APPENDIX B
MINUTES

Dundas Street (Regional Road 5) Improvements Class Environmental Assessment Study

Stakeholders Group (SG) Meeting #1

Agenda

7:00-9:00 p.m. — Compass Point Bible Church (2501 Eaglesfield Drive)

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1. **Opening Remarks**
   a. Welcome
   b. Session overview
   c. Introductions

2. **About the Stakeholders Group**
   a. Purpose and role
   b. Operational procedures

3. **Study Presentation and Input on Key Questions**
   a. Background and context
   b. Study approach and stages
   c. Existing and forecast conditions
   d. Bus Rapid Transit (BRT) on Dundas
   e. Key 'environmental' considerations
   f. Alternative solutions
   g. Factors/criteria for analysis and evaluation
   h. Next steps
   i. Group discussion integrated into the above

4. **Open Forum**

5. **Closing Remarks**

Halton REGION

DUNDAS STREET (REGIONAL RD. 5)
Brant Street (Regional Road 18) to Proudfoot Trail

Class EA Study

Stakeholders Group Meeting #1 Presentation

November 2009

McCormick Rankin CORPORATION

MRC

A member of

in association with

Ecoplans Ltd.

Archaeological Services Inc.

Thurber Engineering Ltd.

Getting and Giving the Most

- It's OUR meeting…participate enthusiastically
- Focus on the future
- Terminology expertise is secondary
- There is such a thing as a bad idea!
- Build, don't duplicate
- Respect (for each other and the process)
- Voices without titles
- Consensus on no consensus
- Informal style, structured approach
- No dissertations (rather, 'rap and roll')

The *Advisory* Stakeholders Group

- Role and purpose:
  - **Dialogue and multi-perspective information exchange**
  - **Input on and joint exploration of key issues, challenges, opportunities, ideas and best practices**
  - **A sounding board: review and comment on project approaches, alternatives/options, and reports**
  - **Liaison — a conduit to/from the 'community'**
  - **Facilitate a high quality outcome**
- The Study Team commitment:
  - **Listen to, seriously consider, be respectful of participants' views, perspectives, opinions**
  - **Varying roles: observe, inform, clarify**
  - **Ex officio status**
- Proven value

The Group at Work

- Non-voting advisory Group
- ***Minimum*** of 2 meetings (typically 2-3 hours in length in the evening) over the life of the project — varied meeting formats
  - **Prior to planned PICs**
  - **Potential for topic, geographic, issue-specific meetings**
- Agenda/materials distributed in advance
- Participant 'open forum' agenda component
- Summary reports
- One seat, one person approach (can appoint an alternate)
- Expectation of attendance and preparation
- No designated public spokesperson
- Open to the public as *observers*
  - **But no delegations (Option: Agenda provision for public comment)**
- Independent facilitation (Chair: Glenn Pothier)
  - **Facilitate; prepare agendas; assist with communication; assist with meeting summaries; track action items**

SG Members

- Have accepted all that applied
- Reflective of:
  - **The study area**
  - **Diverse interests/sectors**
  - **Diverse expertise/knowledge**
- May add some members as the study progresses
- Members names will be made public
- Members must declare any conflicts of interest

Some Operational/Procedural Issues

- Observer commenting period(s)?
- Proposed meeting location
- Timing of next meeting

Discussion Topic

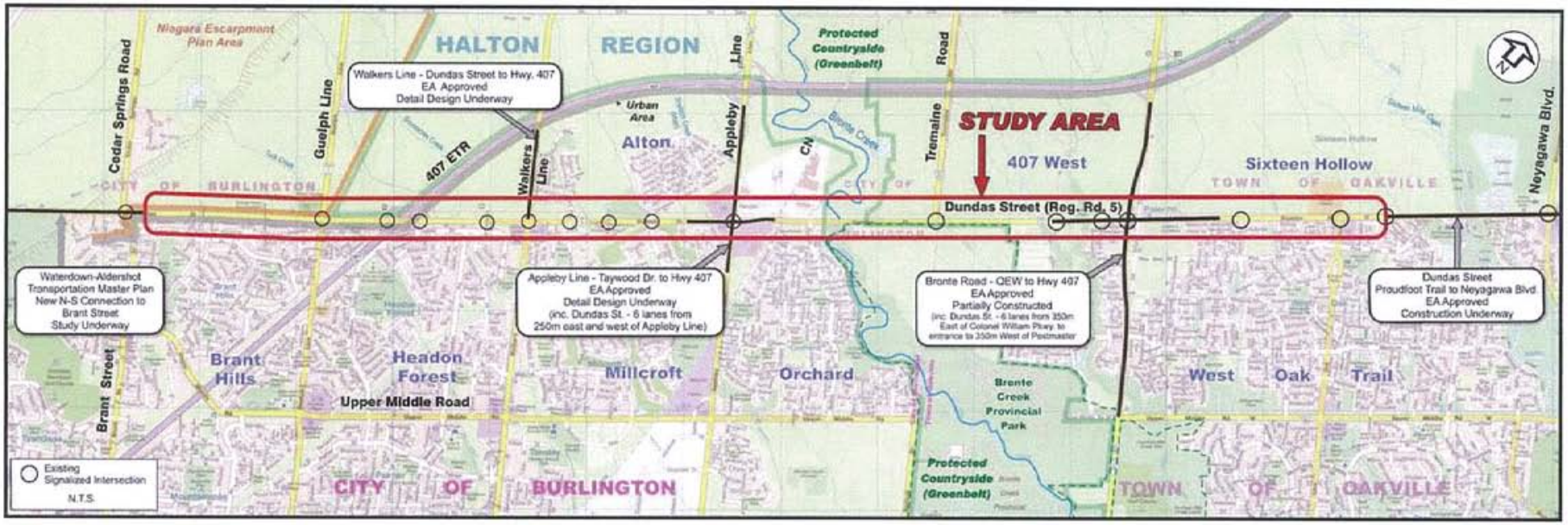
- What are your aspirations for the study — what do you hope it will accomplish?

PURPOSE OF MEETING

- To review and receive comments re:
  - study approach
  - problems/opportunities being addressed
  - background information
  - development of alternatives

THIS STUDY

- To address existing/future need for improvements to Dundas Street
- Builds on earlier study process initiated March 2008
  - Guelph Line to Appleby Line



BACKGROUND

Related studies include:

- Highway 403 to Oak Park Boulevard – EA completed, Detail Design underway
- Oak Park Boulevard to Neyagawa Boulevard – EA underway
- Neyagawa Boulevard to Proudfoot Trail – EA completed, Construction underway
- Regional Road 5 and 25 Corridor Study
- Halton Transportation Master Plan

BACKGROUND

- As part of the MoveOntario 2020 Quick-Wins, the Region identified a **Bus Rapid Transit (BRT) system along Dundas Street** - received funding from Metrolinx

- Halton Region has commenced the Dundas Street Bus Rapid Transit Corridor Feasibility and Implementation Study

STUDY ORGANIZATION

EA STUDY APPROACH

- The study is following the Municipal Class EA process
  - Approved process under the Ontario Environmental Assessment Act
  - Schedule 'C' which follows Phases 1 through 4 of the Municipal Class EA
  - Includes consultation with stakeholders during the process
  - Part II Order request (Bump–Up)– appeal process

STUDY STAGES

PHASE 1
Problem / Opportunity

Notice of Study Commencement
(October/November 2009)

PHASE 2
Alternative Solutions

Public Information Centre #1
(Fall 2009)

PHASE 3
Alternative Design Concepts for Preferred Solution

Public Information Centre #2
(Spring 2010)

PHASE 4
Environmental Study Report

File ESR
(Winter 2011)

TECHNICAL AGENCIES

Federal

- CEAA
- CN Rail
- Environment Canada
- Fisheries and Oceans Canada
- Indian and Northern Affairs

Provincial

- Ministry of Aboriginal Affairs
- Ministry of Agriculture Food and Rural Affairs
- Ministry of Culture
- Ministry of the Environment
- Ministry of Municipal Affairs and Housing
- Ministry of Natural Resources
- Ministry of Transportation
- 407ETR
- Niagara Escarpment Commission
- Ontario Realty Corporation

Municipal

- City of Burlington
- Town of Oakville
- Conservation Halton
- Halton Regional Police Services
- Halton Emergency Management
- Halton Region Ambulance Services
- Burlington Fire Department
- Oakville Fire Department
- Halton EEAC (Ecological & Environmental Advisory Committee)
- HAAC (Halton Agricultural Advisory Committee)
- Halton Region Cycling Advisory Group
- School Boards
- Burlington Chamber of Commerce
- Oakville Chamber of Commerce

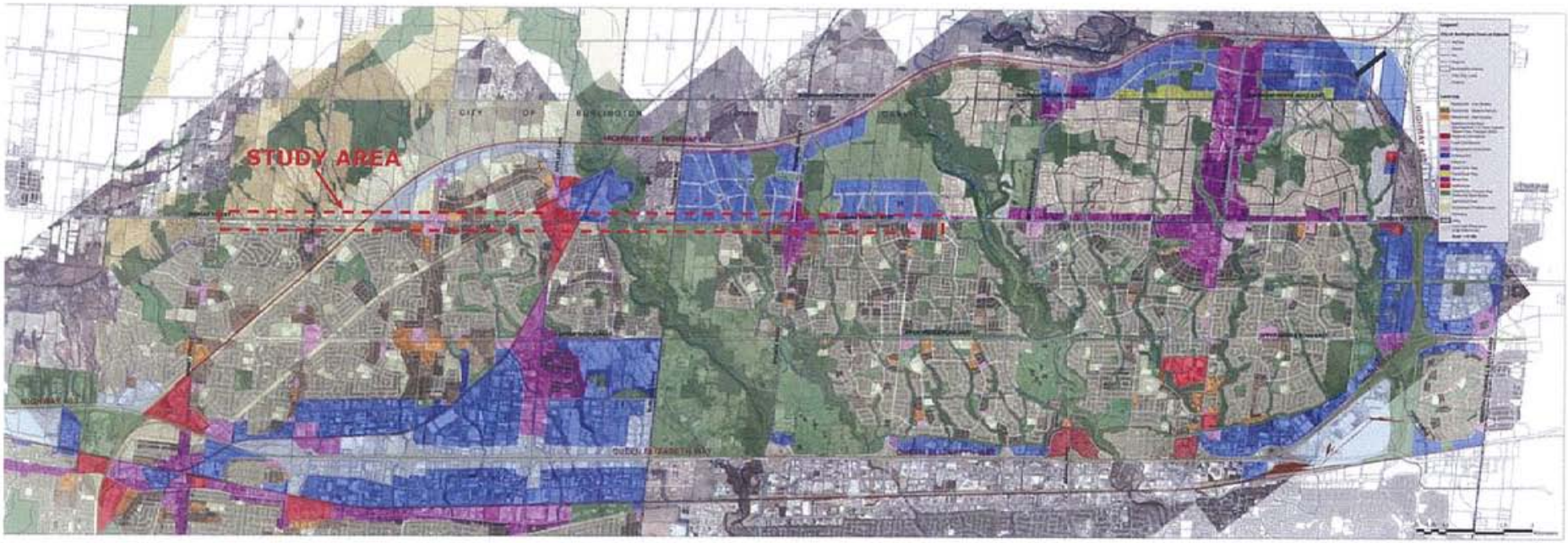
Utilities

- Burlington Hydro, Oakville Hydro, Hydro One, Bell, Enbridge, COGECO, Rogers, TELUS, Union Gas

First Nations

- 11 communities with local interest

EXISTING AND FORECAST CORRIDOR DEVELOPMENT



Municipality	2006 Population	2031 Population	Percent Change
Burlington North of QEW	77,000*	84,000	+9%
Oakville North of QEW	99,000*	155,000	+56%

*Based on 2006 TTS Data

EXISTING TRAFFIC CONDITIONS

- Four (4) lane rural arterial roadway
- Daily Traffic Characteristics along entire corridor
  - 24 Hour Volume: 24,100 – 39,850 vehicles
  - % Truck Volume: 2.5 – 8.3%
- Congested commuter traffic conditions along entire corridor:
  - Eastbound (AM Peak Period)
  - Westbound (PM Peak Period)

Dundas Street Corridor Traffic Flows – Entire Route				
	AM Peak Hour		PM Peak Hour	
Direction	Traffic Volume	Volume/ Capacity	Traffic Volume	Volume/ Capacity
Eastbound	1600-2600	>1.00	1000-1500	0.63
Westbound	600-1000	0.42	1900-2800	>1.00

2008/2009 traffic data

- Congested operations during peak hours at 9 intersections

FUTURE TRAFFIC DEMAND

- Halton Region Transportation Model Traffic Growth
  - 20% to 55% traffic growth (2009–2021) along entire Dundas Street Corridor
- 2021 p.m. peak hour volume forecasts exceed existing rural arterial capacity

DISCUSSION TOPIC

What would you say are the key transportation-related issues, problems and opportunities that need to be considered within the study area?

EXISTING AND FUTURE CONDITIONS

Study is being conducted with understanding of:

- Existing and Future Land Uses
- Natural Environment
- Social Environment
- Economic Environment
- Cultural Environment
- Major Utilities

RELATED POLICIES/ PLANS

Provincial

- Niagara Escarpment Plan (December 2006)
- Growth Plan (June 2006)
- Provincial Policy Statement (March 2005)
- Greenbelt Plan (February 2005)
- Parkway Belt West Plan (July 1978)

Regional

- Sustainable Halton (September 2009)
- Halton Region Official Plan (August 2006)
- Halton Transportation Master Plan (June 2004)
- Making Connections: Transit for Halton (October 2002)
- Regional Road 5 and 25 Corridor Study (November 1999)
- Halton Access Management Plan (November 1999)

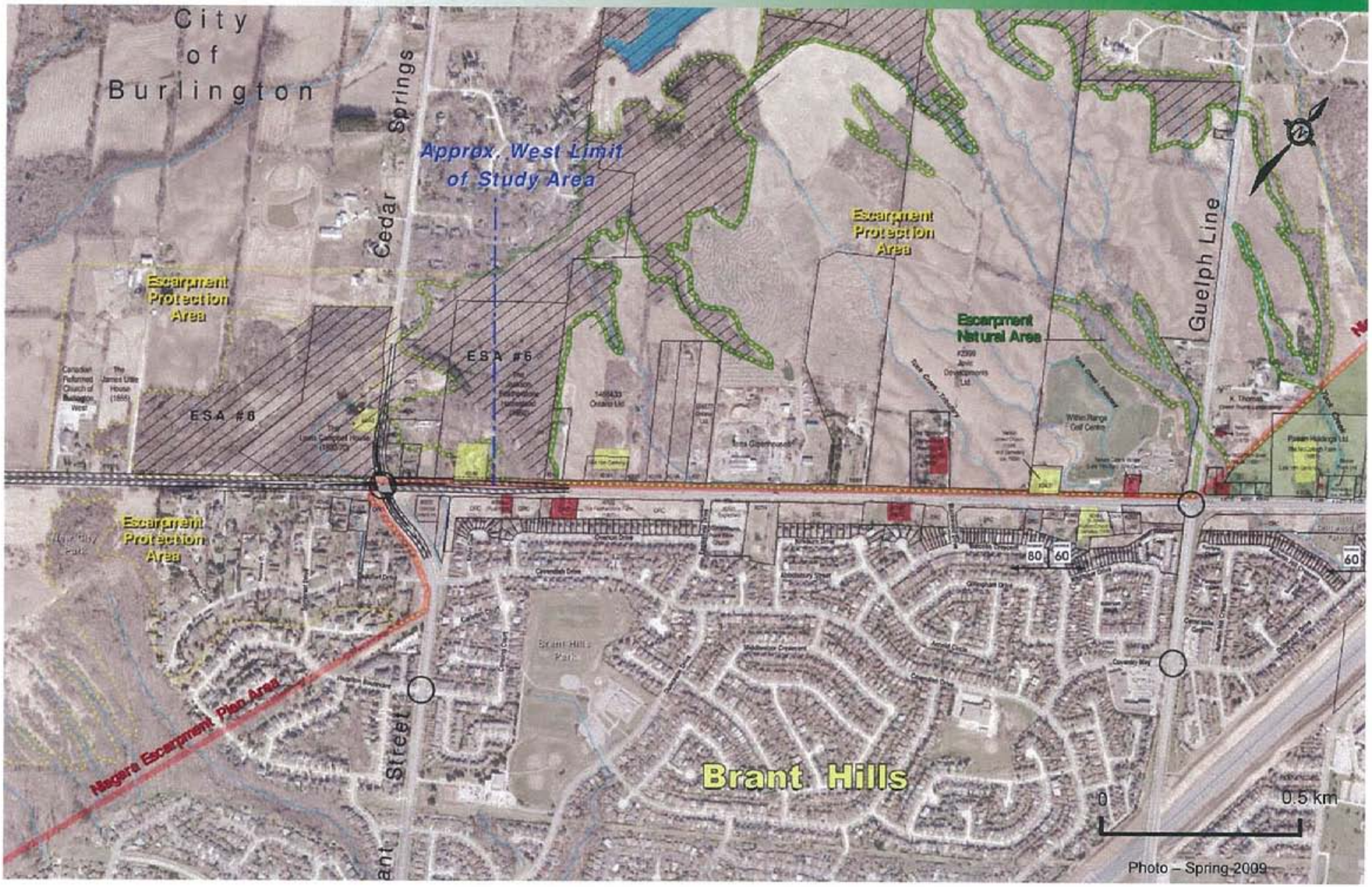
City of Burlington

- City of Burlington Official Plan (June 2009)
- City of Burlington Draft Cycling Master Plan (June 2009)
- Alton Community Secondary Plan (May 2002)

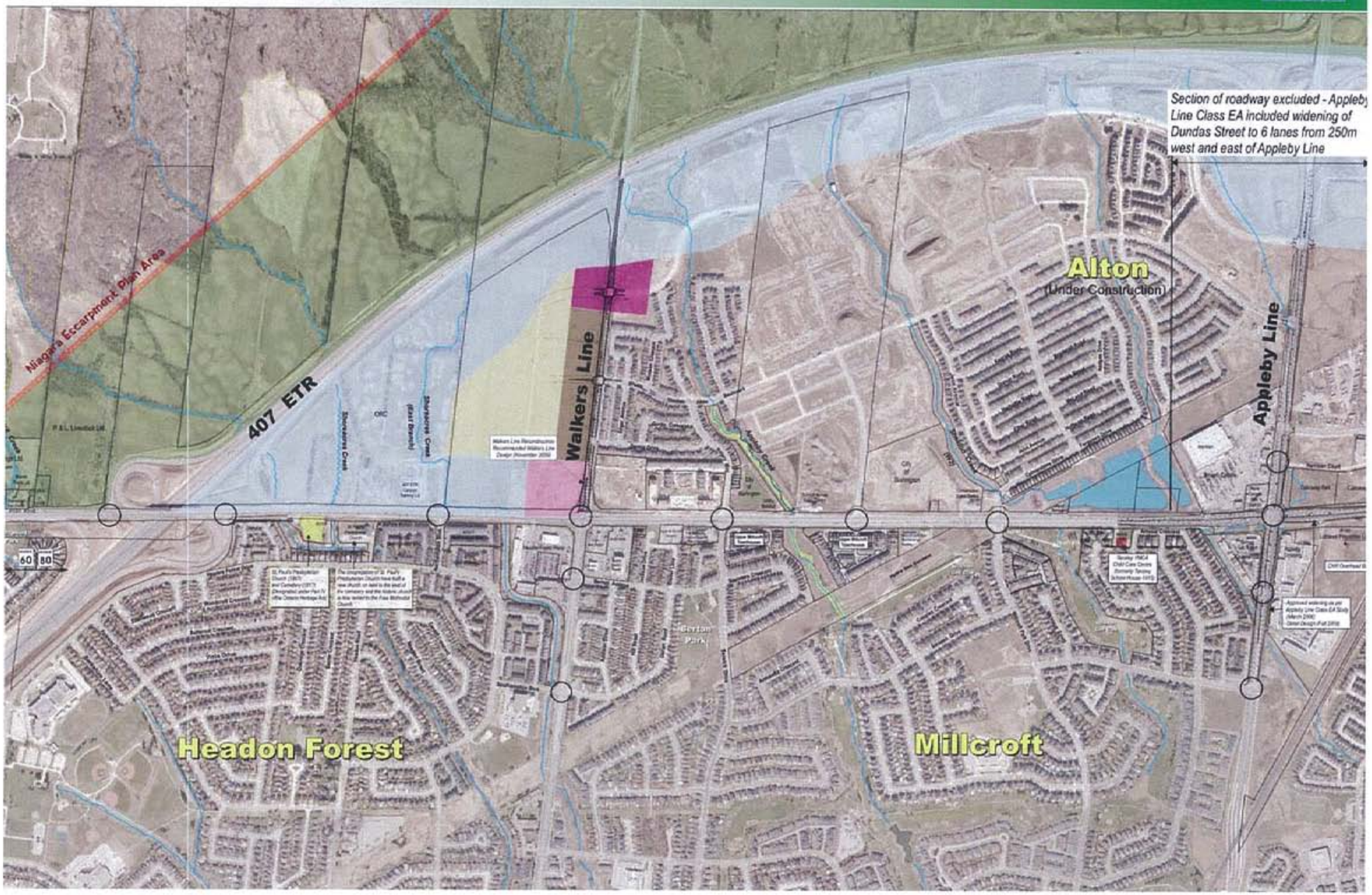
Town of Oakville

- Town of Oakville Draft Active Transportation Master Plan (Cycling and Walking Master Plan) (May 2009)
- Draft North Oakville West Secondary Plan (October 2007)
- Oakville Transportation Master Plan (March 2007)
- Town of Oakville Official Plan (September 2006)

