives against the full range of evaluation criteria.

Alternatives 1 and 2 are preferred based on High preference ratings against the Transportation, Natural Environment, and Implementation criterion and moderate overall cost. Important measures that favour Alternatives 1 and 2 include:

- the diversion of through traffic away from the planned north-south Transit Oriented Development corridor in the Mount Pleasant Community in accordance with established Community Design Principles. Alternatives 1 and 2 result in very low volumes of through traffic on the TOD corridor;
- the support for a pedestrian-scale and transit-supportive (generally) mid-block corridor of mixed use intensification. Alternatives 1 and 2, with the ability to accommodate high levels of through traffic elsewhere in the network (i.e., Creditview Road and Mississauga Road), create significantly better opportunities to achieve a pedestrian-scale TOD corridor in the Mount Pleasant Community in accordance

with established Urban Design Principles;

- number of potential road network connections to existing and future arterial and collector roads, and impacts on existing, planned and future urban areas. Alternatives 1 and 2 provide for a high level of arterial and collector road connectivity within Mount Pleasant *and* to existing and potential future urban expansion opportunities;
- the creation of a clearly defined Core Area/Precinct in accordance with established Community Design Principles; Alternatives 1 and 2 provide an alignment of Creditview Road that helps to establish a clear edge to the planned Core Area/Precinct which is highly desirable from an urban design perspective; and
- number of potential incidents of encroachment on significant terrestrial features and ecological linkages by new arterial road rights-of-way. Alternatives 1 and 2 result in relatively few encroachments on known significant terrestrial features and ecological linkages.

While Alternatives 1 and 2 achieve an overall preference rating that is similar, Alternative 2 is considered to best meet the commuting needs of all individuals in Mount Pleasant and achieves a higher rating against the transportation factors. The Primary Transit Corridor, located on the (generally) mid-block north-south collector road, best meets the objectives established for the Mount Pleasant Community because of the increased transit service frequencies on the TOD corridor and potentially higher transit ridership achieved.

Preliminary Preferred Solution

Alternative 2 is recommended as the Preliminary Preferred Transportation Planning Solution. Alternative 2 comprises:

- Creditview Road as a Minor Arterial Road (36.0m ROW) with a south re-alignment (Bovaird Drive – Mayfield Road) and widened to 4 lanes; and
- 4-lane extension of Sandalwood Parkway as a Minor Arterial Road (36.0m ROW) from Creditview Road to Mississauga Road.

It should be noted that the widening of Creditview Road will require context sensitive design and/or other appropriate mitigation to avoid potential negative impacts on the existing Alloa Cemetery located on the west side of Creditview Road, south of Wanless Drive, given the existing right-of-way of Creditview Road adjacent the Alloa Cemetery is 20.0 metres. Opportunities for mitigation of impacts will be considered further in Phase 3 of this study.

An underpass design is being carried forward to Phase 3 as part of the Preliminary Preferred Transportation Planning Solution with recognition of the cost premium. The grade separation of Creditview Road at the CNR line will be assessed in more detail in Phase 3 of this study.

Required additional (beyond programmed improvements) arterial road improvements in the Study Area, include:

- Bovaird Drive widened to 6 lanes (east of Mississauga Road);
- Wanless Drive widened to 4 lanes (Chinguacousy Road – Mississauga Road);
- Mayfield Road widened to 6 lanes (McLaughlin Road - Chinguacousy Road);
- Mayfield Road widened to 4 lanes (Chinguacousy Road - Creditview Road); and
- Mississauga Road widened to 6 lanes (Bovaird Drive – Sandalwood Parkway);

- a north-south collector road (26.0m ROW) (Creditview Road – Mayfield Road); and
- a grid network of collector roads in the Mount Pleasant Community.

Enhanced local transit is extended to the Mount Pleasant Community. The transit network connects with the city-wide network and is as follows:

- a Secondary Transit Corridor along Creditview Road with 10- to 15-minute service frequency;
- a Primary Transit Corridor on the north-south collector road with 5- to 7.5-minute service frequency that connects to and continues on an east-west collector road through the Mount Pleasant Community;
- Primary Transit Corridor service on Sandalwood Parkway and Wanless Drive, between Creditview Road and the north-south collector road; and
- a network of Community Transit with 15- to 30-minute service frequency operates on the collector road network throughout the Mount Pleasant Community.

The community structure reflects Community Design Principles that include Transit Oriented Development in an Urban Core around the Mount Pleasant GO Station, including the majority of the lands in the Study Area located south of the CNR and Creditview re-alignment, and extending north along the major roadway corridor through the Mount Pleasant Community.

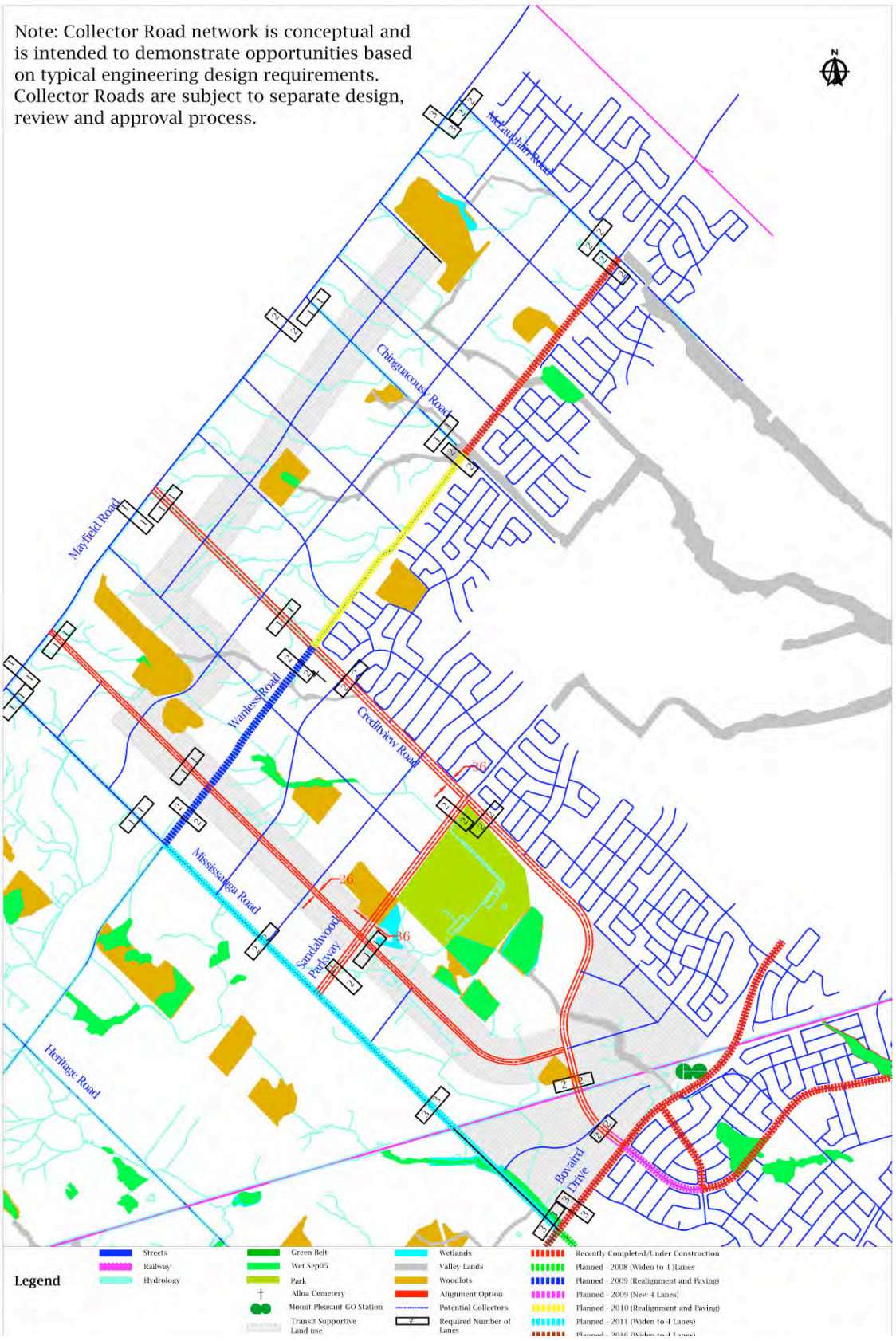
Opportunities for mitigation of impacts will be considered further in Phase 3 of this study.

In addition to the required road improvements that have been identified within the Mount Pleasant Community, there are several road network improvements external to the Study Area that have been confirmed through using the Mount Pleasant model, including:

Mississauga Road, south of Bovaird Drive, widened from 2 to 6 lanes;

- Creditview Road, south of Boviard Drive, widened from 2 lanes to 4 lanes;
- Chinguacousy Road, south of Bovaird Drive, widened from 5 lanes to 6 lanes;
- Mayfield Road, east of McLaughlin Road, widened from 2 lanes to 6 lanes;
- Wanless Drive, east of McLaughlin Road, widened from 2 lanes to 4 lanes;
- Sandalwood Parkway, east of McLaughlin Road, widened from 4 lanes to 6 lanes; and
- Bovaird Drive, east of McLaughlin Road, widened from 4 lanes to 6 lanes.

Preliminary Preferred Alternative



Next Steps

In future phases of the study, the study team will be:

- identifying a preferred solution based on comments from the public and technical agencies;
- developing and evaluating alternative design concepts in accordance with the Municipal Class EA process;
- presenting preferred concepts to the public to receive comments (PIC #3);
- finalizing the Transportation Strategy, including roads, transit services, and policies in support of the Mount Pleasant Community
- finalizing the Creditview Road and Sandalwood Parkway alignments and designs;
- filing a DRAFT Environmental Study Report (ESR);
- receiving comments on the DRAFT ESR and finalizing the ESR; and
- issuing a Study Completion Notice.

For more information on the Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study, contact:

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WELCOME

TO

CITY OF BRAMPTON TRANSPORTATION STRATEGY AND CREDITVIEW ROAD AND SANDALWOOD PARKWAY TRANSPORTATION CORRIDORS CLASS ENVIRONMENTAL ASSESSMENT STUDY

Public Meeting #2

May 30, 2007

AGENDA

Open House: 6:00pm – 8:30pm

Please Sign-In

All participants are encouraged to complete a comment form

PLANNING CONTEXT

Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study

The Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study is one of the initial studies to support a Secondary Plan for the Mount Pleasant Community. Other component studies comprise:

- Land Use and Urban Design Study
- Subwatershed Planning Study

The Mount Pleasant Community area itself is part of the City's 2,400-hectare (6,000-acre) Northwest Brampton Urban Expansion Area that was supported by a comprehensive range of background studies

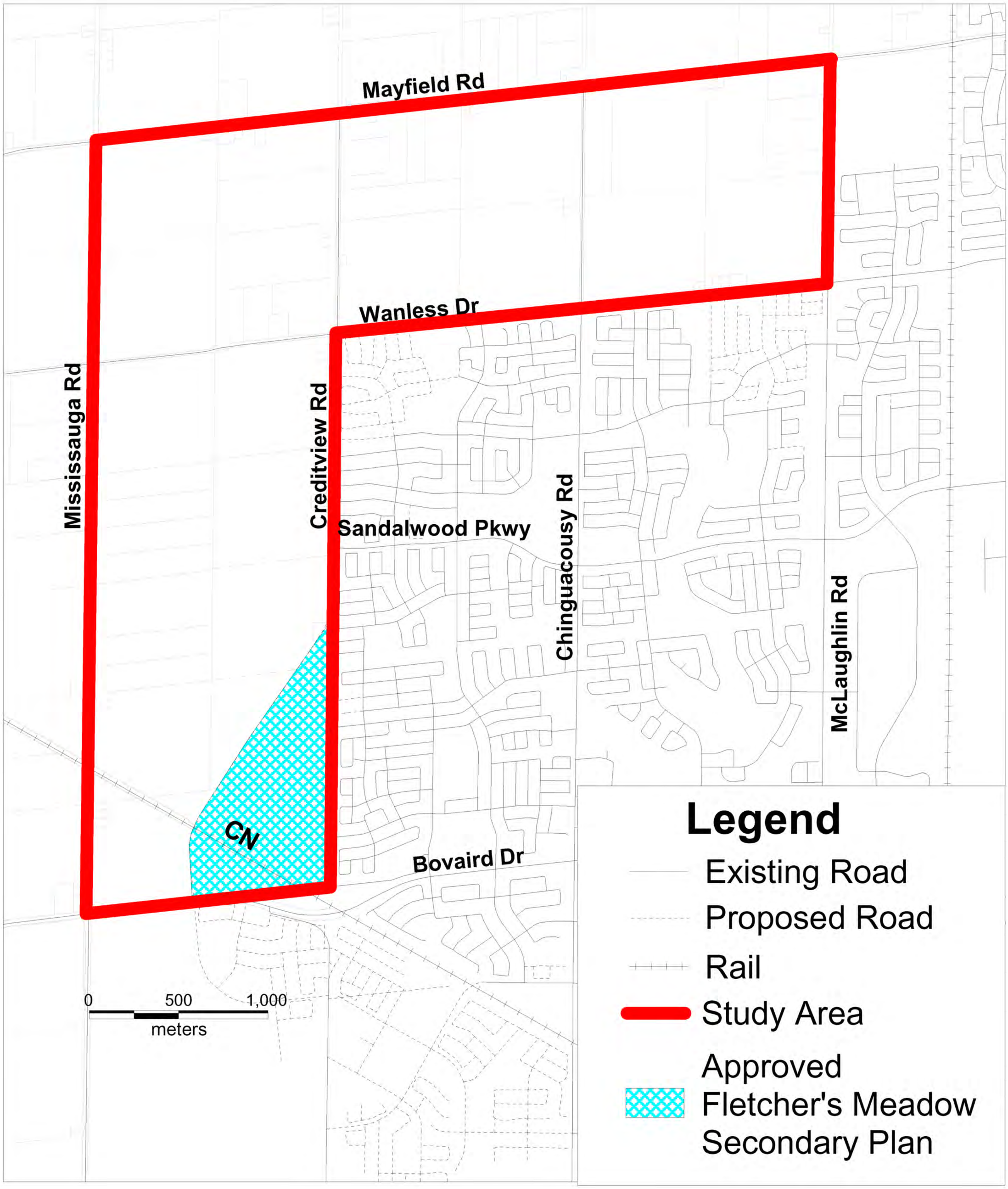
The Northwest Brampton Urban Expansion was implemented by Official Plan Amendments to the Region of Peel and Brampton Official Plans. These amendments are currently under appeal to the Ontario Municipal Board

In June 2003, City Council directed that the Mount Pleasant Community lands represent the first phase of development within Northwest Brampton

The Mount Pleasant Transportation Study and the other two component studies are being completed to establish the preliminary land use concepts, environmental protection and infrastructure requirements, including road and transit facility needs, for incorporation into a secondary plan for the Mount Pleasant Community, once the Northwest Brampton amendments are finally approved

STUDY AREA

Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study



STUDY PURPOSE

Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study

The Mount Pleasant Community is envisioned as an innovative pedestrian-friendly and transit-oriented community, where both the road network and community-friendly transit services are planned and implemented in conjunction with one another

The Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study will provide a clear and defensible strategy for the provision of roads and transit in support of the planned community and the mobility needs of future residents and workers. The Study purpose is twofold and will address:

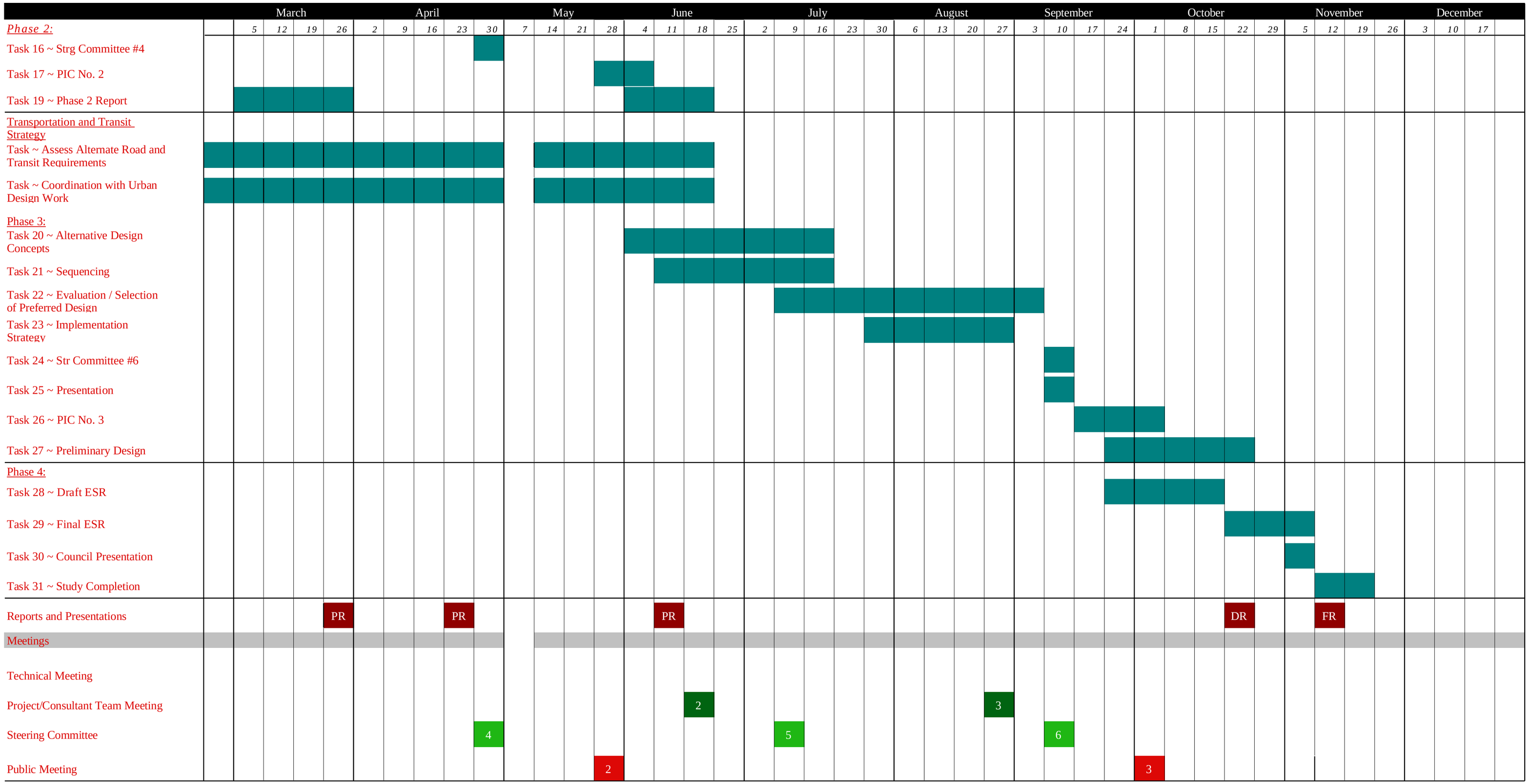
- Creditview Road and Sandalwood Parkway alignments in the Mount Pleasant Community in accordance with the requirements of Phases 1 through 4 of the Municipal Class Environmental Assessment (2000)

- Transportation requirements for the first phase of urban expansion in Northwest Brampton (i.e., Mount Pleasant) compromising:

  - additional arterial road improvements
  - a north-south Mid-block Road
  - a grid network of collector roads
  - enhanced transit comprising Primary and Secondary transit corridors and a network of Community Transit services, providing convenient and attractive connections to the Mount Pleasant GO Station and rest of Brampton

STUDY SCHEDULE

Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study



Meetings

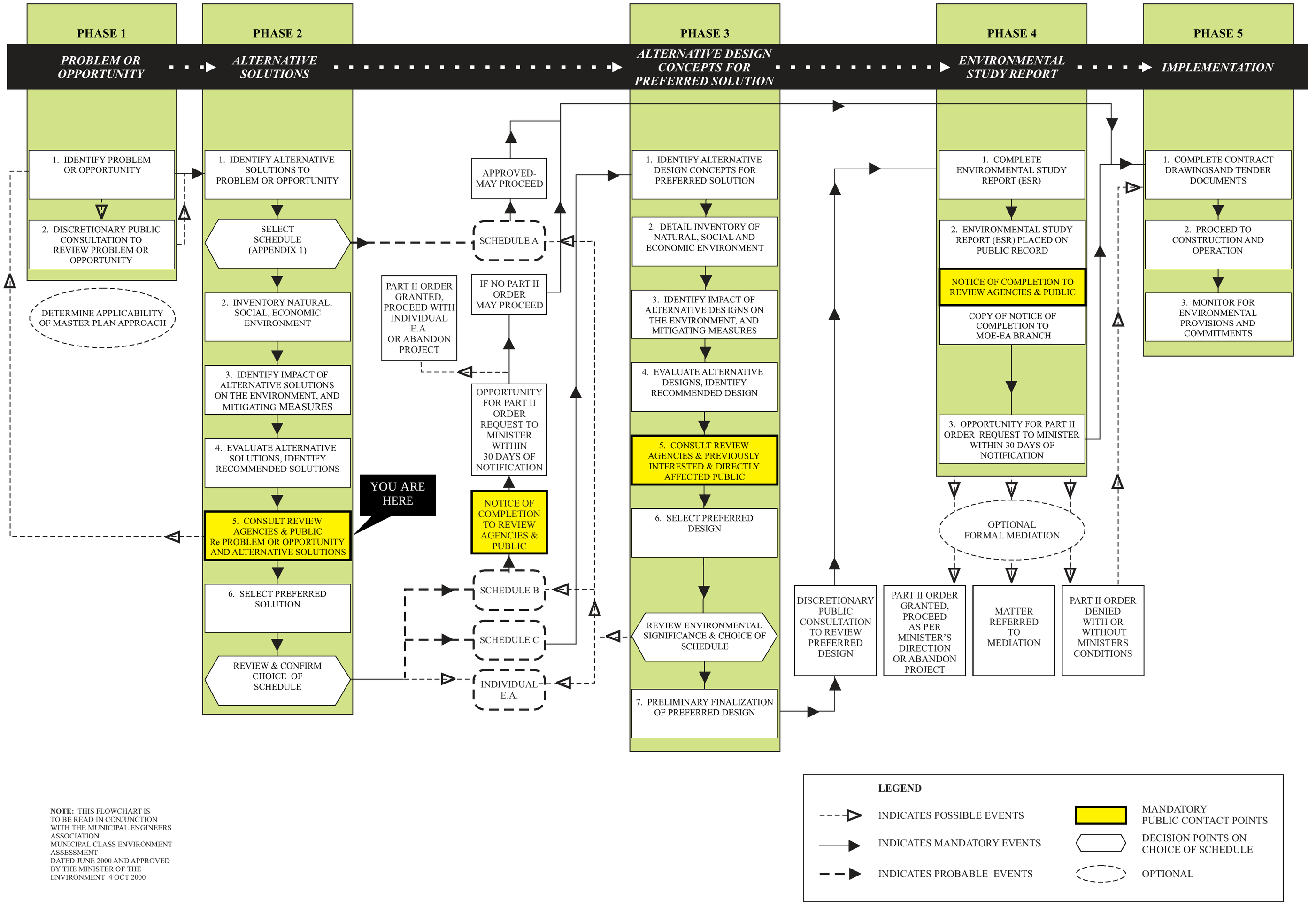
#	Technical
#	Project/Consultant
#	Steering Committee
#	PIC

Reports

P	Proposal
SD	Study Design
PR	Progress
DR	Draft Final
FR	Final

MUNICIPAL CLASS EA PLANNING AND DESIGN PROCESS

Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study



NOTE: THIS FLOWCHART IS TO BE READ IN CONJUNCTION WITH THE MUNICIPAL ENGINEERS ASSOCIATION MUNICIPAL CLASS ENVIRONMENT ASSESSMENT DATED JUNE 2000 AND APPROVED BY THE MINISTER OF THE ENVIRONMENT 4 OCT 2000

TRANSPORTATION INTERESTS

Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study

Previously completed transportation studies for the City of Brampton and an assessment of existing and future roadway operations were used to identify transportation-related interests to be addressed in the Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study:

Future Alignment of Creditview Road

There is need to determine the potential future alignment of Creditview Road in the Study Area

Provision and Design of New Mid-block Road

There is need to determine the role, functional classification and ultimate cross-section of a new Mid-block Road in the Mount Pleasant Community

Rail/Road Crossing Treatment

There is need to confirm the location and timing of the road/rail grade separation for Creditview Road at the CNR line, as well as whether it is an underpass or overpass

Need for Sandalwood Parkway Extension

There is need to examine opportunities to extend the roadway between Creditview Road and Mississauga Road and confirm the need and timing for the Sandalwood Parkway extension

Impact of Proposed GO Georgetown Yard

Through coordination with this study, there is need to ensure the ongoing Georgetown North Corridor Rail Expansion EA does not preclude any reasonable alternatives for the location, alignment and design of future Creditview Road or, in any manner, compromise the objectives and future design for the Mount Pleasant Community

Future Transit Service Requirements

There is a need to identify new transit routes along the existing roadways and proposed Mid-block Road in the Study Area that can attract and will be supported by future riders

Trails and Pathways

New pathways and the extension of the existing pathways will need to reflect the recommendations of the City of Brampton Transportation and Transit Master Plan and PathWays Master Plan

Approved Fletcher's Meadow Secondary Plan

The alignment and design of Creditview Road, as well as the collector roads, transit, and pedestrian and cycling facilities in the Study Area, will need to reflect planned future uses and facilities in the approved Fletcher's Meadow Secondary Plan area

PROBLEM/OPPORTUNITY STATEMENT

Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study

The City of Brampton will continue to grow over the next 25 years, reaching a population of approximately 680,000 people and employment of more than 320,000 jobs. To this end, the City has defined an urban expansion area to accommodate future growth in a phased manner. As the first phase of future urban expansion in Northwest Brampton, the Mount Pleasant Community is forecast to reach a population of more than 40,000 people and employment of over 3,000.

The existing transportation system of roads, transit, pedestrian linkages, and pathways will not adequately accommodate the mobility needs of future residents and workers. With planned urban growth in the absence of appropriate road and transit improvements, levels of congestion on area roads are likely to increase, present levels of mobility and safety may decline, residents may experience negative social impacts and declining quality of life, future network operational flexibility may be compromised, and costs attributable to maintaining and enhancing the transportation system may increase.

In accordance with the Municipal Class Environmental Assessment, the City of Brampton, in consultation with the Steering Committee, developed the following problem definition.

The City of Brampton has initiated this Class Environmental Assessment Study to:

1. Prepare a community-wide transportation strategy for the Mount Pleasant Community in accordance with the policies outlined in the Brampton Official Plan. This study will result in the completion of the road and transit strategy and the identification of proposed collector and arterial roads in compliance with Phase 2 of the Class EA

2. Determine the final location of extensions of Creditview Road and Sandalwood Parkway in the Mount Pleasant Community in compliance with Phase 4 (completion) of the Class EA

3. Identify potential additional projects (road and transit) in Brampton, beyond the boundaries of the Study Area, that may be required to accommodate development of the Mount Pleasant Community

PROBLEM/OPPORTUNITY STATEMENT

Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study

The objectives of the City of Brampton in completing the Study are to:

- Protect the environment through the wise management of resources
- Recognize technical criteria, environmental constraints and opportunities, and the interests of stakeholder and interest groups, local businesses and area residents in selecting a preferred group of servicing projects
- Identify and protect, through the Official Plan, the proposed routes for new or extended transportation facilities so that local landowners and developers can proceed with their plans knowing the location of transportation facilities in the area
- Identify a group of transportation projects that will be required for construction at stages over the long-term (i.e., 2031)
- Document the study process in compliance with all relevant phases of the Class Environmental Assessment process and exceed the requirements of the Class Environmental Assessment for Municipal Projects

COMMUNITY DESIGN PRINCIPLES

Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study

The Community Design Principles established by the Study Steering Committee for use in the Mount Pleasant Community lead to the identification of design requirements for key transportation infrastructure in Mount Pleasant.

SANDALWOOD PARKWAY

As a Minor Arterial Road, it will have a basic 36.0m right-of-way and will generally conform to the City's typical design standards.

Sandalwood Parkway is expected to:

- provide a direct and continuous road connection between Creditview Road and Mississauga Road
- define the north edge of the City Park
- serve a key activity node at the intersection with the north-south Mid-block Road
- have a high level of transit service

CREDITVIEW ROAD

As a Minor Arterial Road, it will have a basic right-of-way of 36.0m, but horizontal and vertical alignment standards reflecting reduced design speeds will be considered for application, where required.

Creditview Road is expected to:

- define one of the edges of (wraps around) the Urban Core around the GO station
- carry busier through traffic away from the centre of the community
- provide City-wide park users direct access to the park, avoiding local traffic
- as a primary road within the Urban Core, Creditview Road will have an 'urban' form
- have a high level of transit service

CNR GRADE SEPARATION

An underpass is considered more desirable for the Creditview Road grade separation at the CNR:

- an overpass typically requires greater vertical separation, resulting in longer grades which could negatively impact driver sightlines, intersection opportunities and access to the Mount Pleasant GO Station.
- an overpass would be a visual obstruction within the community
- an underpass can be more effectively designed and landscaped to create an attractive community threshold
- an underpass provides better pedestrian access and environment
- an underpass is more efficient in land use and allows development closer to the crossing and adjacent intersections, allows buildings to form part of the underpass

MID-BLOCK ROAD

The Mount Pleasant Community is envisioned as having a north-south (generally) mid-block pedestrian-friendly road. This road is expected to:

- be the main community road, combining transit and local traffic functions, and be supported in its focal role by the adjacent built form and land uses
- be somewhat mid-block between Mississauga Road and Creditview Road
- necessarily manifest into a variety of characters as it moves northward away from the Urban Core
- be marked by a pattern of land uses, built form and open space features along its extent
- have a pedestrian scale
- promote transit-supportive land use to maximize transit ridership
- have the highest level of transit service in the community

COMMUNITY DESIGN PRINCIPLES

(EXCERPT FROM BRAMPTON OPA 93-245)

Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study

OBJECTIVES FOR NORTHWEST BRAMPTON COMMUNITY DESIGN PRINCIPLES

~ Maximizing the advantages of the inter-relationship between landuse and transportation including but not limited to, the new Mount Pleasant GO Station;

~ incorporating opportunities for mixed-use and higher density development at appropriate locations in accordance with the principles of the Provincial Policy;

~ creating viable employment areas that provide a range of employment opportunities with access to rail and future and existing highways and arterial roads and/or public transit and where compatible, integrated within residential communities;

~ Supporting the implementation of the City's Transportation and Transit Master Plan;

~ Protecting transit rights-of-way early on in the planning process to encourage the provision of a convenient and accessible transit system;

~ encouraging safe, convenient, continuous and accessible pedestrian sidewalks and bicycle paths to reduce dependence on the automobile and to encourage healthy living;

~ developing complete communities that are compact, transit-oriented and pedestrian friendly with a mix of uses and a variety of housing choices, jobs and supporting services and facilities.

MOUNT PLEASANT COMMUNITY

~ The Community shall be planned as a Mixed-use community with the Mount Pleasant GO Station as a centerpiece of a transit oriented community.

~ The plan will offer live/work opportunities and the transportation network will be based on a network to facilitate transit usage and non-vehicular modes.

~ The Mount Pleasant GO Transit Station and surroundings will be an important node for the City and the focus of integrated economic, residential, civic, cultural and recreational and transportation uses.

~ Major Transit corridors in the Mount Pleasant Transit Oriented Community will be considered as intensification corridors and as the focus of higher density and transit supportive development.

~ Major intersections on or near the vicinity of these corridors will be considered for mixed-use, nodal development where appropriate, and density target ranges will be established to encourage the successful development of complete communities.

~ The City's Community Park will designed to maximize its use and accessibility to the community while retaining a predominantly open space character.

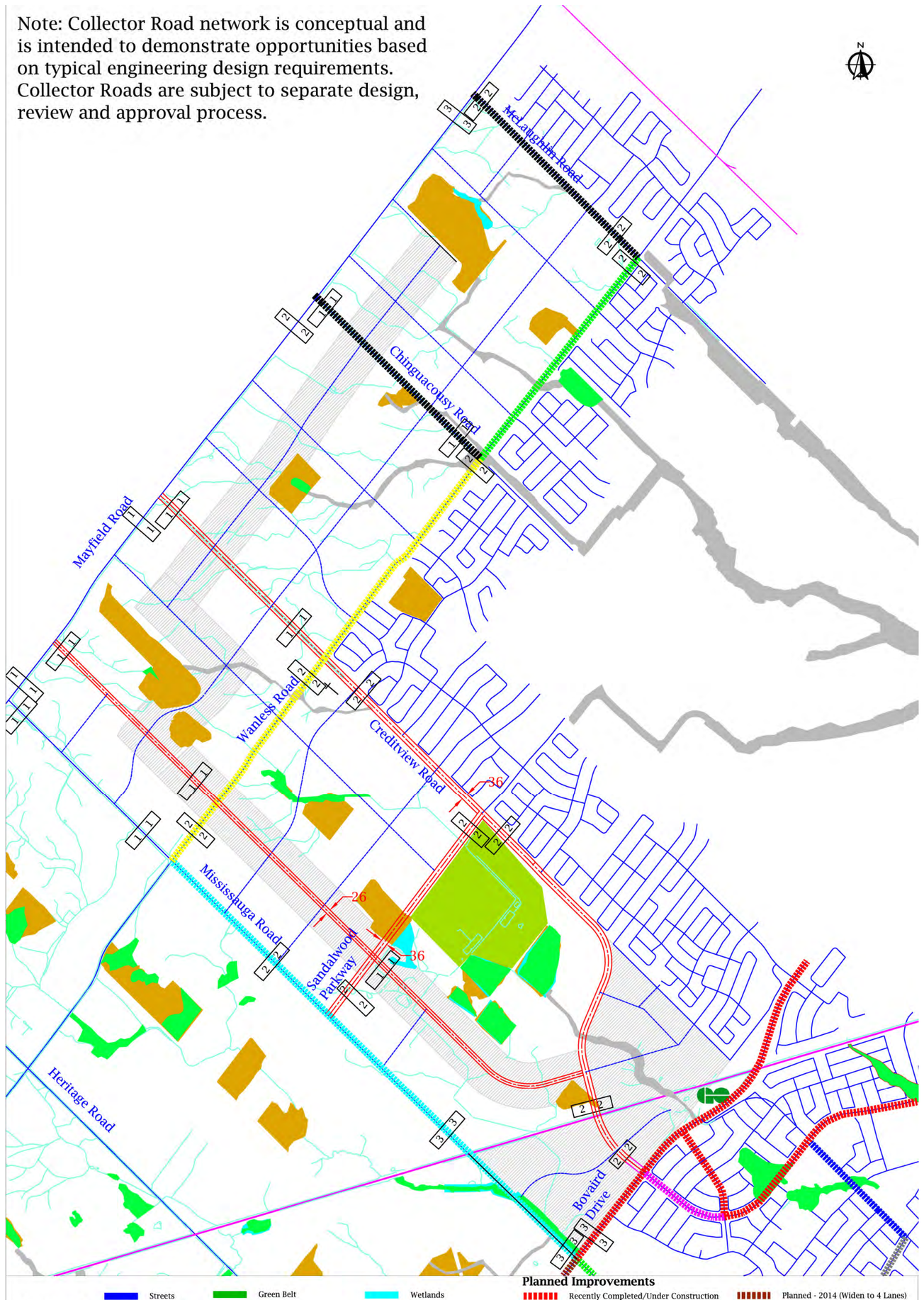
~ The Mount Pleasant community will be planned in the context of adjacent areas to encourage a transit oriented, mixed-use community.

TRANSPORTATION PLANNING ALTERNATIVE 1

Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors
Class Environmental Assessment Study

ROADS

Note: Collector Road network is conceptual and is intended to demonstrate opportunities based on typical engineering design requirements. Collector Roads are subject to separate design, review and approval process.