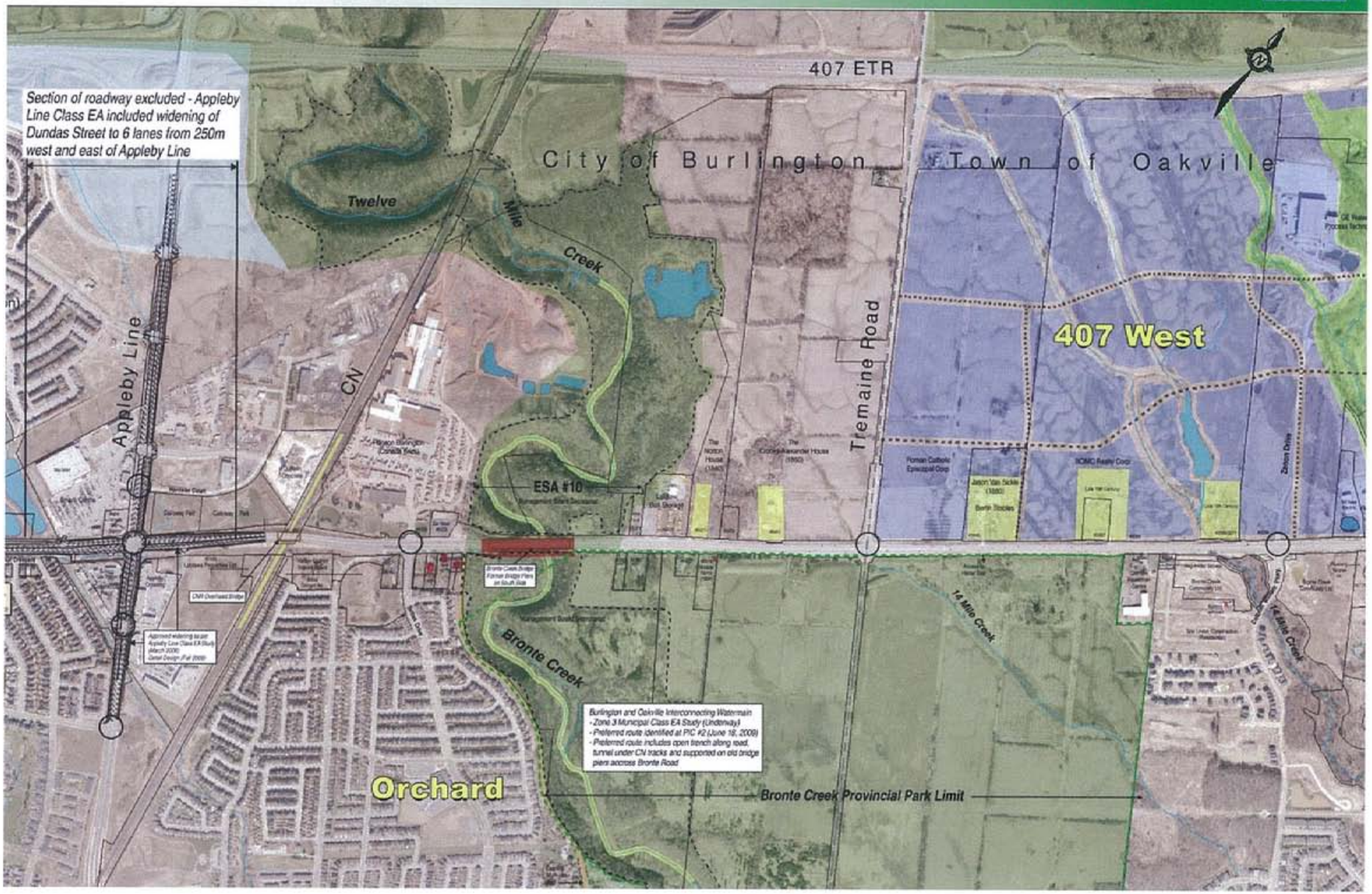
EXISTING CONDITIONS - BRANT STREET TO 407 ETR



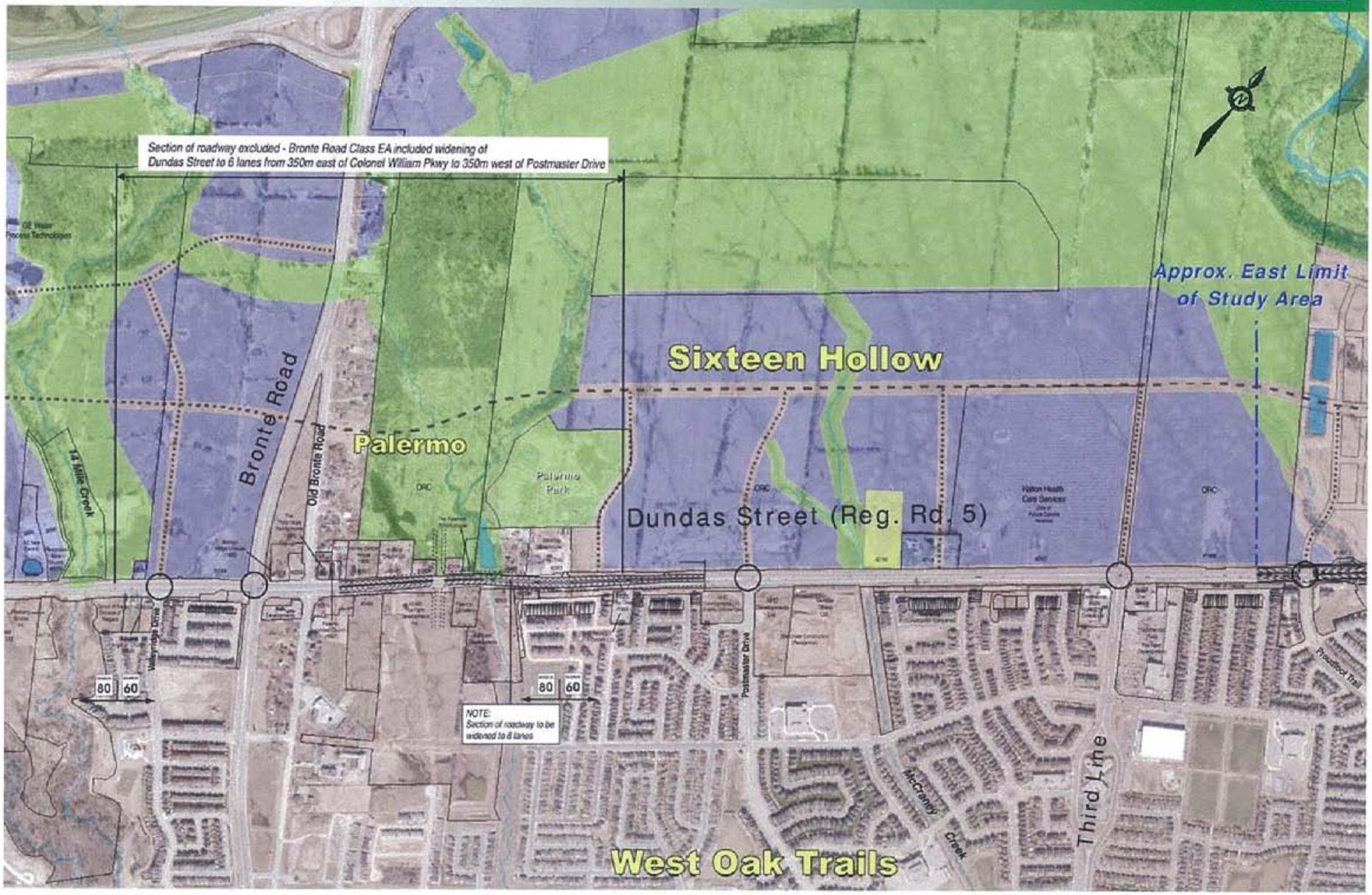
EXISTING CONDITIONS - 407 ETR TO APPLEBY LINE



EXISTING CONDITIONS - APPLEBY LINE TO WEST OF BRONTE ROAD



EXISTING CONDITIONS - WEST OF BRONTE ROAD TO PROUDFOOT TRAIL



BRT STUDY

Metrolinx's Big Move - 25 Year Plan

BRT STUDY

- Study currently underway, completion by Summer 2010
- Study limits – Brant Street to Highway 403

NATURAL ENVIRONMENT

- Designated Areas in Study Area:
  - Bronte Creek Provincial Park/Bronte Creek Valley ESA
  - Nelson Escarpment Woods ESA
- Natural areas limited to creek valleys and forests near Cedar Springs Road
- Bronte Creek Valley supports diverse vegetation community, provides wildlife movement, supports warmwater sportfish, baitfish and Rainbow Trout
- Tuck Creek, Shoreacres Creek, Appleby Creek, Sheldon Creek, Fourteen Mile Creek and McCraney Creek watersheds support warmwater baitfish habitat
- Fourteen Mile Creek supports Redside Dace, a sensitive species classified as 'Endangered' federally and 'Threatened' provincially. Bronte Creek supports Silver Shiner, a Species of Special Concern
- Tuck Creek tributaries are piped underground, presenting barriers to fish movement

SOCIAL ENVIRONMENT

- Existing newer residential areas with frontage and reverse frontage on Dundas St.
- Several older residential properties with direct access to Dundas St.
- Places of Worship
- Neighbourhood Parks
- Future hospital
- Future residential areas

ECONOMIC ENVIRONMENT

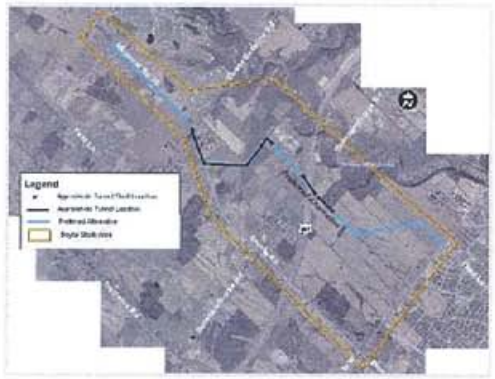
- Multiple existing commercial entrances along Dundas St. - full / restricted access
- Future commercial development
- Significant trucking activity

CULTURAL ENVIRONMENT

- St Paul's Presbyterian Church (1867) and Cemetery (1817)
  - designated under *Ontario Heritage Act*
- Cultural heritage resources:
  - 16 listed on City of Burlington's Heritage Directory
  - 4 listed on Town of Oakville's Cultural Heritage Register
  - 9 additional cultural heritage resources identified

UTILITIES

- Hydro One (220 kV) corridor
- Burlington Hydro, Oakville Hydro, Bell, Enbridge
- Proposed watermain on Dundas Street from Appleby Line to Tremaine Rd.
- Proposed trunk sanitary sewer terminates at Dundas St./Third Line



PLANNING ALTERNATIVES

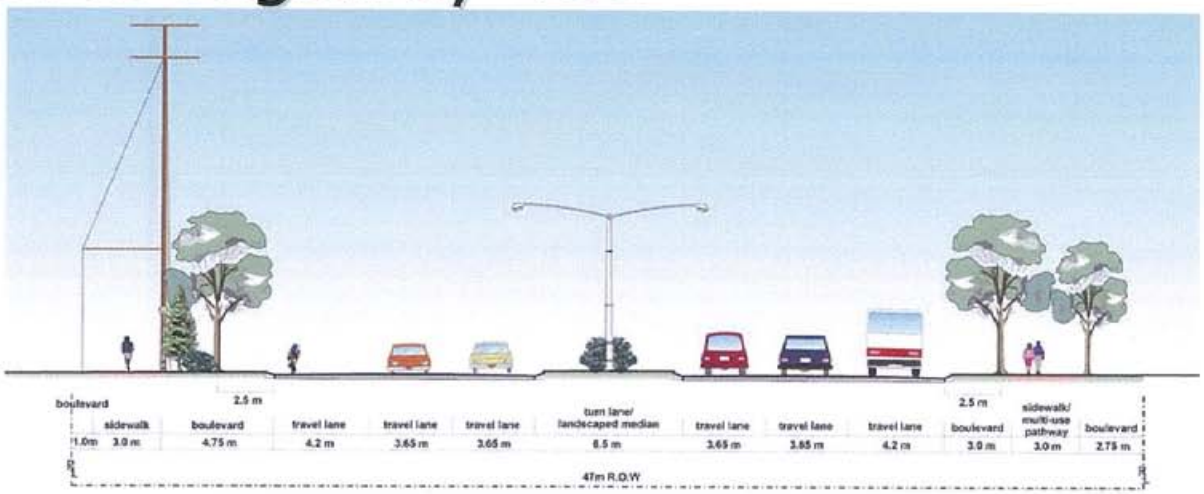
Do Nothing	• Does not address future needs	• Carry forward for comparison only
Limit Development	• Future projections based on approved future urban area	• Do not carry forward
Travel Demand Management Measures	• On their own, do not address the problem • Part of overall transportation strategy	• Carry forward
Improved Transit Service	• Part of overall transportation strategy	• Carry forward
Intersection and /or Operational Improvements	• On their own, do not address the problem • Part of overall transportation strategy	• Carry forward
Improvements to Other Roadways	• Required as part of overall transportation strategy in addition to improvements in Dundas Street corridor	• Carry forward
Improvements to Dundas Street	• Identified in previous studies	• Carry forward

APPROACH TO DEVELOPING ALTERNATIVES

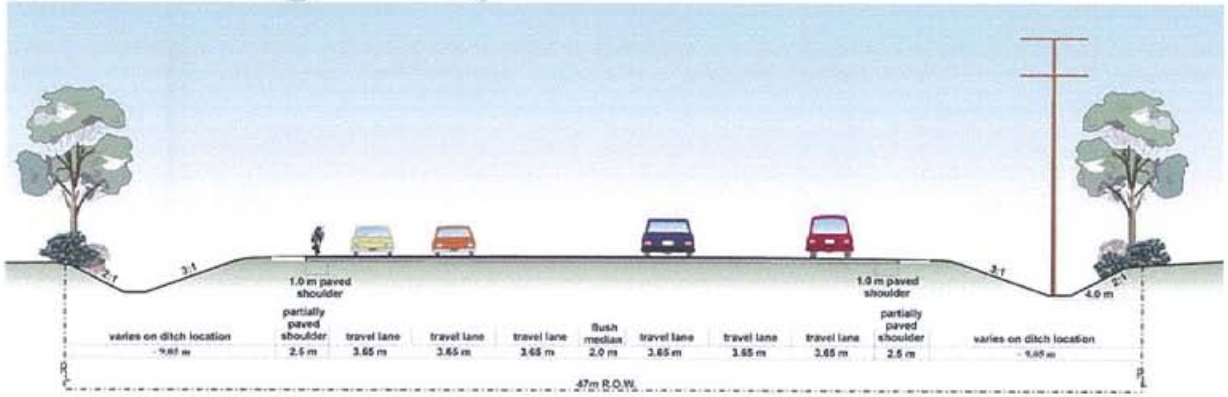
- Review roadway widening alternatives from previous EA studies
- Develop geometric design alternatives
  - cross-section elements / R.O.W./property requirements
  - accesses
  - intersection treatments
  - structures
  - median considerations
  - existing pavement structure
  - identify alternatives for different sections of Dundas Street
  - construction staging
- Integrate BRT study outcomes
- Integrate with other ongoing planned or completed improvements

6 LANE CROSS SECTION
Halton Transportation Master Plan

- East of Highway 407

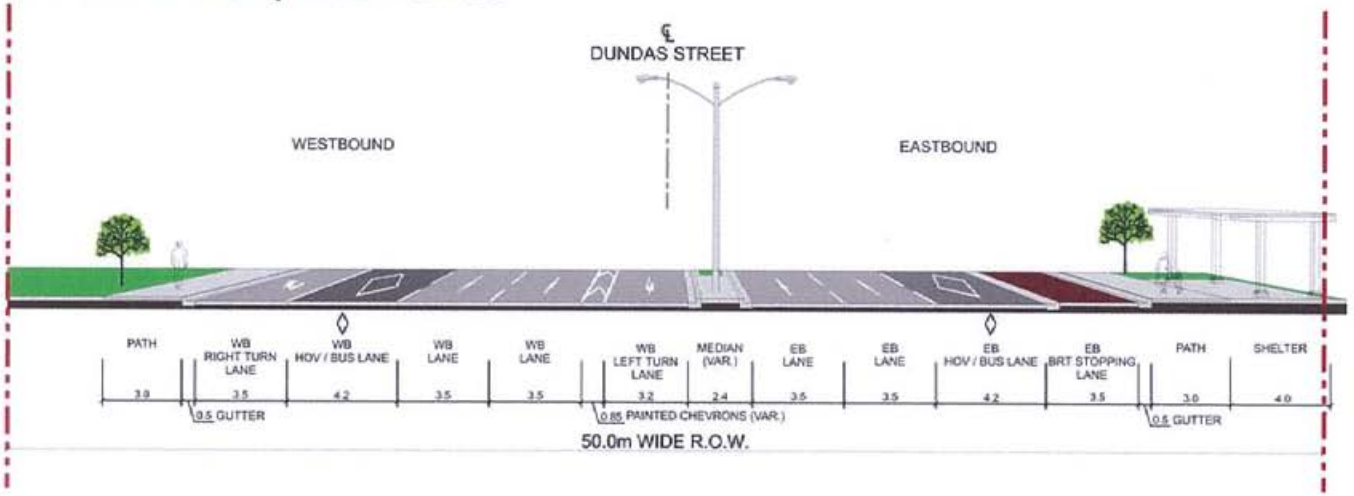


- West of Highway 407

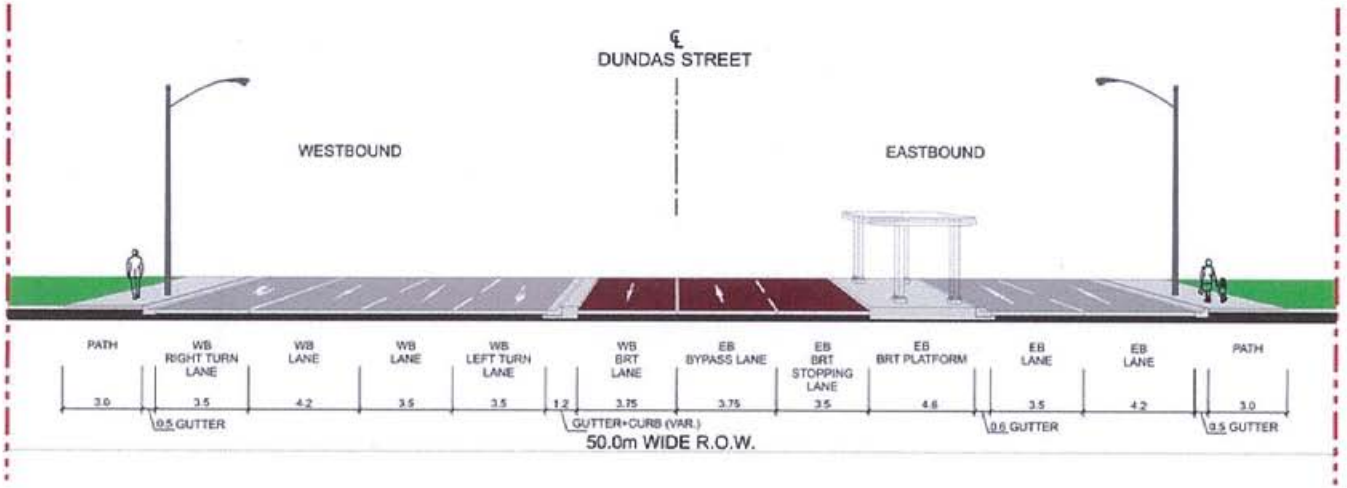


6 LANE CROSS SECTION
Bus Rapid Transit Study

- Curb Side HOV/Bus Lanes



- Median Busway



WIDENING ALTERNATIVES

Widening alternatives for Dundas St. include:

- on existing road centreline
- to limits of R.O.W.
- to reduce impacts at sensitive locations
  - Widen to north
  - Widen to south
- to match currently proposed or constructed road widening
- on basis of structural assessment

DISCUSSION TOPIC

- *Are there any other locations — beyond those identified — where something in addition to widening along the centreline should be considered?*

FACTORS FOR ANALYSIS AND EVALUATION

Transportation
- capacity / level of service
- safety
- pedestrians and cyclists
- intersection requirements
- geometric standards
- access management
- construction staging

Cultural Environment
- built heritage resources
- cultural heritage landscapes
- archaeological resources

Land Use
- existing land use
- future land use

Natural Environment
- vegetation
- wildlife
- storm water management
- Policy areas including Greenbelt Plan and Niagara Escarpment Plan
- ESAs
- creek crossings

Socio-Economic Environment
- business operations
- residential areas
- institutional
- recreational uses
- rural land uses
- potential property requirements
- access
- noise levels
- pedestrians
- cyclists

Preliminary Cost Estimate
- construction
- utility relocation
- property

Utilities
- existing utilities
- future utilities

DISCUSSION TOPICS

- *Any suggestions for additional analysis factors/criteria?*
- *What else do you want the team to consider — transportation, social, natural/cultural environment, economic, etc.*

NEXT STEPS

- Public Information Centre #1:

Tuesday, November 24, 2009 Time: 6:30 p.m. (Drop-in) 7:00 p.m. (Formal Presentation) Compass Point Bible Church (gymnasium) 2501 Eaglesfield Drive Burlington	Wednesday, November 25, 2009 Time: 6:30 p.m. (Drop-in) 7:00 p.m. (Formal Presentation) Town of Oakville (south atrium) 1225 Trafalgar Road Oakville

- Review and respond to comments received
- Preliminary development of alternatives
- Integrate with BRT Study
- Evaluate the alternatives and determine preferred alternative and proposed mitigation measures

Halton REGION

DUNDAS STREET (REGIONAL RD. 5) Class EA Study
Brant Street (Regional Road 18) to Proudfoot Trail

Stakeholders Group (SG) Meeting #1
Thursday, November 12, 2009
Compass Point Bible Church, 2501 Eaglesfield Drive, Burlington

COMMENT SHEET

COMMENTS

on ~~the~~ page 36, the lanes for HOV/Bus (curb side lanes) should have to be marked for cyclists in a manner suitable and safe for the cyclists.

p35 ① lanes east of 407 need to be marked for cyclists

② lanes west of 407, 1.0 m for paved shoulder for cyclists is not enough. Both Burl + Oak. Bike master plans state 1.5 M.

③ The partially paved shoulder should be paved - for many reasons - and cyclists allowed to ride there

~~④~~ an.

Other ⑤ would like to see some kind of physical separation for cyclists from traffic (on the road, not just the multi-use path)

Place your completed comment sheet in the box provided or return by **Friday, December 11, 2009** to:

Project Manager:
Mr. Neil Ahmed, P. Eng.
McCormick Rankin Corporation
2655 North Sheridan Way
Mississauga, Ontario L5K 2P8
Phone: 905-823-8500
Fax: 905-823-8503
e-mail: nahmed@mrc.ca

PLEASE PRINT

Name: [redacted]

Address: [redacted]

BURL

Postal Code: L7M 3V2

Thank you for your participation. The purpose of the information being gathered on this form is to ensure that further information, when it becomes available, can be forwarded to those parties who have expressed an interest in this study and to gather information from the public for use in the study. 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.

Green, Leslie

From: [redacted]
Sent: Friday, November 13, 2009 11:07 AM
To: Ahmed, Neil
Cc: Green, Leslie
Subject: Dundas Street Improvements - ideas from last night's meeting

Hi Neil,

Again, thank you for your presentation

1. I was thinking after the meeting that not only are noise pollution and air pollution issues, but so is **light pollution**.
    1. As you know, it is a waste of energy to light up the sky. the dispersed light blocks out the view of the stars and it disrupts animal's (and probably people's) biorhythms.
2. I was also wondering if at the next meeting, there could be a **reference point for how wide is**:
    1. 47 meters and
    2. 29.5 meters (the curb to curb width of the "East of 407" view on page 35 of the handout
    3. ie could cones/pylons be positioned to mark the lanes /median according to p 35? or
    4. could you reference a local road with similar measurements (ie 407)
3. You may also want to **change the spelling of "November"** on page 41 - there are one too many 'e's
4. **Has MetroLinx decided on bus rapid transit?**
    1. A light rail transit system would have been so much more forward thinking.
    2. It would also, I think, occupy less land.

thx

--

[redacted]

What are your aspirations for the study — what do you hope it will accomplish?

- want Bus Rapid Transit lane
- want widening of street.
- take into account future hydrology of North Oakville / North Burlington and impact on storm water mgmt.
- active transportation (bikes, walking) in plan
- safety - ~~car~~ motorized / non-motorized
- aesthetics. (masses of pavement are unappealing)
- improve ~~East~~/West transit

ALL
Land/Homeowners on Dundas - Brant/Guelph Line

What are your aspirations for the study — what do you hope it will accomplish?

specific

Traffic flow
- personal property use
- noise

Transportation - Transit improvement.

3yrs

Waterdown

Residential - increase

Information
Input

Safety concerns. = accidents

Alternatives -

Mid Peninsula Hwy? Mid-Pen NGTA. Niagara

still no solution / Brant St.
turning lanes

What are your aspirations for the study — what do you hope it will accomplish?

→ aspiration for the study

— want it to turn out to be positive overall project for all communities that it has and effect upon inclusive of Burlington Oakville and neighbouring communities

- at the same time we want to ensure any local interests and personal property [illegible] are taken care of keeping [illegible] local [illegible] [illegible] abutment [illegible]

; [illegible] and

Safety (vehicle & pedestrian)

What are your aspirations for the study — what do you hope it will accomplish?

- maximize value of opportunity ~~minimize~~
- overlay onto existing roadway
- alternatives
- implications for existing landowners
- protect interest of existing landowners
- understanding of overall process + alternatives
- what will be done to facilitate traffic flow
- overall integration points + opportunity
- cyclist concerns / safety

What would you say are the key transportation-related issues, problems and opportunities that need to be considered within the study area?

PROBLEM / Concerns

1) 403 to Neyagawa is designed
- will it match what we propose?
- can we get the design plan for east of Neyagawa? (detailed design)

2) existing build design will exclude any innovative ideas. for the too EA approved (Bronte Rd to 407 & Neyagawa to 403)

3) how is Metrolinks involved with the plan - especially East of ~~Aday~~ Neyagawa?

4) Why is Metro links not involved?

5) Safety (cars going straight & turning off & onto Dundas St) ← people/~~cars~~ cars

6) congestion

7) big trucks

8) speed (too high)

9) pollution

10) sound / noise

OPPORTUNITIES

1) reduce congestion.

2) active transit

3) mass transit (light rail, buses . . .)

4) reduce pollution / carbon footprint

5) more attractive environment

6) buses to control traffic lights.

What would you say are the key transportation-related issues, problems and opportunities that need to be considered within the study area?

(1) — Safety both for both the vehicle & pedestrian

(3) — all transportation initiatives compliment w/ one for municipal, regional, provincial or Federal

(2) — noise abatement at the Airport

(4) — strategies / funding opportunities / financing ~~[illegible]~~ from all municipal / federal agencies that work with the priorities in balance with other community needs

Homeowners table

What would you say are the key transportation-related issues, problems and opportunities that need to be considered within the study area?

- Unified Speed Limit
  Traffic Light co-ordination
- Need Public Transit
- Noise
- Lighting?
-

What would you say are the key transportation-related issues, problems and opportunities that need to be considered within the study area?

- bus turnaround?
- cycling - safety trails + connections
- "useful" transit
- expansion of #5/Broad Interface
- environmental +/- 5
- Hamilton

McCORMICK
RANKIN
CORPORATION

2655 North Sheridan Way
Mississauga, Ontario, L5K 2P8
Tel: (905) 823-8500
Fax: (905) 823-8503
E-mail: mrc@mrc.ca
Website: www.mrc.ca

MINUTES OF MEETING

PROJECT: Halton Region
Dundas Street (Regional Road 5) Class EA Study
Brant Street (Regional Road 18) to Proudfoot Trail

FILE NO.: W.O. 7108-08

DATE: Thursday, November 12, 2009 **TIME:** 7:00 p.m. to 9:00 p.m.

PLACE: Compass Point Bible Church
2501 Eaglesfield Drive
Burlington

PRESENT: 19 members of the Stakeholders Group (see Appendix A)

Jeff Reid	Halton Region
Melissa Green-Battiston	Halton Region
Andrew Head	Halton Region
Matt Krusto	Halton Region
Nick Zervos	Halton Region
Alicia Jakaitis	Halton Region
Glenn Pothier	GLP*i* (Independent Facilitator)
Neil Ahmed	MRC
Leslie Green	MRC

PURPOSE: The first Stakeholders Group Meeting to review and receive input regarding study approach, problems/opportunities being addressed, background information and development of alternatives.

MINUTES: **ACTION BY:**

ITEM 1 - NOTIFICATION

1. Application format was used to establish the Stakeholders Group (SG). This format was used to ensure a reasonably representative mix of people with a variety of interests and from across the study area. MRC sent out 130 applications to the following:
   a) Property owners (commercial and residential) located adjacent to Dundas Street and with direct access to Dundas Street
   b) Property owners of large land parcels adjacent to Dundas Street
   c) Representatives of the churches located adjacent to Dundas Street
   d) Representatives of the adjacent residential communities i.e. community associations
   e) Representatives of the adjacent townhouse developments

MINUTES: **ACTION BY:**

(condominium corporations) which directly abut Dundas Street but do not have direct access

2. MRC received 18 applications. The applications were reviewed and provided a reasonable representative mix of people, therefore, all applicant were accepted for the SG Group. Subsequently, the invitation to the first SG meeting (November 12, 2009) was sent to the 18 SG members on October 26, 2009. The letter was reissued on November 3, 2009, to notify members of the venue change due to the H1N1 Immunization Clinic that was scheduled at the Halton Regional Centre (original location). A member of Halton Region staff was posted at the former location to direct any members to the new location.

ITEM 2 – FORMAT

1. The format of the SG Meeting was a presentation followed by a question and answer period. The presentation included five discussion topics. Two discussion topics were discussed among the members seated at each table for a 10 minute period. Participants were seated at four tables of up to eight per table. These comments were recorded on a provided handout and then verbally summarized by one individual at each table. Three discussion topics were discussed in an open format among all the SG members.

ITEM 3 – DISPLAY PANELS

1. Five display panels were presented at the SG meeting. Copies of the panels are attached in Appendix B and include:
   a) Study Area
   b) Municipal Class EA Planning and Design Process
   c) Typical 6 lane cross-sections - conceptual cross-sections from the Halton Region Transportation Master Plan (HTMP) and the ongoing Dundas Street Bus Rapid Transit (BRT) Corridor Feasibility and Implementation Study
   d) Existing Conditions Plan
   e) Plan (for discussion purposes only) of corridor showing the potential 50 m right-of-way and locations where multiple alternatives will be developed due to local natural, social, economic or built heritage constraints.

ITEM 4 – INTRODUCTIONS

2. G. Pothier (GLPi) welcomed everyone to the first meeting of the SG and explained his role as an independent facilitator. The Dundas Street Project Team and members of the SG introduced themselves.
3. A copy of the PowerPoint presentation was distributed (Appendix C).
4. G. Pothier reviewed the meeting agenda, which is included in Appendix D. The role and purpose of the Stakeholder Group was described. It was noted that an organization may have one representative as a member of the SG. If a SG member is unable to

MINUTES: **ACTION BY:**

attend an SG meeting, he/she can appoint an alternate.

5. Members were advised that names will be made public and to advise the Project Team if they do not want their names included on any documentation.
6. G. Pothier inquired if the SG members would support future SG meetings being open to the public as observers. Observers would not be able to comment during the meeting but would be given the opportunity to provide input during a commenting period at the end of the meeting. It was agreed that future meetings would be open to observers.
7. G. Pothier noted that the future SG meetings are to be held at Halton Regional Centre and the venue change of this meeting was due to the H1N1 Immunization Clinic that was scheduled at the Regional Centre; with agreement from the members, subsequent meetings will be held at the Regional Centre. It is expected that the next SG meeting will be held in Spring 2010.

ITEM 5 – DISCUSSION TOPIC #1

1. Discussion Topic #1 – *What are your aspirations for the study — what do you hope it will accomplish?*

   Members were provided 10 minutes to discuss this topic with the other members at their table. A handout was provided to each table for the recording of the comments, which is included in Appendix E. A member from each table presented the comments to the group. The following is a summary of the comments provided:

   a) A positive overall project for all communities since it affects Burlington, Oakville and neighbouring communities.
   b) Protect interests of adjacent landowners including access.
   c) Provide noise attenuation.
   d) Protect pedestrian and cyclist safety.
   e) Address the traffic issues along Dundas Street. Existing traffic during congested periods currently use the driveways of residential properties with direct access to Dundas Street to turn-around.
   f) What are the alternatives for Dundas Street? Is their an alternative to widening the roadway?
   g) Widen Dundas Street.
   h) Transit improvements along the corridor.
   i) Include Bus Rapid Transit (BRT) in the plan.
   j) Include active transportation (cyclist and pedestrian facilities) in the plan.
   k) Improvements to the Brant Street / Dundas Street intersection including turning lanes.

MINUTES: **ACTION BY:**

l) Consideration of the aesthetics of the roadway.

m) Account for the future hydrology of both north Oakville and north Burlington and impact on stormwater management.

n) Provided information on the study as it progresses and the opportunity to provide input.

o) Understanding of overall planning process and alternatives proposed.

ITEM 6 – STUDY ORGANIZTION, APPROACH AND PROPOSED SCHEDULE

1. Neil Ahmed (Consultant Project Manager) reviewed the:
   - purpose of the meeting
   - study background
   - study area for the current study, as well as other EA studies to the east and west of the study area and their status
   - study organization including technical agencies who have been contacted
   - Municipal Class EA process
   - study stages
   - transportation analysis
2. The SG members were given the opportunity to ask any questions regarding the above presented material:

   Q1: On the list of Technical Agencies that have been invited to participate – who is CEAA?
   A1: Canadian Environmental Assessment Agency.

   Q2: Will the Waterdown Aldershot Transportation Master Plan Study be integrated into this study?
   A2: Yes.

   Q3: Does this study take into consideration MTO's NGTA Corridor EA Study and the potential impact it may have on the Dundas Street corridor?
   A3: The NGTA Study is in the early stages of the planning process. The outcomes (transportation strategies) of the study could offer some relief to the Dundas Street corridor.

   A member of the SG advised that there were upcoming Public Information Centres for the NGTA Study. Information pertaining to the study can be found on its study website.

   Q4: The population change in Burlington north of QEW (9%) between years 2006 and 2031 seems low. Can you break down by area where the growth will occur?
   A4: The majority of growth is associated with the Alton Community, which is the remaining new development in Burlington. The land north of Dundas Street on the west side of Highway 407 is designated under

MINUTES: **ACTION BY:**

the Greenbelt Plan and Niagara Escarpment Plan. No development is planned for this land.

Q5: The forecasted population growth is shown for year 2031; however, the traffic growth is only forecasted to year 2021. Why are the forecasted years different?
A5: The presentation was using readily available information and may be confusing. This will be addressed

ITEM 7 – DISCUSSION TOPIC #2

1. Discussion Topic #2 – *What would you say are the key transportation-related issues, problems and opportunities that need to be considered within the study area?*

Members were provided 10 minutes to discuss this topic with the other members at their table. A handout was provided to each table for the recording of the comments, which is included in Appendix E. A member from each table presented the comments to the group. The following is a summary of the comments provided:

a) Safety of pedestrians and cyclists.
b) Uniform posted speed limit along the corridor.
c) Posted speed limit should be lower than existing (80km/hr).
d) Existing congestion of the corridor.
e) Reduce congestion and increase active transportation.
f) Need for public transit along the corridor.
g) Provision of street lighting.
h) Noise attenuation.
i) Integration with trails/paths.
j) How will buses turnaround at Brant Street?
k) Integration with the other approved designs along Dundas Street (e.g. Highway 403 to Neyagawa Boulevard).
l) Metrolinx should be involved in this project.

ITEM 8 – EXISTING AND FUTURE CONDITIONS OF DUNDAS STREET, BRT STUDY, PLANNING ALTERNATIVES AND DEVELOPMENT OF ALTERNATIVES

1. N. Ahmed reviewed the:
   - existing and future conditions of Dundas Street
   - Halton Region's ongoing Dundas Street BRT Study
   - planning alternatives
   - approach to developing the alternatives
   - typical 6 lane cross-sections - conceptual cross-sections from the Halton Region Transportation Master Plan (HTMP) and the ongoing Dundas Street BRT Study

MINUTES: **ACTION BY:**

- plan (for discussion purposes only) of corridor showing the potential 50 m right-of-way and locations where multiple alternatives will be developed due to local natural, social, economic or built heritage constraints.

2. The SG members were given the opportunity to ask any questions regarding the above presented material:

Q1: Who will be the operator of the BRT system.
A1: That is not known at this time; however, that will be addressed as part of the BRT Study.

Q2: A rapid transit corridor is proposed along Highway 407, how will that impact the proposed BRT along the Dundas Street corridor?
A2: The property has been protected along the Highway 407 corridor for a transitway. A transitway along the highway would serve longer distance trips than the Dundas Street BRT system. However, the potential transitway along the highway will be taken into consideration as part of the BRT Study.

Q3: Has the type of BRT system along the corridor been established.
A3: No. The type of BRT for the corridor will be determined as part of the BRT Study. Examples of types of BRT being investigated include curb side bus lanes and median busway. Our study will be integrating with the findings of the BRT Study.

Q4: When the roadway is widened, will the posted speed be 80 km/hr?
A4: The existing roadway is posted at 80 km/hr and reduces to 60 km/hr in the vicinity of Guelph Line and Bronte Road. It is expected that the speed of the roadway, when widened, will be reduced to 60 or 70 km/hr.

ITEM 9 – DISCUSSION TOPIC #3

1. Discussion Topic #3 – *Are there any other locations — beyond those identified — where something in addition to widening along the centreline should be considered?*

This topic was discussed with in an open format among all the SG members. The following comments were provided:

a) Dundas Street could cross under the CN railway.

b) Add interest to Dundas Street, for example, curves at certain points along the road.

ITEM 10 – PRELIMINARY IDENTIFICATION OF FACTORS FOR ANALYSIS AND EVALUATION

2. N. Ahmed reviewed the proposed factors for analysis and evaluation of the alternatives during the next stage of the study in order to determine a preferred alternative for review with agencies and the public at the next Public Information Centre.

MINUTES: **ACTION BY:**

ITEM 11 – DISCUSSION TOPIC #4/5

1. Discussion Topic #4 – *Any suggestions for additional analysis factors/criteria?*

   This topic was discussed in an open format among all the SG members. The following comments were provided:

   a) Air Quality

   b) Schools

2. Discussion Topic #5 - *What else do you want the team to consider — transportation, social, natural/cultural environment, economic, etc.*

   No comments were provided.

ITEM 12 – NEXT STEPS

1. Public Information Centre (PIC) #1 is scheduled for Tuesday, November 24, 2009 and Wednesday, November 25, 2009.
2. During the next stage of the study, preliminary alternatives will be developed. The preferred alternative will be determined and proposed mitigation measures will be identified.
3. A second SG meeting will be arranged prior to PIC #2 which is tentatively scheduled for Spring 2010.

ITEM 13 – QUESTION AND ANSWER PERIOD

1. Following the presentation, there was an opportunity to have a brief question and answer period. The following is summary of the questions from the SG and the responses from the Project Team.

   Q1: Does your analysis integrate trends like working from home or commuting during off peak hours?
   A1: Yes. The Halton Region transportation model accounts for various travel trends.

   Q2: Does your analysis consider the impact of Highway 407 if it is no longer operated as a toll route in the future?
   A2: No. It is expected that Highway 407 will remain as a toll route.

   Q3: There are safety concerns associated with a shared on-street bike lane. Is there an opportunity for off-street bike lanes?
   A3: Halton Region proposes to provide 3.0 m multi-use pathways on both sides of the roadway for pedestrian/cycling facilities. The Region will work with the City of Burlington and Town of Oakville to determine the type of facilities to be provided.

   Q4: What is the timing of construction of Dundas Street?
   A5: Based on the current 10-year Capital Project list, construction of the corridor is from 2012 to 2017. Construction is expected to commence for the following sections of Dundas Street in 2012:

   - Appleby Line to Walker's Line
   - East of Bronte Road to Proudfoot Trail

MINUTES: **ACTION BY:**

In addition, construction of the Bronte Creek Bridge and CN Structure are scheduled for 2012.

However, please note that the 10-year Capital Project list is reviewed yearly by Regional Council, and there is a potential that a project may be accelerated or deferred.

Q5: Will there be a website for this project?
A5: Yes. It is expected that the website will be available the week of November 16, 2009.

Minutes prepared by,

McCormick Rankin Corporation

Leslie Green
cc: all attending, Project Team

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MINUTES OF MEETING

PROJECT:	Halton Region Dundas Street (Regional Road 5) Class EA Study Brant Street (Regional Road 18) to Proudfoot Trail		
FILE NO.:	W.O. 7108-08		
DATE:	Tuesday, November 24, 2009	**TIME:**	3:30 p.m. to 4:30 p.m.
PLACE:	Compass Point Bible Church 2501 Eaglesfield Drive Burlington		

PRESENT:		
	Nancy Mott-Allen	Niagara Escarpment Commission
	Jane De Vito	Conservation Halton
	Janette Brenner	Conservation Halton
	Frank Loconte	Town of Oakville - Parks and Open Space
	Dale Lipnicky	Town of Oakville - Engineering and Construction
	Michael Seaman	Town of Oakville - Planning Services, Heritage
	Carolyn Van Sligtenherst	Town of Oakville - Planning Services, Heritage
	Chris Clapham	Town of Oakville - Sustainable Transportation
	Joanne Phoenix	Oakville Transit
	Vito Tolone	City of Burlington - Engineering
	Silvina Kade	City of Burlington - Planning & Building
	Jeff Reid	Halton Region
	Melissa Green-Battiston	Halton Region
	Neil Ahmed	MRC
	Leslie Green	MRC

PURPOSE: The first Technical Agencies Committee (TAC) Meeting to review and receive input regarding study approach, problems/opportunities being addressed, background information and development of alternatives.

MINUTES: **ACTION BY:**

ITEM 1 – INTRODUCTIONS

1. J. Reid, Halton Region, welcomed all attendees and noted that the Region has retained McCormick Rankin Corporation (MRC) to carry out the Class Environmental Assessment (Class EA) Study for the improvements to Dundas Street from Brant Street to Proudfoot Trail.
2. A copy of the PowerPoint presentation was distributed (see attached).

MINUTES: **ACTION BY:**

ITEM 2 – PRESENTATION

1. Neil Ahmed (Consultant Project Manager) reviewed the:
    - purpose of the meeting
    - study background
    - study area for the current study, as well as other EA studies to the east and west of the study area and their status
    - study organization including technical agencies who have been contacted
    - Municipal Class EA process
    - study stages
    - transportation analysis
    - existing and future conditions of Dundas Street
    - Halton Region's ongoing Dundas Street BRT Study
    - planning alternatives
    - approach to developing the alternatives
    - typical 6 lane cross-sections - conceptual cross-sections from the Halton Region Transportation Master Plan (HTMP) and the ongoing Dundas Street BRT Study
    - plan (for discussion purposes only) of corridor showing the potential 50 m right-of-way and locations where multiple alternatives will be developed due to local natural, social, economic or built heritage constraints.
    - proposed factors for analysis and evaluation of the alternatives during the next stage of the study
    - next steps for the study including a second TAC meeting tentatively scheduled for Spring 2010

ITEM 3 – DISCUSSION

1. It was noted by one of the attendees that City of Hamilton was not included on the list of Technical Agencies invited to participate in the study. MRC advised that the City of Hamilton was contacted to participate in the study.
2. Conservation Halton (CH)
    a) J. De Vito advised that CH is considered a Provincial Agency not a Municipal Agency as shown on the display panel. MRC will update accordingly. MRC
    b) J. De Vito noted that Ontario Regulation 162/06 and the related policy document should be reviewed as part of this study. It was noted that CH has a Level II agreement with the Department of Fisheries and Oceans (DFO).

MINUTES: **ACTION BY:**

c) J. Brenner noted that Dundas Street is considered an Emergency Detour Route (EDR) and enquired if the flooding issue at certain locations along the corridor will be addressed as part of this study. Halton Region noted that they were not aware of flooding within the study area and advised that a drainage analysis will be conducted as part of this study.

d) J. Brenner noted that the plans should include the floodplain limits. MRC will update accordingly. MRC

e) CH inquired if there will be separate meetings with agencies to discuss their specific issues. The Region noted that meetings can be arranged with agencies separate from the TAC meetings.

3. City of Burlington

a) V. Tolone inquired as to why the BRT Study is being conducted separately from this study. The Region advised that the study limits for the BRT Study is Brant Street to Highway 403. The purpose of the BRT Study is to develop a business case for the Dundas BRT system and based on the findings, the preliminary BRT vision will be developed. The BRT strategy will be integrated into this study.

b) City of Burlington inquired if Regional and Local Councillors have been informed about this study. The Region noted that all local and Regional Councillors within the study area have been contacted. A meeting was held with City of Burlington Councillor John Taylor (Ward 3) on November 19, 2009 regarding the status of the study and the first Public Information Centre. Council will be updated at key study milestones.

c) V. Tolone advised that the City of Burlington Cycling Master Plan has been finalized and he will provide J. Reid with a PDF version. City of Burlington

4. Niagara Escarpment Commission (NEC)

a) N. Mott-Allen noted that a transit corridor is proposed along Highway 407 ETR and inquired if that will impact the potential ridership of the proposed BRT along the Dundas Street corridor. The Region noted that the property has been protected along the Highway 407 ETR corridor for a transitway. A transitway along the highway would serve longer distance trips than the Dundas Street BRT system. However, the potential transitway along the highway will be taken into consideration as part of the BRT Study.

5. Town of Oakville

a) The Town of Oakville inquired if BRT is the only option being considered for the Dundas Street corridor. The Region noted that the BRT Study will review different types of transit including BRT, LRT and BRT Light.

b) The Town of Oakville inquired if cycle tracks will be provided along the corridor. The Region advised that 3.0 m multi-use pathways on both sides of the roadway are proposed for

MINUTES: **ACTION BY:**

pedestrian/cycling facilities. The Region will work with the City of Burlington and Town of Oakville to determine the type of facilities to be provided.

c) C. Clapham inquired if the comments made at the Public Information Centre will be available for review. The Region noted that a Public Information Centre Summary Report will be prepared and it will include the public comments received. The report will be available on the study website.

d) M. Seaman inquired if the list of heritage properties includes all heritage properties identified by the Town of Oakville along Dundas Street within the study limits. MRC confirmed that the list includes all the designated heritage properties identified in M. Seaman's email of November 9, 2009 to MRC.