TRANSIT

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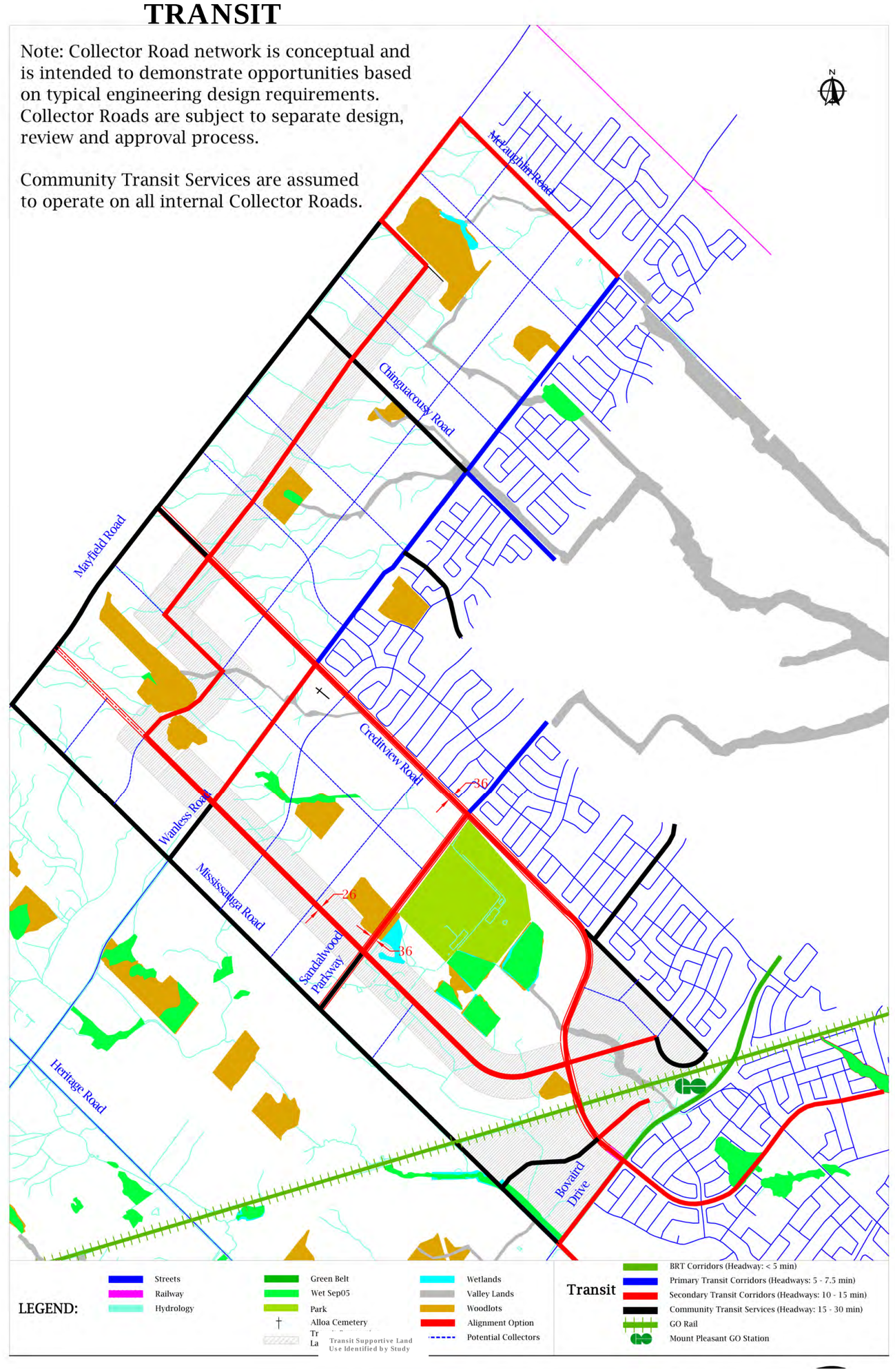
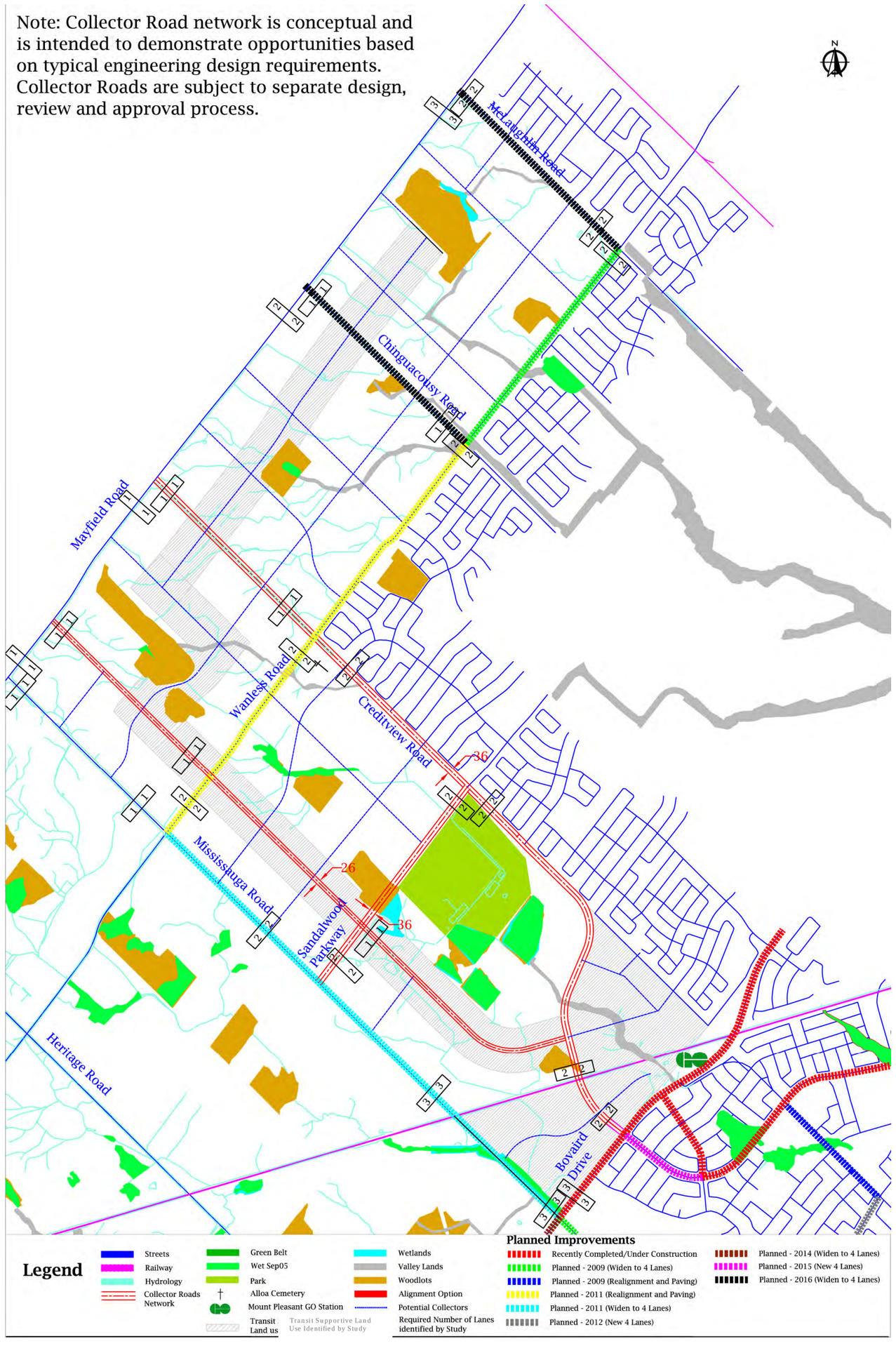
Community Transit Services are assumed to operate on all internal Collector Roads.



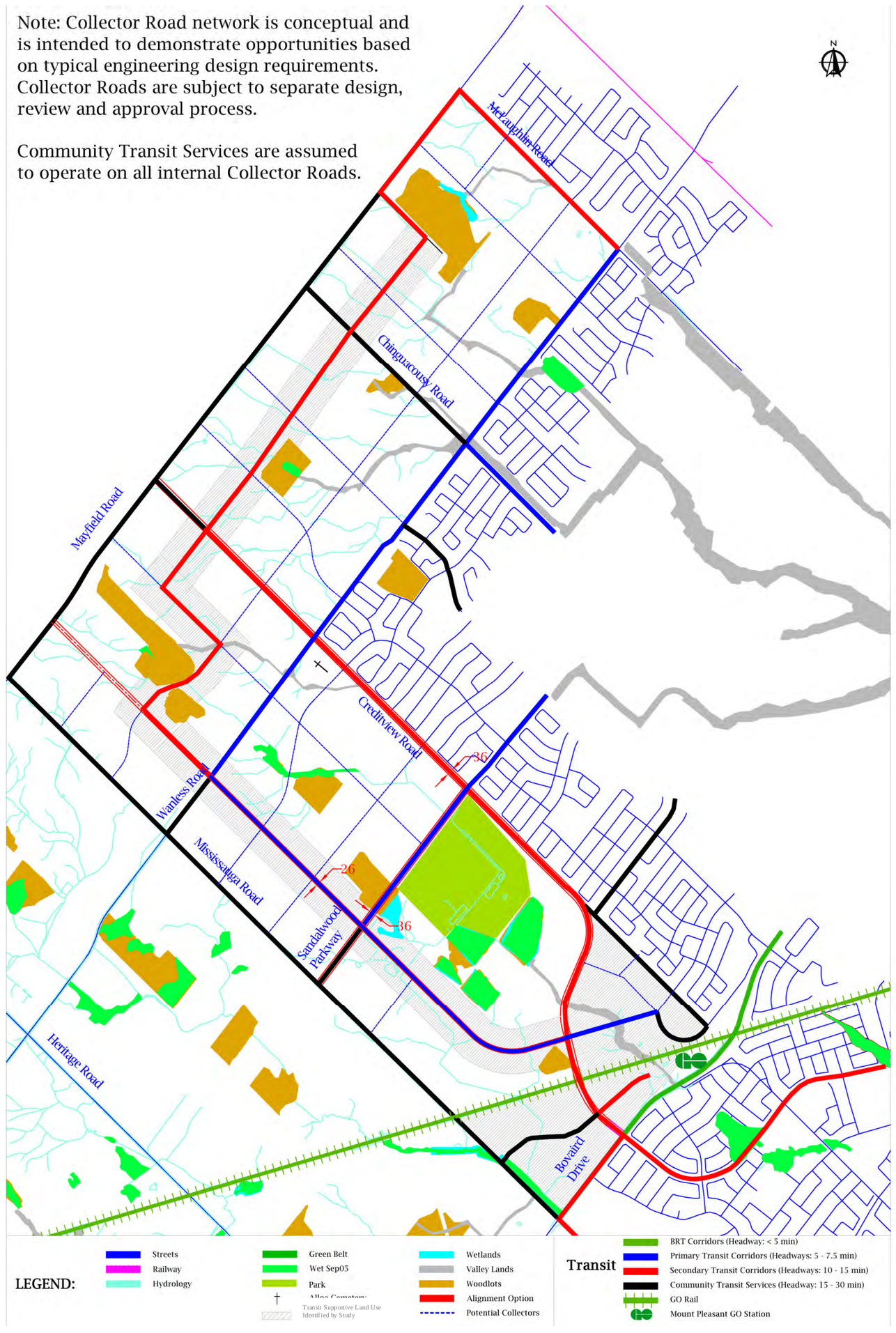
TRANSPORTATION PLANNING ALTERNATIVE 2

Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors
Class Environmental Assessment Study

ROADS



TRANSIT



TRANSPORTATION PLANNING ALTERNATIVE 3

Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors
Class Environmental Assessment Study

ROADS

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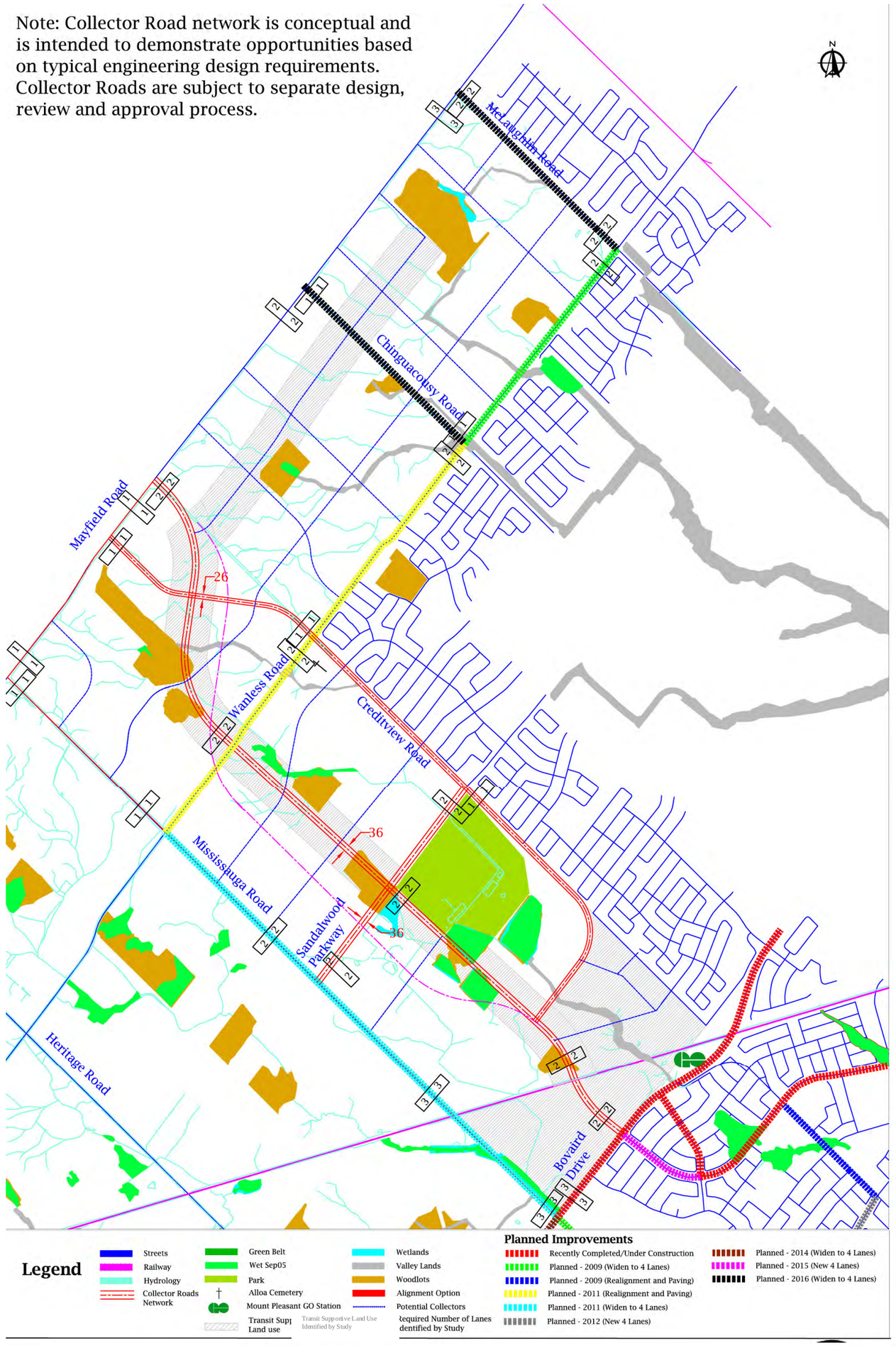

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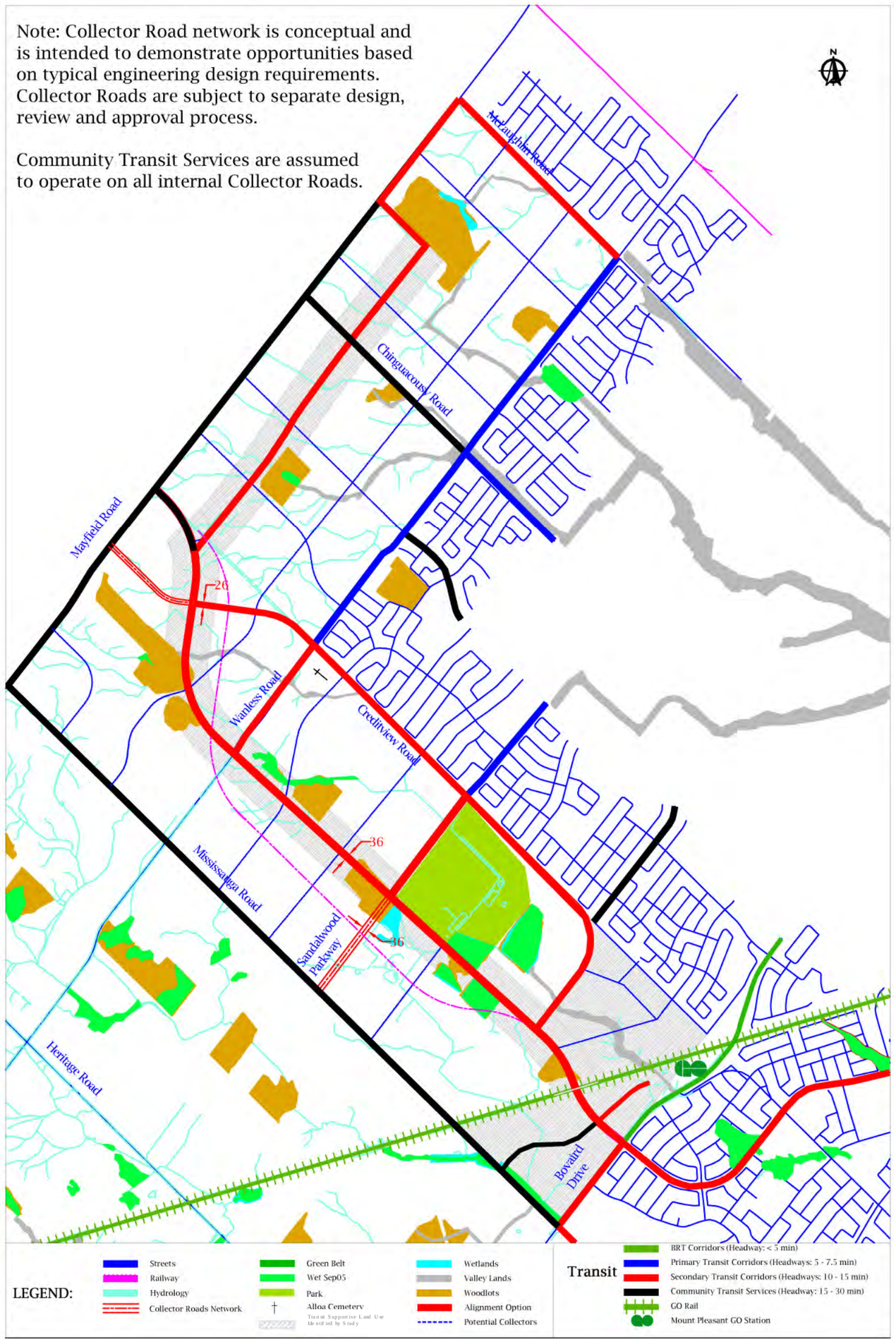

TRANSPORTATION PLANNING ALTERNATIVE 4

Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors
Class Environmental Assessment Study

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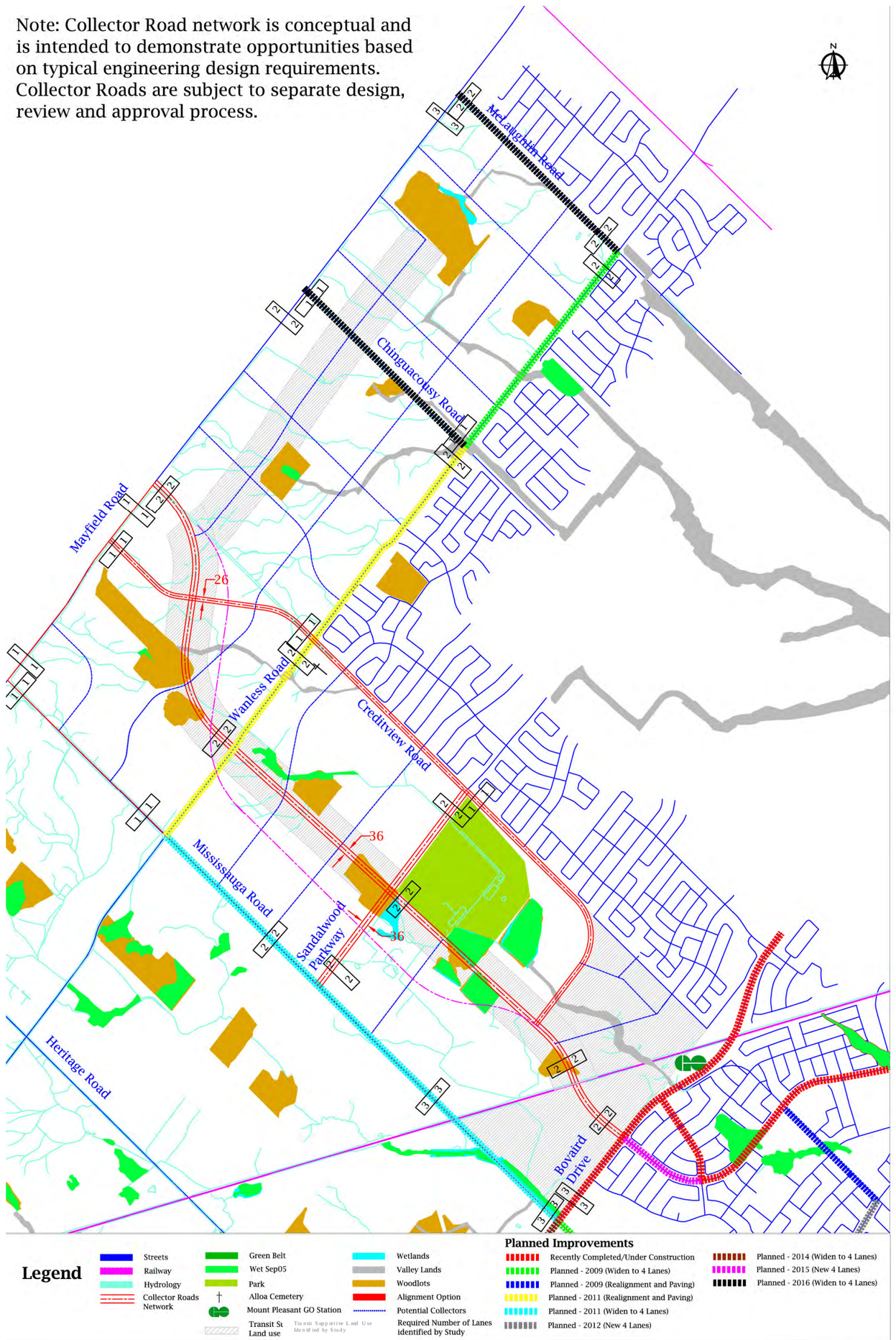

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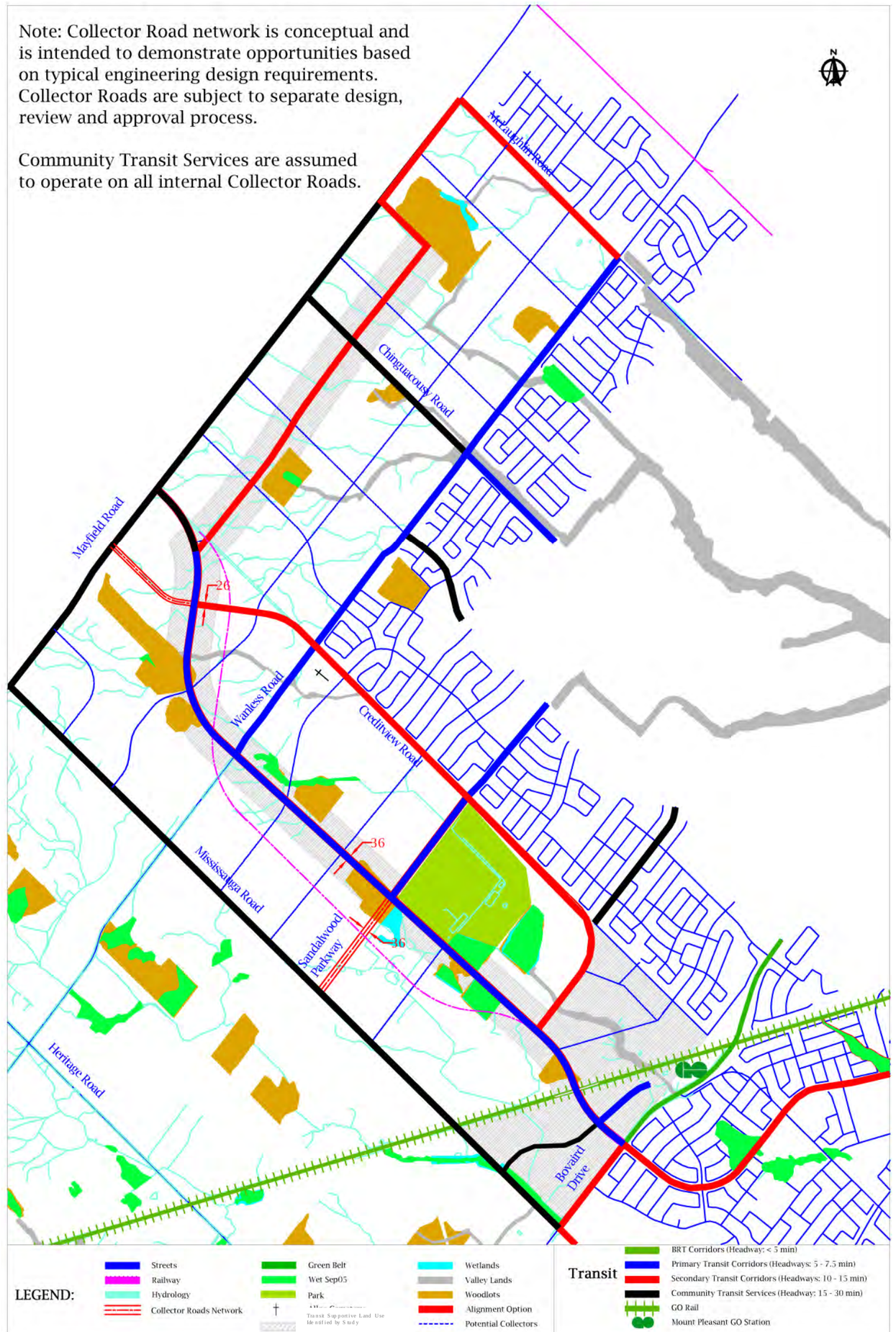

SCREENING CRITERIA

Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study

Criterion	*Factor*	*Measure*
Transportation	Provides for the safe and effective movement of people and goods	Description of transportation improvements, added features, adverse effects.
	Supports established Community Design Principles by providing for continuous and connected roads that encourage and support convenient travel by all modes	Description of *accessibility (i.e., ability to reach*), including number of potential road network connections to existing and future arterial and collector roads, and impacts on existing, planned and future urban areas.
	Meets the commuting needs of all Mount Pleasant residents	Commentary on the extent to which the commuting needs of all individuals (e.g., residents/workers; seniors, students, persons with disabilities) are served *(i.e., ability to move or flow easily)*.
	Supports attractive, convenient and viable local transit within a comfortable walking distance of the majority of residents, while supporting strong connections to future inter-regional transit	Potential to attract ‘’new’ transit markets. Potential share of total peak period travel demand.
	Reflects goals for transportation demand management and the provision of alternative modes of travel, including High-Occupancy Vehicles (HOV), bicycles and pedestrians	Description of consistency with City Official Plan objectives. Description of future walking and cycling opportunities, and compatibility with and connections to the system identified in the City’s MTTP and PathWays Master Plan.
	Promotes integration of travel modes and transit services	Commentary on the extent to which the integration of travel modes and transit services is achieved.
	Meets forecasted future travel demands at acceptable levels of service	Projected PM peak hour screenline and corridor volume-to-capacity ratios for 2031 from model forecasts.
	Supports established Community Design Principles by promoting the diversion of through traffic away from the planned north-south TOD corridor that is the centre of the community	Projected PM peak hour through traffic on the (generally) mid-block north-south TOD corridor, as a proportion of the total traffic across the south of Sandalwood Parkway screenline.
Socio-Economic Environment	Supports established Community Design Principles by supporting community structure that comprises a mix of land uses in nodes and corridors at densities and in a form that supports and can be supported by frequent transit, walking and cycling	Description of consistency with established Community Design Principle of a Core Area/Precinct around the Mount Pleasant GO station and a (generally) mid-block north-south TOD corridor in the Mount Pleasant Community.
	Supports established Community Design Principles by promoting a Core Area/Precinct with clearly defined edges	Description of consistency with established Community Design Principle of a primary road as a defining edge of the Core Area/Precinct in the Mount Pleasant Community.
	Supports established Community Design Principles by supporting community design with a pedestrian-scale and transit-supportive (generally) mid-block corridor of mixed uses and intensification	Description of consistency with established Community Design Principle of creating a pedestrian-scale (generally) mid-block north-south TOD corridor in the Mount Pleasant Community.
	Respects cultural and heritage resources	Commentary on the extent to which known cultural and heritage resources (e.g., registered archaeological resources and designated built heritage resources under the Heritage Act or registered built heritage resources by the Region of Peel) might be affected.
	Recognizes existing urban land uses in and adjacent the Study Area	Commentary on compatibility with existing urban uses and the extent to which existing urban uses might be affected.
Natural Environment	Minimizes impact on the natural environment by respecting significant aquatic features	Number of potential new arterial road crossings of stream corridors. Number of potential new arterial road crossings of aquatic ecological linkages.
	Minimizes impact on the natural environment by respecting significant terrestrial features	Number of potential incidents of encroachment on significant terrestrial features by new arterial road rights-of-way. Number of potential incidents of encroachment on terrestrial ecological linkages by new arterial road rights-of-way.
	Supports the objective of improved air quality	VKT Index - Network level estimate of annual vehicle kilometres travelled (VKT) from the model forecasts compared to the *Do Nothing* alternative (VKT Index = Annual VKT transportation planning alternative / Annual VKT *Do Nothing* alternative).
Implementation	Supports implementation in parallel with planned future growth	Description of the possibility of implementing the required facilities in a timely manner. Description/general assessment of feasibility of implementation.
	Provides flexibility to respond to changes in community expectations and economic environment	Description of network flexibility to shift mode emphasis. Description of ability to accommodate traffic generated by development/ expansion beyond currently proposed.
Affordability	Recognizes available funding sources (i.e., mechanisms)	Description of potential additional funding *sources* that are required, beyond those that are presently committed.
	Roadway and transit infrastructure and capital costs are generally affordable	Commentary on the cost of potential infrastructure and operating costs, in light of jurisdiction, funding sources and likely magnitude of overall costs.
	Promotes a greater balance in transportation spending on auto and non-auto modes	Commentary on the extent to which capital and operating costs between auto and non-auto modes would move closer to being in “balance”.