Minutes prepared by,

McCormick Rankin Corporation

Leslie Green
cc: all attending, Project Team

DUNDAS STREET BRT PLANNING PROJECT AND TRAFALGAR ROAD BRT PLANNING PROJECT

Date: Thursday, March 3, 2011
Time: 9:00 a.m. – 3:30 p.m.
Place: Halton Region (1151 Bronte Road)
South Auditorium

AGENDA

1.	Introduction	Halton Region
2.	Workshop Objectives	G. Pothier, GLPi
3.	Project Overviews:	
	▪ BRT Principles and Implementation	T. Williams, AECOM
	▪ Transit Project Assessment Process	N. Ahmed, MRC
	▪ Dundas Street BRT Planning Project	N. Ahmed, MRC
	▪ Trafalgar Road BRT Planning Project	T. Williams, AECOM
4.	Approach to Ridership Forecasting	N. Ahmed, MRC
5.	Constraints and Opportunities Analysis:	
	▪ Trafalgar Road BRT Planning Project	T. Williams, AECOM
	▪ Dundas Street BRT Planning Project	N. Ahmed, MRC
Lunch		
6.	Development of Alternatives:	
	▪ Dundas Street BRT Planning Project	N. Ahmed, MRC
	▪ Trafalgar Road BRT Planning Project	T. Williams, AECOM
7.	Preliminary Impact Assessment:	
	▪ Trafalgar Road BRT Planning Project	T. Williams, AECOM
	▪ Dundas Street BRT Planning Project	N. Ahmed, MRC
8.	Next Steps, Post Workshop Communication	Halton Region
9.	Adjournment	

Date of Meeting	March 3, 2011	Start Time	9:30am	Project Number
Project Name	Dundas Street BRT Planning Project & Trafalgar Road BRT Planning Project			
Location	Halton Region (1151 Bronte Road) – North/South Auditorium			
Regarding	BRT Stakeholder Workshop & Transit Project Assessment Process			
Attendees	- Ministry of Transportation - Kathy Ruston, Nadia Brooks, Joe Lai - Town of Oakville - Dave Bloomer, Lin Rogers, Tricia Collingwood, Jane Clohecy, Darnell Lambert, Dan Cozzi - Oakville Transit - Barry Cole, Joanne Phoenix - City of Mississauga - Mary-Lou Johnston, Andy Harvey, Matthew Williams, Robert Sasaki - City of Burlington - John Conn, Vito Tolone - Burlington Transit - Donna Shepherd - Conservation Halton - Jane DeVito, Leah Smith - Metrolinx - Morgan Skowronski - Ecoplans - Kristen Harrison, Erin Blenkhorn, Kim LeBrun - AECOM – Tom Williams, Mike Delsey, Paula Neto, Kevin Jones - MRC – Neil Ahmed, Leslie Green, Andrew Shea - GLPi – Glenn Pothier - Halton Region - Doug Corbett, James Horan, Fabio Cabarcas, Tim Dennis, Maureen Van Ravens, Jeffrey Reid, Melissa Green-Battiston, Nick Zervos, Matt Krusto, Mitch Zamojc, Alicia Jakaitis			
Distribution	All attendees			
Minutes Prepared By	Leslie Green, MRC Paula Neto, AECOM			

BRT Workshop – March 3, 2011
Discussion Notes

Discussion Items	Action Items
Project Overview **Dundas Street BRT Planning Project (N. Ahmed, MRC)** **Neil Ahmed presented an overview of both history and location. The corridor extends from Brant Street on the west to Trafalgar on the east (as shown in the presentation exhibits). A schedule was also reviewed showing completion in June 2012.** **Trafalgar Road BRT Planning Project (T. Williams, AECOM)** **Tom Williams presented an overview of previous studies leading to the Trafalgar Road BRT study. The first PIC for Trafalgar Road had already been held prior to coordinating the Dundas and Trafalgar projects. The Trafalgar corridor extends from Cornwall Road to the Highway 407 park-and-ride.**	

Discussion Items	Action Items
No specific comments were received.	
BRT Principles and Implementation **T. Williams, AECOM** **Tom Williams presented a BRT overview. BRT is flexible transit mode with higher service levels (like LRT) but with lower cost. BRT improves travel time through a system of vehicles, stations, guideway, technology, service plan, branding, and station-area development. Mr. Williams also reviewed some general benefits for median systems and curb-side systems.**	
No specific comments were received.	
Transit Project Assessment Process **N. Ahmed, MRC** **Neil Ahmed reviewed the Transit Project Assessment Process (TPAP). He stressed that technical reports, sign-offs, public consultation, and a draft environmental report need to be complete before starting the "6 month" clock for the TPAP process.**	
The Town of Oakville inquired about other projects that have been completed following the TPAP. Attendees identified the following projects that have been successfully completed following the TPAP: • Renforth Gateway • Yonge Subway • Georgetown Air-Rail Link	
GLPi inquired if any of the attendees were aware of any barriers, obstacles or challenges experienced with TPAP. MTO noted that community engagement is very important in the pre-planning phase of the project; prior to commencing the TPAP. The Region noted the Ministry of Environment emphasized the amount of consultation required before the formal process starts including consultation with the Ministry of Natural Resources, Conservation Halton, etc. The TPAP involves a very robust public consultation program before the formal 6 month TPAP begins.	
Approach to Ridership Forecasting **N. Ahmed, MRC** **Neil Ahmed presented the approach being used to forecast ridership. The general approach to the forecasting is to first develop a person trip table using available travel demand material (e.g. GTHA model, RTMP model, etc.). Subsequently, the transit trip table will be developed. Current local area experience will be used to simulate 2031 mode shares for local and regional transit in Burlington and Oakville. Lastly, the transit trip table will be assigned to the future transit network under a variety of assumptions. To prepare for discussion, a preliminary BRT network for Dundas was shown as well as potential implications of GO parking policies. (More detail can be found in the**	

Discussion Items	Action Items
presentation slides.)	
The Town of Oakville noted that the catchment area should include the area to the north of Highway 407 including Milton. The catchment area will include the urban area of Oakville and Burlington at a minimum. Inclusion of additional areas beyond the urban area of Oakville and Burlington will be a function of the degree of accessibility of the transit network to these developments either by the adjacent municipal transit systems or by auto. The preliminary demand analysis has assumed that park and ride, kiss and ride and local transit connections will be available at selected stations to allow convenient access for the residents of Waterdown and Milton. The final determination of the catchment area of the proposed urban transit system will be an output of the transit trip table assignment to the various links in the transit network which includes both the GO Transit rail and bus systems and the municipal transit systems in Oakville and Burlington. The VISUM model assigns transit trips on the basis of total travel time.	MRC
The City of Burlington noted that the catchment area should include Aldershot and the west end of Hamilton. The catchment area will include the urban area of Oakville and Burlington at a minimum. Inclusion of additional areas beyond the urban area of Oakville and Burlington will be a function of the degree of accessibility of the transit network to these developments either by the adjacent municipal transit systems or by auto. The preliminary demand analysis has assumed that park and ride, kiss and ride and local transit connections will be available at selected stations to allow convenient access for the residents of Waterdown and Milton. The final determination of the catchment area of the proposed urban transit system will be an output of the transit trip table assignment to the various links in the transit network which includes both the GO Transit rail and bus systems and the municipal transit systems in Oakville and Burlington. The VISUM model assigns transit trips on the basis of total travel time.	MRC
The City of Mississauga noted that the analysis should consider areas that are not in the immediate area of the proposed transit system. For example, the City of Mississauga's City Transit Terminal is accessed by Hamilton, Guelph and Kitchener. (See response above)	MRC
The Town of Oakville inquired if the HOV lanes recently implemented on the QEW have been considered in the Dundas BRT Study. MRC noted that the HOV lanes on the QEW have been considered and will not	

Discussion Items	Action Items
have a significant impact on the Dundas BRT system.	
The City of Burlington inquired about the concepts of the Dundas Street BRT stations at both Highway 407 and Applebly Line. MRC noted that this will be developed further as the study progresses.	MRC
The Town of Oakville inquired if GO Transit / Metrolinx has identified parking policies at the GO stations. The Town noted that the additional parking at GO stations is impacting the ridership on local transit. Metrolinx advised that there are parking policies that can be implemented at GO stations and local municipalities should contact Metrolinx/GO Transit to discuss.	
The Town of Oakville noted that Route C shown on the Regional BRT Concept would have significant impact on Oakville Transit's ridership and revenue as it represents a 'local' level service whereas Routes A and B are more inter-regional by nature. Trafalgar Road is a key route for Oakville Transit and should be carefully examined. The Region noted that this is a concept and to illustrate the types of corridors that can be considered and will be examined further as the study progresses.	AECOM/MRC
The City of Mississauga noted that it would be beneficial to provide the origin and destination of transit trips, the number of transfers and the total trip time. MRC noted this is to be presented at a subsequent workshop.	AECOM/MRC
The City of Burlington noted that the fleet cost of doubling the transit service level will be very high.	
Constraints and Opportunities **Trafalgar Road BRT Planning Project (P. Neto, AECOM)** **Paula Neto showed segments of the corridor using aerial photographs. The constraints include two creeks and right-of-way constraints. Opportunities include the Oakville GO station, future Midtown development, Sheridan College, the Uptown Core, the future North Oakville development, and the Highway 407 park-and-ride (express bus connection).** **Dundas Street BRT Planning Project (N. Ahmed, MRC)** **Neil Ahmed showed the Dundas corridor segments using aerial photographs. Numerous environmental (natural, social, economic, and cultural) constraints are present (and can be seen on the presentation slides). Opportunities include Highway 407, the new hospital, and the Trafalgar Road connection at the Uptown Core.**	
It was suggested that mapping for Trafalgar Road should show planning areas to really capture the opportunities in the corridor.	AECOM
The City of Mississauga noted that it is important to consider areas of intensification and frequent intersections along the BRT corridor. This will	AECOM/MRC

Discussion Items	Action Items
improve the opportunities for turning at intersections and movement of transit, pedestrians and vehicles.	
Development of Alternatives **Dundas Street BRT Planning Project (N. Ahmed, MRC)** **Neil Ahmed presented cross-sections for alternative design concepts for the BRT planning. Concepts will be developed for curb-running or median BRT, which may include bus by-pass lanes or other BRT guideway features. In coordination of the two corridors, BRT guidelines (lane and station geometry) are being applied to the Trafalgar Road corridor as well as the Dundas Street corridor. A summary of station features was also presented. Evaluation criteria were shown.** **Trafalgar Road BRT Planning Project (T. Williams, AECOM)** **Typical sections of the various configurations were reviewed indicating different right-of-way impacts for curb versus median BRT. Trafalgar Road has segments with narrower right-of-way which may require right-of-way acquisition depending on the alternative ultimately selected. The alignment through the future Midtown area is still being examined. Evaluation criteria were shown.**	
The Town of Oakville noted that the multi-use path should be included on both sides of Trafalgar Road. If the multi-use path cannot be accommodated on both sides, the multi-use path constructed on one side must be wider than 3 m.	AECOM
Halton Region (Health) noted that the Trafalgar Road BRT should include Pedestrians and Cyclists as a factor of analysis.	AECOM
The City of Burlington noted that off road cycle tracks have been identified along the south side of Dundas Street as part of the City of Burlington Cycling Master Plan and should be incorporated in the Dundas BRT Planning Study.	MRC
The Town of Oakville inquired if there is a potential of phasing median BRT to LRT. AECOM noted that typically this is not a successful transition. Conversion from BRT to LRT requires shutdown of the transit system for 2-3 years for construction. This would negatively impact businesses that are dependent on system users as well as transit ridership. AECOM recommended that if LRT is the ultimate solution than curbside BRT should be considered for future median LRT construction.	
The Town of Oakville noted that intersections could be wide (8-10 lanes), which is not pedestrian friendly and inquired if pedestrian grade separations are being considered. The Town has identified locations to be considered, such as at the proposed hospital at the Third Line and Dundas Street intersection. AECOM noted that pedestrian grade separations are generally not preferred in urban design. Pedestrians prefer the most direct path to their destination.	

Discussion Items	Action Items
Grade separations are expensive to build and there is often a conflict between existing street grades and location of businesses.	
Preliminary Impact Assessment **Trafalgar Road BRT Planning Project (T. Williams, AECOM)** **Tom Williams reviewed preliminary impacts which will vary depending on ultimate cross-section. Technical reports will be completed prior to the start of the 6-month TPAP timeline. Impacts will include stream crossings near and north of Dundas. Right-of-way could be required north of White Oaks (South). Focus areas included the interchange between Dundas and Trafalgar BRT, and the crossing of the QEW (Iroquois Shores to Cross).** **Dundas Street BRT Planning Project (N. Ahmed, MRC)** **Neil Ahmed reviewed the focus areas for Dundas Street. These areas represent localized areas with their own site-specific issues. For example, the provincially designated St. Paul's Presbyterian church and cemetery is a focus area due to both the church and cemetery abutting the ROW. Six focus areas were identified for the corridor.**	
No specific comments were recorded.	
Summary Comments and Discussion **The timing of the next steps was presented for discussion.**	
The City of Mississauga noted that an important interim task should be developing a pre-curser program to identify early opportunities to improve transit ridership. This will aid in increasing ridership prior to implementation of the BRT network.	
In closing, the workshop attendees would like information on ridership forecasts, implementation staging and understanding impacts to local transit at the next workshop.	AECOM/MRC
Tim Dennis noted that this was the first of a number of workshops for the BRT projects.	

Dundas Street BRT Planning Project
Trafalgar Road BRT Planning Project

Stakeholder Workshop

March 3, 2011

Halton REGION

3. Project Overviews

1. Introduction

BRT Principles and Implementation –

Modes of Transit

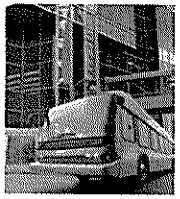
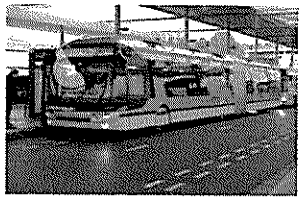
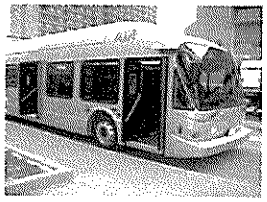
- If we said "commuter rail," we likely have a similar picture

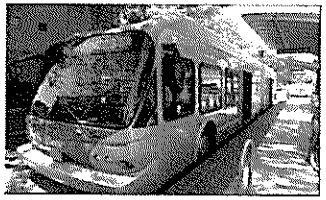
2. Workshop Objectives

BRT Principles and Implementation –

But BRT?

Different pictures are likely, if not bewilderment!

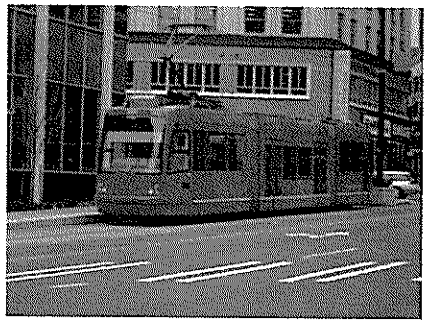







BRT Principles and Implementation –

Modes of Transit

- Mention "streetcar" and similar images come to mind




BRT Principles and Implementation –

BRT

"Bus Rapid Transit"

- ***Bus*** – a higher capacity transit system using rubber tires
- ***Rapid*** – components of BRT significantly decrease travel time
- ***Transit*** – Decreased travel time and other BRT components typically increase ridership by as much as fifty percent

BRT Principles and Implementation –

Modes of Transit

- "Light Rail" or LRT may invoke different pictures, but the same concept


BRT Principles and Implementation –

Running Way

- Dedicated lanes or mixed traffic
- Median or curb running
- Dedicated roadway
- Queue jump lanes
- Mix of all

BRT Principles and Implementation –

BRT is a System

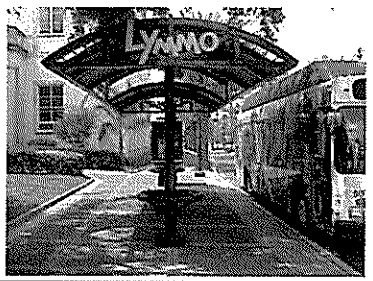
- Vehicles
- Running way
- Stops / Stations / Station-Area Development
- Service Plan / Operating Plan
- Technology / Fare Collection
- Branding

The System working together puts the Rapid in Transit, leading to increased transit ridership

BRT Principles and Implementation –

Stops / Stations

- Level boarding or near-level boarding
- Technology
- Off-board fare collection
- Amenities
- Spacing typically average 800 m
- Branding



BRT Principles and Implementation –

Vehicles

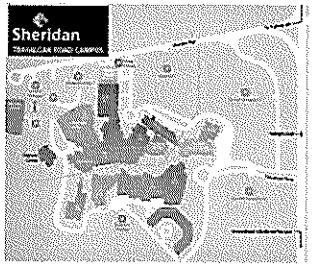
- Higher capacity
- Low floor
- Onboard technology
- Multiple doors (even both sides)
- Branding

- *Can also be low emissions, hybrid, or special fuel*

BRT Principles and Implementation –

Service Plan / Operating Plan

- Frequent service
- Overlay with local routes
- Connects and serves key activity centers
  - Hospitals
  - Colleges
  - Transit Centers
- Fewer stops (similar to LRT)



BRT Principles and Implementation –

Stops / Stations

BRT Principles and Implementation –

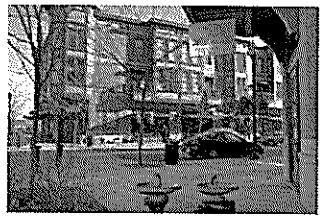
Technology

- GPS
- "Next Bus"
- Traffic Signal Priority
- Fare collection

BRT Principles and Implementation –

Station-Area Development

- Employment and/or housing density supporting transit surrounding station
- Mixed use
- Activity throughout the day and night
- A variety of price points
- New deal on parking



BRT Principles and Implementation –

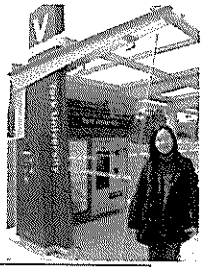
Dwell time

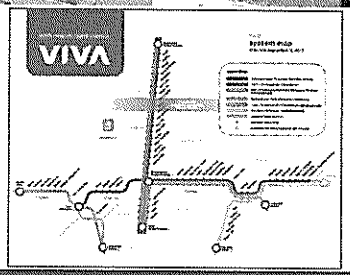
- Fewer stations
  - Total dwell time decreases with fewer stops
  - Fewer stops between signals allows vehicle to progress with traffic
- Level or near-level boarding
  - Boarding is faster – eliminate delay for strollers and most wheelchairs and eliminate delay in kneeling buses and/or stairs
- Multiple door boarding
  - Faster load and unload times
- Off-board fare collection / on-board verification
  - No waiting at fare box for passengers to find and insert money
- Internal layout of vehicle
  - Fewer seats and more standing room by doors allows ease of movement to doors for alighting

BRT Principles and Implementation –

Branding

- Consistent and Recognizable identity for:
  - Rapid transit vehicles
  - Stations
  - Information
  - Advertising



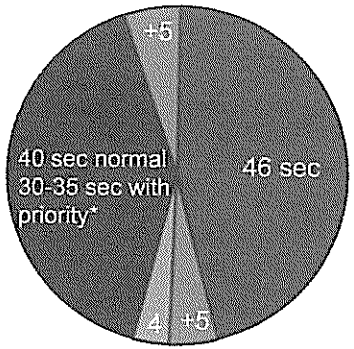


BRT Principles and Implementation –

Intersections

- *Shorter and consistent dwell times allows vehicles to progress without invoking Transit Signal Priority (TSP)*
- Traffic Signal Priority
  - Early green or green extension allows vehicle to proceed in a large percentage of the cycle
- Queue Jump Lanes
  - Vehicle proceeds before the general traffic to avoid the congestion

TSP Sample – for 90 second cycle



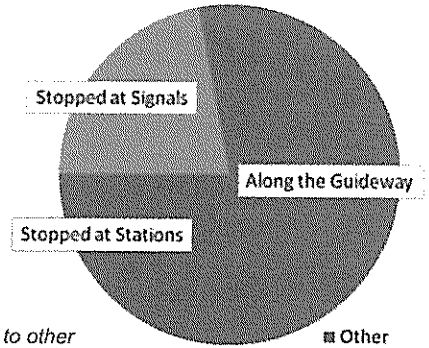
*Cross street green = 34 sec normal, as low as 24 sec with priority

BRT Principles and Implementation –

Putting the Rapid in BRT

- Improves travel time by addressing main causes of delay for the traveler
  - Delay along the roadway (typically due to congestion)
  - Delay at intersections
  - Dwell time

Causes of Bus Delay

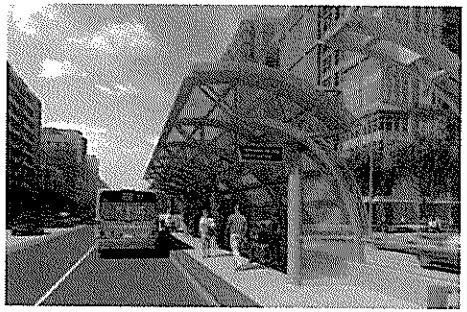


Note: *Cost of implementation and impacts to other vehicular traffic rise as "zero" bus delay is approached.*

BRT Principles and Implementation –

BRT is Flexible

Kansas City Max



Viva NEXT

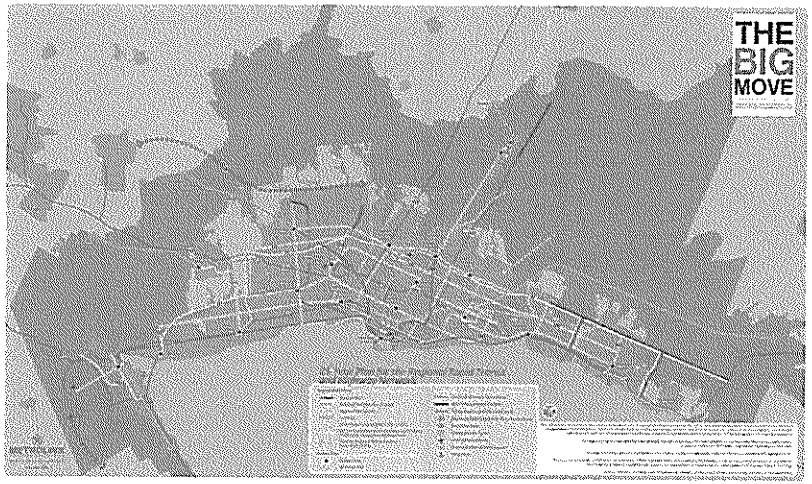
BRT Principles and Implementation –

Guideway

- Median Running
  - Typically decreased BRT vehicle travel time
  - Greater roadway width
  - Median stations provide pedestrian refuge
  - Impacts left-turn movement (since left turn is only allowed in protected phase)
- Curb Running
  - Typically best balance of travel time through corridor for cars and BRT vehicles
  - Allows protected and permissive left turns
  - Local buses can easily overlay BRT route
  - Stations can be directly adjacent to station-area development
  - Potential enforcement issues

BRT Principles and Implementation –

Metrolinx 25 Year Plan



BRT Principles and Implementation –

BRT is Flexible

- "Tool box" of system components allows BRT to address a wide variety of needs

Denver Mall Ride

407 Transitway

BRT Principles and Implementation –

Focus is on Public Transit & Carpooling

1 2 3 4 5 6

Balanced Needs

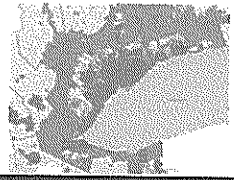
- Provide high-quality services for transit, cycling, walking, road users and goods movement
- Offer a safe, convenient, accessible, affordable and efficient system to meet the daily needs of all residents
- Offer a choice of integrated travel modes, emphasizing cycling, walking, public transit and carpooling

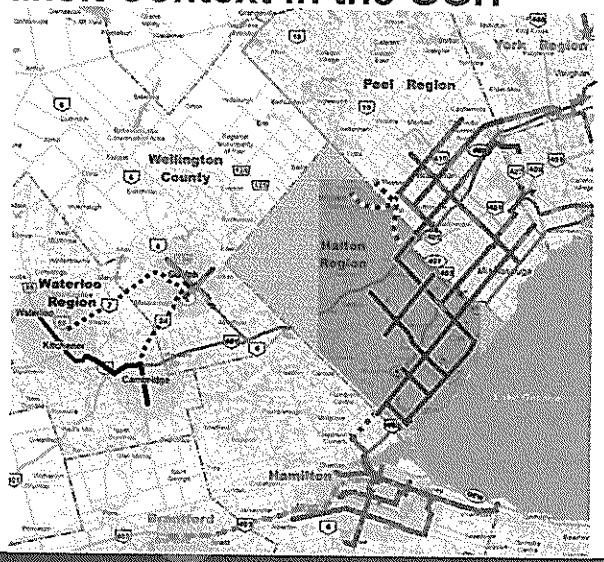
Halton The Road to *Change* Halton Region Transportation Master Plan 2031