PRELIMINARY PREFERENCE RATINGS

Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study

Criteria, Factor and Measure	*Transportation Planning Alternatives*				
	Do Nothing	*Alternative 1*	*Alternative 2*	*Alternative 3*	*Alternative 4*
Transportation					
Provides for the safe and effective movement of people and goods	•	●	●	●	●
Supports established Community Design Principles by providing for continuous and connected roads that encourage and support convenient travel by all modes	●-	●	●	•	•
Meets the commuting needs of all Mount Pleasant residents	•	•	●	•	•
Supports attractive, convenient and viable local transit within a comfortable walking distance of the majority of residents, while supporting strong connections to future inter-regional transit	•	●	●	●	●
Reflects goals for transportation demand management and the provision of alternative modes of travel, including High-Occupancy Vehicles (HOV), bicycles and pedestrians	•	●	●	●	●
Promotes integration of travel modes and transit services	•	●	●	•	•
Meets forecasted future travel demands at acceptable levels of service	•	•	•	•	•
Supports established Community Design Principles by promoting the diversion of through traffic away from the planned north-south TOD corridor that is the centre of the community	•	●	●	•	•
Socio-Economic Environment					
Supports established Community Design Principles by supporting community structure that comprises a mix of land uses in nodes and corridors at densities and in a form that supports and can be supported by frequent transit, walking and cycling	•	●	●	●	●
Supports established Community Design Principles by promoting a Core Area/Precinct with clearly defined edges	•	●	●	•	•
Supports established Community Design Principles by supporting community design with a pedestrian-scale and transit-supportive (generally) mid-block corridor of mixed uses and intensification	•	●	●	•	•
Respects cultural and heritage resources	●	•	•	●	●
Recognizes existing urban land uses in and adjacent the Study Area	•	•	•	●	●
Natural Environment					
Minimizes impact on the natural environment by respecting significant aquatic features	●	●	●	●	●
Minimizes impact on the natural environment by respecting significant terrestrial features	●	●	●	•	•
Supports the objective of improved air quality	•	●	●	●	●
Implementation					
Supports implementation in parallel with planned future growth	•	●	●	●	●
Provides flexibility to respond to changes in community expectations and economic environment	•	●	●	●	●
Affordability					
Recognizes available funding sources (i.e., mechanisms)	●	●	●	●	●
Roadway and transit infrastructure and capital costs are generally affordable	N/A	●	●	•	•
Promotes a greater balance in transportation spending on auto and non-auto modes	•	•	•	•	•
Criterion Preference Rating: Most	0	4	4	1	2
More	0	1	1	2	2
Least	5	0	0	2	2

Preference Rating: • Least Preferred ● More Preferred ● Most Preferred

PRELIMINARY PREFERRED SOLUTION

Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study

While Alternatives 1 and 2 achieve an overall preference rating that is similar, Alternative 2 is considered to best meet the commuting needs of all individuals in Mount Pleasant and achieves a higher rating against the transportation factors. The Primary Transit Corridor, located on the Mid-block Road, best meets the objectives established for the Mount Pleasant Community because of the increased transit service frequencies on the TOD corridor and potentially higher transit ridership achieved

Alternative 2 is recommended as the Preliminary Preferred Transportation Planning Solution. Alternative 2 comprises:

- Creditview Road as a Minor Arterial Road (36.0m ROW) with a south re-alignment (Bovaird Drive – Mayfield Road) and widened to 4 lanes
- 4-lane extension of Sandalwood Parkway as a Minor Arterial Road (36.0m ROW) from Creditview Road to Mississauga Road

The widening of Creditview Road may require context sensitive design and/or other appropriate mitigation to avoid potential negative impacts on the existing Alloa Cemetery. Opportunities for mitigation of impacts will be considered further in Phase 3 of this study

An underpass design is being carried forward to Phase 3 as part of the Preliminary Preferred Transportation Planning Solution with recognition of the cost premium. The grade separation of Creditview Road at the CNR line will be assessed in more detail in Phase 3 of this study

Required additional (beyond programmed improvements) arterial road improvements in the Study Area, include:

- Bovaird Drive widened to 6 lanes (east of Mississauga Road)
- Wanless Drive widened to 4 lanes (Chinguacousy Road – Mississauga Road)
- Mayfield Road widened to 6 lanes (McLaughlin Road - Chinguacousy Road)
- Mayfield Road widened to 4 lanes (Chinguacousy Road - Creditview Road)
- Mississauga Road widened to 6 lanes (Bovaird Drive – Sandalwood Parkway)
- a north-south Mid-block Road (26.0m ROW) (Creditview Road – Mayfield Road)
- a grid network of collector roads in the Mount Pleasant Community

Enhanced transit is extended to the Mount Pleasant Community. The transit network connects the city-wide network and is as follows:

- a Secondary Transit Corridor along Creditview Road
- a Primary Transit Corridor on the north-south Mid-block Road
- Primary Transit Corridor service on Sandalwood Parkway and Wanless Drive, between Creditview Road and the north-south collector road
- a network of Community Transit on the collector road network throughout the Mount Pleasant Community

The community structure reflects Community Design Principles that include Transit Oriented Development in an Urban Core around the Mount Pleasant GO Station and extending north along the Mid-block Road

PRELIMINARY PREFERRED SOLUTION

Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study

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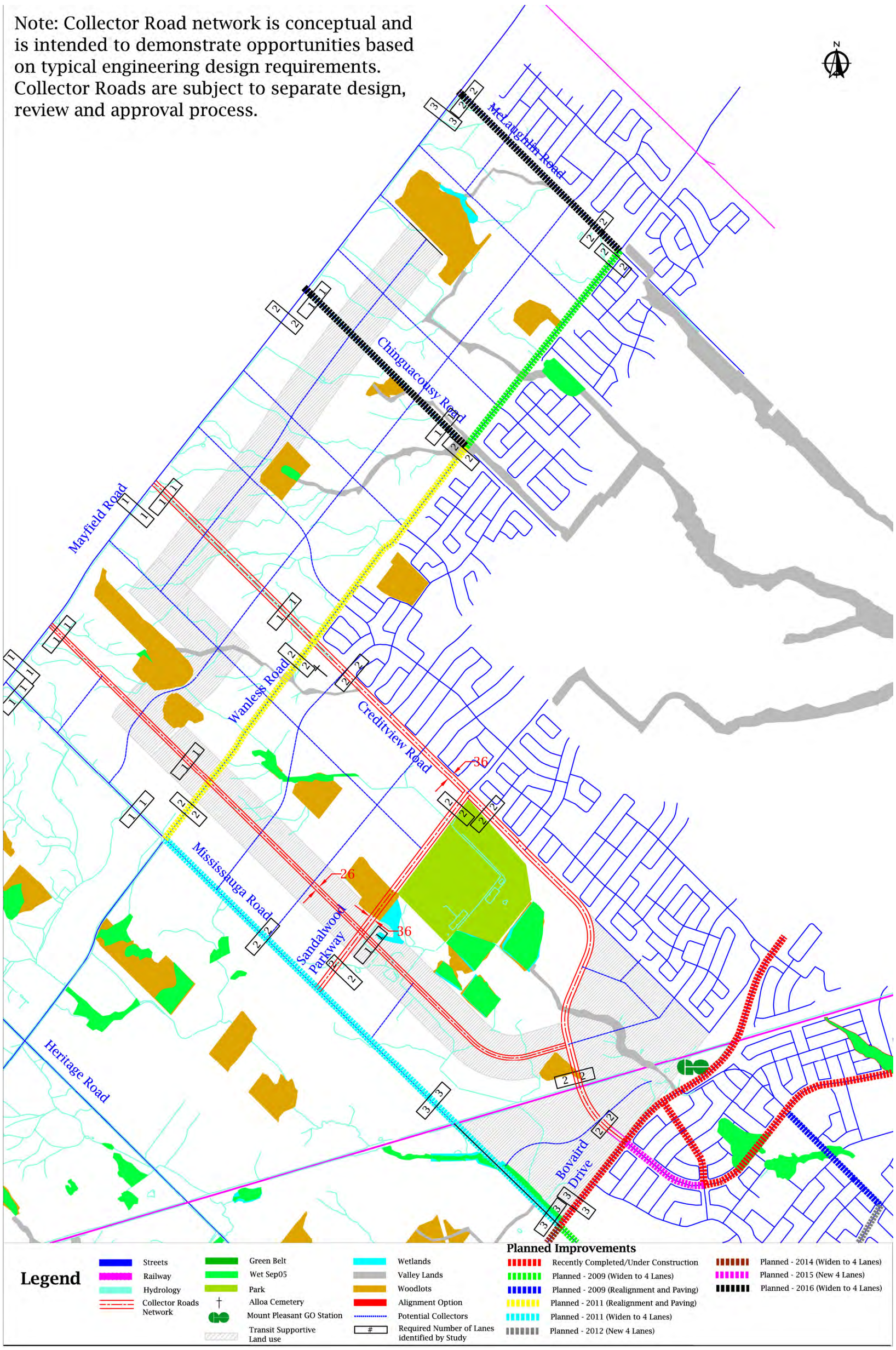


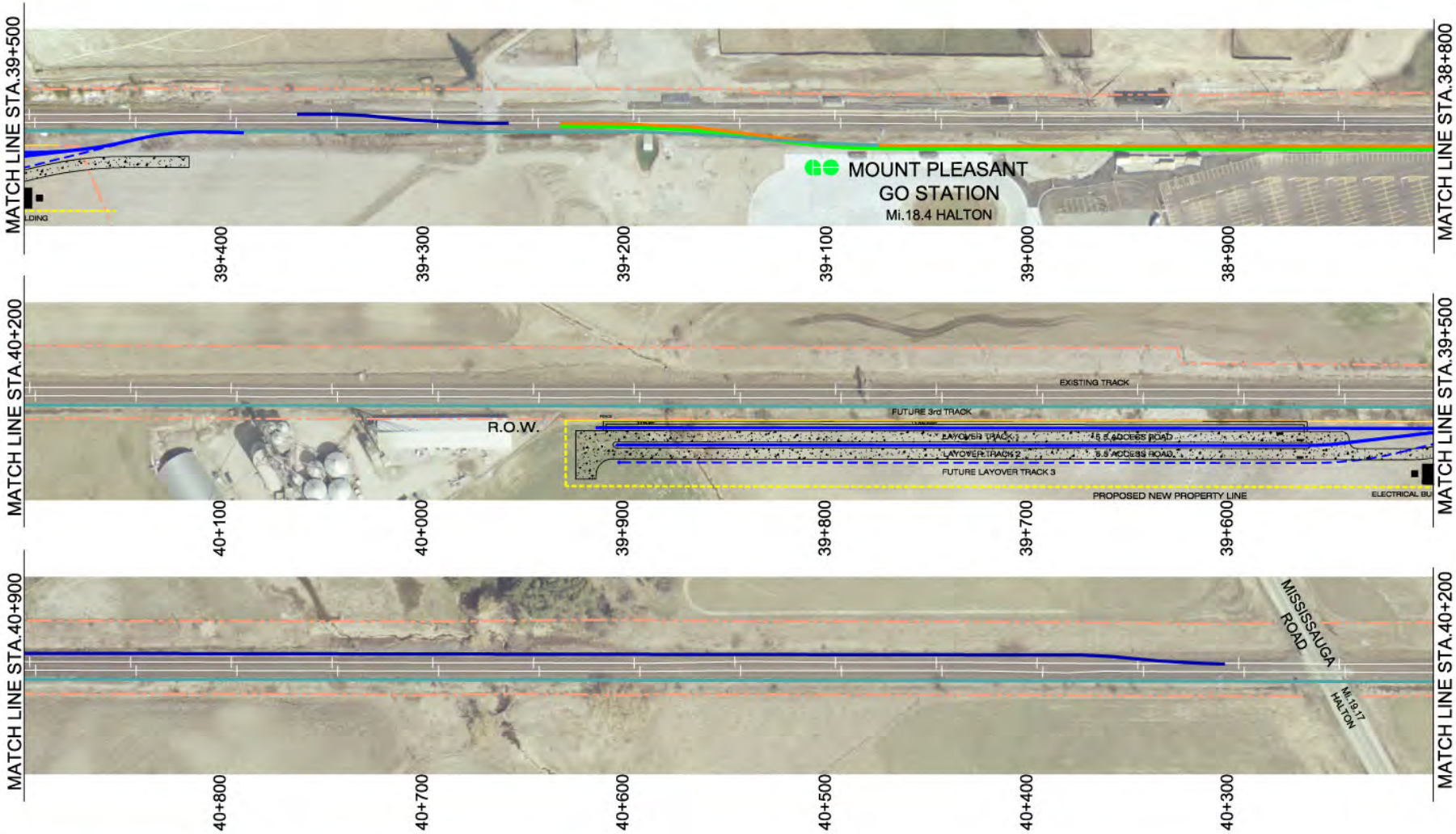
Transit Supportive Land Use Identified by Study

NEXT STEPS

Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study

In future phases of the study, the study team will be:

- Identifying a preferred solution based on comments from the public and technical agencies
- Developing and evaluating alternative design concepts in accordance with the Municipal Class EA process
- Presenting preferred concepts to the public to receive comments (PIC #3)
- Finalizing the Transportation Strategy, including roads, transit services, and policies in support of the Mount Pleasant Community
- Finalizing the Creditview Road and Sandalwood Parkway alignments and designs
- Filing a DRAFT Environmental Study Report (ESR)
- Receiving comments on the DRAFT ESR and finalizing the ESR
- Issuing Study Completion Notice



March 3, 2006

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GO TRANSIT

Gartner Lee

EarthTech
A tyco International Ltd. Company

LEGEND:

- EXISTING MAINLINE TRACK
- EXISTING C.N.R. PROPERTY LINE
- PROPOSED BRIDGE OR CULVERT MODIFICATION
- EXISTING PLATFORM
- PROPOSED PLATFORM
- PROPOSED NORTH ALTERNATIVE
- PROPOSED SOUTH ALTERNATIVE
- PROPOSED NORTH / SOUTH ALTERNATIVE
- PROPOSED NORTH ALTERNATIVE SERVICE TRACK
- PROPOSED SOUTH ALTERNATIVE SERVICE TRACK
- PROPOSED TRACK UPGRADE TO MAINLINE (NORTH ALTERNATIVE)
- PROPOSED TRACK UPGRADE TO MAINLINE (SOUTH ALTERNATIVE)
- PROPOSED TRACK UPGRADE TO MAINLINE (NORTH / SOUTH ALTERNATIVE)

SCALE:
HORIZ. 1:2000
0 20 40 60

DATE
March 06

GEORGETOWN NORTH CORRIDOR RAIL EXPANSION
WINSTON CHURCHILL BOULEVARD TO HIGHWAY 27

TRACK DESIGN ALTERNATIVES FROM STA.38+800 TO STA.40+900

FIGURE
D-11

Region of Peel
Working for you

NOTICE OF PUBLIC OPEN HOUSE No. 1

ALLOA RESERVOIR, PUMPING STATION AND FEEDERMAIN CLASS ENVIRONMENTAL ASSESSMENT STUDY

The Study

The Region of Peel is completing a Municipal Class Environmental Assessment (Class EA) study to identify a suitable site for the proposed Alloa reservoir and pumping station. The study also involves selecting the preferred route for an associated feedermain that would extend from the intersection of Mississauga Road and Bovaird Drive and connect to the proposed Alloa reservoir. The Region of PeelÕsWater and Wastewater Master Plan (Addendum 2002) identified the need for a new Zone 6 reservoir and pumping station in the vicinity of Creditview Road and Mayfield Road to service the future Northwest Brampton development area. The proposed reservoir will be located (see map) in the general area of Creditview Road on both the north and south side of Mayfield Road.

The Process

The study is being conducted in accordance with the approved requirements of a Schedule ÕCÕstudy under the Municipal Class EA (June 2000), which is an approved process under the Ontario Environmental Assessment Act. The Class EA process includes public and review agency consultation, an evaluation of alternatives, an assessment of the potential environmental effects of the proposed improvements, and identification of reasonable measures to mitigate any adverse impacts that may result.

Upon completion, an Environmental Study Report (ESR) will be prepared to document the planning process followed, including conclusions and recommendations, and how public input was received and considered. The document will be submitted to the Ministry of Environment and will be available for public review for a period of 30 calendar days. The public will be notified of the date, time and location of the filing of the ESR at the appropriate time through newspaper notices and a further letter mailed to those in the projectÕscontact database.

Public consultation is vital to this study. We want to ensure that any one with an interest in this study has the opportunity to get involved and provide input before any decisions are made on the recommended site and route for the Alloa reservoir, pumping station and feedermain.

Public Open House

Two Public Open House sessions will be held in association with this study. The first Public Open House is scheduled for:

Date: **May 15th, 2007**
Time: **6-9 p.m.**
Location: **Alloa Public School Š Gymnasium**
1248 Mayfield Road
Caledon, Ontario
L7C 0Y7

The first Public Open House will consist of an informal drop-in centre with displays showing the background information on the study, project justification and the preliminary evaluation criteria to determine the preferred solution. Alternative reservoir and pumping station location options and feedermain routes under consideration and the next steps that will be followed in the study process will also be presented. Public House No. 2 will be held later this year and will present the evaluation of sites and routes including the preferred alternative, associated impacts and proposed mitigation measures. Representatives from the Region and its consultants, Earth Tech will be present at the Public Open Houses to answer questions and discuss the next steps in the study.

Comments

You are encouraged to attend the open house and provide your comments so that they may be included in the study. Comments received through the course of the study will be considered in finalizing the preferred solution including the recommended feedermain alignment and reservoir and pumping station site as well as construction mitigation measures. Comments and information regarding this project are being collected to assist the project team in meeting the requirements of the Environmental Assessment Act. With the exception of personal information, all comments will become part of the public record.

Please contact either one of the following project team members if you have any questions or comments, wish to obtain more information on the project, or if you would like to be added to the mailing list:

Mr. Cam Johnston, C.E.T.
Supervisor, Project Planning
Region of Peel
11 Indell Lane
Brampton, Ontario
L6T 3Y3
Telephone: **905-791-7800, Ext. 7830**
Fax: **905-791-1442**
Email: **cam.johnston@region.peel.on.ca**

Mr. David Beattie, P.Eng., PMP.
Project Manager
Earth Tech (Canada) Inc.
80 King Street, 2nd Floor
St. Catharines, Ontario
L2R 7G1
Telephone: **905-688-4279**
Fax: **905-688-5821**
E-mail: **dave.beattie@earthtech.ca**

FLOWER CITY
BRAMPTON.CA

Comment Form

City of Brampton

Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors

ENTRA CONSULTANTS

Class Environmental Assessment Study

PUBLIC MEETING #2

The City of Brampton is undertaking the Mount Pleasant Community Transportation Strategy and is carrying out a Class Environmental Assessment Study for the proposed re-alignment of Creditview Road and extension of Sandalwood Parkway at the same time. These studies are addressing the transportation requirements for the first phase of expansion of the urban boundary in North West Brampton, considering a wide range of options to satisfy future travel demands, and establishing the need for future transportation improvements.

Public input to this study is an important component of the study process. Therefore, we are asking that, if you would like to provide comments / information for the Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study, or if you would simply like to have your name / organization maintained on our public contact list for future notifications, please complete this form and mail or deliver to: City of Brampton, 2 Wellington Street West, Brampton, Ontario, L6Y 4R2 or fax us at 905-874-2099, by June 8, 2007, to the attention of Ms. Janice Given, MCIP, RPP, Manager of Growth Strategy and Special Policy, Planning and Development Department. Those responding will be notified of future public meeting dates.

Name: CHRISTINE YEE, GORDON DRIEDGER
(please print) REAL ESTATE ADVISOR INC.

Address: 73 MARY ST.
GEORGETOWN, ON L7G 4V8

Phone: (416) 932-0464 christine.yee@gdrea.ca

COMMENTS:

PLEASE ADD ME TO MAILING LIST FOR FUTURE PUBLIC NOTICES.

ALSO - PLEASE EMAIL ME A PDF OF THE MT. PLEASANT SECONDARY PLAN - PROPOSED FRAMEWORK PLAN

(Please use additional pages as required)

If you have any questions with respect to the Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study, please contact Ms. Janice Given, MCIP, RPP, Manager of Growth Strategy and Special Policy, Planning and Development Department, City of Brampton, at 905-874-2410 or Ms. Angela Iannuzziello, P. Eng., President, ENTRA Consultants, at 905-946-8900. Please send any written submissions to the attention of Ms. Janice Given at the contact information noted above. Thank-you.

FLOWER CITY

BRAMPTON.CA

Comment Form

City of Brampton

Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors

Class Environmental Assessment Study

ENTRA CONSULTANTS

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Name: _____
(please print)

Address: _____

_____

Phone: _____

COMMENTS:

Planning Context

- Appeals to OMB have been dismissed.

(Please use additional pages as required)

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→ DB 24-17 Comments

•peel District School Board

5650 Hurontario Street
Mississauga, ON, Canada L5R 1C6
t 905.890.1010 1.800.668.1146
f 905.890.6747
www.peelschools.org

May 28, 2007

Ms. Angela Iannuzziello
President
ENTRA Consultants
2800 Fourteenth Avenue, Suite 210
Markham, ON L3R 0E4

Dear Ms. Iannuzziello:

RE: **Class Environmental Assessment – Public Information Centre No. 2**
Mount Pleasant Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors
City of Brampton

Thank you for your letter to the Board dated May 1, 2007 informing us of the second PIC on May 30, 2007 for the above noted project. The Board is interested in this project as we have a number of schools in the vicinity of the study area. Please keep us informed of the status of this project and provide us with any information that is available so that we may monitor its progress and provide comments as necessary.

If you require any further information please contact me at 905-890-1010, ext. 2217.

Yours truly,

Paul Mountford, MCIP RPP
Intermediate Planning Officer
Planning and Accommodation Department

c. Steve Hare, Peel District School Board
J. Given, City of Brampton

Mt Pleasant PIC 2.doc

RECEIVED MAY 31 2007

24-17
PIC#21
comments

FLOWER CITY
BRAMPTON.CA

ENTRA
CONSULTANTS

CITY OF BRAMPTON

Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study

PUBLIC MEETING #2

May 30, 2007

ATTENDANCE REGISTER

NAME (please print)	ADDRESS & POSTAL CODE (please print)	E-MAIL
Brian Holmes	166 Main St. N. Brampton M6S 1N9 Apt #3	
Christine Lee	73 Mary St. Georgetown L7G 4V8	
Calvin McCourt	695 Montbeck Cres Mississauga ON L5G 1P4	
KATHY CATER	Peel Region	
HEATHER LAIDLAW	9726 Heritage Rd. Brampton.	L6X 0A2
Haiqing XU	Town of Caledon	(905) 584 2272.
Bruce Reed	10378 Heritage Rd. Brampton	905 846 2522 L6A 0E7
Paul Sargeant	BA Group	sargeant@bagroup.com
Neal Grady	City Planning.	

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CITY OF BRAMPTON

Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study

PUBLIC MEETING #2

May 30, 2007

ATTENDANCE REGISTER

NAME (please print)	ADDRESS & POSTAL CODE (please print)	E-MAIL
JOHN ARTHEY	10055 CREDITVIEW RD L7A 0G5	

ENTRA
CONSULTANTS

Appendix E

Public Information Centre #3 Material

Excellence in
Transportation Planning

NOTICE OF PUBLIC INFORMATION CENTRE

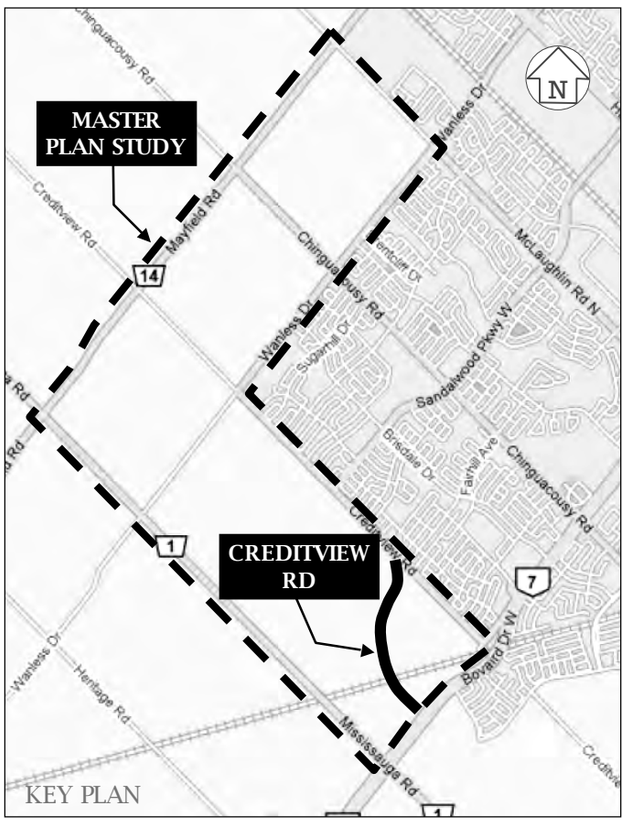
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT
CREDITVIEW ROAD AND SANDALWOOD PARKWAY MASTER PLAN

You are invited to attend a Public Information Centre for the Creditview Road and Sandalwood Parkway Master Plan. This meeting will highlight the proposed realignment of Creditview Road from Bovaird Drive to the existing Creditview Road (approximately 1,500m north of Bovaird Drive). The proposed realignment includes a grade separation at the CN rail line. The realignment of Creditview Road is a Schedule C project in accordance with the provisions of the Municipal Class Environmental Assessment (2007).

The purpose of this Public Meeting is twofold:

1. To present and receive input on the Creditview Road and Sandalwood Parkway Master Plan, including the planning solutions, evaluation criteria, in accordance with the Phases 1 and 2 provisions of the Class EA for selected roads in the Master Plan.
2. To present and receive input on the alternative design concepts for the Creditview Road realignment and CN rail grade separation, review the criteria used to evaluate the alternative design concepts and discuss the preliminary preferred alternative in accordance with the Phase 3 provisions of the Class EA.

The Creditview Road and Sandalwood Parkway Master Plan study area and Creditview Road realignment are shown on the Key Plan.



Public Information Centre

Date: **Thursday, September 18, 2008**

Place: **Peel Regional Police Association Hall (10675 Mississauga Road, Brampton)**

Time: **6:00pm – 8:30pm Open House**

Your involvement is important

Public consultation is vital to the success of this study, and the City of Brampton appreciates your input and ideas. Please take this opportunity to make comments, identify issues and provide additional information:

- Attend this Public Information Centre
- Submit your written comments to the City
- Add your name to our mailing list

Following the Public Information Centre, further comments on the Master Plan and Creditview Road realignment are invited for incorporation into the planning and design of this project. Comments will be received until September 26, 2008.

Subject to comments received as a result of this notice and public meeting, the City will proceed to finalize (1) the Master Plan, and (2) the planning and design of the Creditview Road realignment. An Environmental Study Report for the Creditview Road realignment will be prepared and placed on the public record for a minimum 30-day review period.

Comments and Information

Information requests or questions may be directed to the following team members:

Mr. Henrik Zbogar, MCIP, RPP
Project Manager, Transportation
City of Brampton
2 Wellington Street West
Brampton, Ontario, L6Y 4R2
Tel: 905-874-3553
Fax: 905-874-2099
E-mail: henrik.zbogar@brampton.ca

Ms. Angela Iannuzziello, P. Eng.
President, ENTRA Consultants
2800 Fourteenth Avenue, Suite 210
Markham, Ontario, L3R 0E4
Tel: 905-946-8900
Fax: 905-946-8966
E-mail: asi@entraconsultants.com

Information will be collected in accordance with the Municipal Freedom of Information and Protection of Privacy Act. With the exception of personal information, all comments will become part of the public record.

This notice issued on August 27, 2008.

CITY OF BRAMPTON

Creditview Road and Sandalwood Parkway Master Plan

Class Environmental Assessment Study

Information Package

For

Public Information Centre #3

September 18, 2008

CITY OF BRAMPTON

Creditview Road and Sandalwood Parkway Master Plan
Class Environmental Assessment Study

Study Context

In December 2005, the City of Brampton initiated the Mount Pleasant Community Transportation Strategy and a Class Environmental Assessment Study to address the arterial and collector roads in the Mount Pleasant Secondary Plan area, the realignment and widening of Creditview Road and the extension of Sandalwood Parkway. This study has considered a wide range of options to satisfy future travel demands, and establish the need for future transportation improvements. **This study is now being carried out as a Master Plan in accordance with the Municipal Class Environmental Assessment (as amended in 2007).** The Master Plan is assessing environmental, social, economic and technical criteria and will address the interests of area residents, stakeholders and local businesses in selecting the preferred alternative.

Study Purpose

The Mount Pleasant Community is envisioned as an innovative pedestrian-friendly and transit-oriented community, where both the road network and community-friendly transit services are planned and implemented in conjunction with one another.

The Creditview Road and Sandalwood Parkway Master Plan Class Environmental Assessment Study will provide a clear and defensible strategy for the provision of roads and transit in support of the planned community and the mobility needs of future residents and workers.

The Study purpose is twofold and will address:

- transportation requirements for the first phase of urban expansion in North West Brampton (i.e., Mount Pleasant);
- Creditview Road and Sandalwood Parkway alignments in the Mount Pleasant Community in accordance with the requirements of Phases 1 through 4 of the Municipal Class Environmental Assessment (2000).

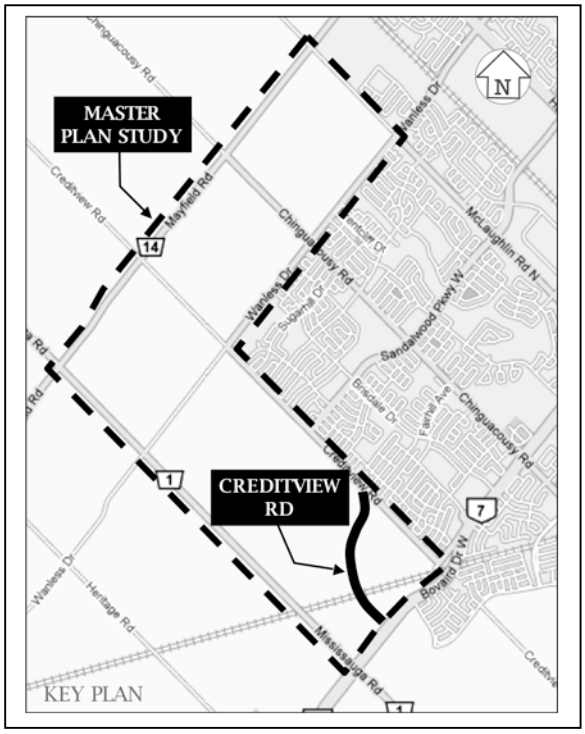
Purpose of PIC # 3

The purpose of this PIC is twofold:

1. To present and receive input on the Creditview Road and Sandalwood Parkway Master Plan, including the planning solutions, evaluation criteria, in accordance with the Phases 1 and 2 provisions of the Class EA for selected roads in the Master Plan.
2. To present and receive input on the alternative design concepts for the Creditview Road realignment and CN rail grade separation, review the criteria used to evaluate the alternative design concepts and discuss the preliminary preferred alternative in accordance with the Phase 3 provisions of the Class EA.

Study Area

The Mount Pleasant Community Study Area and Creditview Road realignment are shown on the Key Plan.



Study Process

The Master Plan identifies the realignment of Creditview Road as a Schedule C project in accordance with the provisions of the Class EA. The City of Brampton is moving forward with Phase 3 of the Class EA planning process for the Creditview Road realignment from Bovaird Drive to existing Creditview Road including a grade separation at the CN rail line. Phase 3 of the study addresses issues related to the design of the Creditview Road and CN rail grade separation.

The following study activities have been completed:

- review of existing transportation-related documents and policies of the City, Region and Province;
- review of existing design standards, planning guidelines and transit objectives and future potential opportunities;
- inventory of existing roads, transit and transportation conditions;
- identification of significant natural features in North West Brampton;
- assessment of future needs;
- refinement of study interests, including opportunities, constraints and considerations;
- development and evaluation of transportation planning alternatives;
- refinement of the preferred solution based on comments received from the public and the technical agencies; and
- development and evaluation of alternative transportation design concepts for the realignment of Creditview Road from Bovaird Drive (opposite James Potter Road) to connect with existing Creditview Road (approximately 1,500m north of Bovaird Drive), including a grade separation at the CNR line.

Public Consultations

Public consultation is an essential component of the preparation of the Creditview Road and Sandalwood Parkway Master Plan Class Environmental Assessment Study. Public consultation is planned throughout the study to receive input from the public and agencies on the development of the transportation network.

Public Information Centre (PIC) #1 on April 25, 2006 provided an overview of the study objectives and process, and allowed the public an opportunity to review and provide input on the proposed study process, the existing environmental and transportation situation in and adjacent to the Study Area, including key features, roads, transit and travel characteristics, transportation interests that have been identified by the study team and opportunities, constraints and considerations in dealing with each of the identified study interests, and a Preliminary Problem/ Opportunity Statement. A total of 20 people signed the register and 1 comment sheet was received at the first PIC.

PIC #2 was held on May 30, 2007 and presented the public a refined Problem/Opportunity Statement, four transportation planning alternatives developed in response to the Problem/Opportunity Statement, the screening criteria used to evaluate the transportation planning alternatives, the evaluation summary of the transportation planning alternatives and the preliminary preferred alternative. A total of 12 people signed the register and 3 comment sheets were received at the second PIC.

Master Plan Objectives

The objectives of this Master Plan are to:

- Prepare a community-wide transportation strategy for the Mount Pleasant Community in accordance with the policies outlined in the Brampton Official Plan. This strategy will guide the identification of proposed collector and arterial roads in compliance with Phase 2 of the Class EA.
- Determine the final location of extensions of Creditview Road and Sandalwood Parkway in the Mount Pleasant Community in compliance with Phase 4 (completion) of the Class EA.
- This study will address the major collector and arterials for the Mount Pleasant Community that will be required for construction at stages over the long-term in compliance with Phase 2 of the Class EA including: Creditview Road, Sandalwood Parkway, Mayfield Road, Wanless Road, Mississauga Road and Collector Roads.
- Identify, for future studies, potential additional projects (road and transit) beyond the boundaries of the Study Area that may be required to accommodate development of the Mount Pleasant Community.

Community Design Principles

The Community Design Principles established by the Study Steering Committee for use in the Mount Pleasant Community lead to the identification of design requirements for key transportation infrastructure in Mount Pleasant.

Creditview Road

In the Brampton Official Plan, Creditview Road is designated as a Minor Arterial Road and as the extension of James Potter (a Minor Arterial Road), north of Bovaird Drive. This results in a basic right-of-way of 36.0m.

The Study Steering Committee has identified the opportunity to use the James Potter design standards for horizontal and vertical alignment for Creditview Road, if necessary, where reduced design speeds are considered to be appropriate.

The use of these standards and the resulting alignment for Creditview Road is reflected in the Community Design Principles for the Mount Pleasant Community and the recommended preliminary preferred alternative.

Creditview Road is expected to:

- define one of the edges of (wraps around) the Urban Core around the GO station;
- carry busier through traffic away from the centre of the community;
- provide City-wide park users direct access to the park, avoiding local traffic;
- as a primary road within the Urban Core, Creditview Road will have an 'urban' form. This is envisioned to include: medium- to high-density residential uses, commercial and mixed-use, minimal building setbacks, enhanced streetscape treatment (e.g., widened treed boulevards, possibly planted central median, decorative pedestrian sidewalk, pedestrian-scaled street lights and so forth); and
- have a high level of transit service.

CNR Grade Separation

With respect to future Creditview Road, it is considered critical that it crosses the existing CNR line as an underpass. An underpass is considered more desirable for several reasons:

- the required vertical separation for an overpass results in longer grades that negatively impact driver sightlines, intersection opportunities and access to the Mount Pleasant GO Station;
- as a community defining landmark an overpass is not desirable and would be a major visual obstruction with limited to restricted development around the crossroads;
- an underpass does not create a visual obstruction within the community, particularly in such a key location that will become one of the primary community gateways;
- an underpass can be effectively designed and landscaped to create an attractive community threshold or gateway;
- an underpass provides good pedestrian access and an environment that is partially protected from weather; and
- an underpass is efficient in land use and allows development close to the crossing and adjacent intersections, and potentially allows buildings to form part of the underpass.

Transportation Design Alternatives

Creditview Road Realignment

Creditview Road is planned to be re-aligned from Bovaird Drive (opposite James Potter Road) to connect with existing Creditview Road (approximately 1,500m north of Bovaird Drive). Creditview Road is planned as a 6-lane arterial road with curbside Bus Lanes and a 3.0m multi-use path in a typical 36.0 metre right-of-way.

CNR Grade Separation Alternatives

Four grade separation alternatives were identified for re-aligned Creditview Road crossing the existing CNR line. Those four alternatives comprise:

Alternative 1: Creditview Road goes over the CNR line. The overpass comprises a 2-span trapozoidal steel box, with 4 general purpose travel lanes, plus curbside Bus Lanes and a west side 3.0m multi-use path.

Alternative 2: Creditview Road goes over the CNR line. The overpass comprises a 2-span 1500 - CPCI girder, with 4 general purpose travel lanes, plus curbside Bus Lanes and a west side 3.0m multi-use path.

Alternative 3: Creditview Road goes under the CNR line. The underpass comprises a 2-span solid deck slab structure (CNR and GO Transit), with 4 general purpose travel lanes, plus curbside Bus Lanes and a west side 3.0m multi-use path.

Alternative 4: Creditview Road goes under the CNR line. The underpass comprises a 2-span steel TPG (CNR) and 2-span solid deck slab structure (GO Transit), with 4 general purpose travel lanes, plus curbside Bus Lanes and a west side 3.0m multi-use path.

Evaluation Criteria

Evaluation criteria were selected for evaluating the CNR grade separation alternatives:

Transportation

- Supports road network options that accommodate forecast future travel demands at acceptable levels of service
- Supports enhanced transit use in the Mount Pleasant Community

Technical Design

- Meets roadway engineering design standards (City and TAC)

- Meets CN/GO railway grade separation design requirements and provides flexibility to accommodate construction of the future GO Transit layover facility
- Accommodates rail traffic during construction
- Supports stakeholder schedule objectives

Socio-Economic Environment

- Minimizes visual impact to the surrounding community
- Minimizes noise impact on noise sensitive receivers
- Minimizes potential impact on utilities
- Minimizes property purchase requirements

Natural Environment

- Minimizes impact on the natural environment by respecting terrestrial natural features
- Minimizes impact on the natural environment by respecting aquatic natural features
- Minimizes impact on the natural environment connectivity and linkages
- Minimizes impact on groundwater

Surface Drainage

- Minimizes potential for impacts on existing surface water resources

Cost

- Minimizes capital costs

Evaluation of the Creditview Road Realignment / CNR Grade Separation Alternatives

A comprehensive assessment of each of the Creditview Road realignment / CNR grade separation alternatives was completed based on the established evaluation criteria. Critical factors in the evaluation were identified based on identified study issues, approved community design principles, the study Problem/Opportunity Statement, preliminary assessments and agency consultation and input regarding the importance of issues and severity of potential impacts. These key factors include:

- minimizes impact on groundwater;
- meets roadway engineering design standards;
- minimizes visual impact to the surrounding community; and
- accommodates rail and roadway traffic during construction.

The preliminary evaluation of subway alternatives (Alternatives 3 and 4) established groundwater impacts as a potential issue for further detailed assessment. No open aquatic features would be directly affected by a subway alternative (based on proposed footprint).

Due to tight local soils of low permeability, no impact due to lost recharge is anticipated.

The impact of dewatering the subway has been simulated to have no significant impact on the ground water flow regime in the general area. There could be a decrease of less than 3 percent of the discharge into Huttonville Creek north of the confluence of the tributary and less than 18 percent of the discharge into the tributary and Huttonville Creek south of the confluence. These results are for a simulated “worst case” conservative scenario without mitigation.

Possible remedial options may be:

1. Direct the discharge from the underpass into the tributary to Huttonville Creek to augment the possible flow reduction in the tributary.
2. Construct the underpass with impermeable sidewalls to reduce the amount of water discharged and decrease the impact of the

dewatering to the surrounding ground water environment.

The evaluation of alternatives has established that the required vertical separation for an overpass alternative (Alternatives 1 and 2) results in longer grades that negatively impact driver sightlines, intersection opportunities and access to the Mount Pleasant GO station. Available decision sight distance to planned Station Road is 155m in Alternatives 1 and 2. This is significantly deficient compared to the required minimum decision sight distance of 225m for the roadway design speed and unacceptably compromises traffic operations and safety on Creditview Road.

Phase 2 of this EA study previously established a strong preference for an underpass design (provided it is feasible) with recognition of the cost premium. This preference was established based on approved community design principles.

Alternatives 3 and 4 are preferred based on High preference ratings for meeting roadway engineering design standards and minimizing visual impact to the surrounding community and Moderate preference ratings related to accommodating rail and roadway traffic during construction. Important measures that favour Alternatives 3 and 4 include:

- the vertical profile and horizontal curvature provide the minimum sightline distances required for the minimum decision sight distance of 225m for the roadway design speed;
- north side or south side rail diversions can be accommodated;
- an underpass can be effectively designed and landscaped to create an attractive community threshold or “gateway”.
- an underpass provides good pedestrian access and an environment partially protected from weather.
- an underpass is efficient in land use and allows development close to the crossing and adjacent intersections, and potentially allows future buildings to form part of the underpass.

While Alternatives 3 and 4 achieve an overall preference rating that is similar, Alternative 4 is considered is recommended given CNR preference for steel deck construction based on factors related to constructability, long-term maintenance and ease of replacement and the negligible cost difference between the alternatives.

Technically Preferred Alternative

Alternative 4 is recommended as the Technically Preferred Transportation Design Alternative. Alternative 4 comprises:

- Creditview Road re-aligned from Bovaird Drive (opposite James Potter Road) to connect with existing Creditview Road (approximately 1,500m north of Bovaird Drive;
- Creditview Road is a 6-lane arterial road with curbside Bus Lanes and an east side 3.0m multi-use path;
- Creditview Road goes under the CNR line;
- the underpass comprises a 2-span steel TPG (CNR) and 2-span solid deck slab structure (GO Transit), with 4 general purpose travel lanes, plus curbside Bus Lanes and an east side 3.0m multi-use path.
- A construction staging plan will be prepared at the design stage and will consider several factors to determine the timing for widening this section of Creditview Road from an initial 4-lane cross-section to 6 lanes.

Next Steps

For the Creditview Realignment and underpass:

- review comments from the public and technical agencies regarding the technically preferred alternatives
- finalize the alignment for this section of Creditview Road and the CNR grade separation design
- document the study in an Environmental Study Report for this section of Creditview Road and the CNR grade separation design
- publish a Notice of Study Completion for this section of Creditview Road and the CNR grade separation design

For the Mount Pleasant road improvements (Creditview, Sandalwood Parkway, etc.):

- complete a Master Plan documenting all the road improvements discussed at this Public Information Centre (end of Phase 2 of the Class EA process)
- complete Phase 3 and 4 of the Class EA process for the road improvement
- review comments from the public and technical agencies

For more information on the Mount Pleasant Community Transportation Strategy and Creditview Road and Sandalwood Parkway Transportation Corridors Class Environmental Assessment Study, contact:

Mr. Henrik Zbogar, MCIP, RPP
Project Manager, Transportation
City of Brampton
2 Wellington Street West
Brampton, Ontario, L6Y 4R2
Tel: 905-874-3553
Fax: 905-874-2099
E-mail: henrik.zbogar@brampton.ca

Ms. Angela Iannuzziello, P.Eng.
President
ENTRA Consultants
2800 Fourteenth Avenue, Suite 210
Markham, Ontario, L3R 0E4
Tel: (905) 946-8900
Fax: 905-946-8966
E-mail: asi@entraconsultants.com

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Comment Form

City of Brampton
Creditview Road and Sandalwood Parkway Master Plan
Class Environmental Assessment Study
Public Information Centre #3

The City of Brampton is moving forward with Phase 3 of the Class EA planning process for the Creditview Road realignment from Bovaird Drive to existing Creditview Road including a grade separation at the CN rail line. The Master Plan identified the realignment of Creditview Road as a Schedule C project in accordance with the provisions of the Class EA. Phase 3 of the study will address issues related to the design of the Creditview Road and CN rail grade separation.

Public input to this study is an important component of the study process. Therefore, we are asking that, if you would like to provide comments / information for the Creditview Road and Sandalwood Parkway Master Plan Class Environmental Assessment Study, or if you would simply like to have your name / organization maintained on our public contact list for future notifications, please complete this form and mail or deliver to: City of Brampton, 2 Wellington Street West, Brampton, Ontario, L6Y 4R2 or fax us at 905-874-2099, by September 30, 2008, to the attention of Mr. Henrik Zbogar, MCIP, RPP, Project Manager, Transportation, Planning and Development Department. Those responding will be notified of future public meeting dates.

Name: _____
(please print)

Address: _____

_____

Phone: _____

COMMENTS:

Comments related to the preferred alternative:

Comments on the problem / opportunity statement:

Comments related to the results of the Transportation Master Plan:

(Please use additional pages as required)

If you have any questions with respect to the Creditview Road and Sandalwood Parkway Master Plan Class Environmental Assessment Study, please contact Mr. Henrik Zbogar, MCIP, RPP, Project Manager, Transportation, City of Brampton, at 905-874-3553 or Ms. Angela Iannuzziello, P. Eng., President, ENTRA Consultants, at 905-946-8900. Please send any written submissions to the attention of Mr. Henrik Zbogar at the contact information noted above. Thank-you.

Public Information Centre #3

Creditview Road and Sandalwood Parkway Master Plan

Class Environmental Assessment Study

September 18, 2008
Peel Region Police Association Hall
6:00pm – 8:30pm

Welcome to PIC #3

- Please sign in.
- Our representatives will be pleased to discuss the project with you.
- Please complete a comment form today or send it to one of the contacts by **September 30, 2008**.

Henrik Zbogar, MCIP, RPP
Project Manager, Transportation

City of Brampton
2 Wellington Street West
Brampton, Ontario L6Y 4R2

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Angela Iannuzziello, P.Eng.
President

ENTRA Consultants Inc.
2800 Fourteenth Avenue, Suite 210
Markham, Ontario L3R 0E4

Tel: 905-946-8900
Fax: 905-946-08966
Email: asi@entraconsultants.com

Purpose in Study Area

This Public Information Centre is for the Creditview Road and Sandalwood Parkway Master Plan. This meeting will highlight the proposed realignment of Creditview Road from Bovaird Drive to the existing Creditview Road (approximately 1,500m north of Bovaird Drive). The proposed realignment includes a grade separation at the CN rail line.

The purpose of this Public Meeting is twofold:

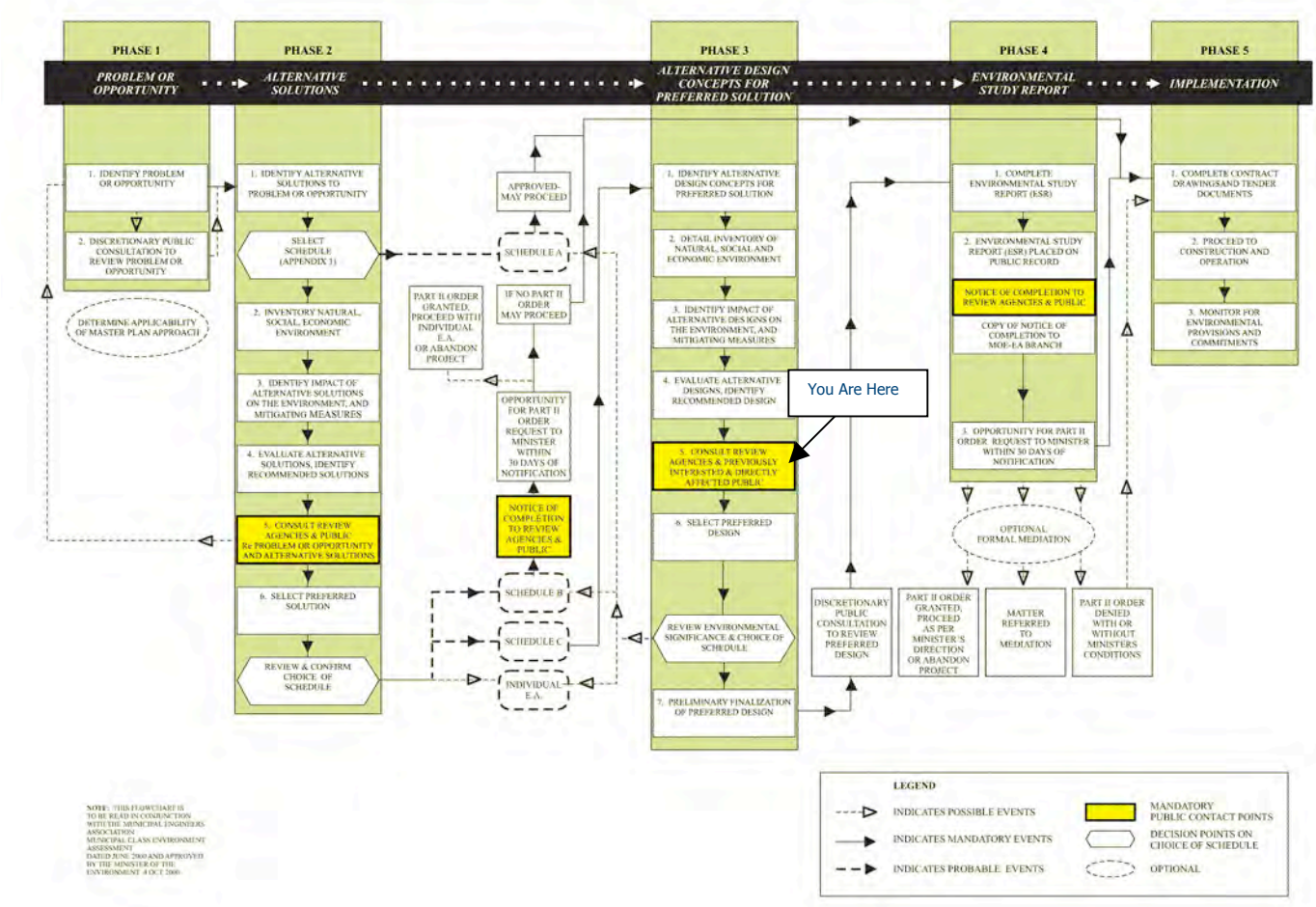
- to present and receive input on the Creditview Road and Sandalwood Parkway Master Plan, including the planning solutions, evaluation criteria, in accordance with the Phases 1 and 2 provisions of the Class EA for selected roads in the Master Plan

- to present and receive input on the alternative design concepts for the Creditview Road realignment and CN rail grade separation, review the criteria used to evaluate the alternative design concepts and discuss the preliminary preferred alternative in accordance with the Phase 3 provisions of the Class EA

The realignment of Creditview Road is a Schedule C project in accordance with the provisions of the Class EA.

Overview of the Class Environmental Assessment Process

Municipal Class EA Planning and Design Process
Creditview Road and Sandalwood Parkway Master Plan Class Environmental Assessment Study



Problem/Opportunity Statement

The preliminary Problem/Opportunity Statement was presented to the Public for consideration and comments at Public Meeting #1 on April 25, 2006, and subsequently finalized and endorsed by the Steering Committee.

An updated Problem/Opportunity Statement is proposed:

> The City of Brampton has identified the need for growth in North West Brampton in a phased manner. The first phase of future urban expansion will be in the Mount Pleasant Community, which is forecast to reach a population of more than 40,000 people and employment of over 3,000 employees. The existing transportation system of roads, transit and associated pedestrian linkages and pathways are insufficient to meet the demands of this expanding community.

Master Plan Objectives

The objectives of this Master Plan are to:

- Prepare a community-wide transportation strategy for the Mount Pleasant Community in accordance with the policies outlined in the Brampton Official Plan. This strategy will guide the identification of proposed collector and arterial roads in compliance with Phase 2 of the Class EA.
- Determine the final location of extensions of Creditview Road and Sandalwood Parkway in the Mount Pleasant Community in compliance with Phase 4 (completion) of the Class EA.
- This study will address the major collector and arterials for the Mount Pleasant Community that will be required for construction at stages over the long-term (i.e., 2031) in compliance with Phase 2 of the Class EA including:

    - Creditview Road
    - Sandalwood Parkway
    - Mayfield Road
    - Wanless Drive
    - Collector Roads

- Identify, for future studies, potential additional projects (road and transit) beyond the boundaries of the Study Area that may be required to accommodate development of the Mount Pleasant Community.

Preferred Transportation Network For the Mount Pleasant Community

Schedule	Project	From	To	Lanes	Trigger	Year	Responsibility
C	Creditview Rd. Realignment and CNR Grade Separation 1	Bovaird Drive	Creditview Rd.	4	Phase 1 Development in Mount Pleasant	By 2011	City
C	Creditview Rd. Widening (Bus Lanes) 2	Bovaird Dr.	Creditview Rd.	6	Development of the Mount Pleasant community.	2021-2031	City
C	Creditview Rd. Widening	Creditview Rd.	Wanless Dr.	4	Development South of Wanless Dr.	By 2011	City
C	Creditview Rd. Reconstruction	Wanless Dr.	Mayfield Rd.	2	Development North of Wanless Dr.	2011-2016	City
C	Sandalwood Pkwy. Extension	Creditview Rd.	Mississauga Rd.	4	Development South of Sandalwood Pkwy.	2011-2016	City

Note 1: CNR Grade Separation to be constructed to accommodate 6 lanes.
Note 2: A construction staging plan will be prepared at the design stage and will consider several factors to determine the timing for widening this section of Creditview Road from an initial 4-lane cross-section to 6 lanes.

Schedule	Project	From	To	Lanes	Trigger	Year	Responsibility
C	Mayfield Rd. Widening	McLaughlin Rd.	Chinguacousy Rd.	6	Development West of McLaughlin Rd.	2021-2031	Region
C	Mayfield Rd. Widening	Chinguacousy Rd.	Creditview Rd.	4	Development West of Chinguacousy Rd.	2016-2021	Region
C	Wanless Dr. Widening	Chinguacousy Rd.	Creditview Rd.	4	Development South of Wanless Rd.	2011-2016	City
C	Wanless Dr. Widening	Creditview Rd.	Mississauga Rd.	4	Development North of Wanless Rd.	2011-2016	City
C	Mississauga Rd. Widening	Boviard Dr.	Sandalwood Pkwy.	4	Development South of Sandalwood Pkwy.	2011-2016	Region
C	Mississauga Rd. Widening	Bovaird dr.	Sandalwood Parkway	6	Development South the Mount Pleasant Community	2021- 2031	Region
C	Mississauga Rd. Widening	Sandalwood Pkwy.	Wanless Rd.	4	Development South of Wanless Rd.	2016-2021	Region
	Collector Roads	Integrated with development of respective block plans					City

Design Principles

Creditview Road

- Minor Arterial Road
- Right-of-way of 36.0m
- James Potter design standards for horizontal and vertical alignment

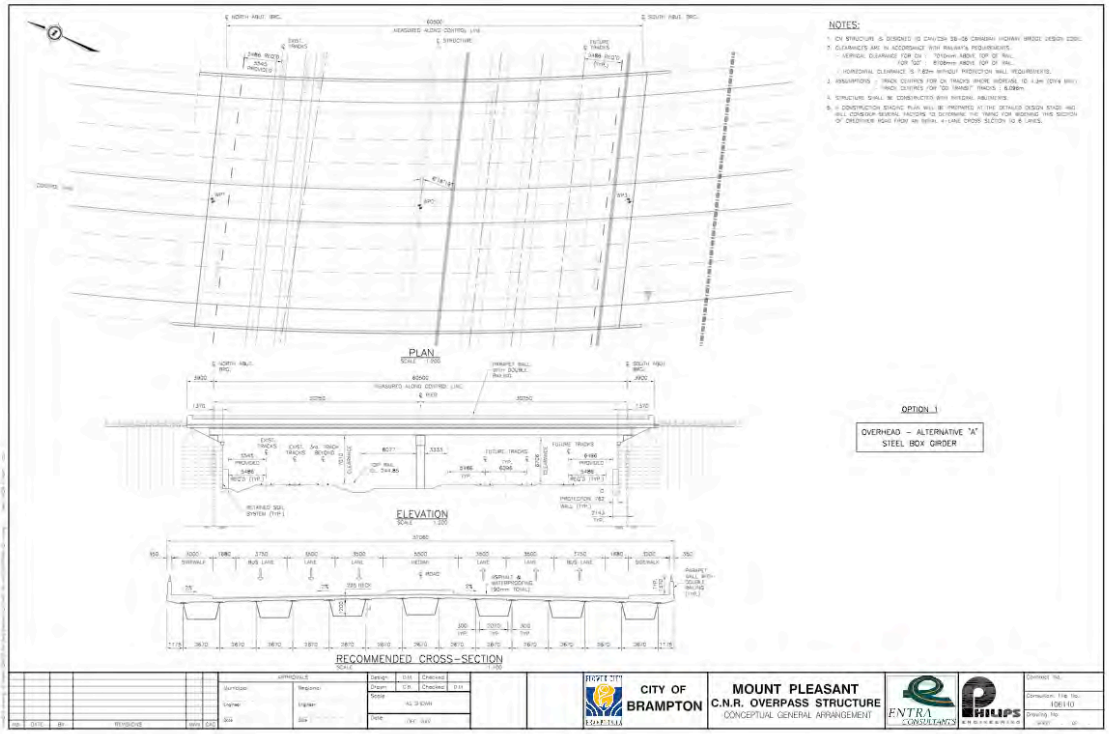
Improved Creditview Road is expected to:

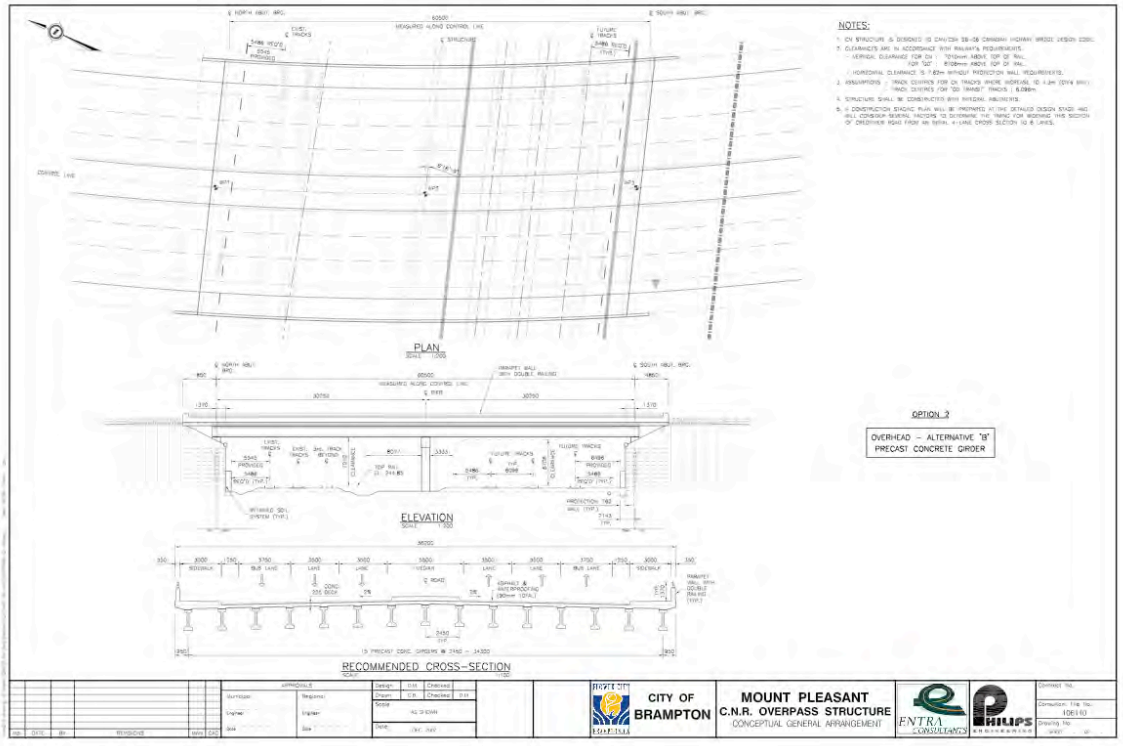
- define the north/north-west perimeter of the Mount Pleasant Village around the GO station
- carry busier through traffic away from the centre of the community
- provide city-wide park users direct access to the park, avoiding local traffic
- redefine the character of a major road in a more urban context through enhanced streetscape treatment and the siting of higher density residential development
- accommodate a high level of transit service

CNR Grade Separation

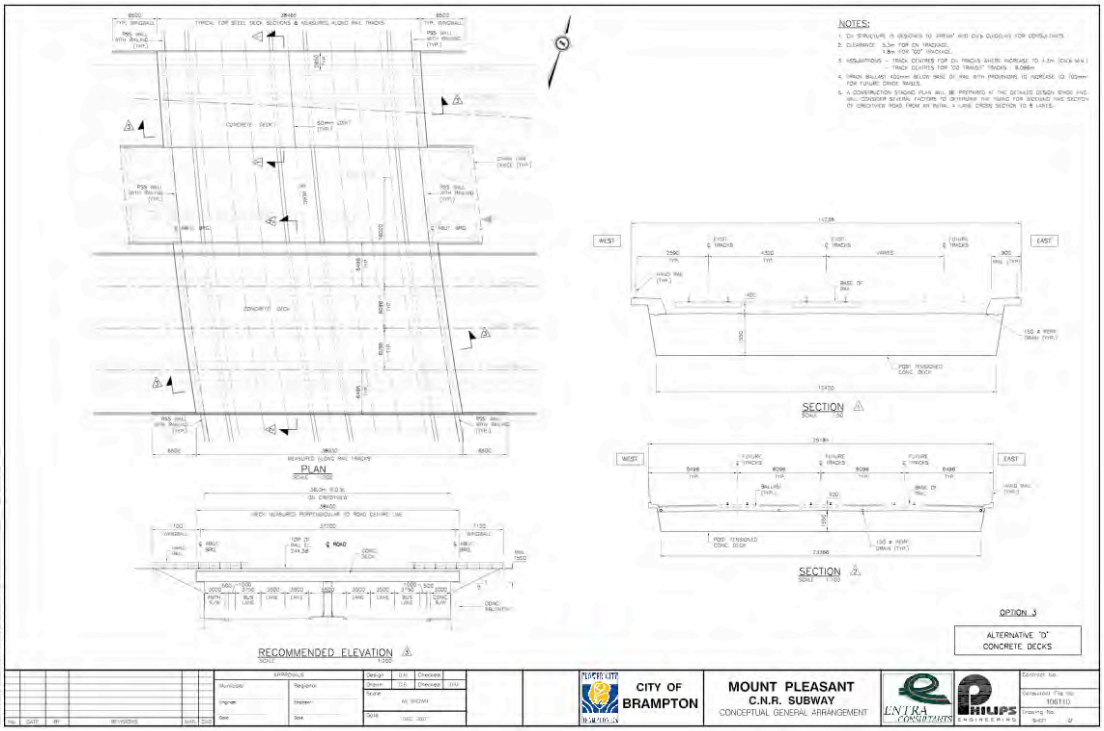
Overpass	Underpass
• Requires greater vertical separation resulting in longer grades, which could negatively impact driver sightlines.	• Can be more effectively designed and landscaped to create an attractive community threshold.
• Limits intersection opportunities and access to the Mount Pleasant GO station.	• Provides better pedestrian access and environment.
• Would be a visual obstruction within the community.	• Is more efficient in land use and allows development closer to the crossing and adjacent intersections
An underpass is considered more desirable for the Creditview Road grade separation at the CNR.	

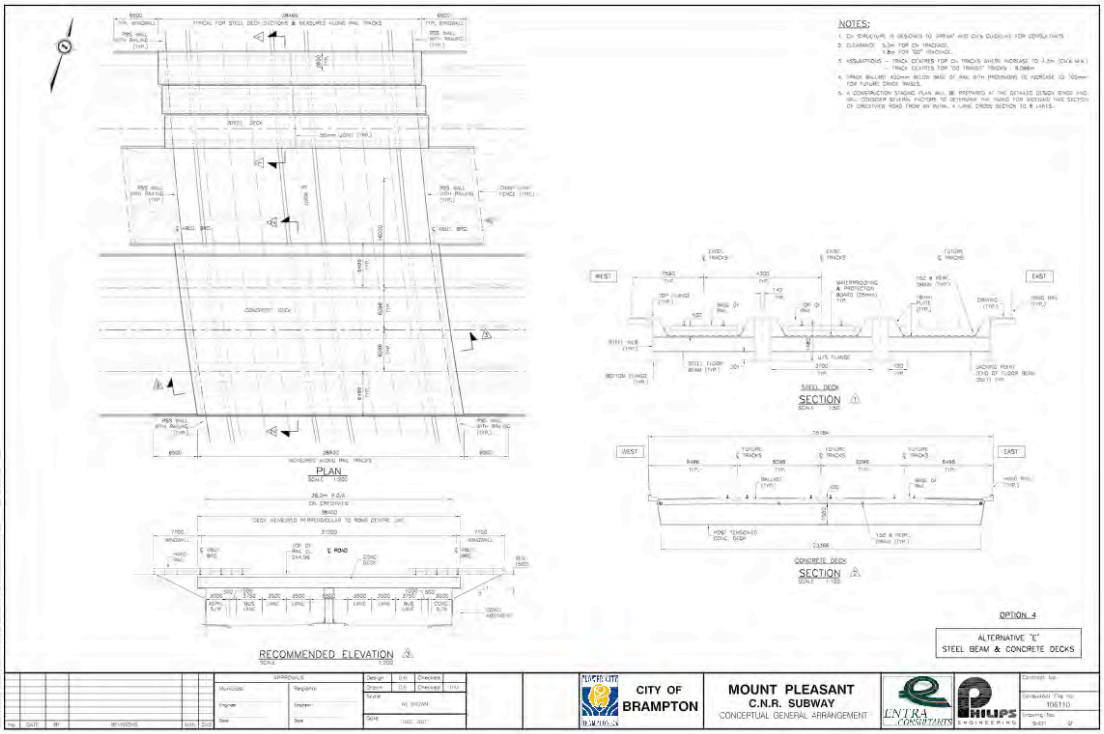
CNR Grade Separation
Structure Alternatives: Overpass





CNR Grade Separation
Structure Alternatives: Underpass





Creditview Rd. Realignment/ CNR Grade Separation: Preference Matrix

Criteria and Factors	*Creditview Road/CNR Grade Separation Alternative*			
	Alternative 1	*Alternative 2*	*Alternative 3*	*Alternative 4*
Transportation				
Supports road network options that accommodate forecast future travel demands at acceptable levels of service	🟢	🟢	🟢	🟢
Supports enhanced transit use in the Mount Pleasant Community	🟢	🟢	🟢	🟢
Technical Design				
*** Meets roadway engineering design standards (City and TAC)**	🔴	🔴	🟢	🟢
Meets CN/GO railway grade separation design requirements and provides flexibility to accommodate construction of the future GO layover facility	🟢	🟢	🟢	🟢
*** Accommodates rail and roadway traffic during construction**	🟢	🟢	🟡	🟡
Supports stakeholder schedule objectives	🟢	🟢	🟡	🟡
Socio-Economic Environment				
*** Minimizes visual impact to the surrounding community**	🟡	🟡	🟢	🟢
Minimizes noise impact on noise sensitive receivers	🟡	🟡	🟢	🟢
Minimizes potential impact on utilities	🟡	🟡	🟡	🟡
Minimizes property purchase requirements	🟡	🟡	🟡	🟡
Natural Environment				
Minimizes impact on the natural environment by respecting terrestrial natural features	🟡	🟡	🟡	🟡
Minimizes impact on the natural environment by respecting aquatic natural features	🟡	🟡	🟡	🟡
Minimizes impact on the natural environment connectivity and linkages	🟢	🟢	🟢	🟢
*** Minimizes impact on groundwater**	🟡	🟡	🟡	🟡
Surface Drainage				
Minimizes potential for impacts on existing surface water resources	🟢	🟢	🟡	🟡
Cost				
Minimizes capital, operating and maintenance costs	🟢	🟢	🟡	🟡

Preference Rating:

🔴 Least Preferred 🟡 More Preferred 🟢 Most Preferred

Factors of Primary importance in the evaluation of transportation design alternatives that are most significant to the selection of the technically preferred alternative are marked with an asterix.

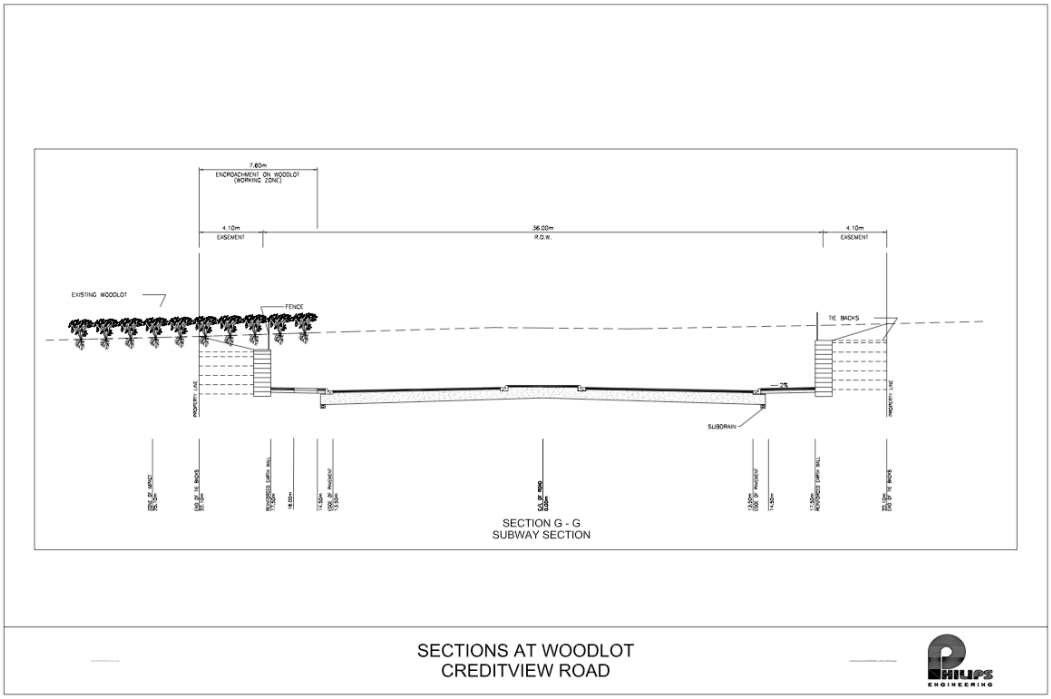
Alternative 4 is recommended as the technically preferred transportation alternative based on the primary factors and CNR preference related to constructability, long-term maintenance and ease of replacement.

Recommendation of Technically Preferred Alternative

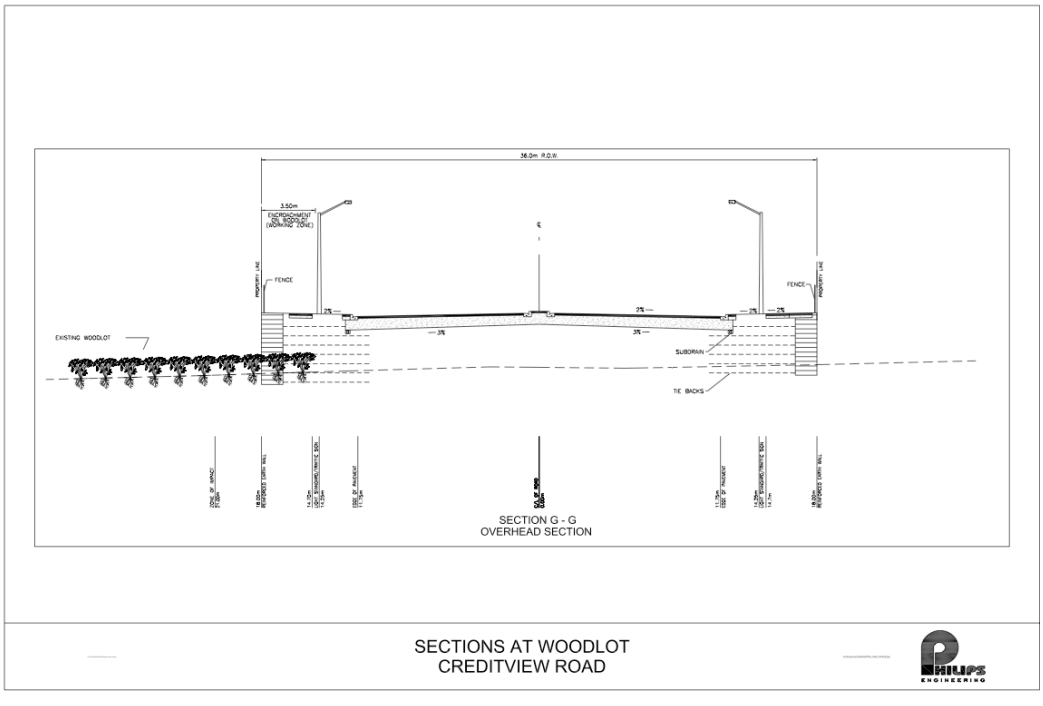
Preliminary Preferred Transportation Alternative Design:

- Creditview Road re-aligned from Bovaird Drive (opposite James Potter Road) to connect with existing Creditview Road (approximately 1,500m north of Bovaird Drive)
- Creditview Road is a 6-lane arterial road with curbside Bus Lanes and an east side 3.0m multi-use path
- Creditview Road goes under the CNR line
- the underpass comprises a 2-span steel beam and concrete decks with 4 travel lanes, 2 bus lanes and an east side 3.0m multi-use path
- a construction staging plan will be prepared at the design stage and will consider several factors to determine the timing for widening this section of Creditview Road from an initial 4-lane cross-section to 6 lanes.

Structure Impacts on Natural Features



SECTIONS AT WOODLOT
CREDITVIEW ROAD



SECTIONS AT WOODLOT
CREDITVIEW ROAD

Next Steps

For the Creditview Realignment and underpass:

- review comments from the public and technical agencies regarding the technically preferred alternatives
- finalize the alignment for this section of Creditview Road and the CNR grade separation design
- document the study in an Environmental Study Report for this section of Creditview Road and the CNR grade separation design
- publish a Notice of Study Completion for this section of Creditview Road and the CNR grade separation design

For the Mount Pleasant road improvements (Creditview, Sandalwood Parkway, etc.):

- complete a Master Plan documenting all the road improvements discussed at this Public Information Centre (end of Phase 2 of the Class EA process)
- complete Phase 3 and 4 of the Class EA process for the road improvement
- review comments from the public and technical agencies

24-17E
PC#3

Subject: FW: Mount Pleasant Secondary Plan & Mount Pleasant Village Block Plan - Part 1
Date: Tuesday, September 30, 2008 8:34 AM
From: Zbogar, Henrik <henrik.zbogar@city.brampton.on.ca>
To: "Derek Dalgleish (E-mail)" <dd@ENTRAconsultants.com>
Cc: "Angela Iannuzziello (E-mail)" <asi@ENTRAconsultants.com>
Conversation: Mount Pleasant Secondary Plan & Mount Pleasant Village Block Plan - Part 1

PIC#3 comments from Ms. Wilson to be included on the record and considered accordingly...

Henrik Zbogar, M.Sc.Pl, MCIP, RPP
Project Manager, Transportation (North West Brampton)
City of Brampton | Planning, Design & Development
2 Wellington Street W | Brampton ON L6Y 4R2
T 905.874.3553 | F 905.874.2099
henrik.zbogar@brampton.ca

-----Original Message-----
From: Sharon Wilson [mailto:slwilson@rogers.com]
Sent: 2008/09/29 8:39 PM
To: Zbogar, Henrik
Cc: 'Sharon Wilson'; Grady, Neal
Subject: FW: Mount Pleasant Secondary Plan & Mount Pleasant Village Block Plan - Part 1

Hello Mr. Zbogar:

We attended the Public Information Centre #3 presentation on September 18th.

Please find this email our comments for your consideration as instructed they must be sent by September 30th.

I would like to take the time to provide some history. As like most people our home is our major investment and we took the time to choose our home carefully. When this house was for sale and we were interested, we did our homework to be informed that the development around our house was several years ahead. Well here we are in 2008 and have lived with this development for several years as we were told the plan is over 5 years ahead of schedule.

When we purchased our home we had very distinct needs:

- Long wide driveway to be able to have all our vehicles in the driveway
- Bungalow as my widow mother lives with us and cannot climb stairs
- We liked the ∏ acre lot chance for a country home
- Workshop for my husband

This house met all these needs and since we have lived here, we have lost the value and location as a country home, and now depending on the plans for Creditview to widen, we may have problems with the driveway being able to park all our cars with ease. We are also very concerned about the accessibility of our driveway should lights be in place at Buick and Creditview with an island. Both my husband and I always back in our vehicle and we need access from both north and south on Creditview. Should an island be in place with lights, we will only be able to go north on Creditview and this will be a huge inconvenience for us.