BRT Principles and Implementation –

Rapid Transit Context in the GGH

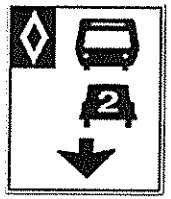
- BRT Implementation is now underway throughout the GGH:
  - Durham Region
  - York Region's VIVA
  - Brampton's ZUM
  - Mississauga's MIWAY
  - Hamilton's BLAST
  - Waterloo Region / Guelph / Wellington County
  - Metrolinx/GO Transit
  - Halton Region

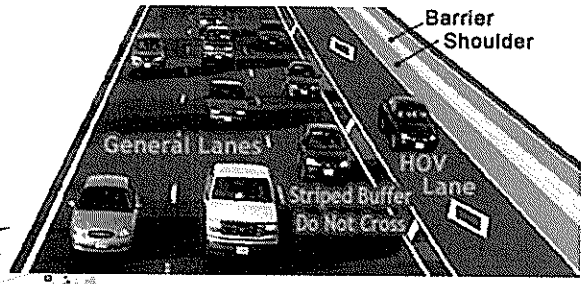


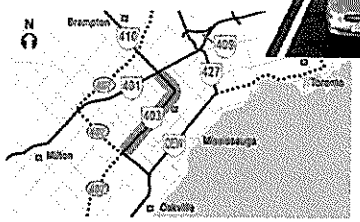


BRT Principles and Implementation –

Provincial HOV Program







BRT Principles and Implementation –

Region is Moving towards Sustainable Transportation

1 2 3 4 5 6

TMP Vision

- Define a Sustainable Transportation System to 2031 that is:
  - Safe
  - Convenient
  - Accessible
  - Affordable
  - Efficient
  - Considerate of the environment
  - Energy efficient

Halton The Road to *Change* Halton Region Transportation Master Plan 2031

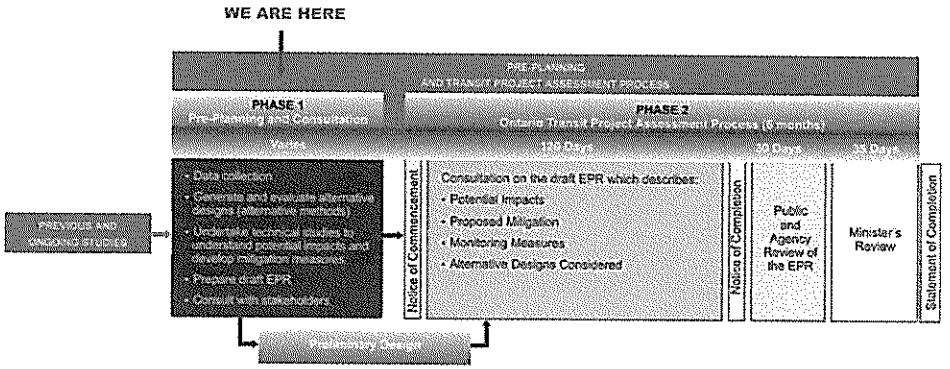
Transit Project Assessment Process -

Phase 2 – TPAP (6 month process)

- Notice of Study Commencement
- General Consultation
- Agency Consultation
- Review EPR/Finalize
- Notice of Completion
  - Public and Agency Review of EPR (35 days)
  - Minister's Review (30 days)
- Statement of Completion

Transit Project Assessment Process -

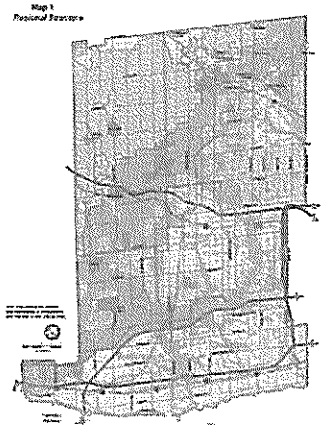
Two Phase Process & Preliminary Design



Dundas Street BRT Planning Project -

Regional Official Plan (ROPA) 38

- ROPA 38 outlines how and where Halton will grow from 2021-2031
- Halton is planning for 780,000 people and 390,000 jobs by 2031



The Road to *Change* Halton Region Transportation Master Plan 2031

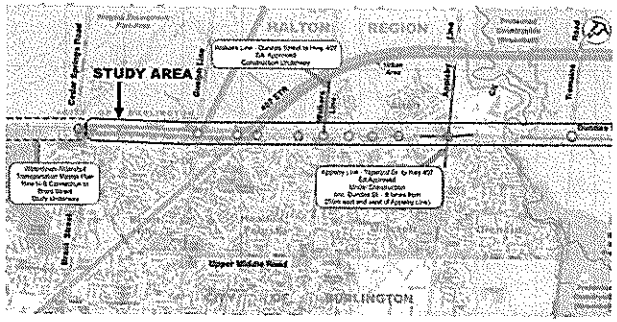
Transit Project Assessment Process -

Phase 1 – Pre-Planning and Consultation

- Constraints and Opportunities Analysis
- BRT Service Plan Development
- Selection of BRT Geometric Standards
- Urban Design Analysis
- Identification and Evaluation of Roadway Improvement Alternatives
- Alternative Design Concepts for Preferred Solution
- Preparation of Draft Environmental Project Report (EPR)
- Consultation Program

Dundas Street BRT Planning Project -

Dundas Street Improvement Program

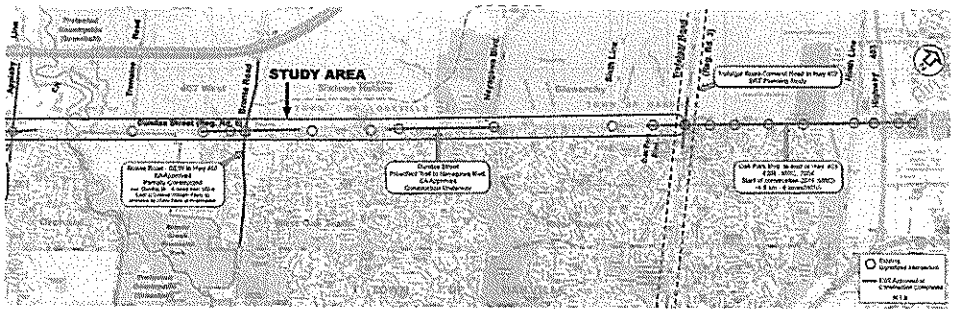


Dundas Street BRT Planning Project -

Existing and Forecast Corridor Development

Dundas Street BRT Planning Project -

Dundas Street Improvement Program



Dundas Street BRT Planning Project -

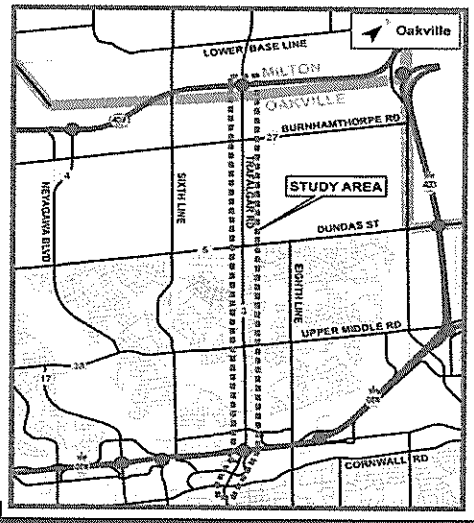
Forecast Population Growth

Municipality	2006 Population	2031 Population	Percentage Change
City of Burlington	164,000	185,000	+11%
Town of Oakville	166,000	247,000	+49%
Town of Oakville population is forecasted to increase by over 81,000 persons whereas City of Burlington increase is approximately 21,000.			
Burlington North of QEW	77,000	87,000	13%
Oakville North of QEW	96,000	157,000	64%
Population in Oakville North of QEW is forecasted to increase by 61,000.			

Source: ROPA 38

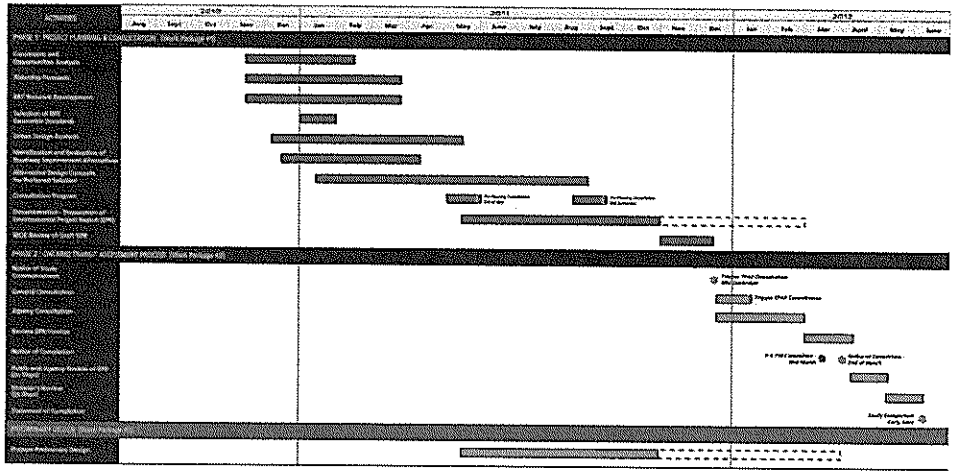
Trafalgar Road BRT Planning Project –

Study Corridor



Dundas Street BRT Planning Project -

Dundas Street Study Schedule



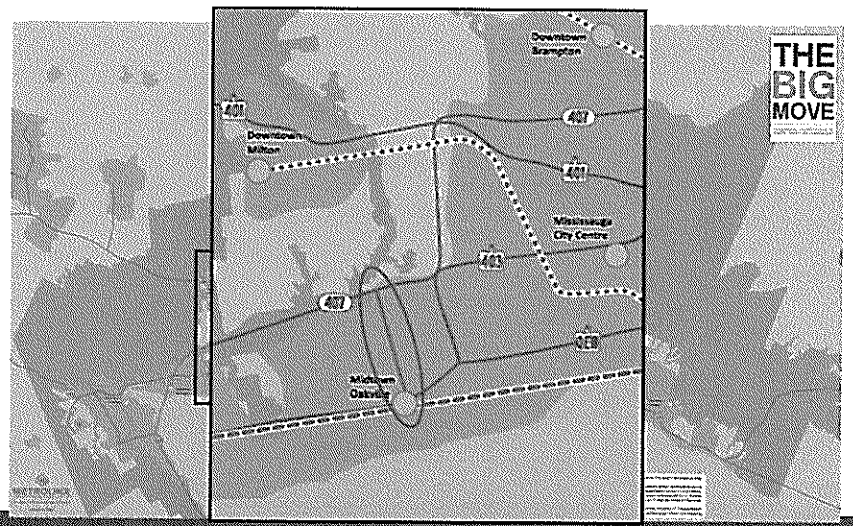
Trafalgar Road BRT Planning Project –

Study History & Background

- Halton initiated a Class Environmental Assessment for improvements to Trafalgar Road from Leighland Avenue to Upper Middle Road (Regional Rd 38).
- Since that time, a number of studies were initiated or completed which have resulted in the need to expand the study area. These studies include:
  - Trafalgar Road Feasibility Study
  - Town of Oakville Draft Midtown Business and Development Plan
  - North Oakville East Secondary Plan (NOESP)
  - Metrolinx Regional Transportation Plan
- The study area was expanded in 2009 to include the 8 km section of Trafalgar Road from Cornwall Road south of the QEW (the Existing Oakville GO Station), northerly to Highway 407.

Trafalgar Road BRT Planning Project –

Location



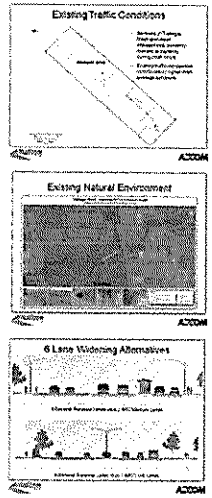
4. Approach to Ridership Forecasting

Halton REGION

Trafalgar Road BRT Planning Project –

Status Summary

- Notice of Study Commencement
  - November 26, 2009
- PIC #1 held June 16, 2010 – Reviewed:
  - Existing Natural Environment
  - Existing Socio-Economic Environment
  - Existing and Future Traffic Conditions
  - Alternatives under Consideration
- July 22, 2010 – Meeting with Oakville
  - Reviewed comments from PIC
  - Received input from Oakville on preferred alternatives
- November 2010-January 2011
  - Coordination with Dundas Street Study



Representative PIC Display Boards

Approach to Ridership Forecasting -

Objective & Key Steps

- Objective to develop a 2031 transit trip table that:
  - Recognizes population and employment growth
  - Is consistent with Metrolinx forecasts
  - Is consistent with Regional Transportation Master Plan forecasts
- Key Steps will be to:
  - Develop person trip generation
  - Develop person trip distribution
  - Identify most likely mode choices
  - Assign trips to a transit network

DISCUSSION

Approach to Ridership Forecasting -

BRT Catchment Area Growth

Employment Growth in Burlington and Oakville

Municipality	2006 Employment/Capita	2031 Employment/Capita
Burlington	0.51	0.55
Oakville	0.48	0.50

- Degree of self containment likely to remain similar to 2031
- 2006 TTS represents a reasonable forecast of person trips to 2031

Approach to Ridership Forecasting -

Develop Person Trip Generation

Population Forecast to 2031

Municipality	Population 2006*	Population 2031	Growth
Burlington	171,000	193,000	22,000 (13%)
Oakville	172,000	255,000	83,000 (48%)
Milton	56,000	238,000	182,000 (325%)
Halton Hills	58,000	94,000	36,000 (62%)
TOTAL	457,000	780,000	323,000 (71%)

* Based on 2006 Census data increased by 4% to account for net undercount in the census

Employment Forecast to 2031

Municipality	Employment 2006	Employment 2031	Growth
Burlington	88,000	106,000	18,000 (20%)
Oakville	82,000	127,000	45,000 (55%)
Milton	28,000	114,000	86,000 (307%)
Halton Hills	20,000	43,000	23,000 (115%)
TOTAL	218,000	390,000	172,000 (79%)

Source: ROPA 38

Approach to Ridership Forecasting -

Develop Person Trip Distribution

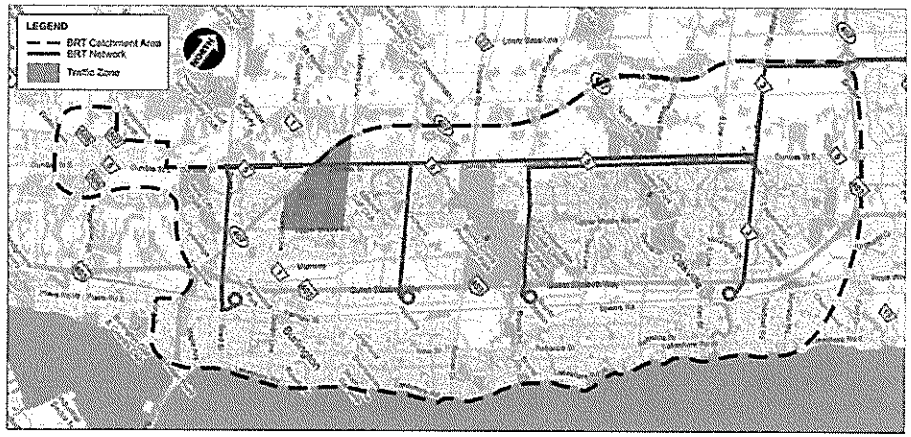
Person Trip Distribution – Peak Period

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2006 TTS (AM)	142,000 (50%)	82,000 (29%)	59,000 (21%)	283,000
Big Move (2031) (AM)	246,500 (55%)	108,000 (24%)	94,000 (21%)	446,500
RTMP(2031) (PM)	343,934 (56%)	134,977 (22%)	134,176 (22%)	613,087

- Metrolinx Big Move 2031 forecast person trip distribution is consistent with 2006 TTS and RTMP.
- Accordingly, the Metrolinx Big Move person trip table is selected for use.

Approach to Ridership Forecasting -

Focus is on Projected Catchment Area of the BRT Network



Approach to Ridership Forecasting -

Identify Most Likely Mode Choices

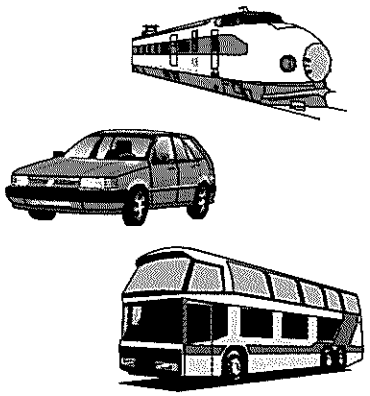
- Use of public transit is influenced by:
  - BRT network provided
- Assume significant increase in BRT network including Mississauga Transitway, Dundas BRT, Trafalgar BRT, Electrification of GO Rail

- Durham Region
- York Region's VIVA
- Brampton's ZUM
- Mississauga's MIWAY
- Hamilton's BLAST
- Waterloo Region / Guelph / Wellington County
- Metrolinx/GO Transit
- Halton Region

Approach to Ridership Forecasting -

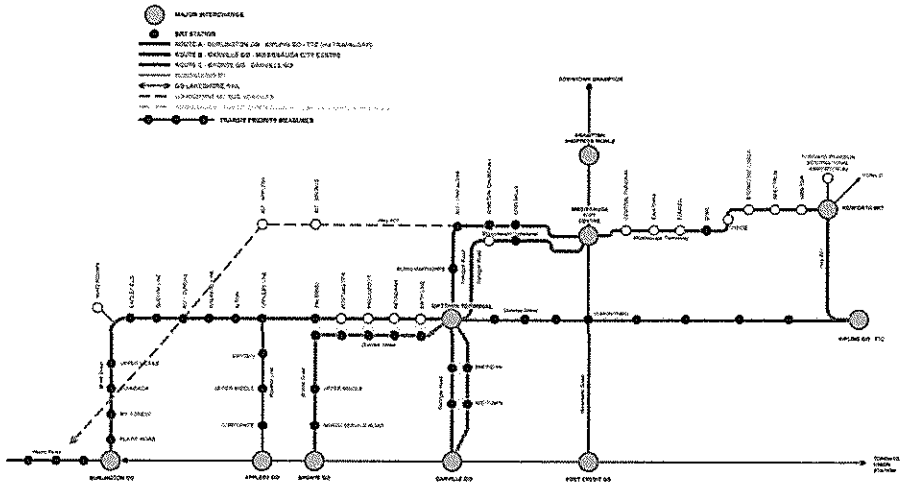
Identify Most Likely Mode Choices

- Use of public transit is influenced by:
  - Local transit level of service
  - BRT network provided
  - GO Transit station parking policy
  - Available road capacity



Approach to Ridership Forecasting -

Preliminary Halton Dundas BRT Concept



Approach to Ridership Forecasting -

Identify Most Likely Mode Choices

- Use of public transit is influenced by:
  - Local transit level of service
- Assume significant increase in level of transit service will be provided
- To a comparable level to other similar services in the GTAH jurisdictions

Oakville/Burlington	Hours of Service/ Capita
Current	1.0 hrs.
Target	1.6-2.0 hrs.
Mississauga	
Current	1.6 hrs.
Hamilton	
Current	1.4 hrs.
Brampton	
Current	1.3 hrs.

Source: 2009 CUTA Fact Book

Higher hours of revenue service in a community reflects more opportunity to use transit

Approach to Ridership Forecasting -

Identify Most Likely Mode Choices

- Current experience in GTAH transit use will be used to simulate 2031 mode shares for use of local and regional transit
- Similar traffic zones will be identified, one with high transit availability as a model
- Characteristics of GTAH zones and those in Oakville/Burlington to be considered:
  - Population
  - Employment
  - Annual hours of transit service
  - 2006 mode share to:
    - Internal
    - PD1
    - Toronto other
    - Mississauga

Approach to Ridership Forecasting -

Identify Most Likely Mode Choices

- Use of public transit is influenced by:
  - GO Transit station parking policy

Daily Access Trips

Station	Passengers	Mode of Access			Number of Existing Parking Spaces
		Auto	Local Transit	Other	
Clarkson	5020	76%	9%	15%	2878
Oakville	5565	72%	22%	6%	2724
Bronte	3175	89%	9%	2%	2044
Appleby	3080	86%	9%	5%	2422
Burlington	4445	78%	17%*	5%	2273
Aldershot	1220	85%	10%**	5%	1619

*9% by GO Bus ** 5% by GO Bus

Source: 2009/2010 GO Rail Passenger Survey

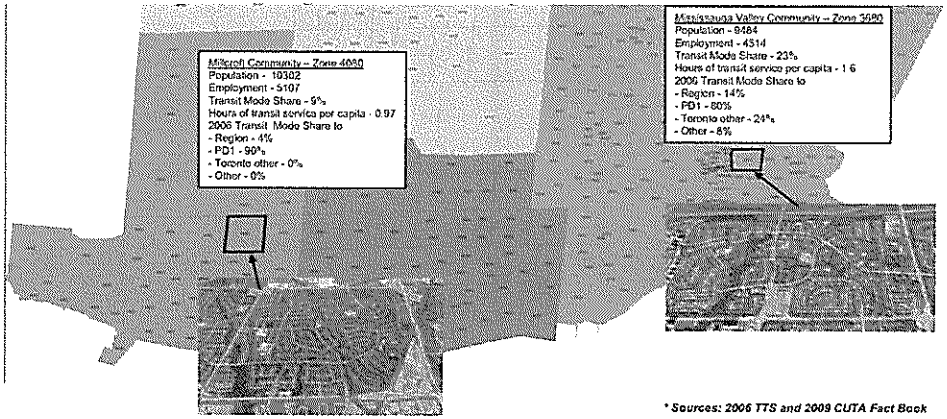
- Assume GO Transit/Metrolinx will adopt station parking policies to encourage use of local transit

Approach to Ridership Forecasting -

Identify Most Likely Mode Choices

Example: - Mississauga Valley may be a good simulation of future potential transit use in Burlington's Millcroft

- Therefore, reasonable to assume 2031 modal share for Millcroft could be similar

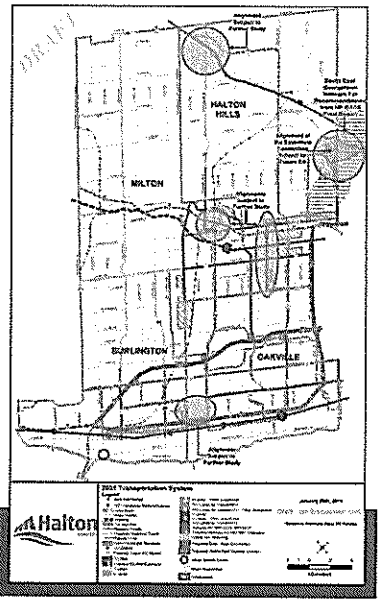


** Sources: 2006 TTS and 2009 CUTA Fact Book*

Approach to Ridership Forecasting -

Identify Most Likely Mode Choices

- Use of public transit is influenced by:
  - Available road capacity
- Limited additional road capacity by 2031 will provide competitive advantage to transit (travel time, reliability)
- Transit is therefore likely to become more popular during peak periods