I guess at this point we are pleading with you to be compassionate about our needs and disappointments. The level of frustration we have felt over the years has almost been unbearable. You may ask, well why don't we sell, we did have it for sale and did not have one offer. We also approached Great Gulf Homes and Ray DeBastia to purchase our home, but both declined. We feel trapped, and we are angry that the City of Brampton has not supported us. We have had to have meetings, discussions/arguments to maintain what we have. We are not asking for anything more, but just to be respected and have our needs met.

We ask that the widening of Creditview does not impact our property but also the tentative road for Creditview be moved. We have had discussions about keeping the existing road of Creditview as Old Creditvew which would not have access to hwy 7. The new location for Creditview by highway 7 is taken up through the proposed development to Wanless.

It is also important to note that the silver of land beside our driveway and Buick is not ours. We had to plead with the initial planners and have Buick moved as there was a tentative plan for expropriation of our driveway and the only way we could keep our driveway was to move the road. Considering our garage is attached to the house, moving the driveway is not an option. Now why this was on the original plans, is a question I have asked many times without any response.

We also feel there are not many voices to be heard as we only have a limited number of older homes with their driveway having direct access to Creditview so there will not be many "concerns". We hope you will also take this into consideration as well.

I hope you can feel our pain and frustration and take our needs into consideration with the tentative plans for Creditview.

Thank you

From: Sharon Wilson [mailto:slwilson@rogers.com]
Sent: Monday, March 10, 2008 1:21 PM
To: 'Zbogar, Henrik'
Cc: neal.grady@brampton.ca; 'Sharon Wilson'
Subject: RE: Mount Pleasant Secondary Plan & Mount Pleasant Village Block Plan - Part 1

Hello Mr. Zbogar,

Thank you for your email and response.

While I appreciate the information, I do believe my husband attended the meeting last year and picked up this information.

Your email/response does not address any of my concerns or provide any assurances that my issues will be reviewed or have any merit for what is happening or being proposed for Creditview. As you clearly state you have analyzed the needs and made the "justifications" (without any communication to the residents on Creditview to include their needs) and also confirm "a considerable amount of work" has been completed. However, has anyone ever spoken or made an effort to communicate to the residents on Creditview to establish and recognize their needs? These are residents who were here prior to any of this construction commencing. Has anyone listened to their concerns, prior to all this "considerable amount of work" being spent on your justifications that in no way warrant our concerns? I am not referring to public forums where we have many residents with varying concerns about the development, but the actual residents who reside right on Creditview.

Being a resident of Brampton has been very disappointing for us. We have had many concerns and frustrations when the original development had commenced and yes of course we attended all the meetings, tried calling many representatives including the mayor to which we never had any responses. It just seems like this is happening all over again. It feels that needs of existing residents are not part of the equation when the "justifications" are made. Especially when we had to request the original plans prior to construction commencing be realigned so we could keep our driveway! Why would these plans originally be approved? Yes, we did have the plans altered, but we had to go request and fight for it.

I am most disappointed in the city of Brampton and if the opportunity ever presents itself, I would very much like to move where existing residents have the same value as new development.

If the city would be interested in meeting, I would welcome the opportunity.

Kind regards,

From: Zbogar, Henrik [mailto:henrik.zbogar@city.brampton.on.ca]
Sent: Monday, March 10, 2008 12:18 PM
To: 'Sharon Wilson'; 'swilson@compben.com'
Subject: RE: Mount Pleasant Secondary Plan & Mount Pleasant Village Block Plan - Part 1

Dear Ms. Wilson –

My apologies for the delayed response. I had been hoping to address your comments in detail at the third Public Information Centre (PIC #3) for the Creditview Road and Sandalwood Road Environmental Assessment studies, which was to have taken place by now, but which we have had to postpone.

We expect to convene Public Information Centre #3 this Spring, at which time you will have an opportunity to review in greater detail the plans for the Creditview Road alignment, and the property impacts, if any, associated with proposed roadway improvements. This PIC will also present an opportunity to ask questions of both City staff and their consultant, and to provide formal written comments that will be addressed before the study is completed. Public Meeting Notices will be issued in the Brampton Guardian in advance of the PIC date.

I trust, however, that you had an opportunity to attend the previous two public information centres dealing with the Mount Pleasant Community Transportation Strategy, which would have provided you with information relating to the needs and justification for the roadway improvements being considered. Also, there was a considerable amount of work completed regarding transportation network requirements for the Fletcher's Meadow Secondary Plan Area, including formal Public Open Houses, which would have taken place around the time you assumed your current residence.

For your convenience, I have attached the information package that was provided to all attendees at PIC#2, on May 30, 2007, as well as the display boards that were exhibited for public comment and discussion. I would encourage you to review this information, which should provide you with answers to some of your questions. (Please note that the second attachment has been sent in a separate e-mail, owing to the large file size).

I trust this is of assistance.

Kindest regards,

Henrik Zbogar, M.Sc.Pl, MCIP, RPP
Project Manager, Transportation

City of Brampton | Planning, Design & Development
2 Wellington Street W | Brampton ON L6Y 4R2

-----Original Message-----
From: Sharon Wilson [mailto:slwilson@rogers.com]
Sent: 2008/03/07 2:21 PM
To: neal.grady@brampton.ca
Cc: henrik.zbogar@brampton.ca; 'Sharon Wilson'
Subject: FW: Mount Pleasant Secondary Plan & Mount Pleasant Village Block Plan

Hi Neal,

As we discussed on Wednesday, please find my original email dated February 6th which I have not received any reply.

Thank you,
Sharon

From: Sharon Wilson [mailto:slwilson@rogers.com]
Sent: Wednesday, February 06, 2008 2:04 PM
To: henrik.zbogar@brampton.ca
Cc: neal.grady@brampton.ca; 'Sharon Wilson'
Subject: Mount Pleasant Secondary Plan & Mount Pleasant Village Block Plan

Hello,

I was speaking with Neal regarding the above and expressed some concerns. Neal had suggested that if I wished I could email you some of my concerns for your review.

My name is Sharon Wilson and I live at 10799 Creditview Road with my husband Brian and my 74 year old mother. We are one of the "old" homes right on Creditview Road and Buick.

I am sure you can imagine that the above plan review is very important to us.

I am very disappointed in the City of Brampton recognizing the needs of existing residents as those compared to new residents and developers. The last few years have been very difficult costing us time and health issues dealing with the stress.

We have a major concern about the change in Creditview being a major road to the Go Train Station. When we moved here about 8 years ago, we bought a country home on a quiet street. Another major component in purchasing this house was having a large and long driveway. I can only imagine the congestion of the traffic level for getting in and out of our driveway, the potential expropriation and the level of noise this change would cause. We have tried to sell our house and as you can imagine, it is very difficult being an old home jammed in a new subdivision.

I would like to ask why Creditview has to be expanded and developed. I see Mississauga Road as the major artery leading to the GO Train Station and also access to both the 401 and 407, so why have this traffic on Creditview not Mississauga Road?

It would be most appreciated if you could keep our concerns in mind when assessing this proposal.

My home email address is slwilson@rogers.com

Thank you,

Sharon Wilson
Consultant
Comprehensive Benefit Solutions Limited
Phone 905-459-4534 (direct)
905-896-2022 (switchboard)
Fax 905-459-5333
Toll 1-800-503-2273 x2074
Email swilson@compben.com
Web www.compben.com <http://www.compben.com>

circumstances.

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If you have any questions regarding the City's application of this Act please contact the City's Freedom of Information and Protection of Privacy Co-ordinator at 905-874-2118 or cityclerksoffice@brampton.ca.

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If you have any questions regarding the City's application of this Act please contact the City's Freedom of Information and Protection of Privacy Co-ordinator at 905-874-2118 or cityclerksoffice@brampton.ca.

Subject: RE: Creditview/Sandlewood Master Plan
Date: Tuesday, September 30, 2008 4:09 PM
From: Zbogar, Henrik <henrik.zbogar@city.brampton.on.ca>
To: Alan Filipuzzi <afilipu@toronto.ca>
Conversation: Creditview/Sandlewood Master Plan

Alan – in the context of developing an "urban village" on the north side of the tracks, centred on the Mt. Pleasant GO Station, there will be direct pedestrian access to all platforms. More structured "drop-off/pick-up" facilities and some limited parking opportunities will be provided on the north side a well, but there will be no major parking facility here. GO patrons choosing to drive to the station will continue to use the lot on the south side. Mount Pleasant Village and the surrounding Mt. Pleasant Secondary Plan Area are being designed to facilitate and encourage access to the station by modes other than the private automobile. The north side is anticipated to accommodate a number of future transit routes whose catchment area will comprise surrounding new development. We certainly recognize that not all new trips destined for the GO Station that are generated by new development will be accommodated by public transit, cycling, or walking. To that end, GO Transit still has additional property on the south side to expand its surface parking. However, we also recognize that while demand for parking is inevitable and has to be considered, surface parking lots are a far cry from "highest and best use" of land. As more detailed planning for the mixed use development on the portion of the Mount Pleasant Community south of the CNR evolves, we will be looking at opportunities to intensify, including the provision of structured parking for GO to accommodate future demand.

Regards,

Henrik Zbogar, M.Sc.Pl, MCIP, RPP
Project Manager, Transportation (North West Brampton)
City of Brampton | Planning, Design & Development
2 Wellington Street W | Brampton ON L6Y 4R2
T 905.874.3553 | F 905.874.2099
henrik.zbogar@brampton.ca

-----Original Message-----
From: Alan Filipuzzi [mailto:afilipu@toronto.ca]
Sent: 2008/09/30 3:35 PM
To: Zbogar, Henrik
Subject: RE: Creditview/Sandlewood Master Plan

Henrick,

The proposed Creditview realignment will be an improvement to the current situation for many of the residents living in the northwest area of Brampton. However, was any thought given to providing a GO parking lot and access to the platforms from the north side of the tracks? Given the amount of current and future development in the area this seems like a logical thing to do. I think the number of drop offs and the activity at the existing cul-de-sac north of the tracks is a good indication of the demand.

Thanks,
Alan

>>> "Zbogar, Henrik" <henrik.zbogar@city.brampton.on.ca> 09/30/2008 3:06 PM >>>

Hello Allan - I've attached a copy of the Mt. Pleasant Block Plan that was presented to Council earlier this summer, which illustrates the answers to your 2 questions.

In short, the lands between the CNR tracks and Bovaird are slated for the GO station and for Mixed-Use (Commercial/Residential). The intent is to develop this site as a more intensive employment node (office, retail commercial) with some residential. Specific densities, built form, and population/employment mix are currently being worked out. At some point in the future, there may also be opportunity to intensify on the GO property itself.

Access to the GO station will be via the current entrance on Bovaird and a new road from realigned Creditview, to the west. Both will be public rights-of-way.

I trust this is of assistance.

Regards,

Henrik Zbogar, M.Sc.Pl, MCIP, RPP
Project Manager, Transportation (North West Brampton)
City of Brampton | Planning, Design & Development
2 Wellington Street W | Brampton ON L6Y 4R2
T 905.874.3553 | F 905.874.2099
henrik.zbogar@brampton.ca

-----Original Message-----
From: Alan Filipuzzi [mailto:afilipu@toronto.ca]
Sent: 2008/09/23 2:39 PM
To: Zbogar, Henrik
Subject: RE: Creditview/Sandlewood Master Plan

Henrick,

Thank you for this information a few questions:

1. What is being proposed for the parcels of lands between the rail corridor and Bovaird?
2. What connections are being proposed for the GO Station?

Thanks,
Alan

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24-17F
comments

Region of Peel
Working for you

September 10, 2008

Henrik Zbogar, MCIP, RPP
Project Manager, Transportation
City of Brampton

Re: Schedule 'C' projects identified as part of the Mount Pleasant Community Master Plan

Dear Mr. Zbogar,

Regional staff have reviewed the material provided at the steering committee meeting, specifically the project schedule for schedule "C" EA projects to be considered as part of the Mount Pleasant Community Master Plan. We have compared the timelines for each project with our Development Charges Roads program and the Capital Program and provide the comparison and comments in the attached table.

The timelines suggested for Mayfield road for 4 lanes requirement appear to be in line with our DC and Capital program. The timelines and lane requirements for Mississauga Road (Bovaird to Sandalwood parkway – 6 lanes 2011 - 2016) seem to conflict. We are currently undertaking an EA for Mississauga Road and are reviewing the traffic projections and analysis. We anticipate a completed traffic report by October 2008. This will give a clear direction in terms of the lane requirements and the construction timing of the Mississauga Road project.

The road construction has to tie in with the construction of other services (water and wastewater) and the projects will be planned accordingly.

Please note the Region is currently working on an Official Plan update which includes updating of Transportation policies and road network. The Region's DC-bylaw will be updated by 2012. Based on the OP update and the DC study that the Region will undertake, the future road improvements and timing may change.

If you have any questions or concerns, please contact me.

Thanks,

Hitesh Topiwala, *MCIP, RPP*
Project Manager, Project Planning and Studies
Transportation
Environment, Transportation and Planning Services
Region of Peel
Phone No.: 905-791-7800 ext. 7805
Fax No.: 905-791-1442

CC: Jaime Acosta, Transportation, Region of Peel
Margie Chung, Transportation Planning, Region of Peel
Jim Hoddinott, Transportation, Region of Peel

Regional Road name and lane requirements as per MPCMP	Mount Pleasant Community Strategy – suggested timelines	Region's Development Charges Road program – suggested time lines	Region's Capital Program - 2008 EAs	Region's Capital Program - 2008 DD / Construction	Comments
Mayfield Road (McLaughlin to Chinguacousy) – 6 Lanes	2021-2031	4 lanes 2015 6 lanes 2024	Class EA for 2 -4 lanes in 2010	Currently a project in place to widen up to 4 lanes DD – 2012 Const. completion - 2015	
Mayfield Road (Chinguacousy to Creditview) – 4 Lanes	2021-2031	4 lanes 2018	No project in the program in the ten year forecast	No project in the program in the ten year forecast	
Mississauga Road (Bovaird to Sandalwood Pkwy) – 6 lanes	2011-2016	4 lanes 2013 6 lanes 2023	EA – Ongoing from Bovaird to Mayfield Road – Traffic analysis to be finalized	Currently a project in place to widen up to 4 lanes DD – 2010 Const. completion - 2013	EA will determine if a 6 lane or 4 lane widening is required pending finalization of the traffic analysis
Mississauga Road (Sandalwood Pkwy to Wanless) – 4 lanes	2016-2021	4 lanes 2013 6 lanes 2023	EA – Ongoing from Bovaird to Mayfield Road – Traffic analysis to be finalized	Currently a project in place to widen up to 4 lanes DD – 2010 Const. completion - 2013	EA will determine if a 6 lane or 4 lane widening is required pending finalization of the traffic analysis

Environment, Transportation and Planning Services
11 Indell Lane, Brampton, ON L6T 3Y3
Tel: 905-791-7800 www.peelregion.ca

Subject: FW: Creditview realignment plan (24-17E)
Date: Tuesday, September 30, 2008 12:36 PM
From: Derek Dalgleish <dd@ENTRAconsultants.com>
To: Aida Rifdi <ar@ENTRAconsultants.com>
Conversation: Creditview realignment plan (24-17E)

Please add the names and contact info for the people below to the distribution list for PIC #3.

Thanks,

Derek Dalgleish, M. Pl.
Director, Transportation Planning

ENTRA Consultants
2800 Fourteenth Avenue, Suite 210
Markham, ON L3R 0E4
Tel: (905) 946-8900 / (800) 959-6788
Fax: (905) 946-8966 / (888) 959-3400
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ISO 9001 Registered

------ Forwarded Message
From: "Zbogar, Henrik" <henrik.zbogar@city.brampton.on.ca>
Date: Mon, 22 Sep 2008 11:38:36 -0400
To: Derek Dalgleish <dd@ENTRAconsultants.com>
Cc: "Angela Iannuzziello (E-mail)" <asi@ENTRAconsultants.com>, "Matt Williams (E-mail)" <mw@ENTRAconsultants.com>
Conversation: Creditview realignment plan (24-17E)
Subject: RE: Creditview realignment plan (24-17E)

Hi Derek

Please add the following names to the Mt. Pleasant public notice distribution list:

- Alan Filipuzzi

128 Hollingsworth Cir
Brampton L7A 0J5
afilipu@toronto.ca

- Mike Sharp

msharp@peelpa.on.ca

Thx

H.

Henrik Zbogar, M.Sc.Pl, MCIP, RPP
Project Manager, Transportation (North West Brampton)
City of Brampton | Planning, Design & Development
2 Wellington Street W | Brampton ON L6Y 4R2
T 905.874.3553 | F 905.874.2099
henrik.zbogar@brampton.ca

------ End of Forwarded Message

ZA-17E
consultation

FLOWER CITY
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ENTRA CONSULTANTS

CITY OF BRAMPTON
Creditview Road and Sandalwood Parkway Master Plan
Class Environmental Assessment Study

Public Information Centre #3

September 18, 2008

ATTENDANCE REGISTER

NAME (please print)	ADDRESS & POSTAL CODE (please print)	E-MAIL
Curtis Marshall	24 Brawley Dr. Brampton L7A3C9	
Shawn Hussain	#11 INDELL RD. Brampton	
B. Chapman	27 Sweet Briar Lane Brampton L6Z 4V2	
Kathy Carter	Peel Region	
Todd Lee	Georgetown	
John GREGOIRE	30 Springhurst Av. Brampton ON.	
Todd Terry	10044 HERITAGE RD. BRAMPTON L7A 0E7.	
BRIAN WILSON	10799 CREDITVIEW RD BRAMPTON L7A0G6	
Juan P. Perez	66 BILLBROUGH ST. AURORA L4G 7W4 juanpape@yahoo.com	
TOM Dolson	12401 Creditview Rd Caledon L7C 1W6	
Doug Cunningham	2319 King St W Caledon L7C 0S7	
DAVID MERRITT	LILLIAN THOMSON 256-9800 MCLAUGHLIN L6X 4R1	DAVID.MERRITT@SYMPATICO.CA

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Appendix F

Existing Traffic Counts and Analyses

Excellence in
Transportation Planning

ENTRA
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Intersection Turning Movement Counts

Excellence in
Transportation Planning

Ontario Traffic Inc.

Morning Peak Diagram

Specified Period
From: 7:00:00
To: 9:00:00

One Hour Peak
From: 7:15:00
To: 8:15:00

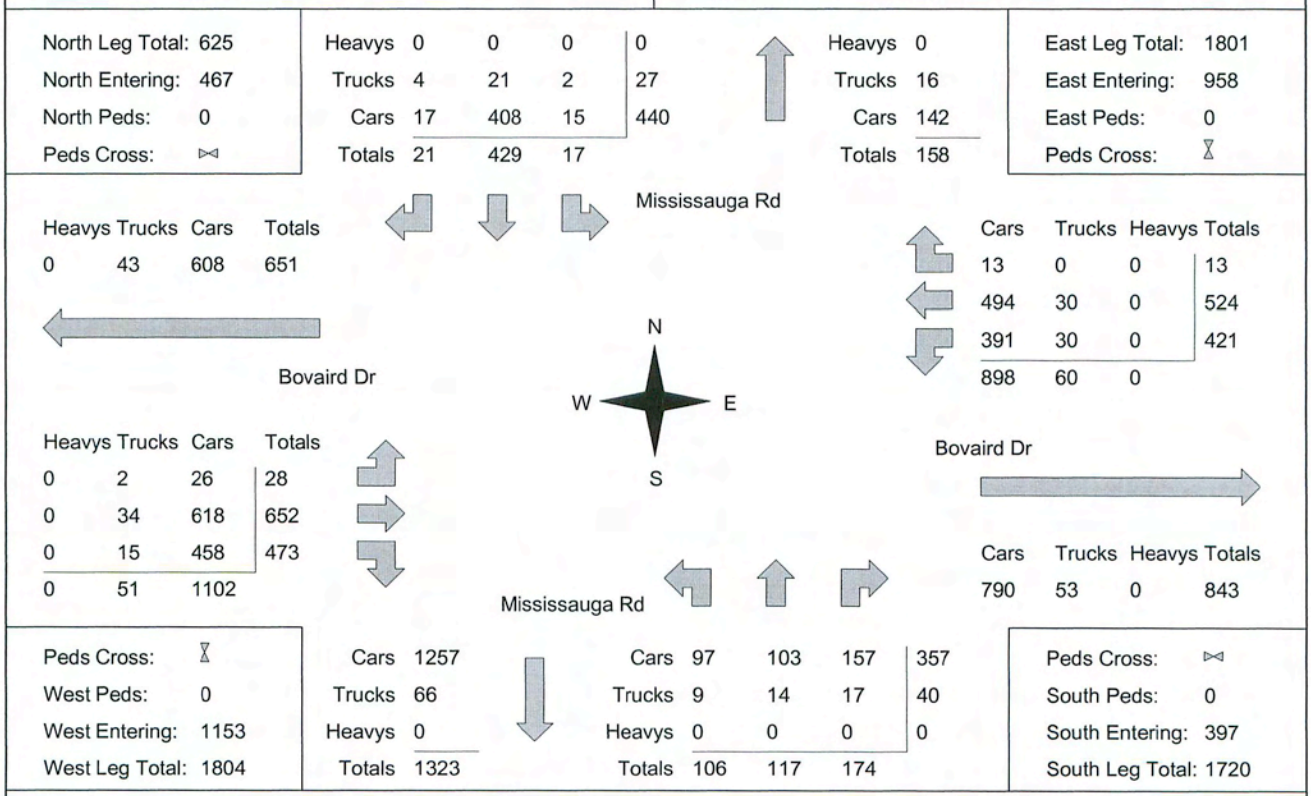
Municipality: Region of Peel
Site #: 0012101800
Intersection: Mississauga Rd & Bovaird Dr
TFR File #: 4
Count date: 28-Apr-05

Weather conditions:

Person(s) who counted:

**** Signalized Intersection ****

Major Road: Mississauga Rd runs N/S



Comments

Ontario Traffic Inc.

Afternoon Peak Diagram

Specified Period
From: 15:00:00
To: 18:00:00

One Hour Peak
From: 16:45:00
To: 17:45:00

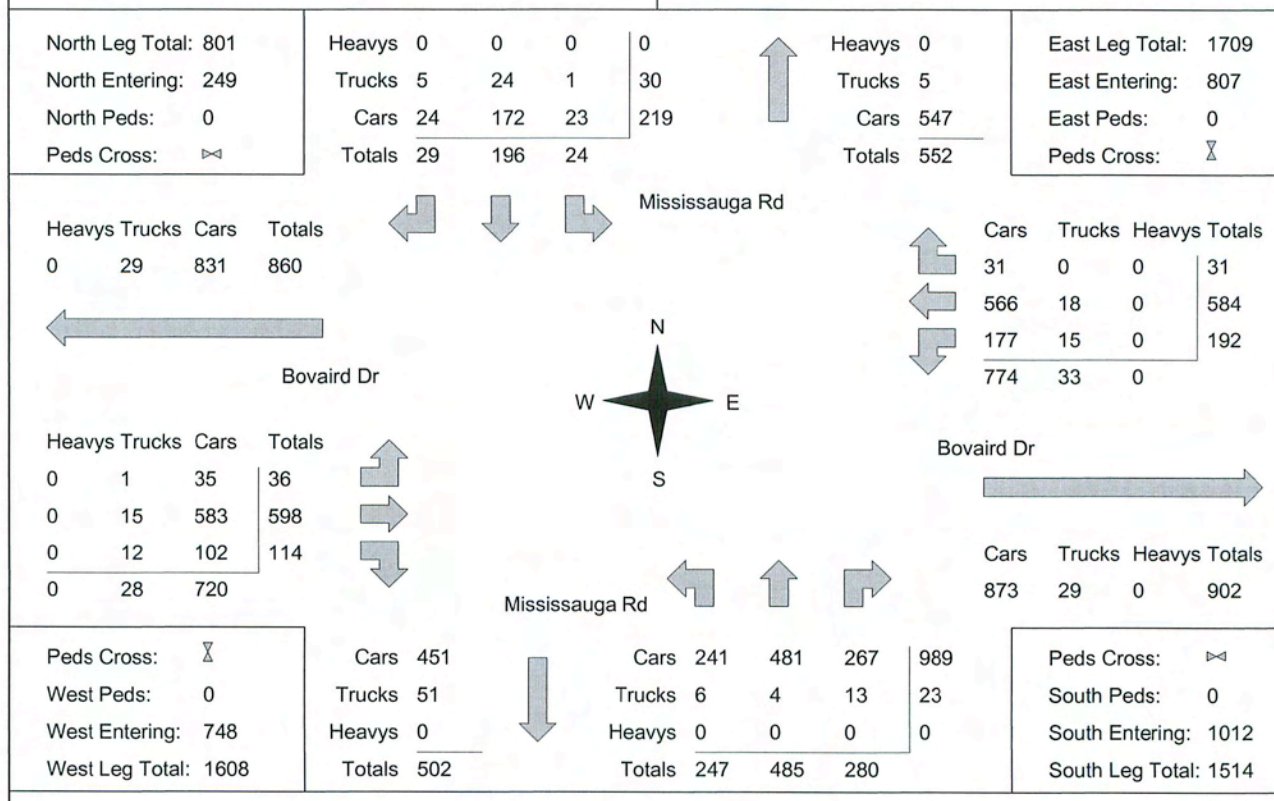
Municipality: Region of Peel
Site #: 0012101800
Intersection: Mississauga Rd & Bovaird Dr
TFR File #: 4
Count date: 28-Apr-05

Weather conditions:

Person(s) who counted:

**** Signalized Intersection ****

Major Road: Mississauga Rd runs N/S



Comments

Ontario Traffic, Inc.

Morning Peak Diagram

Specified Period
From: 7:00:00
To: 9:00:00

One Hour Peak
From: 7:15:00
To: 8:15:00

Municipality: Region of Peel
Site #: 0012533700
Intersection: Mississauga Rd & Mayfield Rd
TFR File #: 4
Count date: 26-Feb-04

Weather conditions:

Person(s) who counted:

**** Signalized Intersection ****

Major Road: Mississauga Rd runs N/S

North Leg Total: 593
North Entering: 441
North Peds: 0
Peds Cross: ⋈

Heavys	0	0	0	0
Trucks	1	9	3	13
Cars	50	319	59	428
Totals	51	328	62	

Heavys	0
Trucks	10
Cars	142
Totals	152

East Leg Total: 800
East Entering: 326
East Peds: 1
Peds Cross: ⧖

Mississauga Rd

Heavys	Trucks	Cars	Totals
0	9	254	263

Cars	Trucks	Heavys	Totals
11	0	0	11
185	7	0	192
120	3	0	123
316	10	0	

Mayfield Rd

N
W E
S

Heavys	Trucks	Cars	Totals
0	3	49	52
0	10	355	365
0	3	35	38
0	16	439	

Mayfield Rd

Cars	Trucks	Heavys	Totals
452	22	0	474

Mississauga Rd

Peds Cross: ⧖
West Peds: 0
West Entering: 455
West Leg Total: 718

Cars	474			
Trucks	15			
Heavys	0			
Totals	489			

Cars	19	82	38	139
Trucks	1	7	9	17
Heavys	0	0	0	0
Totals	20	89	47	

Peds Cross: ⋈
South Peds: 0
South Entering: 156
South Leg Total: 645

Comments

Ontario Traffic, Inc.

Afternoon Peak Diagram

Specified Period
From: 15:00:00
To: 18:00:00

One Hour Peak
From: 16:45:00
To: 17:45:00

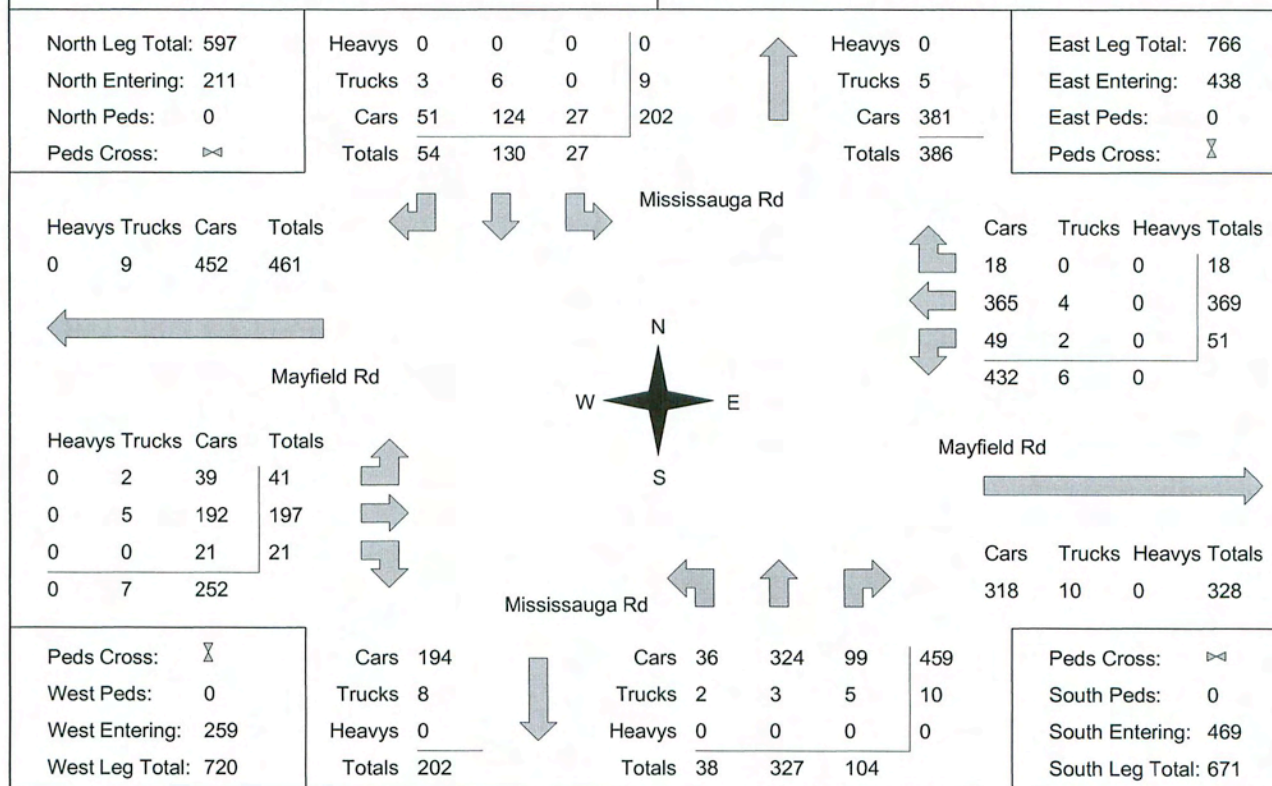
Municipality: Region of Peel
Site #: 0012533700
Intersection: Mississauga Rd & Mayfield Rd
TFR File #: 4
Count date: 26-Feb-04

Weather conditions:

Person(s) who counted:

**** Signalized Intersection ****

Major Road: Mississauga Rd runs N/S



Comments

Ontario Traffic, Inc.

Morning Peak Diagram

Specified Period
From: 7:00:00
To: 9:00:00

One Hour Peak
From: 7:30:00
To: 8:30:00

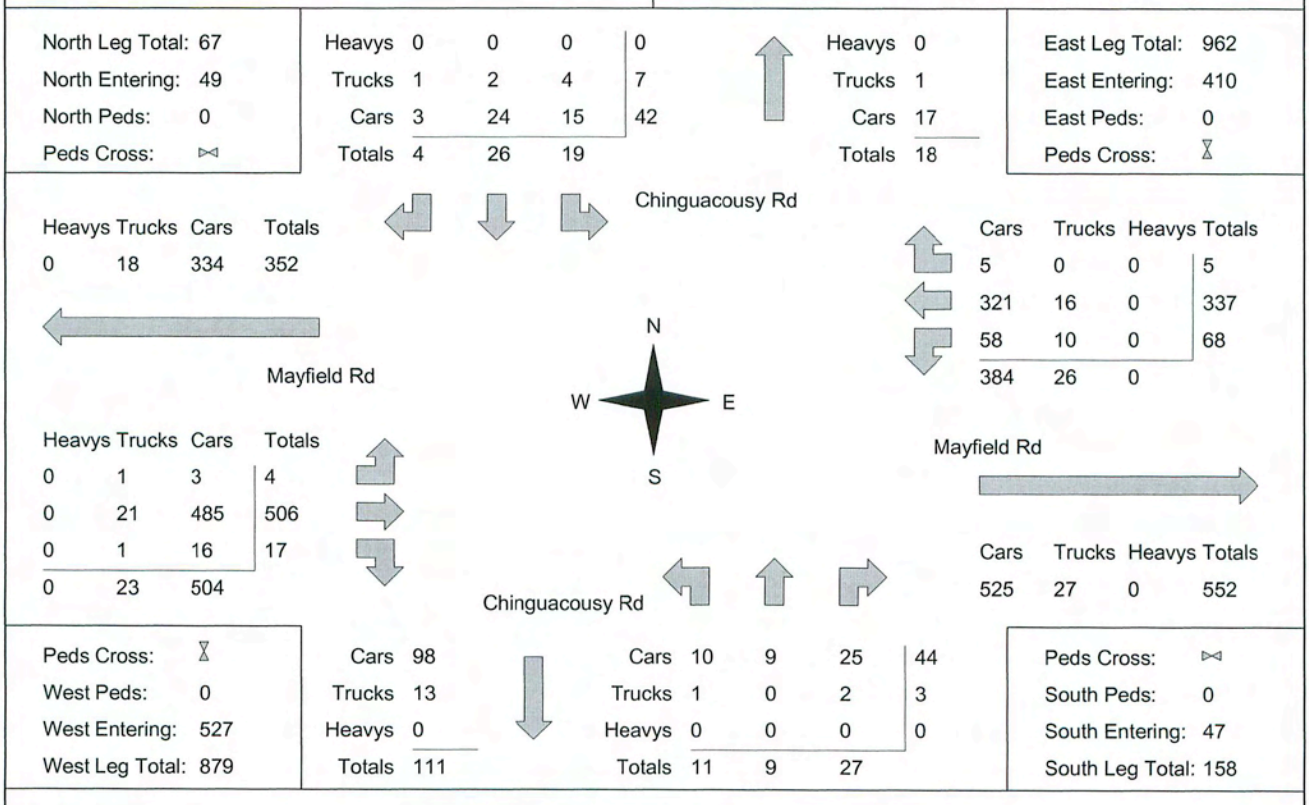
Municipality: Region of Peel
Site #: 0141928700
Intersection: Mayfield Rd & Chinguacousy Rd
TFR File #: 2
Count date: 24-Feb-04

Weather conditions:

Person(s) who counted:

**** Signalized Intersection ****

Major Road: Mayfield Rd runs W/E



Comments

Ontario Traffic, Inc.