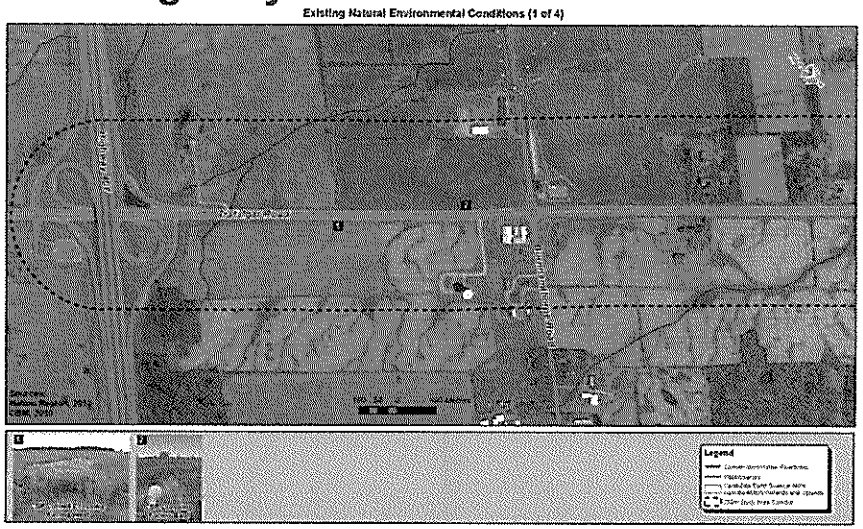
Constraints and Opportunities Analysis –

Trafalgar Road

DISCUSSION

Constraints and Opportunities Analysis -

Highway 407 to Cornwall Road

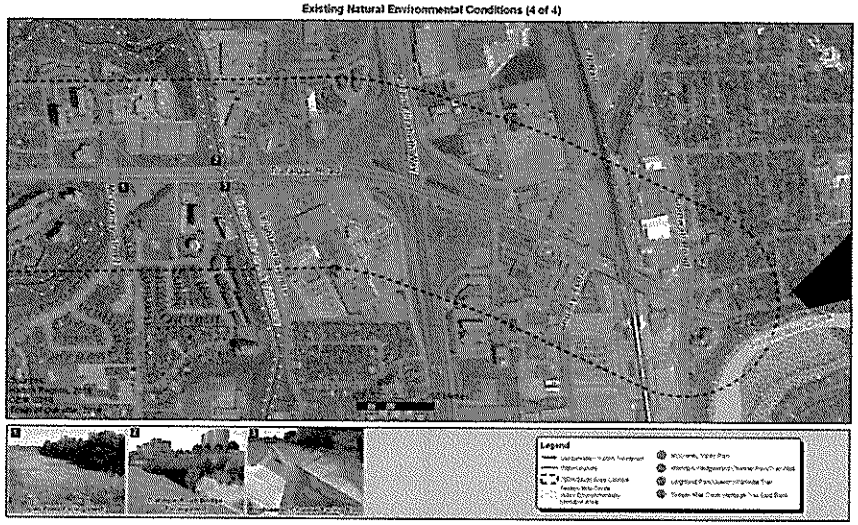


5. Constraints and Opportunities Analysis

Constraints and Opportunities Analysis -

Highway 407 to Cornwall Road

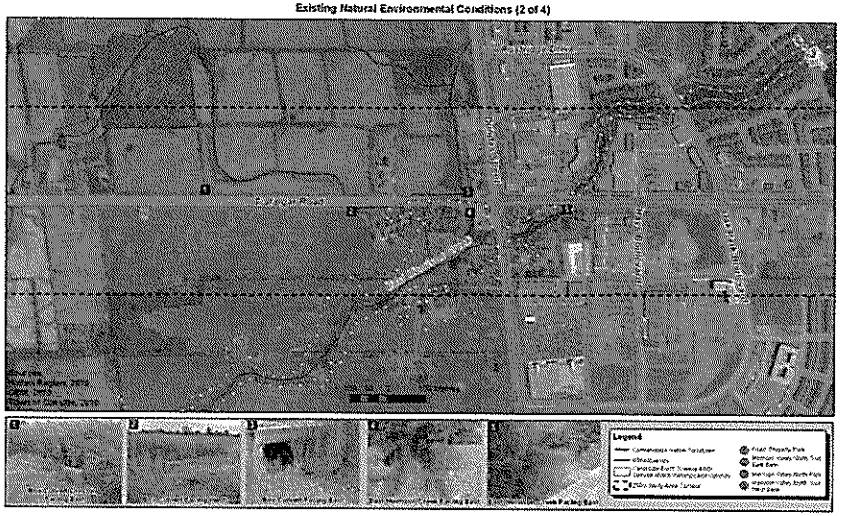
Existing Natural Environmental Conditions (4 of 4)



Constraints and Opportunities Analysis -

Highway 407 to Cornwall Road

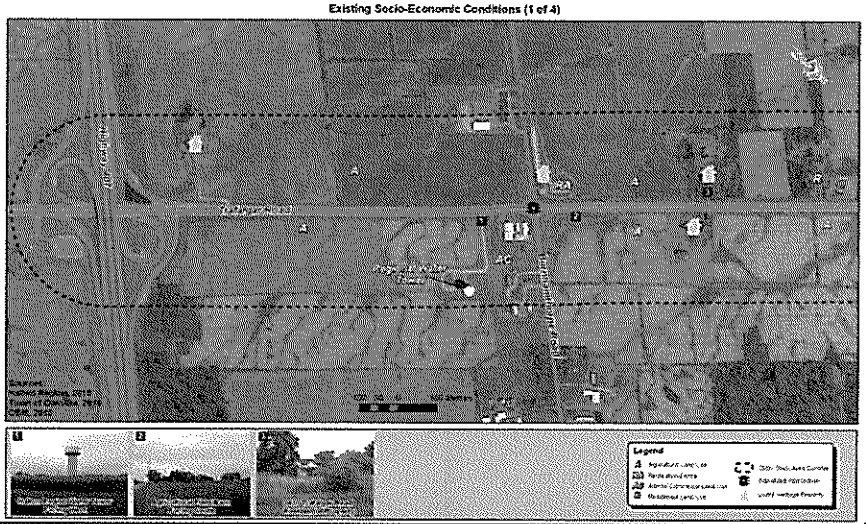
Existing Natural Environmental Conditions (2 of 4)



Constraints and Opportunities Analysis -

Highway 407 to Cornwall Road

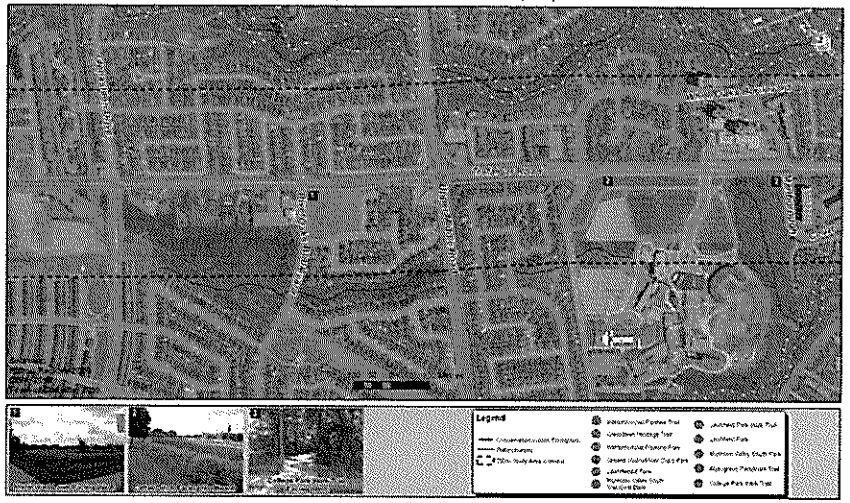
Existing Socio-Economic Conditions (1 of 4)



Constraints and Opportunities Analysis -

Highway 407 to Cornwall Road

Existing Natural Environmental Conditions (3 of 4)



Constraints and Opportunities Analysis -

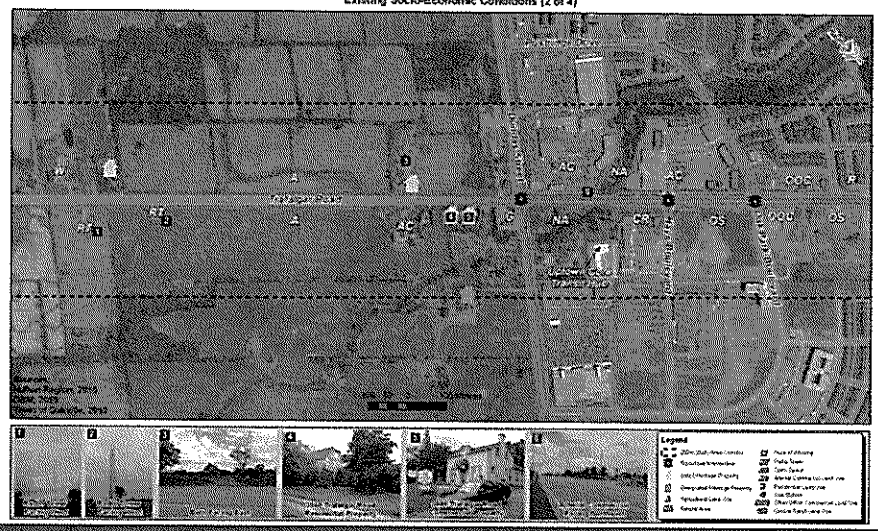
Highway 407 to Cornwall Road

Existing Socio-Economic Conditions (4 of 4)

Constraints and Opportunities Analysis -

Highway 407 to Cornwall Road

Existing Socio-Economic Conditions (2 of 4)



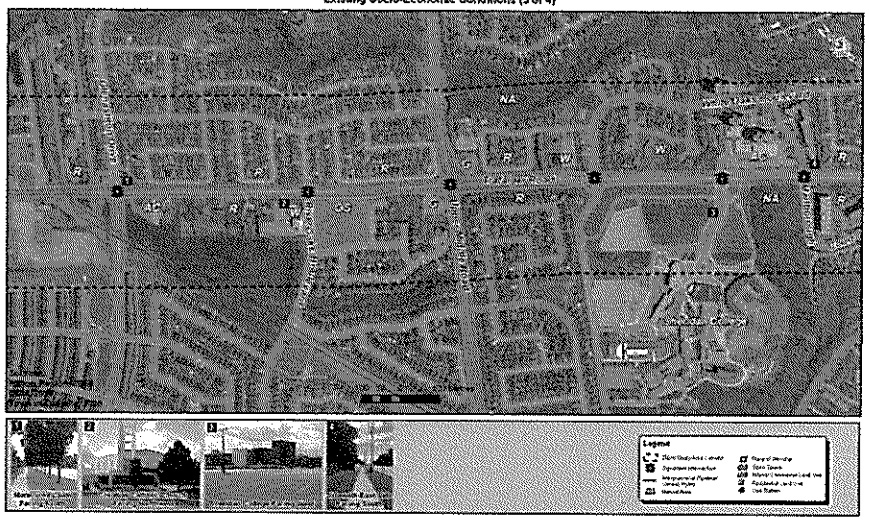
Constraints and Opportunities Analysis –

Dundas Street

Constraints and Opportunities Analysis -

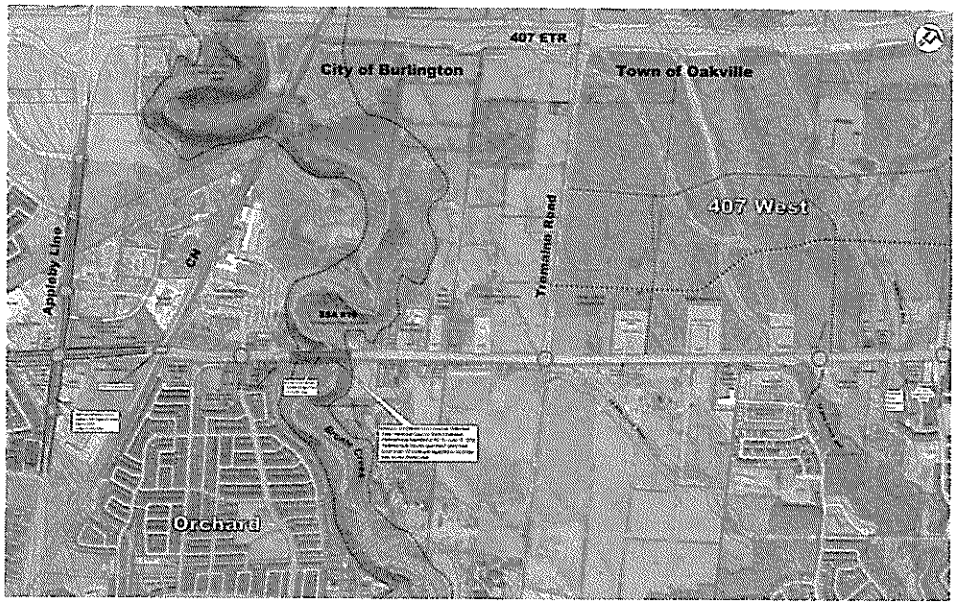
Highway 407 to Cornwall Road

Existing Socio-Economic Conditions (3 of 4)



Constraints and Opportunities Analysis -

Appleby Line to West of Bronte Road



Constraints and Opportunities Analysis -

Brant Street to 407 ETR

Constraints and Opportunities Analysis -

West of Bronte Road to West of Neyagawa Blvd.

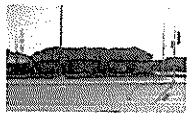
Constraints and Opportunities Analysis -

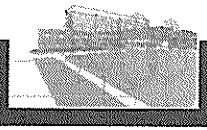
407 ETR to Appleby Line

Constraints and Opportunities Analysis -

Social Environment

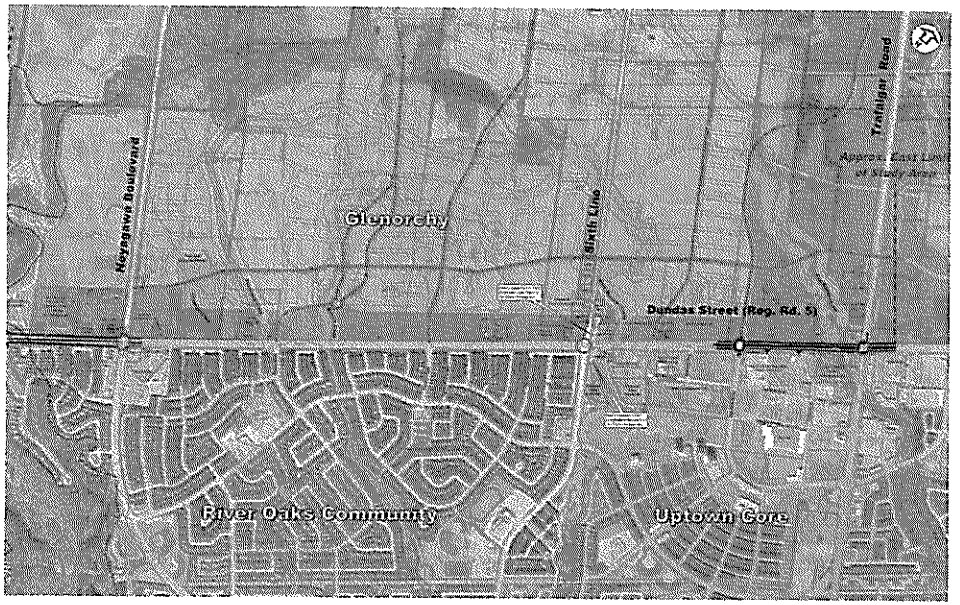
- Existing newer residential areas with frontage and reverse frontage on Dundas St.
- Several older residential properties with direct access to Dundas St.
- Places of Worship
- Neighbourhood Parks
- Future hospital
- Future residential areas





Constraints and Opportunities Analysis -

West of Neyagawa Blvd. to Trafalgar Road



Constraints and Opportunities Analysis -

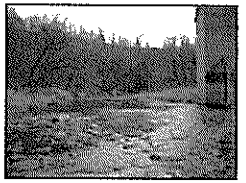
Economic Environment

- Multiple existing commercial entrances along Dundas St. – full or limited access
- Future commercial development
- Significant trucking activity

Constraints and Opportunities Analysis -

Natural Environment

- Designated Areas in Study Area:
  - Nelson Escarpment Woods ESA
  - Bronte Creek Provincial Park/Bronte Creek Valley ESA/Bronte Creek PP Nature Reserve Zone ANSI
  - Sixteen Mile Creek ESA/ANSI
  - North Oakville Milton-West Wetland Complex
- Niagara Escarpment Plan and Greenbelt Plan lands
- Several watersheds lie within the study area including the Tuck Creek, Shoreacres Creek, Appleby Creek, Sheldon Creek, Bronte Creek, 14 Mile Creek, Sixteen Mile Creek, East Morrison Creek and West Morrison Creek.
- Road corridor is located in a rapidly urbanizing area and natural features have been previously removed or culturally influenced.
- Natural areas are limited to creek valleys and forests near Cedar Springs Road.
- Creeks within Study Area support Redside Dace, a sensitive species classified as 'Endangered' federally and provincially.
- A large number of the small watercourses (headwater reaches) are piped underground, presenting permanent barriers to fish movement.



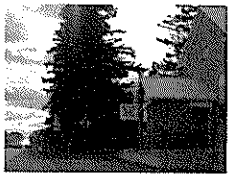
6. Development of Alternatives

Halton REGION

Constraints and Opportunities Analysis -

Cultural Environment

- Cultural heritage resources:
  - 5 designated under the *Ontario Heritage Act*
  - 17 listed on City of Burlington's Heritage Directory
  - 7 listed on Town of Oakville's Cultural Heritage Register
  - 16 additional cultural heritage resources identified



Development of Alternatives -

Selecting Design Criteria

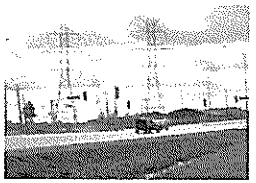
- Both projects should employ compatible geometrics and station treatments
- Based on "best-practice" review of current, local BRT projects and standards:
  - Mississauga MIWAY
  - York Region/VIVA BRT
  - Brampton Zum
  - TCRP Report 118: BRT Practitioner's Guide
- Design vehicles:
  - Local standard 12m bus
  - Local articulated 18m bus
  - Intercity 14m bus
  - Intercity double-decker bus

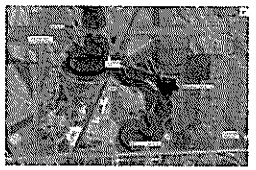
Constraints and Opportunities Analysis -

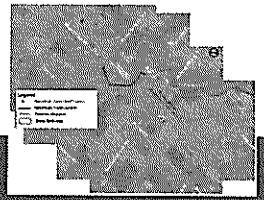
Utilities

Existing
- Hydro One (220 kV) corridor
- Burlington Hydro, Oakville Hydro, Bell, Enbridge

Planned
- Proposed watermain on Dundas Street from Appleby Line to Tremaine Road
- Proposed trunk sanitary sewer terminates at Dundas Street/Third Line.
- Construction of the North Oakville East Wastewater Pumping Station at north-east corner of Towne Boulevard and Dundas Street.
- Future construction of a sanitary forcemain from Towne Boulevard to Neyagawa Boulevard.
- Future construction of a sanitary trunk sewer from the North Oakville East Wastewater Pumping Station to Oak Park Boulevard.
- Construction of a watermain on Dundas Street between Sixth Line and Trafalgar Road.