Afternoon Peak Diagram

Specified Period
From: 15:00:00
To: 18:00:00

One Hour Peak
From: 17:00:00
To: 18:00:00

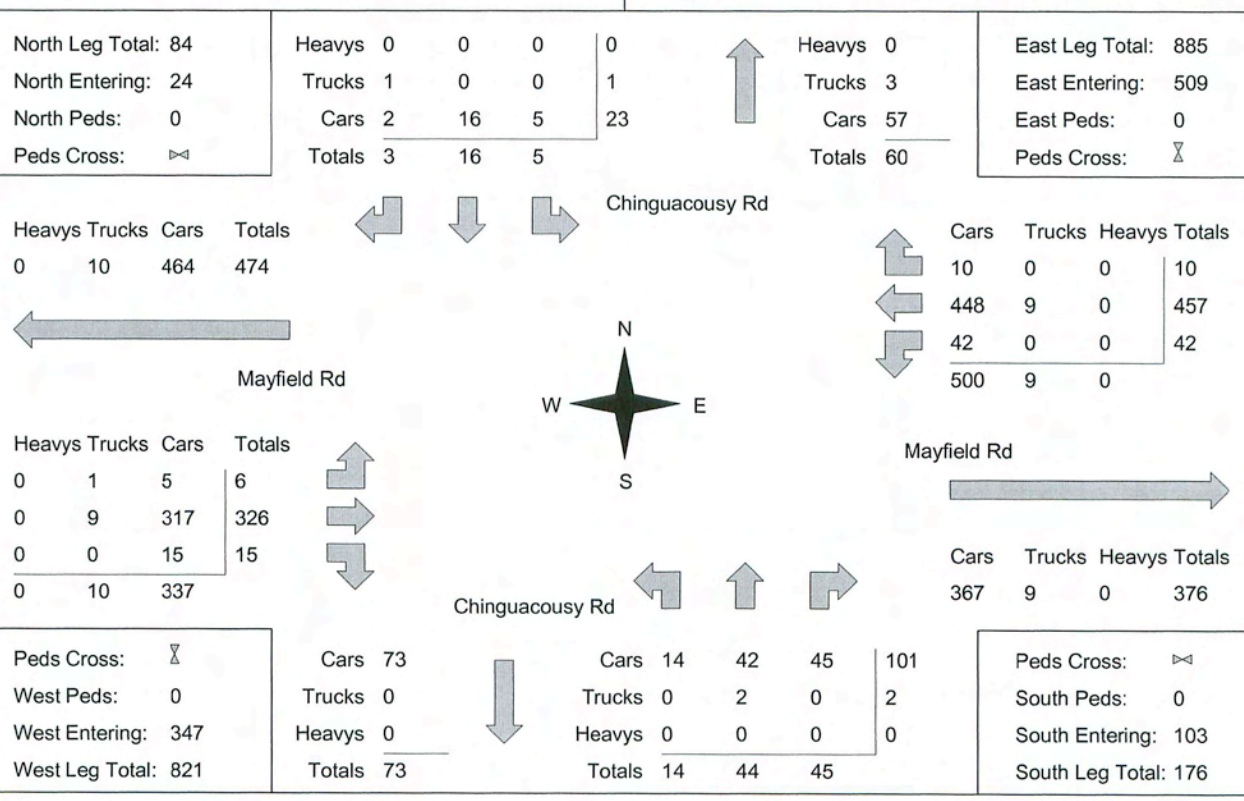
Municipality: Region of Peel
Site #: 0141928700
Intersection: Mayfield Rd & Chinguacousy Rd
TFR File #: 2
Count date: 24-Feb-04

Weather conditions:

Person(s) who counted:

**** Signalized Intersection ****

Major Road: Mayfield Rd runs W/E



Comments

Ontario Traffic, Inc.

Morning Peak Diagram

Specified Period
From: 7:00:00
To: 9:00:00

One Hour Peak
From: 7:15:00
To: 8:15:00

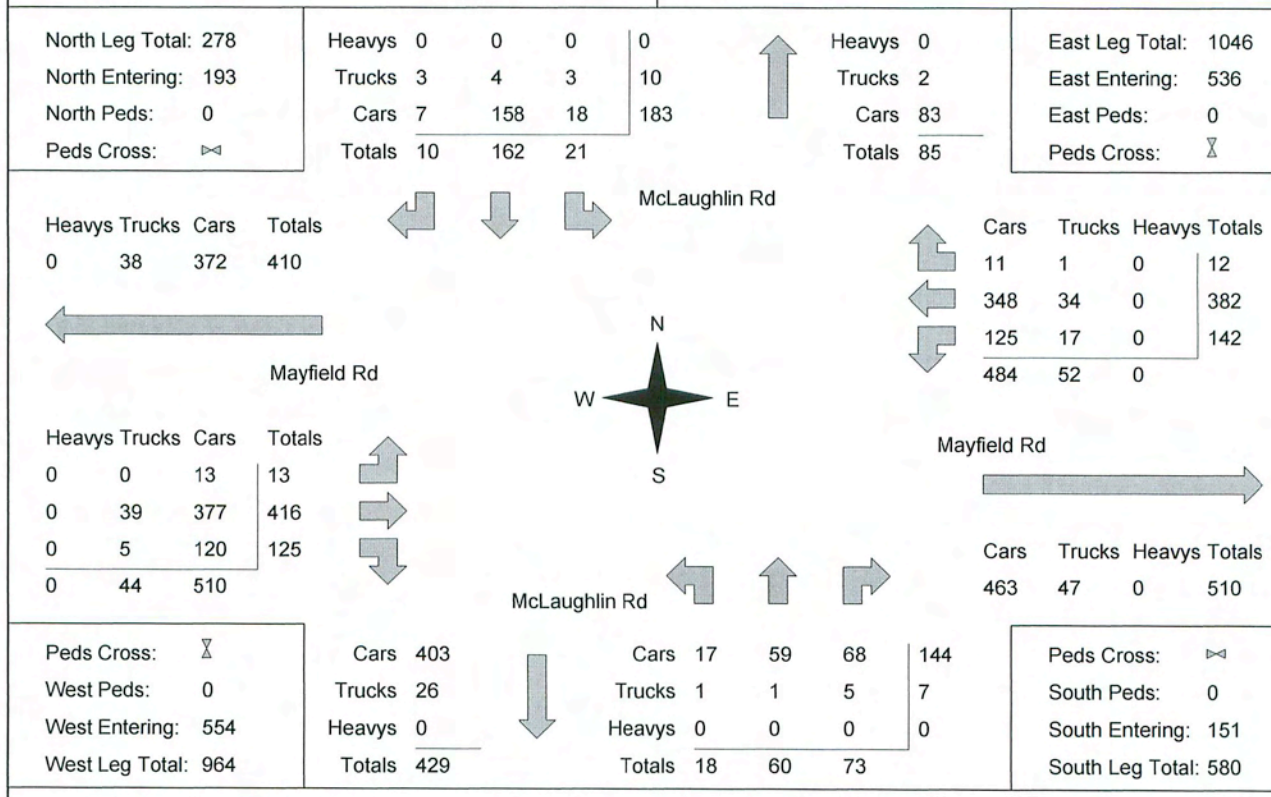
Municipality: Region of Peel
Site #: 0141789500
Intersection: Mayfield Rd & McLaughlin Rd
TFR File #: 4
Count date: 25-Sep-03

Weather conditions:

Person(s) who counted:

**** Signalized Intersection ****

Major Road: Mayfield Rd runs W/E



Comments

Ontario Traffic, Inc.

Afternoon Peak Diagram

Specified Period
From: 15:00:00
To: 18:00:00

One Hour Peak
From: 16:45:00
To: 17:45:00

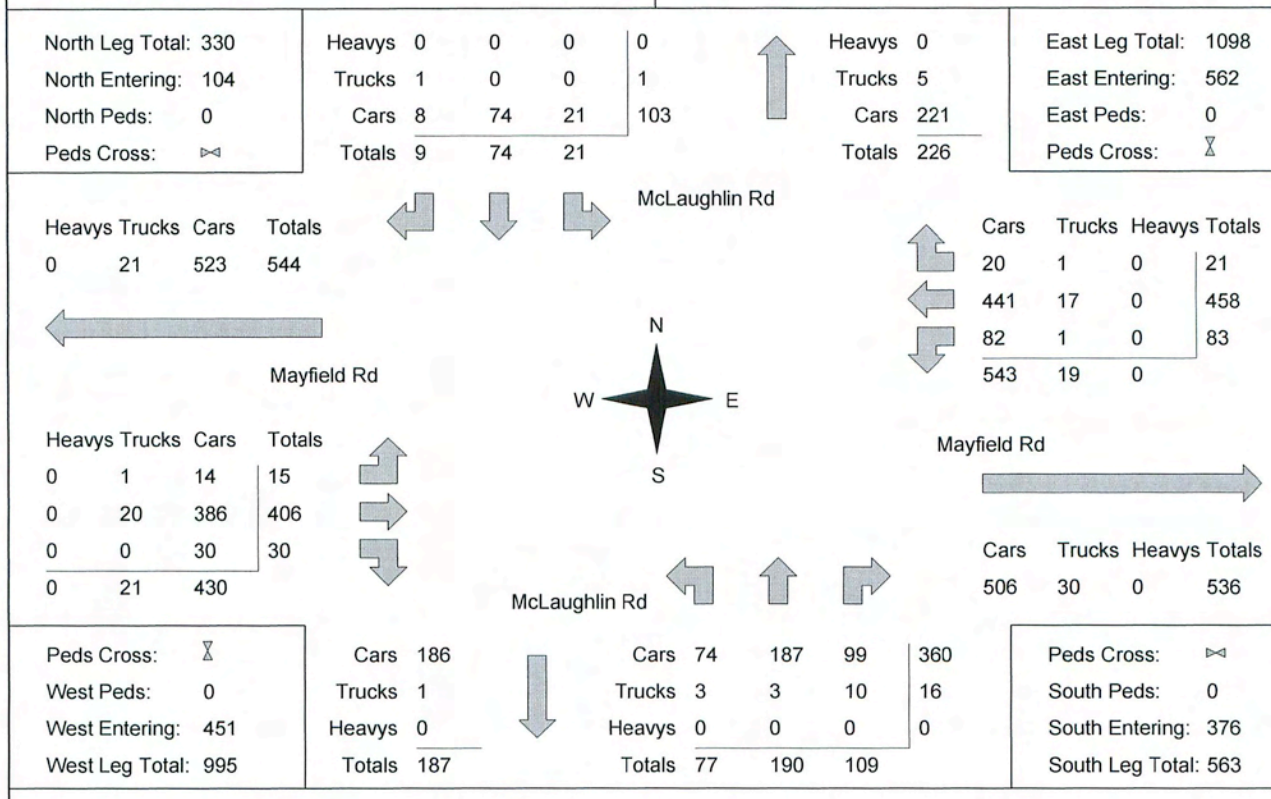
Municipality: Region of Peel
Site #: 0141789500
Intersection: Mayfield Rd & McLaughlin Rd
TFR File #: 4
Count date: 25-Sep-03

Weather conditions:

Person(s) who counted:

**** Signalized Intersection ****

Major Road: Mayfield Rd runs W/E



Comments

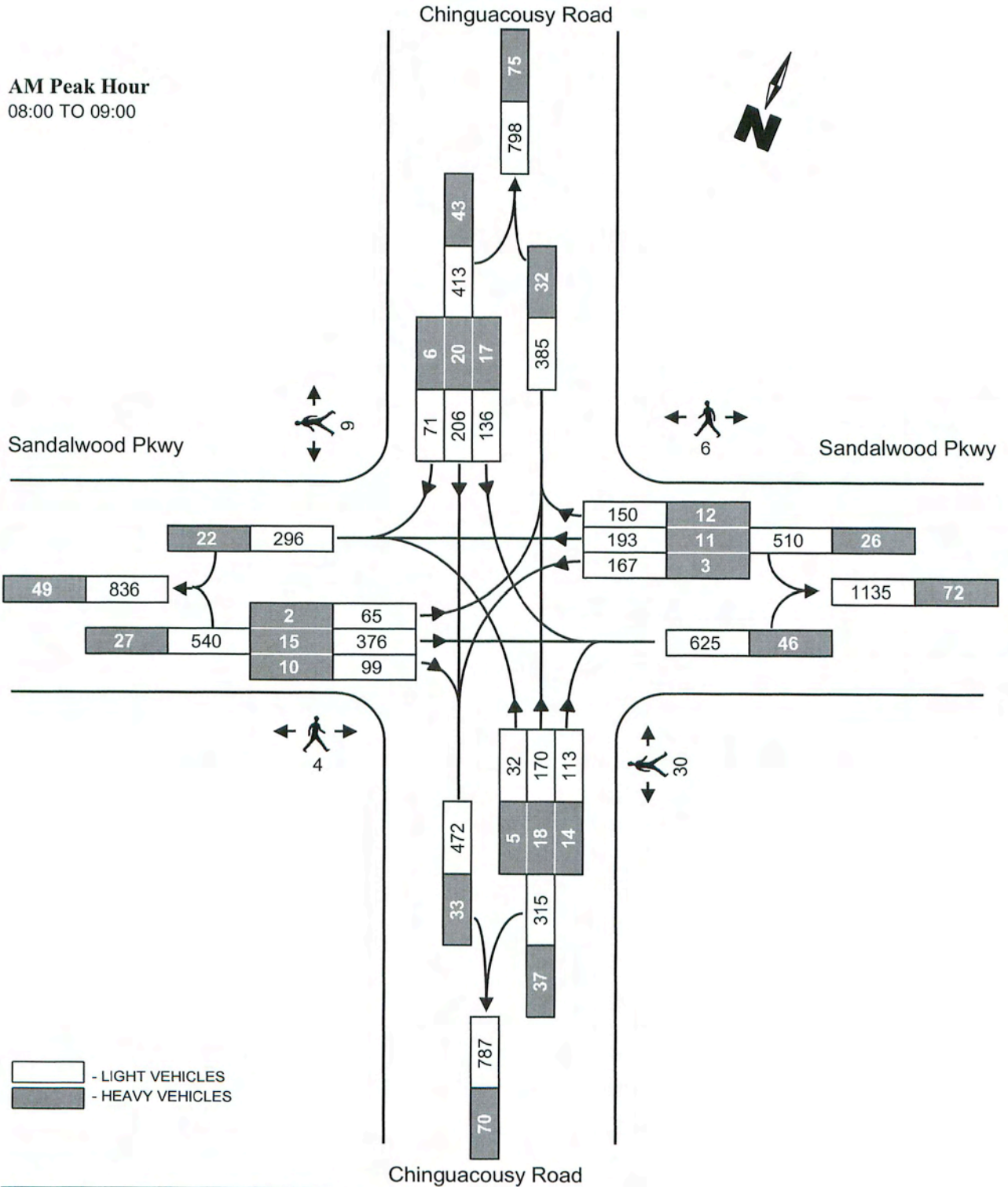
THE CORPORATION OF THE CITY OF BRAMPTON

WORKS & TRANSPORTATION - TRAFFIC DIVISION

DIRECTIONAL TRAFFIC FLOW DIAGRAM

Location: CHINGUACOUSY ROAD @ SANDALWOOD PKWY

Date: Jan. 27, 2005 Surveyor: OTI



	Entering from	exiting from	entering from	exiting from
north	413	385	43	32
south	315	472	37	33
east	510	625	26	46
west	540	296	27	22
total	1778	1778	133	133

CITY OF BRAMPTON

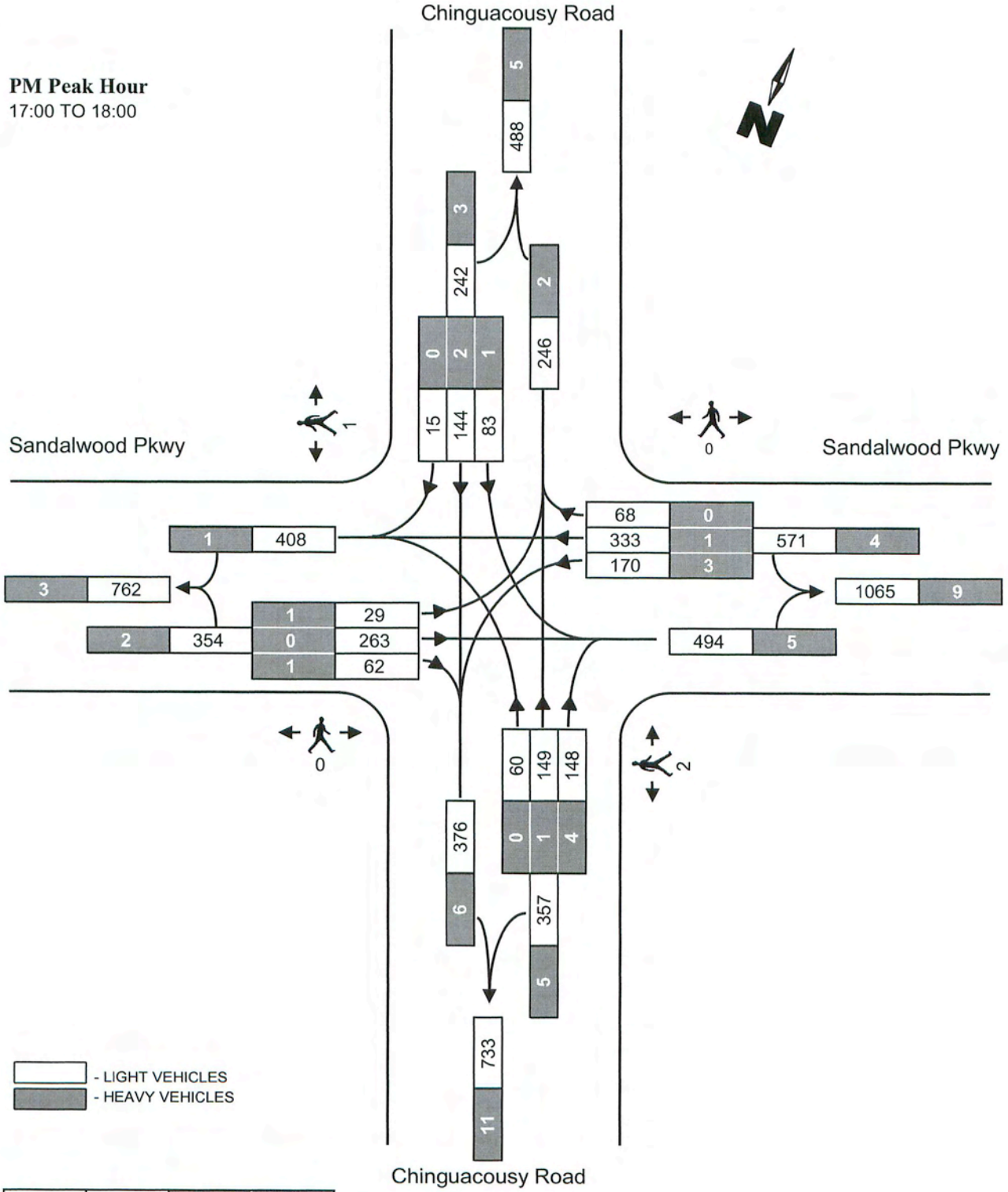
THE CORPORATION OF THE CITY OF BRAMPTON

WORKS & TRANSPORTATION - TRAFFIC DIVISION

DIRECTIONAL TRAFFIC FLOW DIAGRAM

Location: CHINGUACOUSY ROAD @ SANDALWOOD PKWY

Date: Jan. 27, 2005 Surveyor: OTI



	Entering from	exiting from	entering from	exiting from
north	242	246	3	2
south	357	376	5	6
east	571	494	4	5
west	354	408	2	1
total	1524	1524	14	14

Ontario Traffic Inc.

Morning Peak Diagram

Specified Period
From: 7:00:00
To: 9:00:00

One Hour Peak
From: 7:30:00
To: 8:30:00

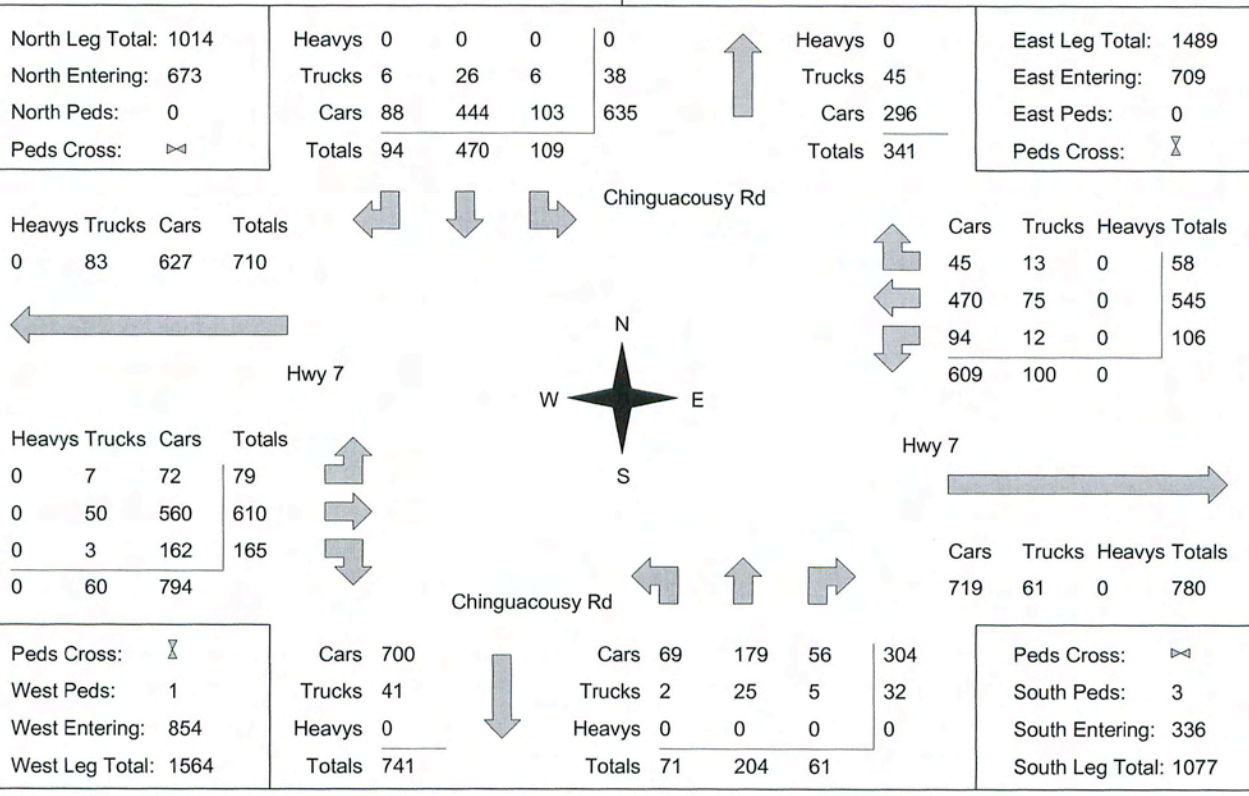
Municipality: Region of Peel
Site #: 1071617800
Intersection: Hwy 7 & Chinguacousy Rd
TFR File #: 1
Count date: 12-May-05

Weather conditions:

Person(s) who counted:

**** Signalized Intersection ****

Major Road: Hwy 7 runs W/E



Comments

Ontario Traffic Inc.

Afternoon Peak Diagram

Specified Period
From: 15:00:00
To: 18:00:00

One Hour Peak
From: 16:45:00
To: 17:45:00

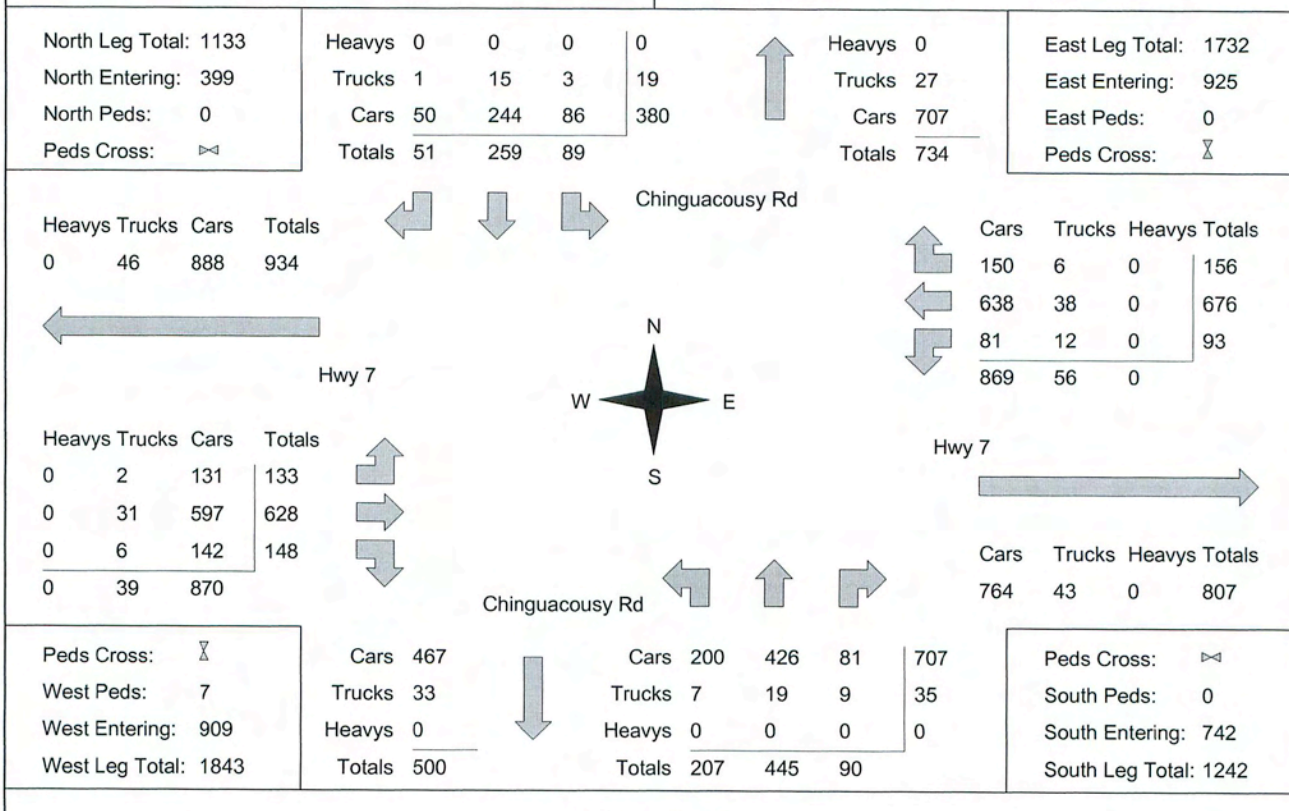
Municipality: Region of Peel
Site #: 1071617800
Intersection: Hwy 7 & Chinguacousy Rd
TFR File #: 1
Count date: 12-May-05

Weather conditions:

Person(s) who counted:

**** Signalized Intersection ****

Major Road: Hwy 7 runs W/E



Comments

Ontario Traffic, Inc.

Morning Peak Diagram

Specified Period
From: 7:00:00
To: 9:00:00

One Hour Peak
From: 7:15:00
To: 8:15:00

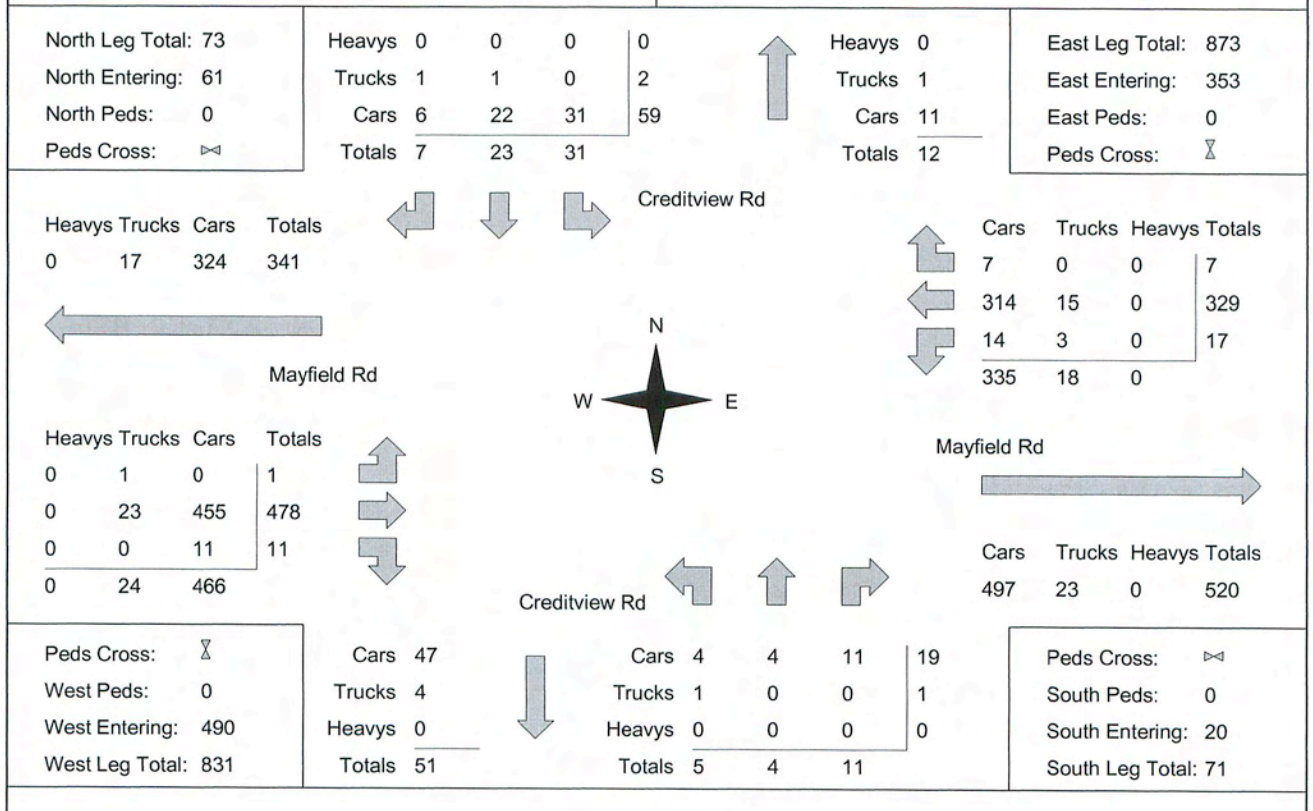
Municipality: Region of Peel
Site #: 0142065900
Intersection: Mayfield Rd & Creditview Rd
TFR File #: 3
Count date: 11-Feb-04

Weather conditions:

Person(s) who counted:

**** Non-Signalized Intersection ****

Major Road: Mayfield Rd runs W/E



Comments

Ontario Traffic, Inc.

Afternoon Peak Diagram

Specified Period
From: 15:00:00
To: 18:00:00

One Hour Peak
From: 17:00:00
To: 18:00:00

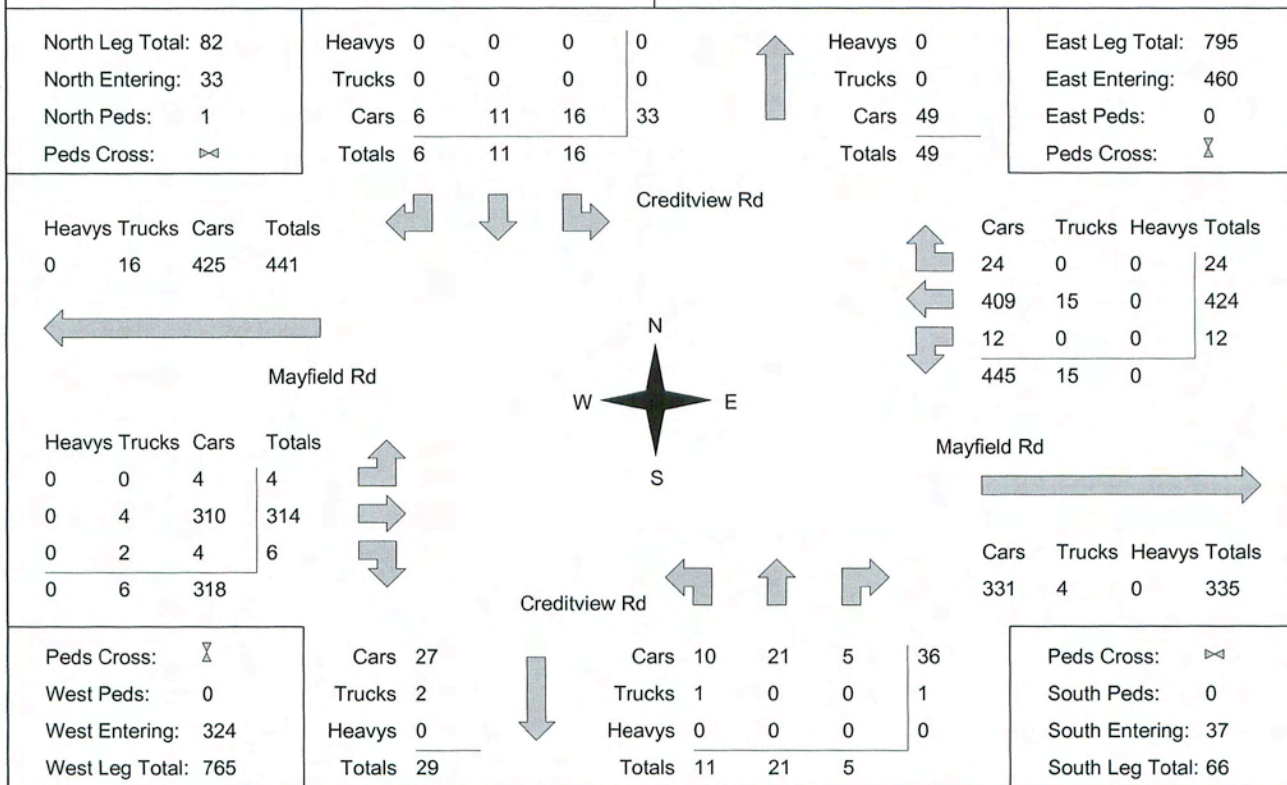
Municipality: Region of Peel
Site #: 0142065900
Intersection: Mayfield Rd & Creditview Rd
TFR File #: 3
Count date: 11-Feb-04

Weather conditions:

Person(s) who counted:

**** Non-Signalized Intersection ****

Major Road: Mayfield Rd runs W/E



Comments

CITY OF BRAMPTON

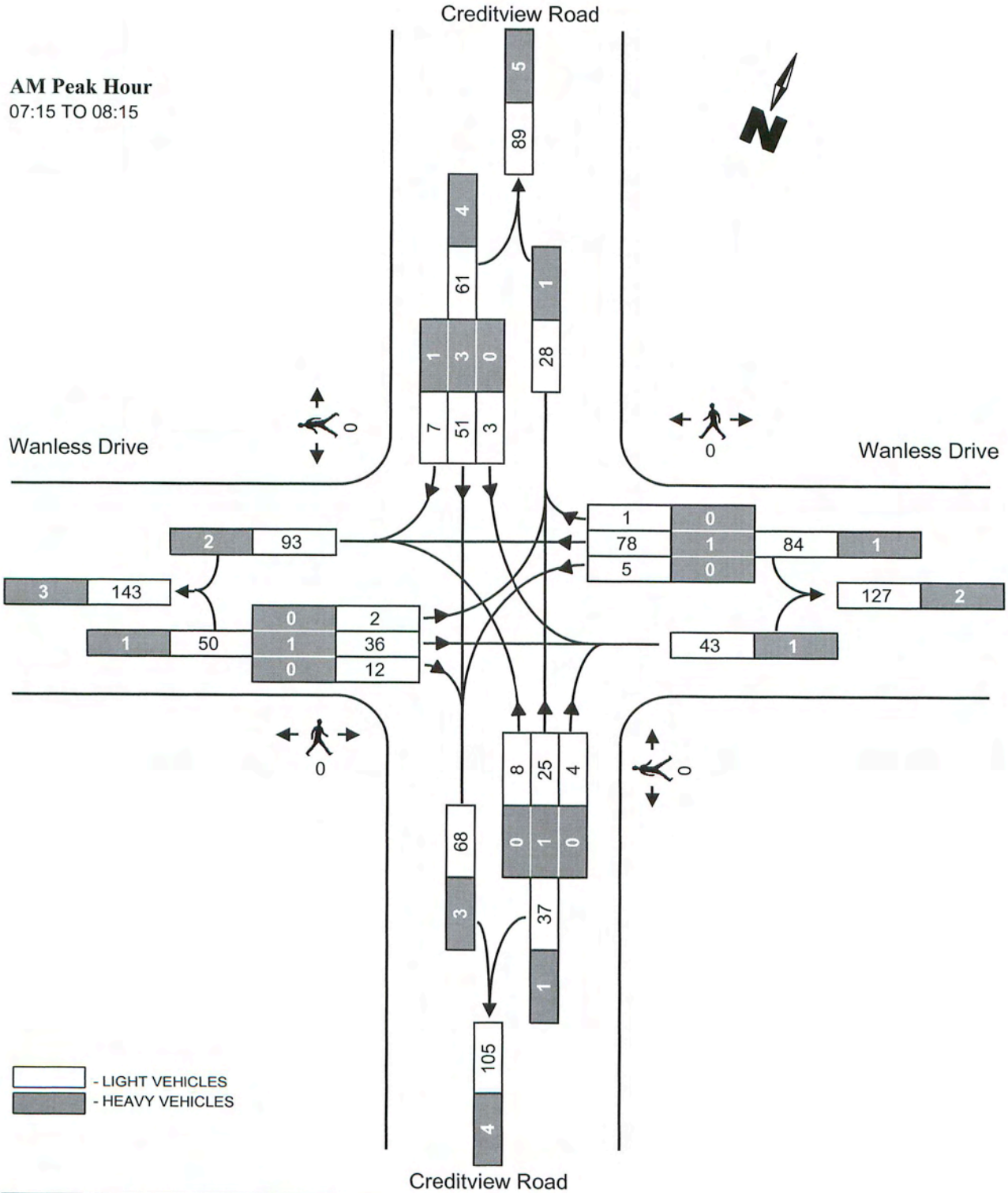
THE CORPORATION OF THE CITY OF BRAMPTON

WORKS & TRANSPORTATION - TRAFFIC DIVISION

DIRECTIONAL TRAFFIC FLOW DIAGRAM

Location: CREDITVIEW ROAD @ WANLESS DRIVE

Date: May. 4, 2004 Surveyor: SG



	Entering from	exiting from	entering from	exiting from
north	61	28	4	1
south	37	68	1	3
east	84	43	1	1
west	50	93	1	2
total	232	232	7	7

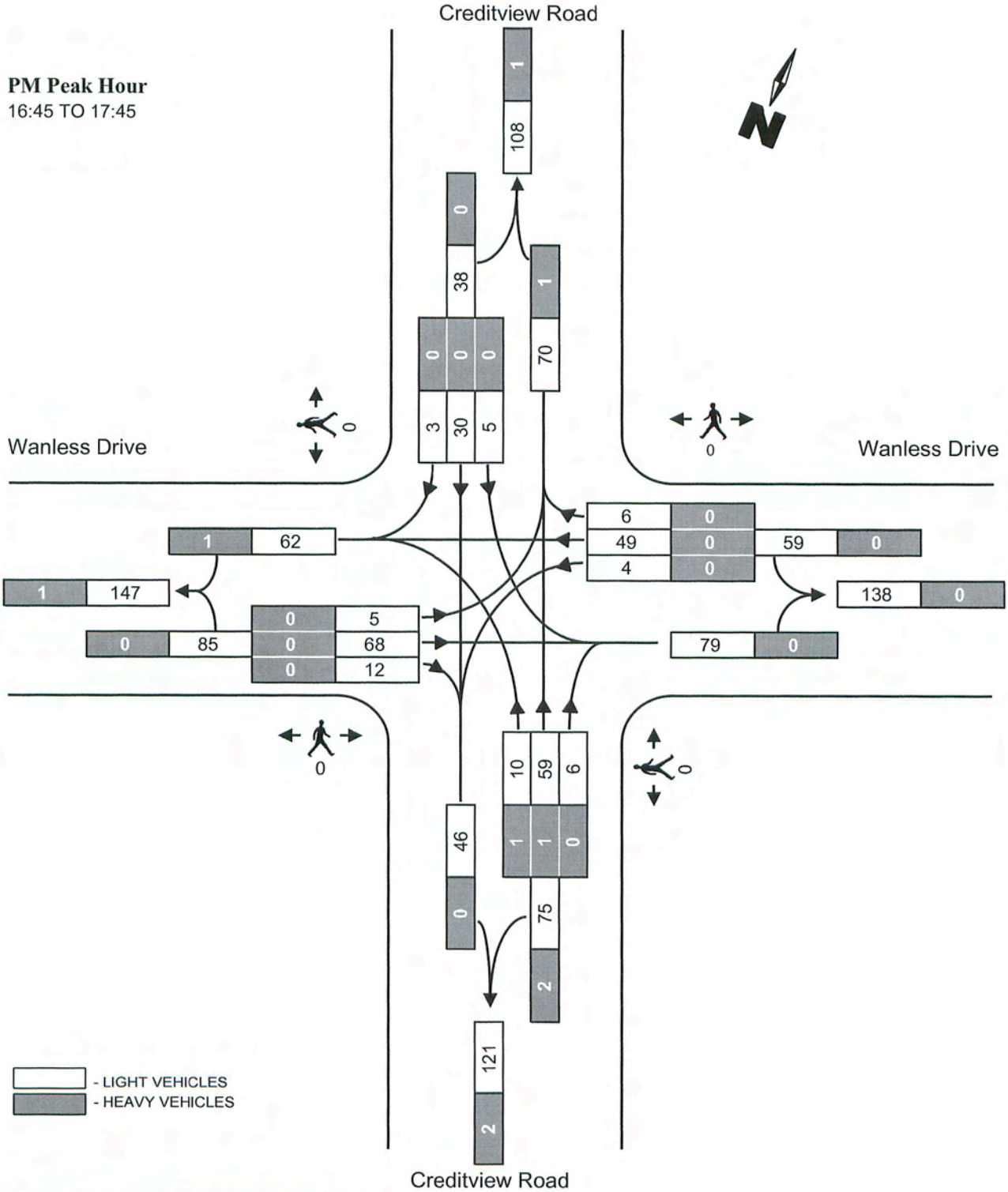
THE CORPORATION OF THE CITY OF BRAMPTON

WORKS & TRANSPORTATION - TRAFFIC DIVISION

DIRECTIONAL TRAFFIC FLOW DIAGRAM

Location: CREDITVIEW ROAD @ WANLESS DRIVE

Date: May. 4, 2004 Surveyor: SG



	Entering from	exiting from	entering from	exiting from
north	38	70	0	1
south	75	46	2	0
east	59	79	0	0
west	85	62	0	1
total	257	257	2	2

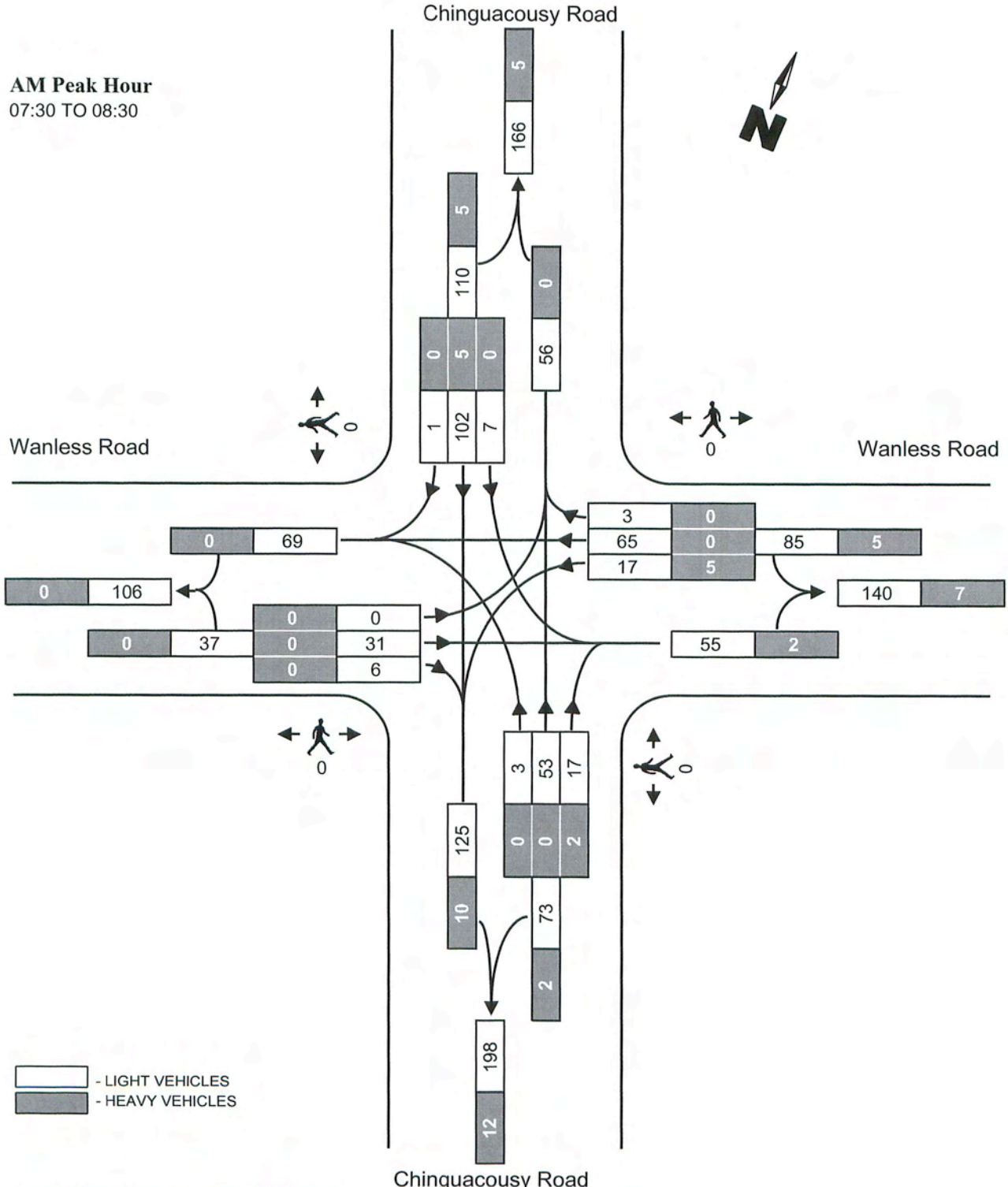
THE CORPORATION OF THE CITY OF BRAMPTON

WORKS & TRANSPORTATION - TRAFFIC DIVISION

DIRECTIONAL TRAFFIC FLOW DIAGRAM

Location: CHINGUACOUSY ROAD @ WANLESS ROAD

Date: Apr. 20, 2004 Surveyor: SG



	Entering from	exiting from	entering from	exiting from
north	110	56	5	0
south	73	125	2	10
east	85	55	5	2
west	37	69	0	0
total	305	305	12	12

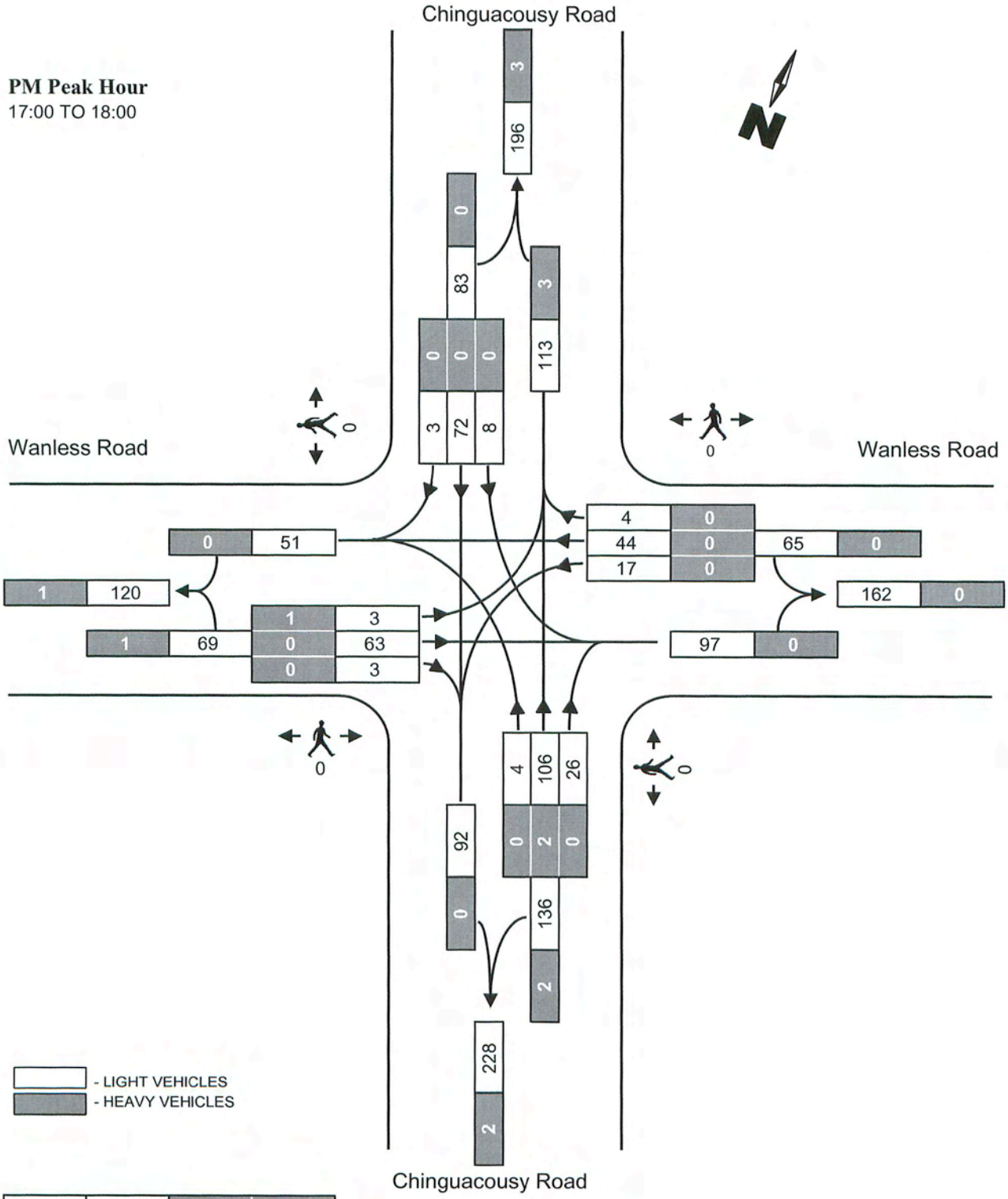
THE CORPORATION OF THE CITY OF BRAMPTON

WORKS & TRANSPORTATION - TRAFFIC DIVISION

DIRECTIONAL TRAFFIC FLOW DIAGRAM

Location: CHINGUACOUSY ROAD @ WANLESS ROAD

Date: Apr. 20, 2004 Surveyor: SG



	Entering from	exiting from	entering from	exiting from
north	83	113	0	3
south	136	92	2	0
east	65	97	0	0
west	69	51	1	0
total	353	353	3	3

CITY OF BRAMPTON

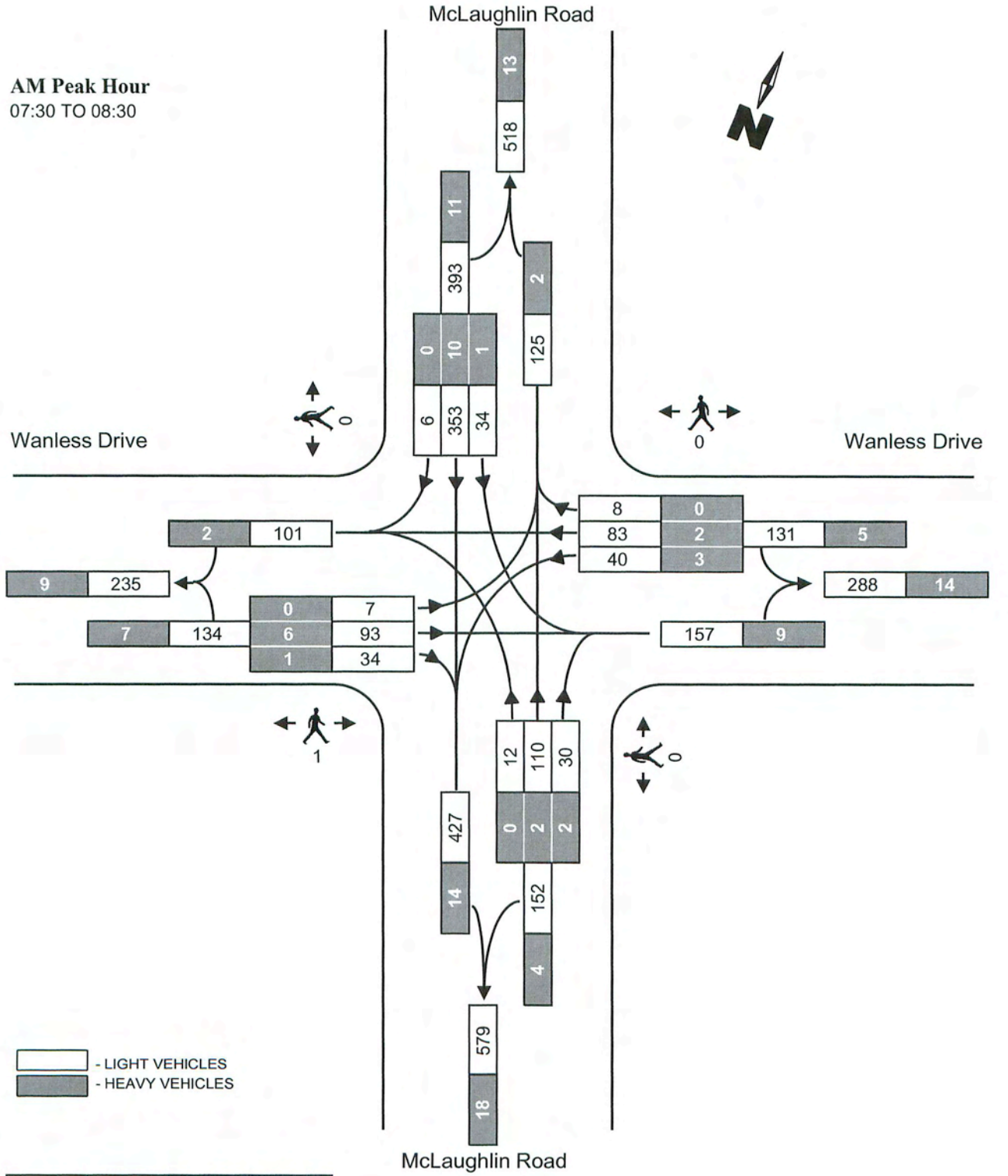
THE CORPORATION OF THE CITY OF BRAMPTON

WORKS & TRANSPORTATION - TRAFFIC DIVISION

DIRECTIONAL TRAFFIC FLOW DIAGRAM

Location: MCLAUGHLIN ROAD @ WANLESS DRIVE

Date: Apr. 28, 2004



	Entering from	exiting from	entering from	exiting from
north	393	125	11	2
south	152	427	4	14
east	131	157	5	9
west	134	101	7	2
total	810	810	27	27

THE CORPORATION OF THE CITY OF BRAMPTON

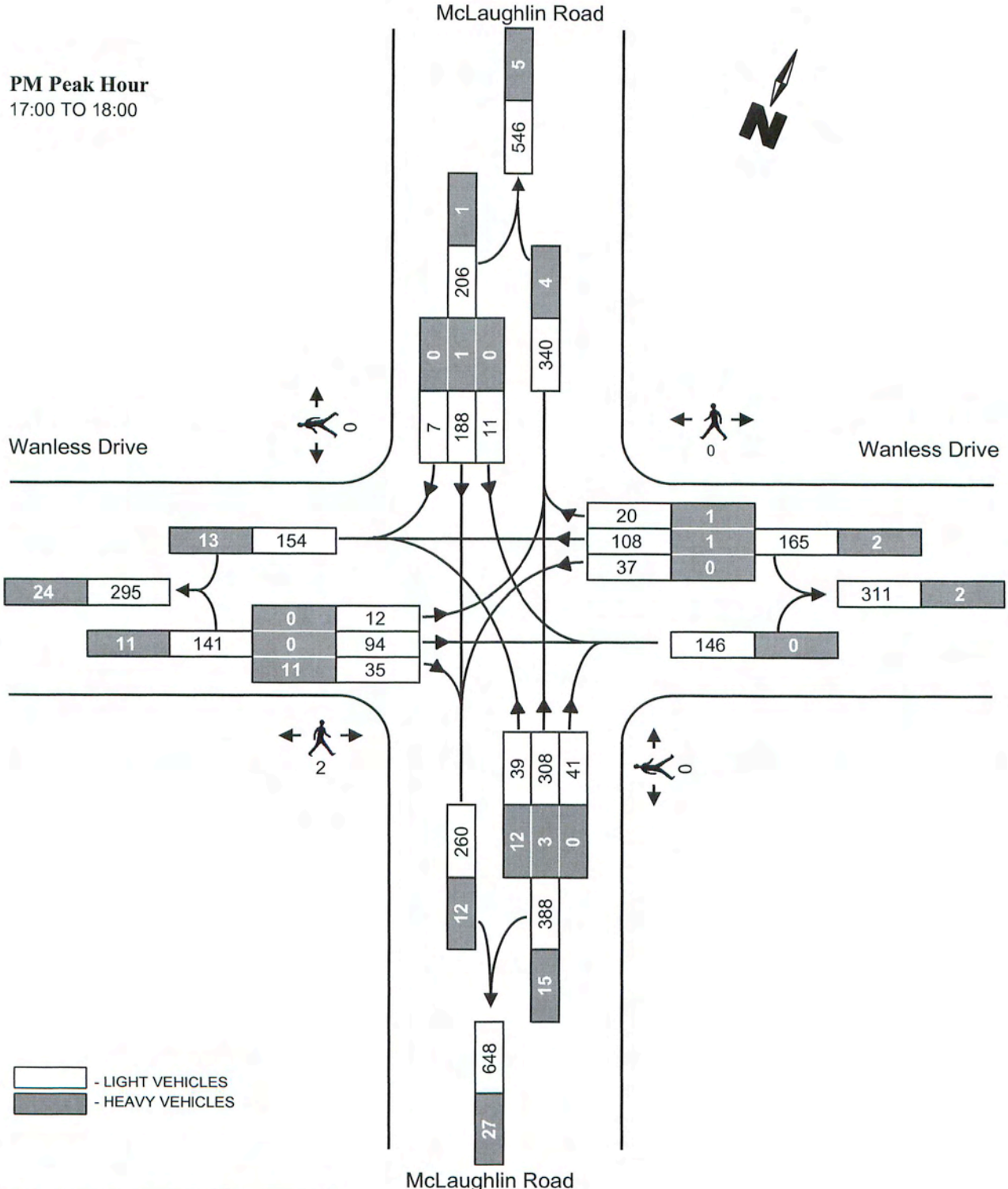
WORKS & TRANSPORTATION - TRAFFIC DIVISION

DIRECTIONAL TRAFFIC FLOW DIAGRAM

Location: MCLAUGHLIN ROAD @ WANLESS DRIVE

Date: Apr. 28, 2004

PM Peak Hour
17:00 TO 18:00



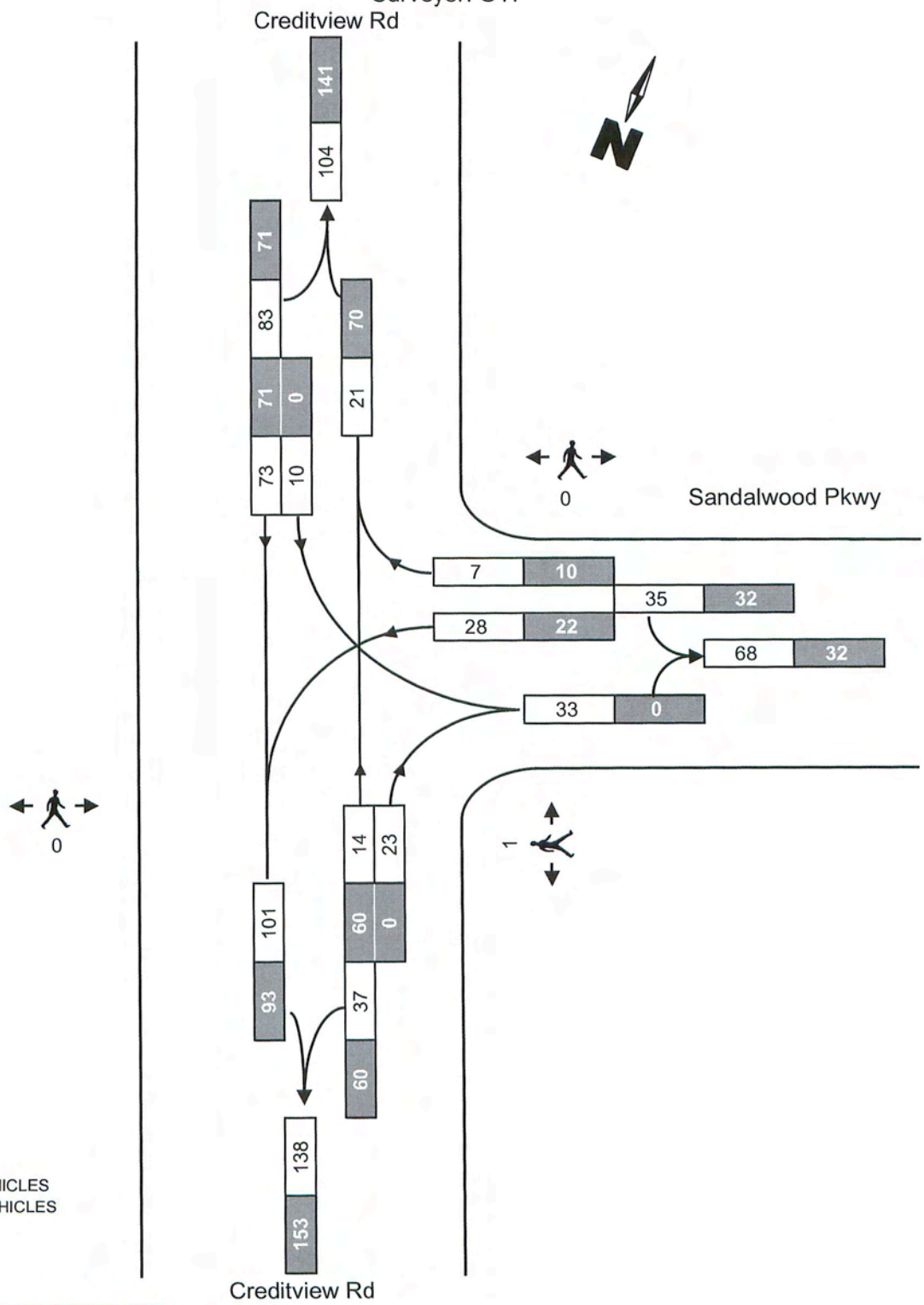
	Entering from	exiting from	entering from	exiting from
north	206	340	1	4
south	388	260	15	12
east	165	146	2	0
west	141	154	11	13
total	900	900	29	29

THE CORPORATION OF THE CITY OF BRAMPTON
WORKS & TRANSPORTATION - TRAFFIC DIVISION

DIRECTIONAL TRAFFIC FLOW DIAGRAM

Location: CREDITVIEW RD @ SANDALWOOD PKWY
Date: Jun. 15, 2004
Surveyor: OTI

AM Peak Hour
07:15 TO 08:15



- LIGHT VEHICLES
- HEAVY VEHICLES

	Entering From	Exiting From	Entering From	Exiting From
north	83	21	71	70
south	37	101	60	93
east	35	33	32	0
total	155	155	163	163

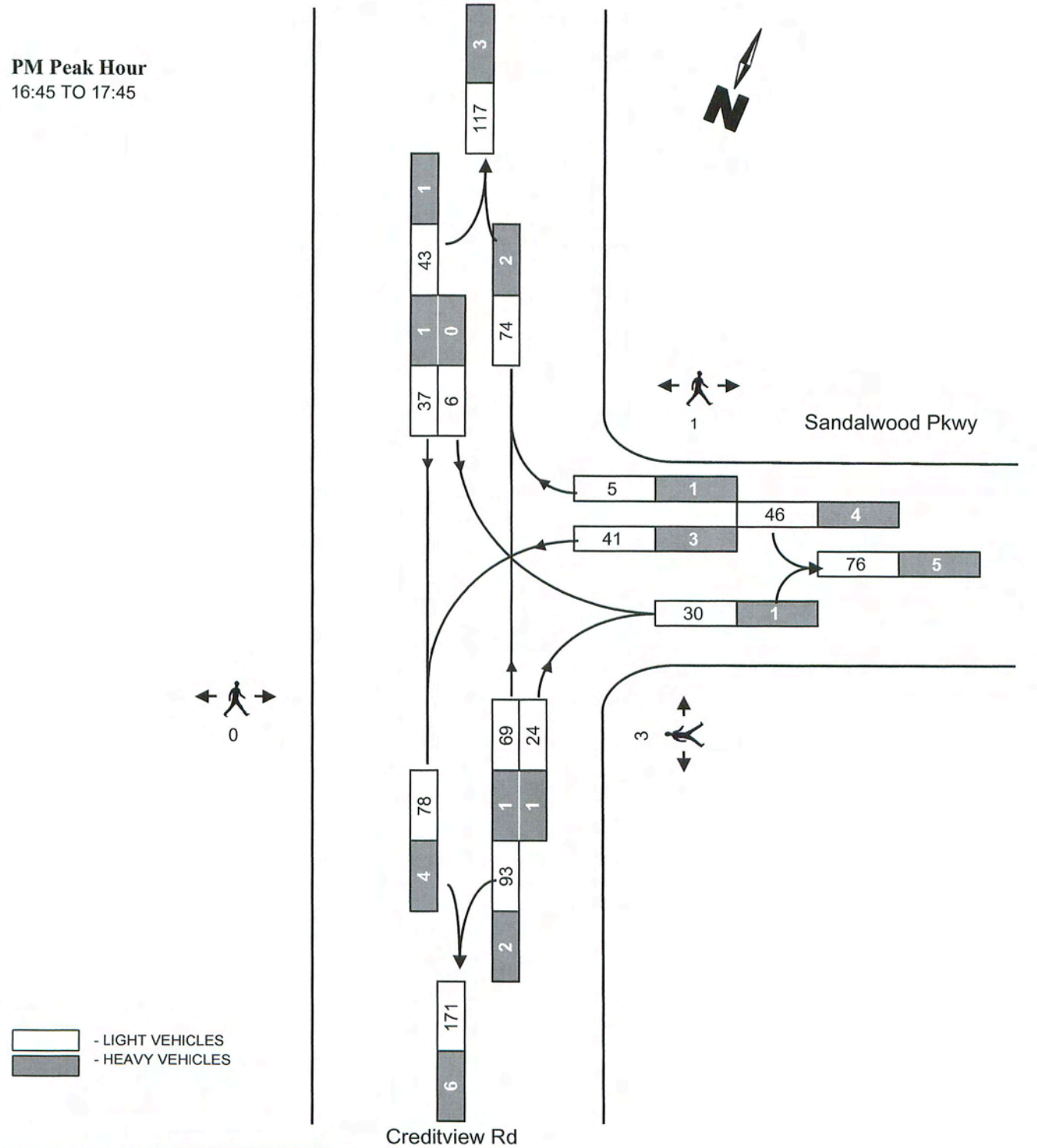
THE CORPORATION OF THE CITY OF BRAMPTON
WORKS & TRANSPORTATION - TRAFFIC DIVISION

DIRECTIONAL TRAFFIC FLOW DIAGRAM

Location: CREDITVIEW RD @ SANDALWOOD PKWY
Date: Jun. 15, 2004

Surveyor: OTI

PM Peak Hour
16:45 TO 17:45



- LIGHT VEHICLES
- HEAVY VEHICLES

	Entering From	Exiting From	Entering From	Exiting From
north	43	74	1	2
south	93	78	2	4
east	46	30	4	1
total	182	182	7	7

Ontario Traffic, Inc.

Morning Peak Diagram

Specified Period
From: 7:00:00
To: 9:00:00

One Hour Peak
From: 7:15:00
To: 8:15:00

Municipality: Region of Peel
Site #: 1071793400
Intersection: Hwy 7 & Creditview Rd W
TFR File #: 2
Count date: 5-Mar-03

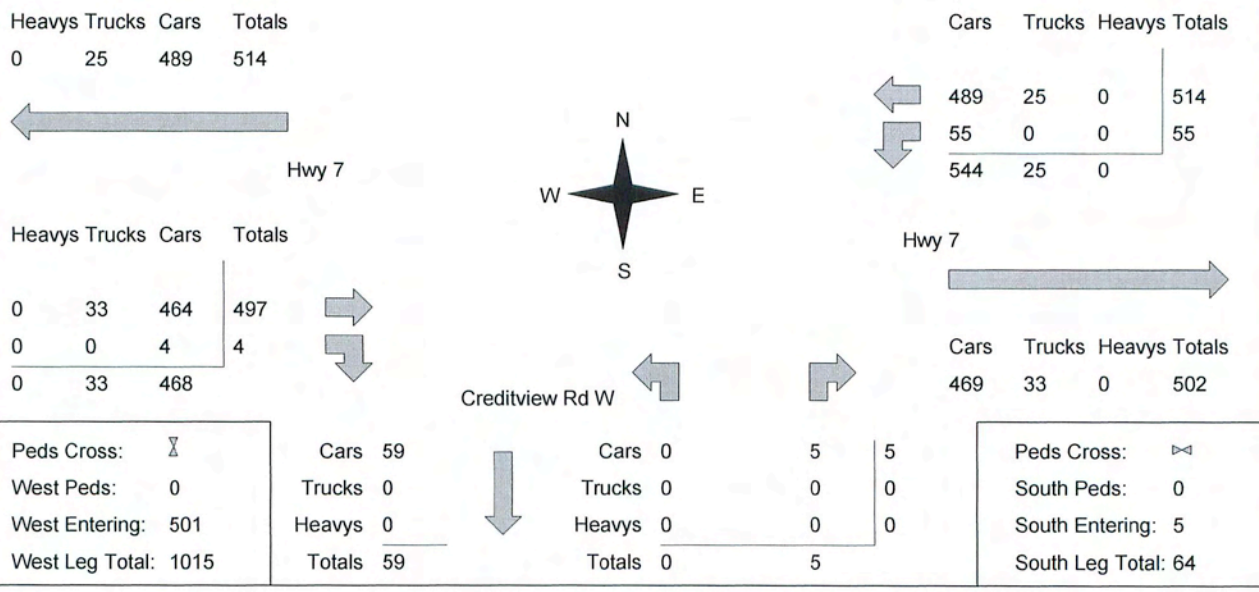
Weather conditions:

Person(s) who counted:

**** Non-Signalized Intersection ****

Major Road: Hwy 7 runs W/E

East Leg Total: 1071
East Entering: 569
East Peds: 0
Peds Cross:



Peds Cross:
West Peds: 0
West Entering: 501
West Leg Total: 1015

Cars 59
Trucks 0
Heavys 0
Totals 59

Cars 0 5 5
Trucks 0 0 0
Heavys 0 0 0
Totals 0 5

Peds Cross:
South Peds: 0
South Entering: 5
South Leg Total: 64

Comments

Ontario Traffic, Inc.