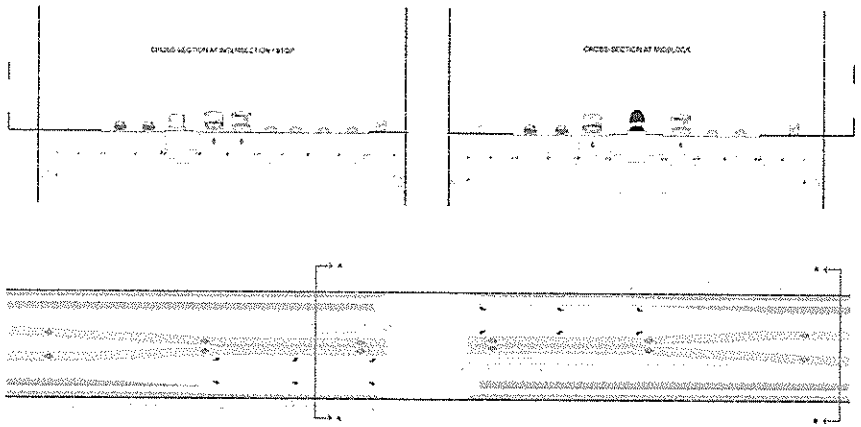






Development of Alternatives -

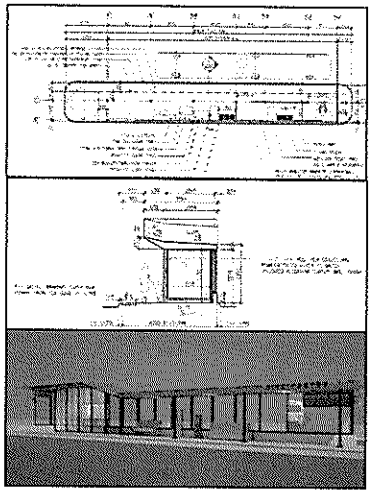
Alternative Design Concepts: Median BRT



Development of Alternatives -

Key Design Criteria

- Most roadway geometrics governed by Regional and local standards
- BRT lane width (3.75m vs 4.2m)
- Station configuration
  - Accessibility (platform width, grade)
  - Platform length (25m + 12m)
  - Sidewalk integration (Curb BRT option)
  - Barrier protection (Median BRT option)



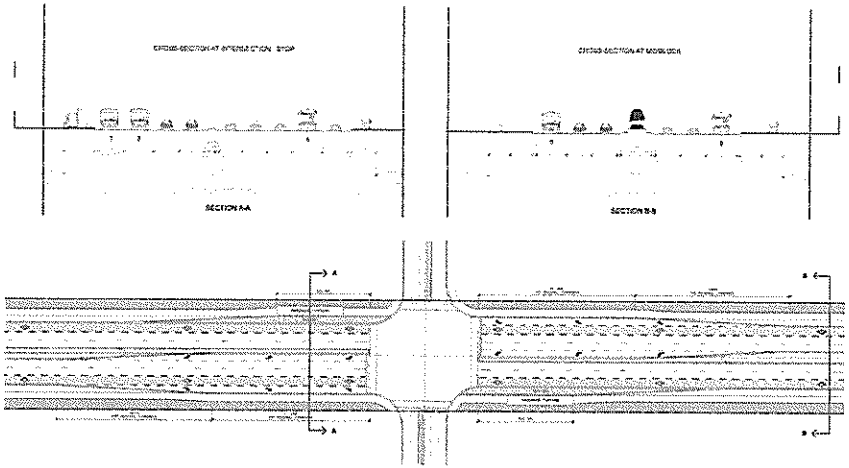
Development of Alternatives -

BRT Station Location

- Stations to be located at key signalized intersections and nodes;
- Station site selection guidelines:
  - Existing or future key destinations
    - e.g. hospital, shopping centre, etc.
  - Intersecting transit corridors
    - e.g. Dundas St. at Trafalgar Rd.
  - Existing or future high-density development
  - Maintenance of minimum/maximum stop spacing

Development of Alternatives -

Alternative Design Concepts: Curb BRT



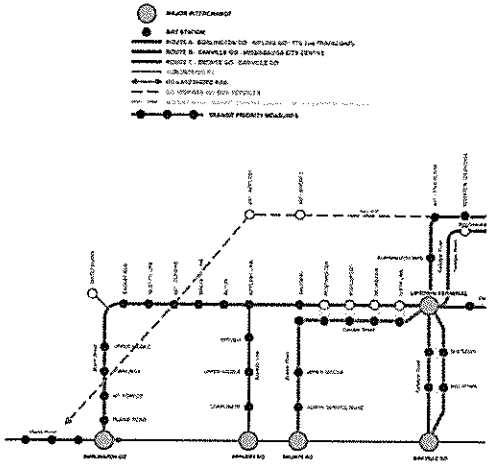
Development of Alternatives -

Bus Station Features

- Information
  - Route maps and schedules
  - Advanced passenger information systems (e.g. real-time route information)
- Environment
  - Sensitive to surroundings
  - Green technology

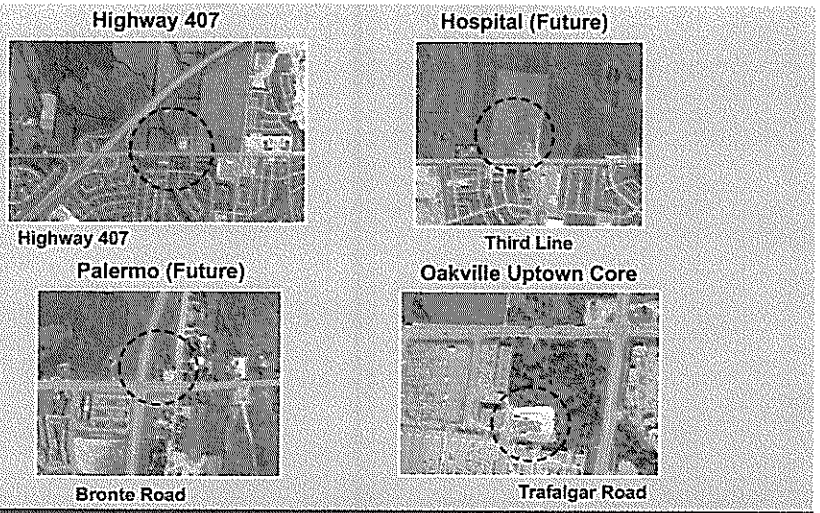
Development of Alternatives -

BRT Station Location



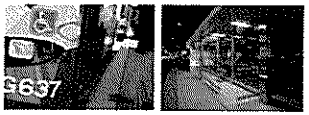
Development of Alternatives -

Special Stations



Development of Alternatives -

Bus Station Features

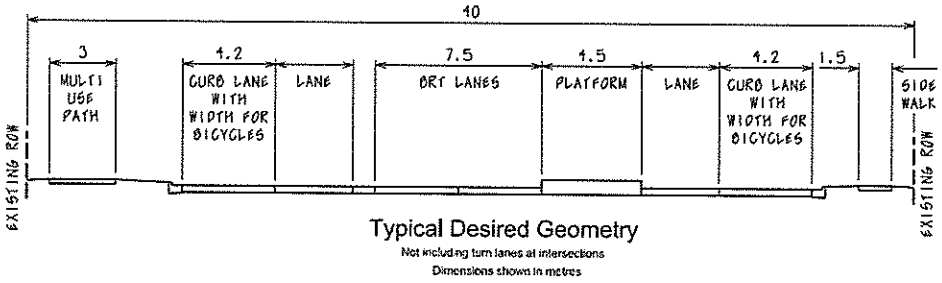


- Architecture
  - Pleasant / Functional
  - Distinct and Recognizable
- Safety & Security
  - CPTED (Crime Prevention Through Environmental Design)
  - Security cameras, emergency call stations
- Accessibility
  - Fully accessible (wheelchair, walking / biking)
  - Audible route information, tactile warning strips, visual strip on clear glazing

Development of Alternatives –

Trafalgar Road

- Median BRT accommodated in ROW midblock



Typical Desired Geometry

Not including turn lanes at intersections

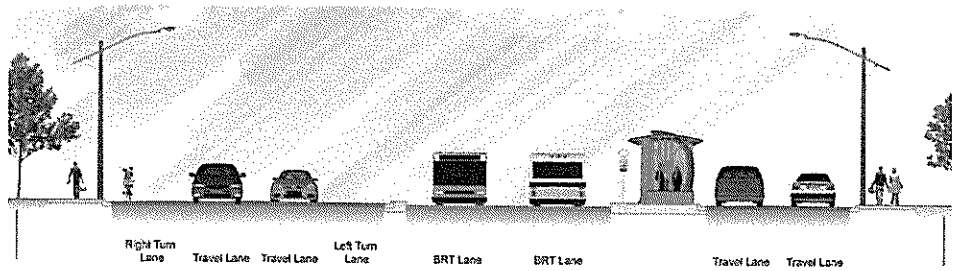
Dimensions shown in metres

4 General Purpose Lanes + BRT in Median

Development of Alternatives –

Trafalgar Road

- From the PIC, Stakeholder Meetings, and Analysis to Date, 2 alternatives remain:

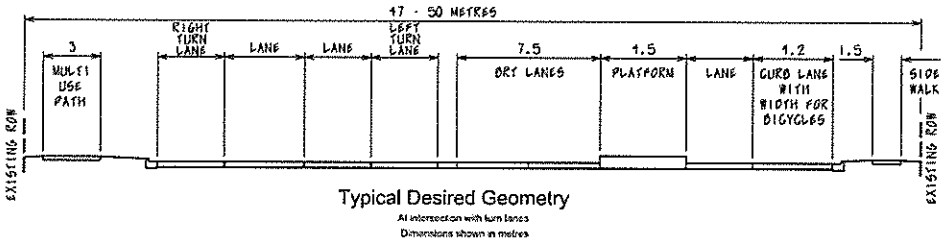


4 General Purpose Lanes + BRT in Median

Development of Alternatives –

Trafalgar Road

- Where turn lanes are needed, ROW likely required



Typical Desired Geometry

At intersection with turn lanes

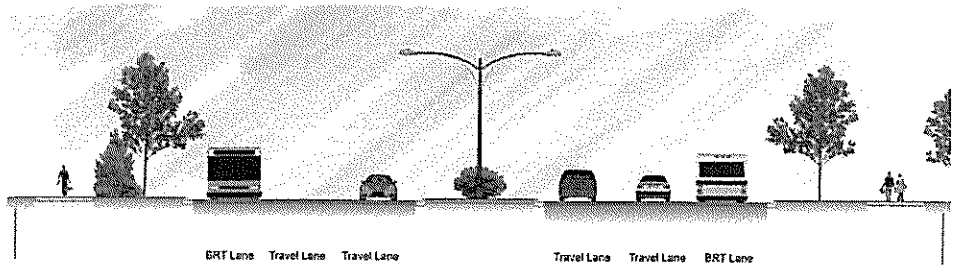
Dimensions shown in metres

4 General Purpose Lanes + BRT in Median

Development of Alternatives –

Trafalgar Road

- and:



4 General Purpose Lanes + BRT Curbside

Development of Alternatives –

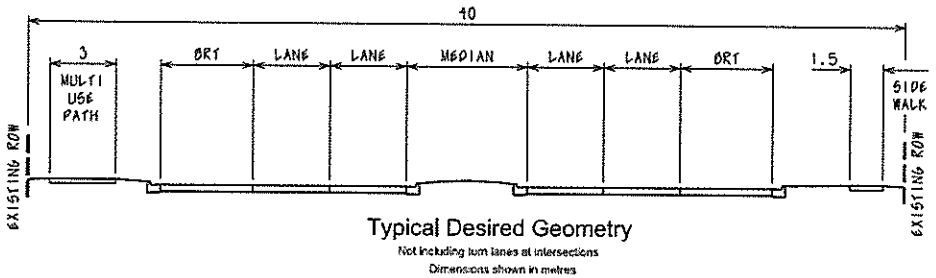
Turn Lanes and BRT

- Median BRT
  - Left turns and U-turns only at intersections
  - Left turns and U-turns allowed only with green arrow after BRT phase – no permissive left turn
  - Right turns operate normally
- Curbside BRT
  - Left turns operate normally
  - Right turning vehicles are allowed to enter BRT lane near intersection
  - BRT vehicles and right turning vehicles share curb lane near intersection
  - Right Turn On Red can be blocked if BRT vehicle is in queue

Development of Alternatives –

Trafalgar Road

- BRT Curbside accommodated in ROW midblock



Typical Desired Geometry

Not including turn lanes at intersections

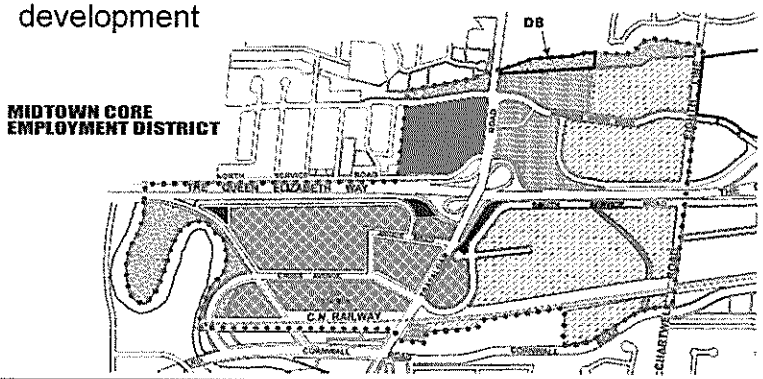
Dimensions shown in metres

4 General Purpose Lanes + BRT Curbside

Development of Alternatives –

Midtown Oakville

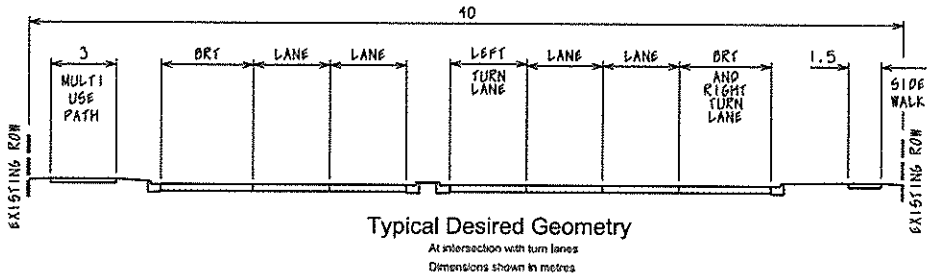
- Development of alternatives is still underway and will depend on traffic analysis and future midtown core development



Development of Alternatives –

Trafalgar Road

- BRT Curbside can also be accommodated at intersections unless dual left-turn lanes are required or RT lanes for vehicular level of service (47-50m ROW)



Typical Desired Geometry

At intersection with turn lanes

Dimensions shown in metres

4 General Purpose Lanes + BRT Curbside

Development of Alternatives

Evaluation Factors and Criteria – Trafalgar Road

TRANSPORTATION
- Accommodation of Future Travel Demand
- Lane Arrangements and Continuity
- Safety
- Emergency Service Vehicle Response Times
- Commercial Goods Movements
- Transit Operations
- Accommodation of Pedestrians/Cyclists
- Property Access
- Traffic Infiltration

CULTURAL ENVIRONMENT
- Archaeological Resources
- Cultural Landscapes
- Built Heritage Resources

NATURAL ENVIRONMENT
- Vegetation and Wildlife Habitat
- Water Resources and Fisheries
- Natural Hazards
- Air Quality

SOCIO-ECONOMIC ENVIRONMENT
- Compatibility with Existing Adjacent Land Uses
- Compatibility with Proposed Development
- Noise Impacts
- Property Impacts
- Aesthetics
- Accessibility to Adjacent Land Use

ENGINEERING ENVIRONMENT
- Major Services/Utility Impacts
- Impact on Water Quality and Quantity
- Construction Staging
- Cost

Development of Alternatives

Evaluation Factors and Criteria – Dundas Street

Transportation
- Capacity / level of service
- Safety
- Pedestrians and cyclists
- Intersection requirements
- Geometric standards
- Access management
- Construction staging

Cultural Environment
- Built heritage resources
- Cultural heritage landscapes
- Archaeological resources

Land Use
- Existing land use
- Future land use

Natural Environment
- Vegetation
- Wildlife
- Fish and aquatic habitat
- Storm water management
- Potential Natural Hazards
- Policy areas including Greenbelt Plan and Niagara Escarpment Plan
- ESAs
- Creek crossings

Socio-Economic Environment
- Business operations
- Residential areas
- Institutional
- Recreational uses
- Rural land uses
- Potential property requirements
- Access
- Noise levels
- Air quality
- Pedestrians
- Cyclists

Preliminary Cost Estimate
- Construction
- Utility relocation
- Property

Utilities
- Existing utilities
- Future utilities

DISCUSSION

7. Preliminary Impact Assessment

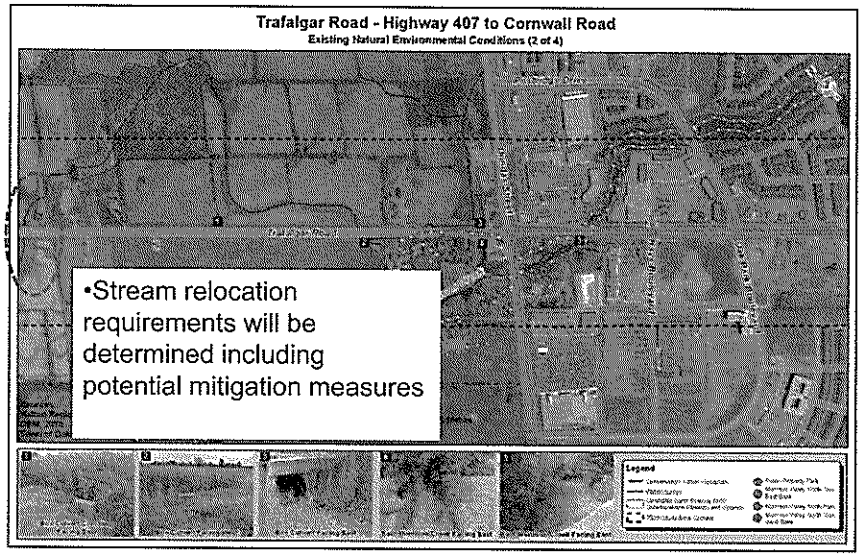
Halton REGION

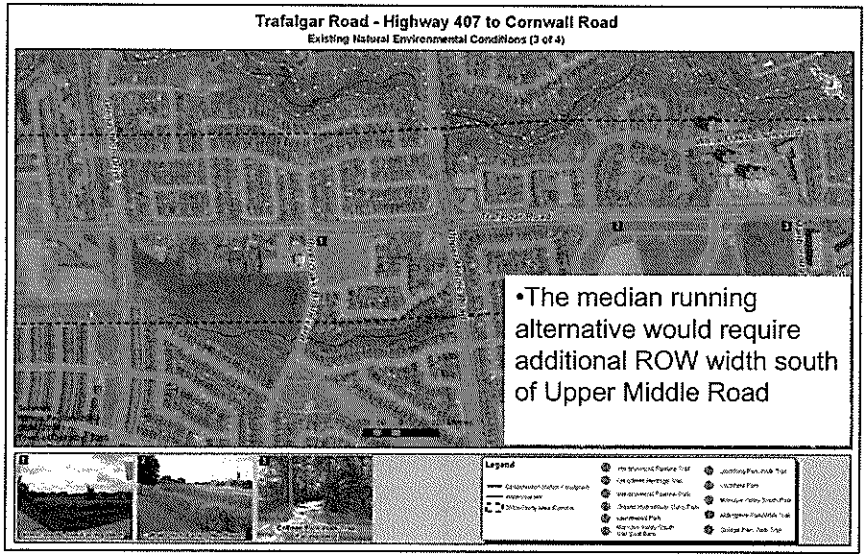
Preliminary Impact Assessment

Trafalgar Road

Preliminary Impact Assessment

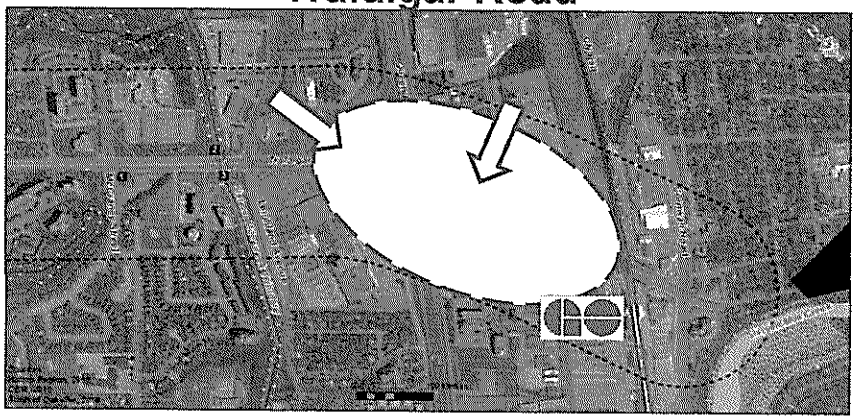
- Specific impacts cannot be determined until lane configurations are developed
- Impacts will vary between the curb running vs. median running alternatives
- The following studies are to be completed:
  - Noise impact assessment
  - Air quality assessment
  - Stormwater management study
  - Cultural
  - Natural Environment
  - Geotechnical



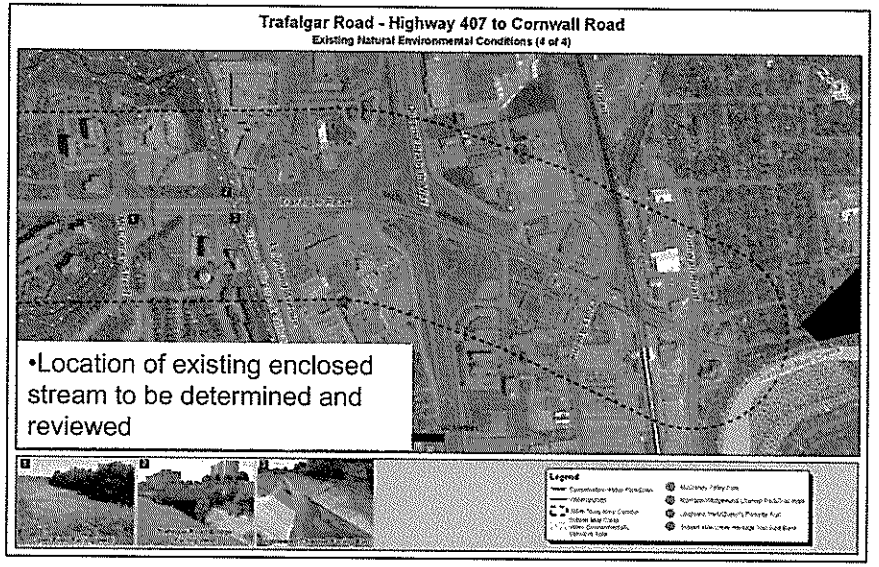


Preliminary Impact Assessment -

Trafalgar Road



- Focus Area – QEW corridor and Oakville GO Station Access (as well as integration with the future Midtown Core redevelopment)

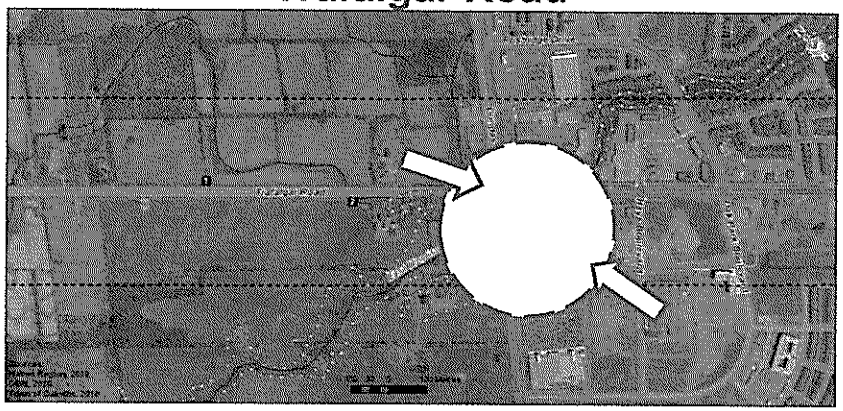


Preliminary Impact Assessment -

Dundas Street

Preliminary Impact Assessment -

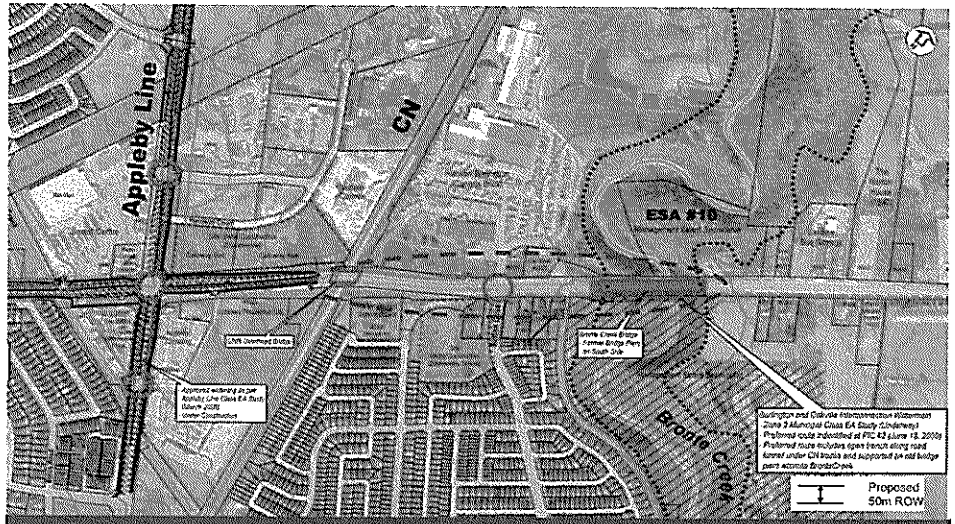
Trafalgar Road



- Focus Area – Intersection of BRT corridors at Dundas and Trafalgar, and access to/from the Uptown Core Station