Afternoon Peak Diagram

Specified Period
From: 15:00:00
To: 18:00:00

One Hour Peak
From: 16:30:00
To: 17:30:00

Municipality: Region of Peel
Site #: 1071793400
Intersection: Hwy 7 & Creditview Rd W
TFR File #: 2
Count date: 5-Mar-03

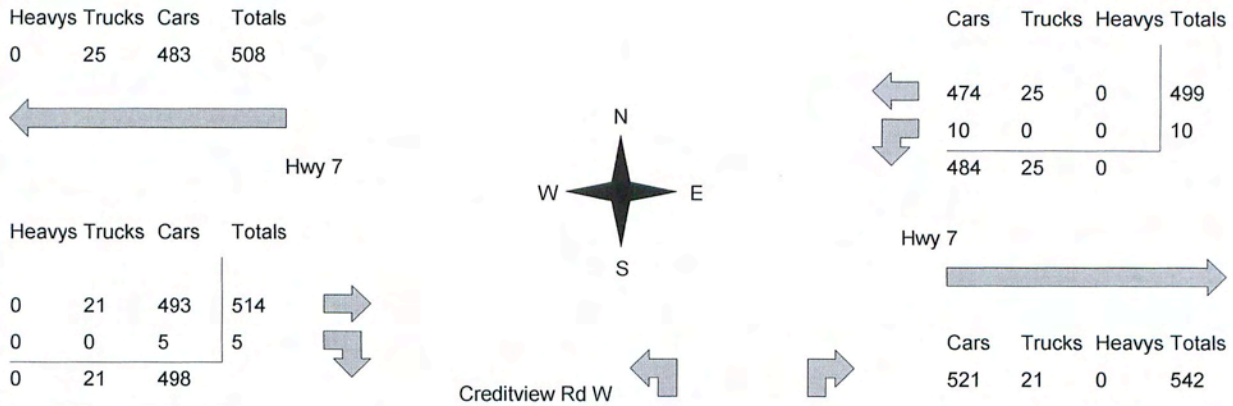
Weather conditions:

Person(s) who counted:

**** Non-Signalized Intersection ****

Major Road: Hwy 7 runs W/E

East Leg Total: 1051
East Entering: 509
East Peds: 0
Peds Cross: ⧖



Peds Cross: ⧖
West Peds: 0
West Entering: 519
West Leg Total: 1027

Cars 15
Trucks 0
Heavys 0
Totals 15

Cars 9 28 38
Trucks 0 0 0
Heavys 0 0 0
Totals 9 28

Peds Cross: ⋈
South Peds: 0
South Entering: 38
South Leg Total: 53

Comments

ENTRA
CONSULTANTS

Intersection Capacity Analyses

Excellence in
Transportation Planning

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.91		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1668	1789	1551	1668	1769		1653	1544		1594	1766	
Flt Permitted	0.43	1.00	1.00	0.10	1.00		0.10	1.00		0.58	1.00	
Satd. Flow (perm)	760	1789	1551	178	1769		180	1544		976	1766	
Volume (vph)	28	652	473	421	524	13	106	117	174	17	429	21
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	28	652	473	421	524	13	106	117	174	17	429	21
RTOR Reduction (vph)	0	0	202	0	1	0	0	41	0	0	1	0
Lane Group Flow (vph)	28	652	271	421	536	0	106	250	0	17	449	0
Heavy Vehicles (%)	7%	5%	3%	7%	6%	0%	8%	12%	10%	12%	5%	19%
Turn Type	Perm		Perm	pm+pt			pm+pt			Perm		
Protected Phases		4		3	8		5	2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	49.6	49.6	49.6	67.6	67.6		47.6	47.6		31.2	31.2	
Effective Green, g (s)	54.0	54.0	54.0	72.0	72.0		52.0	52.0		35.6	35.6	
Actuated g/C Ratio	0.42	0.42	0.42	0.55	0.55		0.40	0.40		0.27	0.27	
Clearance Time (s)	7.4	7.4	7.4	3.0	7.4		3.0	7.4		7.4	7.4	
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	316	743	644	271	980		224	618		267	484	
v/s Ratio Prot		0.36		c0.18	0.30		0.05	c0.19			c0.25	
v/s Ratio Perm	0.04		0.31	c0.68			0.14			0.02		
v/c Ratio	0.09	0.88	0.42	1.55	0.55		0.47	0.40		0.06	0.93	
Uniform Delay, d1	23.1	35.0	26.9	36.7	18.6		29.3	27.9		34.9	45.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.6	13.9	2.0	266.5	2.2		3.3	0.9		0.2	24.7	
Delay (s)	23.6	48.8	28.9	303.2	20.8		32.6	28.8		35.1	70.7	
Level of Service	C	D	C	F	C		C	C		D	E	
Approach Delay (s)		40.1			144.9			29.8			69.4	
Approach LOS		D			F			C			E	

Intersection Summary			
HCM Average Control Delay	77.0	HCM Level of Service	E
HCM Volume to Capacity ratio	1.25		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	100.7%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.95		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1684	1790		1750	1796		1700	1581		1697	1790	
Flt Permitted	0.62	1.00		0.46	1.00		0.30	1.00		0.64	1.00	
Satd. Flow (perm)	1093	1790		841	1796		544	1581		1134	1790	
Volume (vph)	52	365	38	123	192	11	20	89	47	62	328	51
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	52	365	38	123	192	11	20	89	47	62	328	51
RTOR Reduction (vph)	0	4	0	0	2	0	0	30	0	0	9	0
Lane Group Flow (vph)	52	399	0	123	201	0	20	106	0	62	370	0
Confl. Peds. (#/hr)									1	1		
Heavy Vehicles (%)	6%	3%	8%	2%	4%	0%	5%	8%	19%	5%	3%	2%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	43.6	43.6		43.6	43.6		22.2	22.2		22.2	22.2	
Effective Green, g (s)	47.2	47.2		47.2	47.2		25.8	25.8		25.8	25.8	
Actuated g/C Ratio	0.60	0.60		0.60	0.60		0.33	0.33		0.33	0.33	
Clearance Time (s)	6.6	6.6		6.6	6.6		6.6	6.6		6.6	6.6	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	653	1069		502	1073		178	516		370	585	
v/s Ratio Prot		c0.23			0.11			0.09			c0.21	
v/s Ratio Perm	0.05			0.15			0.04			0.05		
v/c Ratio	0.08	0.37		0.25	0.19		0.11	0.20		0.17	0.63	
Uniform Delay, d1	6.7	8.2		7.5	7.2		18.6	19.2		18.9	22.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	1.0		0.5	0.2		0.6	0.4		0.4	3.1	
Delay (s)	7.0	9.2		8.0	7.4		19.2	19.6		19.4	25.7	
Level of Service	A	A		A	A		B	B		B	C	
Approach Delay (s)		9.0			7.6			19.6			24.8	
Approach LOS		A			A			B			C	

Intersection Summary			
HCM Average Control Delay	14.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	79.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	65.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0			3.0			3.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		1.00			1.00			0.92			0.99	
Flt Protected		1.00			0.99			0.99			0.98	
Satd. Flow (prot)		1794			1745			1614			1593	
Flt Permitted		1.00			0.86			0.93			0.88	
Satd. Flow (perm)		1791			1513			1517			1429	
Volume (vph)	4	506	17	68	337	5	11	9	27	19	26	4
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	4	506	17	68	337	5	11	9	27	19	26	4
RTOR Reduction (vph)	0	1	0	0	0	0	0	23	0	0	3	0
Lane Group Flow (vph)	0	526	0	0	410	0	0	24	0	0	46	0
Heavy Vehicles (%)	25%	4%	6%	15%	5%	0%	9%	0%	7%	21%	8%	25%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		65.1			65.1			9.8			9.8	
Effective Green, g (s)		69.5			69.5			14.5			14.5	
Actuated g/C Ratio		0.77			0.77			0.16			0.16	
Clearance Time (s)		7.4			7.4			7.7			7.7	
Vehicle Extension (s)		5.0			5.0			5.0			5.0	
Lane Grp Cap (vph)		1383			1168			244			230	
v/s Ratio Prot												
v/s Ratio Perm		c0.29			0.27			0.03			c0.03	
v/c Ratio		0.38			0.35			0.10			0.20	
Uniform Delay, d1		3.3			3.2			32.2			32.7	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.8			0.4			0.4			0.9	
Delay (s)		4.1			3.6			32.6			33.6	
Level of Service		A			A			C			C	
Approach Delay (s)		4.1			3.6			32.6			33.6	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	6.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	64.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Frt	1.00	0.97		1.00	1.00			1.00	0.85		0.99	
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00		0.99	
Satd. Flow (prot)	1785	1682		1594	1716			1805	1493		1771	
Flt Permitted	0.49	1.00		0.40	1.00			0.93	1.00		0.97	
Satd. Flow (perm)	922	1682		666	1716			1689	1493		1719	
Volume (vph)	13	416	125	142	382	12	18	60	73	21	162	10
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	13	416	125	142	382	12	18	60	73	21	162	10
RTOR Reduction (vph)	0	10	0	0	1	0	0	0	56	0	3	0
Lane Group Flow (vph)	13	531	0	142	393	0	0	78	17	0	190	0
Heavy Vehicles (%)	0%	9%	4%	12%	9%	8%	6%	2%	7%	14%	2%	30%
Turn Type	Perm			Perm			Perm		Perm	Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)	49.8	49.8		49.8	49.8			15.0	15.0		15.0	
Effective Green, g (s)	53.4	53.4		53.4	53.4			18.6	18.6		18.6	
Actuated g/C Ratio	0.68	0.68		0.68	0.68			0.24	0.24		0.24	
Clearance Time (s)	6.6	6.6		6.6	6.6			6.6	6.6		6.6	
Vehicle Extension (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	
Lane Grp Cap (vph)	631	1152		456	1175			403	356		410	
v/s Ratio Prot		c0.32			0.23							
v/s Ratio Perm	0.01			0.21				0.05	0.05		c0.11	
v/c Ratio	0.02	0.46		0.31	0.33			0.19	0.05		0.46	
Uniform Delay, d1	3.9	5.7		4.9	5.0			23.7	22.9		25.4	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.1	1.3		0.8	0.4			0.5	0.1		1.7	
Delay (s)	4.0	7.0		5.7	5.4			24.2	23.0		27.2	
Level of Service	A	A		A	A			C	C		C	
Approach Delay (s)		6.9			5.5			23.6			27.2	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	10.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	78.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	64.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.96	1.00	1.00	0.94	1.00	1.00	0.98
Flpb, ped/bikes	0.99	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	0.96	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1712	3433	1438	1744	3400	1439	1550	3245	1354	1550	3275	1447
Flt Permitted	0.62	1.00	1.00	0.52	1.00	1.00	0.57	1.00	1.00	0.61	1.00	1.00
Satd. Flow (perm)	1124	3433	1438	945	3400	1439	932	3245	1354	1003	3275	1447
Volume (vph)	67	391	107	170	204	162	37	188	127	153	226	77
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	67	391	107	170	204	162	37	188	127	153	226	77
RTOR Reduction (vph)	0	0	35	0	0	54	0	0	94	0	0	57
Lane Group Flow (vph)	67	391	72	170	204	108	37	188	33	153	226	20
Confl. Peds. (#/hr)	6		4	4		6	9		30	30		6
Heavy Vehicles (%)	3%	4%	9%	2%	5%	7%	14%	10%	11%	11%	9%	8%
Turn Type	Perm		Perm	Perm		Perm	Perm		Perm	Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	53.8	53.8	53.8	53.8	53.8	53.8	19.2	19.2	19.2	19.2	19.2	19.2
Effective Green, g (s)	56.8	56.8	56.8	56.8	56.8	56.8	22.2	22.2	22.2	22.2	22.2	22.2
Actuated g/C Ratio	0.67	0.67	0.67	0.67	0.67	0.67	0.26	0.26	0.26	0.26	0.26	0.26
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	751	2294	961	631	2272	962	243	848	354	262	855	378
v/s Ratio Prot		0.11			0.06			0.06			0.07	
v/s Ratio Perm	0.06		0.07	c0.18		0.11	0.04		0.09	c0.15		0.05
v/c Ratio	0.09	0.17	0.07	0.27	0.09	0.11	0.15	0.22	0.09	0.58	0.26	0.05
Uniform Delay, d1	5.0	5.3	4.9	5.7	5.0	5.1	24.2	24.6	23.8	27.4	24.9	23.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2	0.2	0.2	0.5	0.0	0.1	0.6	0.3	0.2	5.1	0.3	0.1
Delay (s)	5.2	5.4	5.1	6.2	5.0	5.2	24.8	24.9	24.0	32.4	25.3	23.6
Level of Service	A	A	A	A	A	A	C	C	C	C	C	C
Approach Delay (s)		5.3			5.4			24.6			27.4	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	14.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	85.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	54.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1638	3305	1539	1605	3131	1309	1732	4458		1682	3284	
Flt Permitted	0.40	1.00	1.00	0.36	1.00	1.00	0.35	1.00		0.58	1.00	
Satd. Flow (perm)	688	3305	1539	615	3131	1309	638	4458		1026	3284	
Volume (vph)	79	610	165	106	545	58	71	204	61	109	470	94
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	79	610	165	106	545	58	71	204	61	109	470	94
RTOR Reduction (vph)	0	0	78	0	0	28	0	36	0	0	18	0
Lane Group Flow (vph)	79	610	87	106	545	30	71	229	0	109	546	0
Confl. Peds. (#/hr)			3	3			1			1		
Heavy Vehicles (%)	9%	8%	2%	11%	14%	22%	3%	12%	8%	6%	6%	6%
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)	44.7	44.7	44.7	44.7	44.7	44.7	34.7	34.7		34.7	34.7	
Effective Green, g (s)	49.4	49.4	49.4	49.4	49.4	49.4	38.6	38.6		38.6	38.6	
Actuated g/C Ratio	0.53	0.53	0.53	0.53	0.53	0.53	0.41	0.41		0.41	0.41	
Clearance Time (s)	7.7	7.7	7.7	7.7	7.7	7.7	6.9	6.9		6.9	6.9	
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	362	1737	809	323	1645	688	262	1831		421	1349	
v/s Ratio Prot		c0.18			0.17			0.06			c0.17	
v/s Ratio Perm	0.11		0.11	0.17		0.04	0.11			0.11		
v/c Ratio	0.22	0.35	0.11	0.33	0.33	0.04	0.27	0.13		0.26	0.40	
Uniform Delay, d1	12.0	13.0	11.2	12.8	12.8	10.8	18.4	17.2		18.3	19.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.4	0.6	0.3	1.2	0.2	0.1	2.5	0.1		1.5	0.9	
Delay (s)	13.3	13.5	11.5	14.0	13.1	10.9	20.9	17.3		19.8	20.5	
Level of Service	B	B	B	B	B	B	C	B		B	C	
Approach Delay (s)		13.1			13.0			18.1			20.4	
Approach LOS		B			B			B			C	

Intersection Summary			
HCM Average Control Delay	15.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	94.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	56.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	1	478	11	17	329	7	5	4	11	31	23	7
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	1	478	11	17	329	7	5	4	11	31	23	7
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	336			489			870	856	484	865	858	332
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	336			489			870	856	484	865	858	332
tC, single (s)	5.1			4.3			7.3	6.5	6.2	7.1	6.5	6.3
tC, 2 stage (s)												
tF (s)	3.1			2.4			3.7	4.0	3.3	3.5	4.0	3.4
p0 queue free %	100			98			98	99	98	88	92	99
cM capacity (veh/h)	831			996			232	292	587	264	287	683

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	490	353	20	61
Volume Left	1	17	5	31
Volume Right	11	7	11	7
cSH	831	996	370	294
Volume to Capacity	0.00	0.02	0.05	0.21
Queue Length (m)	0.0	0.4	1.3	5.8
Control Delay (s)	0.0	0.6	15.3	20.4
Lane LOS	A	A	C	C
Approach Delay (s)	0.0	0.6	15.3	20.4
Approach LOS			C	C

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	43.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	2	37	12	5	79	1	8	26	4	3	54	8
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	2	37	12	5	79	1	8	26	4	3	54	8
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	148	110	58	138	112	28	62			30		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	148	110	58	138	112	28	62			30		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	95	99	99	90	100	99			100		
cM capacity (veh/h)	755	773	1014	792	775	1053	1554			1596		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	51	85	38	65
Volume Left	2	5	8	3
Volume Right	12	1	4	8
cSH	818	778	1554	1596
Volume to Capacity	0.06	0.11	0.01	0.00
Queue Length (m)	1.5	2.8	0.1	0.0
Control Delay (s)	9.7	10.2	1.6	0.3
Lane LOS	A	B	A	A
Approach Delay (s)	9.7	10.2	1.6	0.3
Approach LOS	A	B		

Intersection Summary				
Average Delay	6.0			
Intersection Capacity Utilization	17.7%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	31	6	22	65	3	3	53	19	7	107	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	31	6	22	65	3	3	53	19	7	107	1
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	226	200	108	212	190	62	108			72		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	226	200	108	212	190	62	108			72		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	96	99	97	91	100	100			100		
cM capacity (veh/h)	677	695	952	712	703	1008	1495			1541		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	37	90	75	115
Volume Left	0	22	3	7
Volume Right	6	3	19	1
cSH	727	713	1495	1541
Volume to Capacity	0.05	0.13	0.00	0.00
Queue Length (m)	1.2	3.3	0.0	0.1
Control Delay (s)	10.2	10.8	0.3	0.5
Lane LOS	B	B	A	A
Approach Delay (s)	10.2	10.8	0.3	0.5
Approach LOS	B	B		

Intersection Summary				
Average Delay	4.5			
Intersection Capacity Utilization	26.6%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	7	99	35	43	85	8	12	112	32	35	363	6
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	7	99	35	43	85	8	12	112	32	35	363	6
Pedestrians								1				
Lane Width (m)								3.5				
Walking Speed (m/s)								1.2				
Percent Blockage								0				
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	638	604	367	674	591	128	369			144		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	638	604	367	674	591	128	369			144		
tC, single (s)	7.1	6.6	6.2	7.2	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.1	3.3	3.6	4.0	3.3	2.2			2.2		
p0 queue free %	98	75	95	84	79	99	99			98		
cM capacity (veh/h)	318	393	676	269	405	927	1201			1432		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	141	136	156	404
Volume Left	7	43	12	35
Volume Right	35	8	32	6
cSH	433	360	1201	1432
Volume to Capacity	0.33	0.38	0.01	0.02
Queue Length (m)	10.6	13.1	0.2	0.6
Control Delay (s)	17.3	21.0	0.7	0.9
Lane LOS	C	C	A	A
Approach Delay (s)	17.3	21.0	0.7	0.9
Approach LOS	C	C		

Intersection Summary				
Average Delay	6.9			
Intersection Capacity Utilization	54.1%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	50	17	74	23	10	144
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	50	17	74	23	10	144
Pedestrians	1					
Lane Width (m)	3.5					
Walking Speed (m/s)	1.2					
Percent Blockage	0					
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	250	86			98	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	250	86			98	
tC, single (s)	6.8	6.8			4.1	
tC, 2 stage (s)						
tF (s)	3.9	3.8			2.2	
p0 queue free %	92	98			99	
cM capacity (veh/h)	651	835			1507	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	50	17	97	10	144
Volume Left	50	0	0	10	0
Volume Right	0	17	23	0	0
cSH	651	835	1700	1507	1700
Volume to Capacity	0.08	0.02	0.06	0.01	0.08
Queue Length (m)	1.9	0.5	0.0	0.2	0.0
Control Delay (s)	11.0	9.4	0.0	7.4	0.0
Lane LOS	B	A		A	
Approach Delay (s)	10.6		0.0	0.5	
Approach LOS	B				

Intersection Summary			
Average Delay	2.5		
Intersection Capacity Utilization	17.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	497	4	25	514	0	5
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	497	4	25	514	0	5
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			501		1061	497
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			501		1061	497
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		100	99
cM capacity (veh/h)			1074		244	577

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	497	4	25	514	5
Volume Left	0	0	25	0	0
Volume Right	0	4	0	0	5
cSH	1700	1700	1074	1700	577
Volume to Capacity	0.29	0.00	0.02	0.30	0.01
Queue Length (m)	0.0	0.0	0.5	0.0	0.2
Control Delay (s)	0.0	0.0	8.4	0.0	11.3
Lane LOS			A		B
Approach Delay (s)	0.0		0.4		11.3
Approach LOS					B

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	37.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.95		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1733	1842	1452	1653	1813		1750	1733		1716	1636	
Flt Permitted	0.35	1.00	1.00	0.16	1.00		0.43	1.00		0.10	1.00	
Satd. Flow (perm)	642	1842	1452	274	1813		786	1733		185	1636	
Volume (vph)	36	598	114	192	584	31	247	485	280	24	196	29
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	36	598	114	192	584	31	247	485	280	24	196	29
RTOR Reduction (vph)	0	0	53	0	1	0	0	16	0	0	4	0
Lane Group Flow (vph)	36	598	61	192	614	0	247	749	0	24	221	0
Heavy Vehicles (%)	3%	2%	10%	8%	3%	0%	2%	1%	5%	4%	12%	17%
Turn Type	Perm		Perm	pm+pt			pm+pt			Perm		
Protected Phases		4		3	8		5	2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	50.7	50.7	50.7	67.6	67.6		47.6	47.6		34.6	34.6	
Effective Green, g (s)	55.1	55.1	55.1	72.0	72.0		52.0	52.0		39.0	39.0	
Actuated g/C Ratio	0.42	0.42	0.42	0.55	0.55		0.40	0.40		0.30	0.30	
Clearance Time (s)	7.4	7.4	7.4	3.0	7.4		3.0	7.4		7.4	7.4	
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	272	781	615	299	1004		389	693		56	491	
v/s Ratio Prot		c0.32		c0.07	0.34		0.05	c0.44			0.14	
v/s Ratio Perm	0.06		0.08	0.29			0.21			0.13		
v/c Ratio	0.13	0.77	0.10	0.64	0.61		0.63	1.08		0.43	0.45	
Uniform Delay, d1	22.9	31.9	22.5	21.8	19.6		30.4	39.0		36.5	36.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.0	7.1	0.3	6.3	2.8		4.7	58.0		10.6	1.4	
Delay (s)	23.9	39.0	22.8	28.1	22.3		35.1	97.0		47.2	38.2	
Level of Service	C	D	C	C	C		D	F		D	D	
Approach Delay (s)		35.8			23.7			81.9			39.1	
Approach LOS		D			C			F			D	

Intersection Summary			
HCM Average Control Delay	49.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	101.4%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.96		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1700	1819		1716	1848		1700	1776		1785	1706	
Flt Permitted	0.46	1.00		0.60	1.00		0.58	1.00		0.27	1.00	
Satd. Flow (perm)	821	1819		1082	1848		1032	1776		510	1706	
Volume (vph)	41	197	21	51	369	18	38	327	104	27	130	54
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	41	197	21	51	369	18	38	327	104	27	130	54
RTOR Reduction (vph)	0	4	0	0	2	0	0	17	0	0	23	0
Lane Group Flow (vph)	41	214	0	51	385	0	38	414	0	27	161	0
Heavy Vehicles (%)	5%	2%	0%	4%	1%	0%	5%	1%	5%	0%	5%	6%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	41.5	41.5		41.5	41.5		24.3	24.3		24.3	24.3	
Effective Green, g (s)	45.1	45.1		45.1	45.1		27.9	27.9		27.9	27.9	
Actuated g/C Ratio	0.57	0.57		0.57	0.57		0.35	0.35		0.35	0.35	
Clearance Time (s)	6.6	6.6		6.6	6.6		6.6	6.6		6.6	6.6	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	469	1038		618	1055		364	627		180	602	
v/s Ratio Prot		0.12			c0.21			c0.24			0.11	
v/s Ratio Perm	0.05			0.05			0.04			0.05		
v/c Ratio	0.09	0.21		0.08	0.37		0.10	0.66		0.15	0.27	
Uniform Delay, d1	7.7	8.2		7.6	9.2		17.2	21.5		17.5	18.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	0.5		0.1	0.5		0.3	3.4		0.8	0.5	
Delay (s)	8.0	8.7		7.8	9.6		17.4	24.9		18.3	18.8	
Level of Service	A	A		A	A		B	C		B	B	
Approach Delay (s)		8.6			9.4			24.3			18.7	
Approach LOS		A			A			C			B	

Intersection Summary				
HCM Average Control Delay	15.8	HCM Level of Service	B	
HCM Volume to Capacity ratio	0.49			
Actuated Cycle Length (s)	79.0	Sum of lost time (s)	6.0	
Intersection Capacity Utilization	64.0%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0			3.0			3.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			1.00			0.94			0.98	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		1810			1833			1727			1756	
Flt Permitted		0.99			0.95			0.97			0.96	
Satd. Flow (perm)		1795			1750			1694			1712	
Volume (vph)	6	326	15	42	457	10	14	44	45	5	16	3
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	6	326	15	42	457	10	14	44	45	5	16	3
RTOR Reduction (vph)	0	2	0	0	1	0	0	21	0	0	1	0
Lane Group Flow (vph)	0	345	0	0	508	0	0	82	0	0	23	0
Heavy Vehicles (%)	17%	3%	0%	0%	2%	0%	0%	4%	0%	0%	0%	33%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		32.2			32.2			42.7			42.7	
Effective Green, g (s)		36.6			36.6			47.4			47.4	
Actuated g/C Ratio		0.41			0.41			0.53			0.53	
Clearance Time (s)		7.4			7.4			7.7			7.7	
Vehicle Extension (s)		5.0			5.0			5.0			5.0	
Lane Grp Cap (vph)		730			712			892			902	
v/s Ratio Prot												
v/s Ratio Perm		0.19			c0.29			c0.06			0.01	
v/c Ratio		0.47			0.71			0.09			0.03	
Uniform Delay, d1		19.6			22.3			10.6			10.2	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.0			4.2			0.2			0.1	
Delay (s)		20.6			26.5			10.8			10.3	
Level of Service		C			C			B			B	
Approach Delay (s)		20.6			26.5			10.8			10.3	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM Average Control Delay	22.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	61.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Frt	1.00	0.99		1.00	0.99			1.00	0.85		0.99	
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00		0.99	
Satd. Flow (prot)	1668	1777		1785	1867			1852	1597		1821	
Flt Permitted	0.42	1.00		0.45	1.00			0.89	1.00		0.91	
Satd. Flow (perm)	733	1777		840	1867			1678	1597		1673	
Volume (vph)	15	406	30	83	458	21	77	190	109	21	74	9
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	15	406	30	83	458	21	77	190	109	21	74	9
RTOR Reduction (vph)	0	3	0	0	2	0	0	0	78	0	5	0
Lane Group Flow (vph)	15	433	0	83	477	0	0	267	31	0	99	0
Heavy Vehicles (%)	7%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	11%
Turn Type	Perm			Perm			Perm		Perm	Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)	46.0	46.0		46.0	46.0			18.8	18.8		18.8	
Effective Green, g (s)	49.6	49.6		49.6	49.6			22.4	22.4		22.4	
Actuated g/C Ratio	0.64	0.64		0.64	0.64			0.29	0.29		0.29	
Clearance Time (s)	6.6	6.6		6.6	6.6			6.6	6.6		6.6	
Vehicle Extension (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	
Lane Grp Cap (vph)	466	1130		534	1187			482	459		480	
v/s Ratio Prot		0.25			c0.26							
v/s Ratio Perm	0.02			0.10				c0.16	0.07		0.06	
v/c Ratio	0.03	0.38		0.16	0.40			0.55	0.07		0.21	
Uniform Delay, d1	5.3	6.8		5.7	6.9			23.6	20.2		21.1	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.1	1.0		0.3	0.5			2.3	0.1		0.4	
Delay (s)	5.4	7.8		6.0	7.4			25.9	20.3		21.5	
Level of Service	A	A		A	A			C	C		C	
Approach Delay (s)		7.7			7.2			24.3			21.5	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	12.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	78.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	61.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1733	3570	1566	1750	3570	1597	1783	3535	1527	1763	3535	1576
Flt Permitted	0.47	1.00	1.00	0.54	1.00	1.00	0.66	1.00	1.00	0.66	1.00	1.00
Satd. Flow (perm)	866	3570	1566	1003	3570	1597	1237	3535	1527	1219	3535	1576
Volume (vph)	30	263	63	173	334	68	60	150	152	84	146	15
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	30	263	63	173	334	68	60	150	152	84	146	15
RTOR Reduction (vph)	0	0	45	0	0	48	0	0	55	0	0	5
Lane Group Flow (vph)	30	263	18	173	334	20	60	150	97	84	146	10
Confl. Peds. (#/hr)							1		2	2		1
Heavy Vehicles (%)	3%	0%	2%	2%	0%	0%	0%	1%	3%	1%	1%	0%
Turn Type	Perm		Perm	Perm		Perm	Perm		Perm	Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	20.0	20.0	20.0	20.0	20.0	20.0	48.0	48.0	48.0	48.0	48.0	48.0
Effective Green, g (s)	23.0	23.0	23.0	23.0	23.0	23.0	51.0	51.0	51.0	51.0	51.0	51.0
Actuated g/C Ratio	0.29	0.29	0.29	0.29	0.29	0.29	0.64	0.64	0.64	0.64	0.64	0.64
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	249	1026	450	288	1026	459	789	2254	973	777	2254	1005
v/s Ratio Prot		0.07			0.09			0.04			0.04	
v/s Ratio Perm	0.03		0.04	c0.17		0.04	0.05		0.10	0.07		0.01
v/c Ratio	0.12	0.26	0.04	0.60	0.33	0.04	0.08	0.07	0.10	0.11	0.06	0.01
Uniform Delay, d1	21.0	21.9	20.5	24.5	22.4	20.6	5.5	5.5	5.6	5.6	5.5	5.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	0.3	0.1	5.1	0.4	0.1	0.2	0.1	0.2	0.3	0.1	0.0
Delay (s)	21.5	22.2	20.6	29.7	22.8	20.6	5.7	5.5	5.8	5.9	5.5	5.3
Level of Service	C	C	C	C	C	C	A	A	A	A	A	A
Approach Delay (s)		21.9			24.6			5.7			5.7	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM Average Control Delay	16.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	48.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1750	3400	1536	1580	3368	1536	1772	5000		1733	3292	
Flt Permitted	0.35	1.00	1.00	0.38	1.00	1.00	0.50	1.00		0.37	1.00	
Satd. Flow (perm)	650	3400	1536	624	3368	1536	938	5000		684	3292	
Volume (vph)	133	628	148	93	676	156	207	445	90	89	259	51
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	133	628	148	93	676	156	207	445	90	89	259	51
RTOR Reduction (vph)	0	0	58	0	0	61	0	37	0	0	20	0
Lane Group Flow (vph)	133	628	90	93	676	95	207	498	0	89	290	0
Confl. Peds. (#/hr)							7					7
Heavy Vehicles (%)	2%	5%	4%	13%	6%	4%	0%	0%	0%	3%	6%	2%
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)	52.5	52.5	52.5	52.5	52.5	52.5	26.9	26.9		26.9	26.9	
Effective Green, g (s)	57.2	57.2	57.2	57.2	57.2	57.2	30.8	30.8		30.8	30.8	
Actuated g/C Ratio	0.61	0.61	0.61	0.61	0.61	0.61	0.33	0.33		0.33	0.33	
Clearance Time (s)	7.7	7.7	7.7	7.7	7.7	7.7	6.9	6.9		6.9	6.9	
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	396	2069	935	380	2049	935	307	1638		224	1079	
v/s Ratio Prot		0.18			0.20			0.11			0.09	
v/s Ratio Perm	c0.20		0.10	0.15		0.10	c0.22			0.13		
v/c Ratio	0.34	0.30	0.10	0.24	0.33	0.10	0.67	0.30		0.40	0.27	
Uniform Delay, d1	9.1	8.8	7.7	8.5	9.0	7.7	27.3	23.6		24.4	23.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.3	0.4	0.2	0.7	0.2	0.1	7.4	0.2		2.4	0.3	
Delay (s)	11.3	9.2	7.9	9.2	9.2	7.8	34.7	23.8		26.8	23.6	
Level of Service	B	A	A	A	A	A	C	C		C	C	
Approach Delay (s)		9.3			9.0			26.9			24.3	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	15.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	94.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	60.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	4	314	6	12	424	24	11	21	5	16	11	6
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	4	314	6	12	424	24	11	21	5	16	11	6
Pedestrians		1									1	
Lane Width (m)		3.5									3.5	
Walking Speed (m/s)		1.2									1.2	
Percent Blockage		0									0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	449			320			798	798	317	802	789	438
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	449			320			798	798	317	802	789	438
tC, single (s)	4.1			4.1			7.2	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.6	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			96	93	99	94	97	99
cM capacity (veh/h)	1121			1251			282	317	728	284	321	622

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	324	460	37	33
Volume Left	4	12	11	16
Volume Right	6	24	5	6
cSH	1121	1251	330	329
Volume to Capacity	0.00	0.01	0.11	0.10
Queue Length (m)	0.1	0.2	2.8	2.5
Control Delay (s)	0.1	0.3	17.3	17.2
Lane LOS	A	A	C	C
Approach Delay (s)	0.1	0.3	17.3	17.2
Approach LOS			C	C

Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	41.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	5	68	12	4	49	6	11	60	6	5	30	3
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	5	68	12	4	49	6	11	60	6	5	30	3
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	157	130	32	172	128	63	33			66		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	157	130	32	172	128	63	33			66		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.2			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.3			2.2		
p0 queue free %	99	91	99	99	94	99	99			100		
cM capacity (veh/h)	763	757	1048	726	758	1007	1535			1549		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	85	59	77	38
Volume Left	5	4	11	5
Volume Right	12	6	6	3
cSH	788	775	1535	1549
Volume to Capacity	0.11	0.08	0.01	0.00
Queue Length (m)	2.7	1.9	0.2	0.1
Control Delay (s)	10.1	10.0	1.1	1.0
Lane LOS	B	B	A	A
Approach Delay (s)	10.1	10.0	1.1	1.0
Approach LOS	B	B		

Intersection Summary				
Average Delay	6.1			
Intersection Capacity Utilization	18.1%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	4	63	3	17	44	4	4	108	26	8	72	3
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	4	63	3	17	44	4	4	108	26	8	72	3
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	244	232	74	253	220	121	75			134		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	244	232	74	253	220	121	75			134		
tC, single (s)	7.3	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.7	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	91	100	97	93	100	100			99		
cM capacity (veh/h)	624	667	994	648	676	936	1537			1463		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	70	65	138	83
Volume Left	4	17	4	8
Volume Right	3	4	26	3
cSH	673	680	1537	1463
Volume to Capacity	0.10	0.10	0.00	0.01
Queue Length (m)	2.6	2.4	0.1	0.1
Control Delay (s)	11.0	10.9	0.2	0.8
Lane LOS	B	B	A	A
Approach Delay (s)	11.0	10.9	0.2	0.8
Approach LOS	B	B		

Intersection Summary				
Average Delay	4.4			
Intersection Capacity Utilization	23.7%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	12	94	46	37	109	21	51	311	41	11	189	7
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	12	94	46	37	109	21	51	311	41	11	189	7
Pedestrians								2				
Lane Width (m)								3.5				
Walking Speed (m/s)								1.2				
Percent Blockage								0				
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	724	668	194	743	652	332	196			352		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	724	668	194	743	652	332	196			352		
tC, single (s)	7.1	6.5	6.4	7.1	6.5	6.2	4.3			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.5	3.5	4.0	3.3	2.4			2.2		
p0 queue free %	95	74	94	85	71	97	96			99		
cM capacity (veh/h)	248	363	793	242	370	703	1256			1218		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	152	167	403	207
Volume Left	12	37	51	11
Volume Right	46	21	41	7
cSH	416	350	1256	1218
Volume to Capacity	0.37	0.48	0.04	0.01
Queue Length (m)	12.5	18.8	1.0	0.2
Control Delay (s)	18.6	24.4	1.4	0.5
Lane LOS	C	C	A	A
Approach Delay (s)	18.6	24.4	1.4	0.5
Approach LOS	C	C		

Intersection Summary			
Average Delay	8.1		
Intersection Capacity Utilization	60.8%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	44	6	70	25	6	38
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	44	6	70	25	6	38
Pedestrians	3					1
Lane Width (m)	3.5					3.5
Walking Speed (m/s)	1.2					1.2
Percent Blockage	0					0
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	136	86			98	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	136	86			98	
tC, single (s)	6.5	6.4			4.1	
tC, 2 stage (s)						
tF (s)	3.6	3.5			2.2	
p0 queue free %	95	99			100	
cM capacity (veh/h)	841	929			1504	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	44	6	95	6	38
Volume Left	44	0	0	6	0
Volume Right	0	6	25	0	0
cSH	841	929	1700	1504	1700
Volume to Capacity	0.05	0.01	0.06	0.00	0.02
Queue Length (m)	1.3	0.1	0.0	0.1	0.0
Control Delay (s)	9.5	8.9	0.0	7.4	0.0
Lane LOS	A	A		A	
Approach Delay (s)	9.4		0.0	1.0	
Approach LOS	A				

Intersection Summary			
Average Delay	2.7		
Intersection Capacity Utilization	16.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	514	5	10	499	9	28
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	514	5	10	499	9	28
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			519		1033	514
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			519		1033	514
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		97	95
cM capacity (veh/h)			1057		257	564

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	514	5	10	499	37
Volume Left	0	0	10	0	9
Volume Right	0	5	0	0	28
cSH	1700	1700	1057	1700	437
Volume to Capacity	0.30	0.00	0.01	0.29	0.08
Queue Length (m)	0.0	0.0	0.2	0.0	2.1
Control Delay (s)	0.0	0.0	8.4	0.0	14.0
Lane LOS			A		B
Approach Delay (s)	0.0		0.2		14.0
Approach LOS					B

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	37.1%	ICU Level of Service	A
Analysis Period (min)	15		