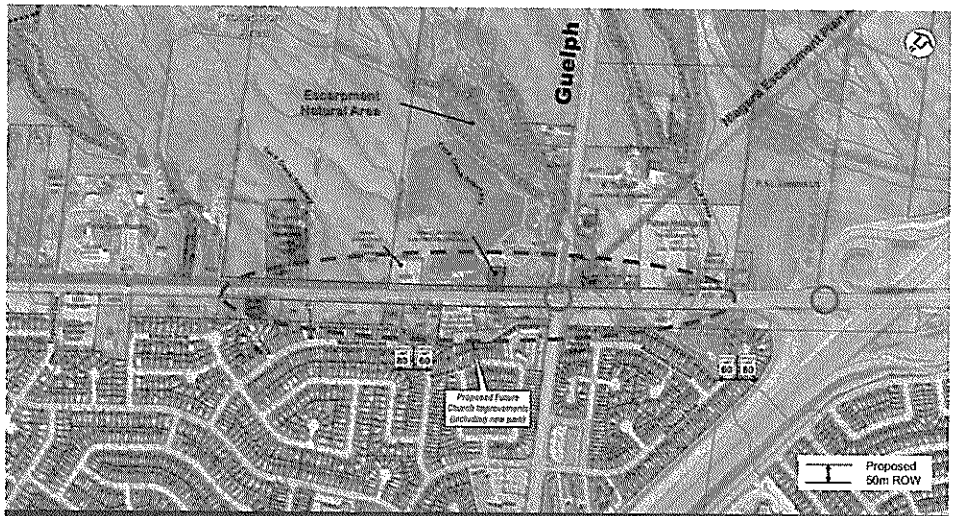
Preliminary Impact Assessment -

Focus Area 3



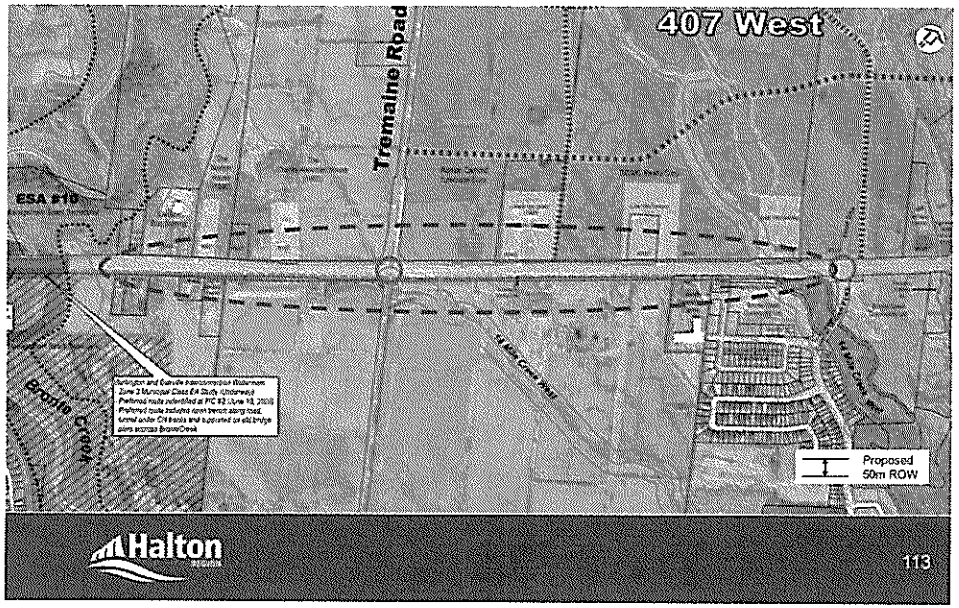
Preliminary Impact Assessment -

Focus Area 1



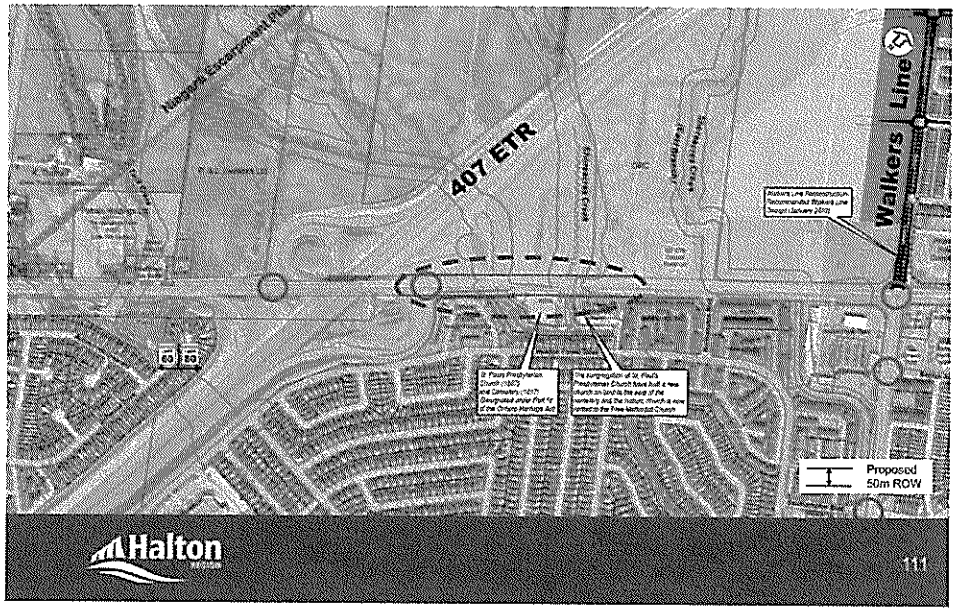
Preliminary Impact Assessment -

Focus Area 4



Preliminary Impact Assessment -

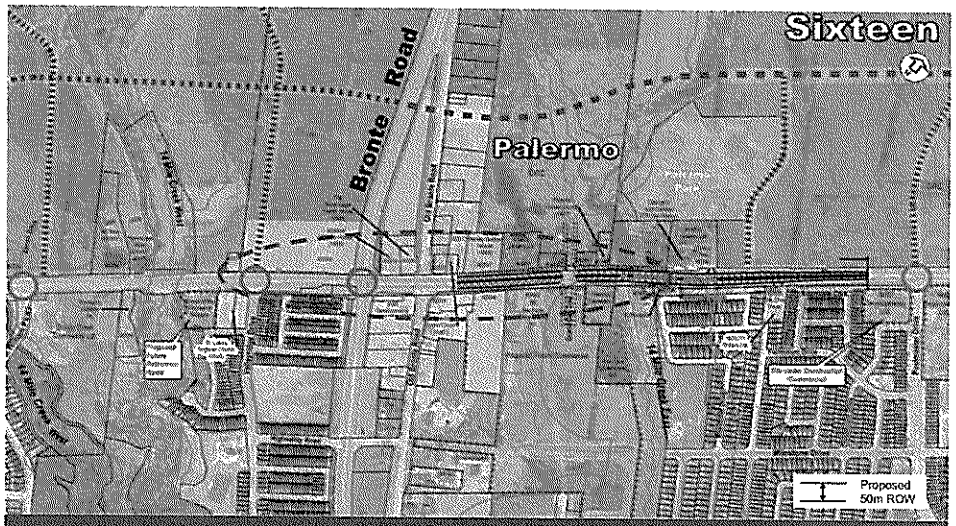
Focus Area 2



DISCUSSION

Preliminary Impact Assessment -

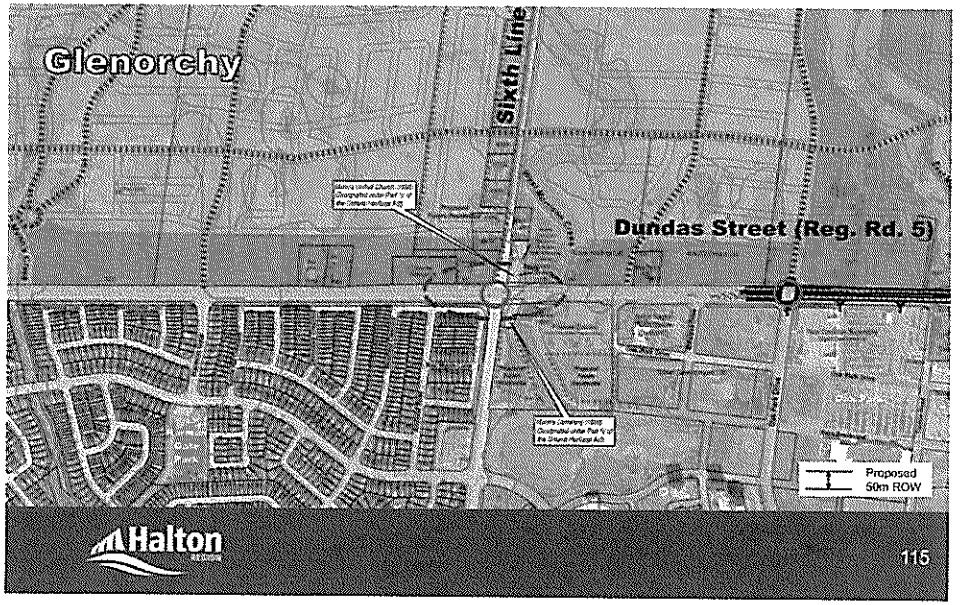
Focus Area 5



8. Next Steps
   Post Workshop Communication

Preliminary Impact Assessment -

Focus Area 6



Next Steps – Dundas and Trafalgar BRT

- Develop BRT alternative configurations for 6 lanes (i.e. median vs curb BRT) - March
- Develop future BRT ridership and service requirements - March
- Request Regional Council approval of TPAP scope change - April
- Public Consultation during Pre-Planning - May & September

9. Adjournment

Halton REGION

DUNDAS STREET BRT PLANNING PROJECT AND TRAFALGAR ROAD BRT PLANNING PROJECT

Workshop #2

Date: Thursday, May 12, 2011
Time: 9:00 a.m. – 4:00 p.m.
Place: Holiday Inn (2525 Wyecroft Road)
Royal Room

AGENDA

1. Introduction — Halton Region

2. Workshop Objectives — G. Pothier, GLPi

3. BRT Refresher — T. Williams, AECOM

4. Ridership Forecasting: — D. Turvey, MRC/ T. Williams, AECOM
   - General Approach
   - Travel Demand Market
   - Transit Network Assumptions (Dundas Street and Trafalgar Road)
   - Ridership Estimates and Implications

Lunch

5. BRT Curb versus Median Comparison Factors — N. Ahmed, MRC/ T. Williams, AECOM

6. Urban Design — B. Raymond, DTAH

7. Next Steps, Post Workshop Communication — Halton Region

8. Adjournment

Date of Meeting	May 12, 2011	Start Time	9:00am	Project Number	60119993
Project Name	Dundas Street BRT Planning Project & Trafalgar Road BRT Planning Project				
Location	Holiday Inn (2525 Wyecroft Road) Royal Room				
Regarding	Workshop #2				
Attendees	- Ministry of Transportation - Kathy Ruston, Nadia Brooks - Town of Oakville - Lin Rogers, Dan Cozzi, Tricia Collingwood - Oakville Transit - Barry Cole - City of Mississauga – Willy Ing, Norbert Orzel, Steve - Mississauga Transit – Steve MacRoe - City of Burlington – Bruce Zvaniga, John Conn - Burlington Transit – Chris Foster - 407 ETR – Dave Bader - Conservation Halton - Jane DeVito - Metrolinx - Morgan Skowronski - AECOM –Paula Neto, Kevin Jones - Halton Region - Doug Corbett, Laurielle Brooks				
Distribution	All attendees				
Minutes Prepared By	Paula Neto, AECOM				

BRT Workshop – May 12, 2011
Discussion Notes

Discussion Items
BRT Refresher **Tom Williams presented an overview of BRT including physical attributes, system components and station area development.**
No questions or comments were received.
Ridership Forecasting **Dale Turvey presented an overview of the approach used to forecast transit ridership for both the Dundas Street and Trafalgar Road corridors. The forecast assumes that the transit service system will be integrated (regional, local and GO services), speed, reliability and operating efficiency are of utmost importance, a high level of service will be provided (e.g. a bus to arrive every 10 minutes) and there will be complimentary land use and parking policies in place.**

Discussion Items

- It was noted that reliability of service is an important factor.
- Stated headways were based on seated capacity of 12.5m buses. In peak hour for Trafalgar, where the trip to the Oakville GO Station from the Uptown Core Station is relatively short, standing room should also be included. If seated capacity = 42, and 50% of standing capacity is approximately 21, total capacity is 63, and headway using 12.5m buses would be 7.5 minutes.
- A pricing strategy for parking at GO lots should be considered.
- The importance of park n' ride facilities was noted. The Waterdown community was noted as an example because it provides a large potential ridership with a 10 minute drive to the park n ride lot.
- It was noted that if the stated assumptions do not happen in real life it will have severe implications on BRT ridership levels.
- Land use development policies need to be reviewed.

The following questions were asked:

1) **Has a system-wide calculation been completed on the costs associated with achieving an 11% mode split?**

Answer: A service plan and operation costs have not been examined as part of this study.

2) **Have comparative travel times between a BRT system and the GO system been developed (referred to slide 21)?**

Answer: Each system has assumed travel times and if one system is quicker than another, the model will shift the user to that system intuitively.

3) **Has the increase in capacity of Highway 407 and the Bloor subway line been taken into consideration?**

Answer: MTO assumes two exclusive transit ramps therefore improvements to transit have been included in planning.

4) **Is the model capacity constrained on the Bloor Line?**

Answer: No, but parking at GO stations is a constraint (i.e. if not enough parking than people can't go there to use the service).

WORKSHIP DISCUSSION SESSION

The attendees separated into smaller groups to discuss a list of topics and were brought together to share opinions and comments. This discussion was facilitated by Glenn Poitier.

What, if anything, is a surprise or out of line with expectations?

- 2031 numbers influenced by Lakeshore GO electrification and 5-10 minute train service. If the assumptions used do not come to fruition what is the impact to BRT service?
- Are you duplicating GO Rail Service?
- Length of time for electrification to take place
- No transit consideration with respect to connection to Milton
- On the Dundas line, there is no indication of the number of people that go there today. What is attraction to BRT on the Dundas line specifically? How many

people want this route?
- More detail should be provided on the ridership tables to understand the numbers (i.e. 220 riders in 2031 east of Appleby = 12 riders per bus)
- How much of BRT service would you put in place before the electrification of GO?
- Surprised at low levels of increased ridership at the Aldershot station
- There were mixed messages on GO parking policy; may evolve overtime through Metrolinx

What, if anything, is unclear or perhaps requires more explanation – are there any notable gaps or missing pieces in the analysis?

- Are BRT assumptions in-line with Halton TMP/Sustainable Halton (identified 15 – 20%) in terms of local transit improvements?
- Does the network concept map show major and minor station locations?
- Travel time tradeoffs - travel time vs. cost and comfort; how do travel times for specific trips by different methods compare
- Analysis of how long people will wait for a bus - reliability
- Route changes/integration – local still has an important role to play
- Impact of future GO parking expansion on ridership
- How is GO Transit/Metrolinx integrating future parking strategy to be more sustainable?

What, if any, cautions or "yellow/red flags" would you like to raise?

- There are no further opportunities for development on the south side of Dundas Street therefore little opportunity for higher density transit oriented development. This creates difficulties for the required land uses to compliment transit implementation
- Where is ridership going to come from north of Dundas Street?
- Hospital parking costs vs. transit parking costs and the potential conflicts
- Multiple jurisdictions
- Integration of service with multiple providers
- Construction staging – use of widening and the role of Regional transit
- Commitment to Dundas in light of modest ridership forecasts
- Operational impacts at Dundas/Trafalgar

How, if at all, might the BRT route configuration, station locations and/or service levels be refined or strengthened?

- Consider another "major" station along Trafalgar Road (i.e. Sheridan College)
- Reduce the transfers required for key routes although the difficulty to design for all riders is recognized
- Difficult to balance "cutting edge"/"build it and they will come" mentality with cost recovery wants of decision makers
- Metrolinx has capital to fund some of the infrastructure for transit operations however who will operate and manage the operational budget costs?

What are some potential means of increasing BRT ridership beyond the levels suggested by the ridership forecasting?

- Fare incentives
- Consider vehicles other than large format buses (i.e. vans)
- Charge for parking
- Off-peak incentive for transit use
- Syntax for peak hour usage
- Will it cost more to go further?

- One cost or cost per kilometre
- Connection between systems needs to be enhanced
- Walkway connections (i.e. existing berms and lack of connection for residents on south side of Dundas to north side)
- Make taking transit easy for people
- Provide amenities at stations
- Increase cycling facilities
- Reliability
- What impact does increasing fuel costs have?
- Expanding catchment area of riders

What would you say are the key messages to convey to the public and how might they be made most clear?

- Confidence, time, consistency
- Provide context similar examples: growing communities, suburban, not existing urban examples
- Provide cost comparisons to use BRT over other modes such as the automobile, VIA, GO
- Provide an integrated fare system
- Sell to the public and do it right the first time
- Difficult to sell to existing low density residential neighbourhoods (i.e. south side of Dundas)
- Transit for traditional employment areas (i.e. shift workers) doesn't work therefore we must consider the type of employment as ridership generators and the hours of ridership
- Consider conflicts in revenue generator for hospital (e.g. parking)
- Maximize the positives of the transit experience such as comfort/reliability/convenience
- Need to have significant marketing/branding similar to the auto industry
- Want riders to enjoy the experience
- Need political champions
- Educate council – can't keep widening roads
- Need to have answer regarding how the BRT will be operated
- Tie in travel time savings
- Too early for discussion on stations
- Need curb/median discussion and comparison
- Explain the role of Peel/Mississauga downstream in the system
- Competition with 407 Transitway with Dundas – are both needed?

BRT Curb vs Median Comparison Factors

Tom Williams presented an overview of factors to compare curb side BRT transit lanes versus median BRT transit lanes including physical attributes, system components and station area development.

- The travel time differences between median vs. curb were discussed. Tom Williams indicated that the travel time for median is approximately 15 minutes 50 seconds versus 16 minutes 40 seconds for curb BRT
- The capacity for mixed traffic along the corridors was discussed. It was indicated that the lane configuration would remain at 4 lanes however there may be some competition at intersections

Are there statistics available on the frequency and severity of accidents and pedestrian incidents for curb vs. median? There was a general discussion around some difficulties for seniors and visually impaired individuals when crossing a median BRT system. No specific statistics were available at the workshop.

Urban Design

Brent Raymond presented an overview of specific urban design considerations for a transit system in Halton Region. The overview discussed having a pedestrian focus for urban design and elements that create a comfortable street.

The following questions were discussed:

1) **In a constrained right-of-way environment, which alternative, curb vs median, provides a better landscaping environment to work with?**

Answer: The landscaping environment requires certain soil volumes (e.g. 30m^2 of soil is target) more than a spatial width.

2) **How are areas along Dundas Street with large berms going to be dealt with?**

Answer: Context sensitive design

3) **Is there an alternative to building noise walls for mitigation of noise impacts to residential areas?**

Answer: Consider green/living walls, linear greenery and context sensitive designs.

- It was noted that travel mode prioritization in any given corridor may shift. Historically, there has been a focus/priority on accommodating the automobile. This may change over time with higher priority given to transit , cyclists and pedestrians
- It was noted by the attendees that specific areas that should have a special focus for urban design considerations include:
    - Mobility hub locations
    - Hospital
    - Towards Mid-Town on Trafalgar
    - Dundas Street in general
    - Creek crossings

Sheridan College – transform from auto based arrival to transit

Next Steps

Maureen VanRavens provided an overview of the next steps in the process for both Dundas Street and Trafalgar Road projects.

- Alternatives will be presented at the next PIC
- A report will be presented to Regional Council

If there is a need to bring an update to local councils please inform the Region

2. Workshop Objectives

Halton REGION

Dundas Street BRT Planning Project
Trafalgar Road BRT Planning Project

Stakeholder Workshop #2
May 12, 2011

Halton REGION

3. BRT Refresher

Halton REGION

1. Introduction

Halton REGION

BRT Refresher -

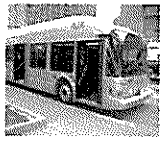
Vehicles

- Higher capacity
- Low floor (for rapid boarding)
- Onboard technology (for passenger information and bus priority)
- Branding

- *Can also be low emissions, hybrid, or special fuel*

BRT Refresher -

BRT - "Bus Rapid Transit"



- A rubber-tired system providing higher order transit including:
  - Higher frequency
  - Improved travel times
  - Improved passenger comfort
  - Information systems

BRT Refresher -

Running Way

- Dedicated lanes

- Median or curb running

BRT Refresher -

System Components for BRT

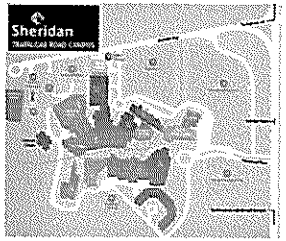
- Vehicles
- Running way
- Stops / Stations / Station-Area Development
- Service Plan / Operating Plan
- Technology / Fare Collection
- Branding

The System working together puts the Rapid in Transit, leading to increased transit ridership

BRT Refresher -

Service Plan / Operating Plan

- Frequent service
- Overlay with local routes
- Connects and serves key activity centres
  - Hospitals
  - Colleges
  - Transit Centres
- Fewer stops (similar to LRT)



BRT Refresher -

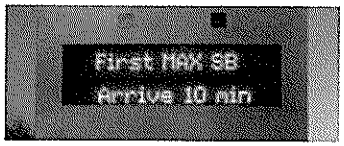
Stops / Stations

- Level boarding or near-level boarding
- Technology
- Off-board fare collection
- Amenities
- Spacing greater than typical local bus stops
- Branding

BRT Refresher -

Technology

- GPS
- "Next Bus"
- Traffic Signal Priority
- Fare collection



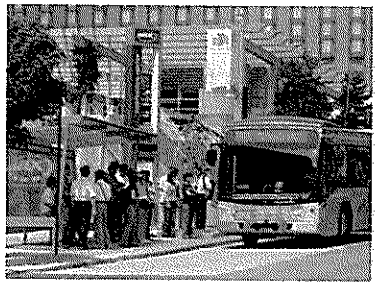
BRT Refresher -

Station-Area Development

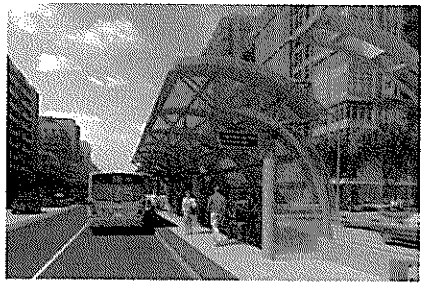
- Employment and/or housing density supporting a "livable community"
- Mixed use
- Activity throughout the day and night
- A variety of price points
- New deal on parking

BRT Refresher -

BRT is Flexible



Kansas City Max

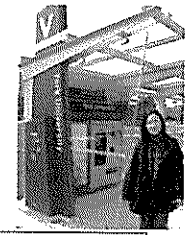


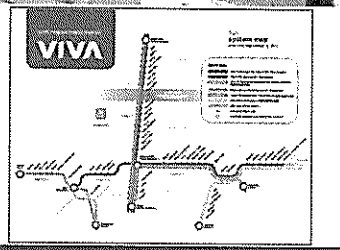
Viva NEXT

BRT Refresher -

Branding

- Consistent and recognizable identity for:
  - Rapid transit vehicles
  - Stations
  - Information
  - Advertising

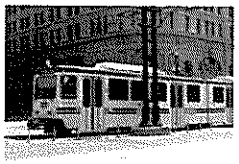




BRT Refresher -

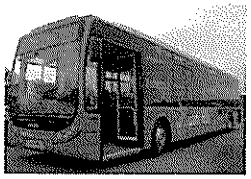
Implementation is also Flexible

Compare to LRT:



For Start-up, must have:

- Initial Leg
- Track and Power
- Yard and Shop
- Vehicles
- Stations



Incremental Start-up possible

- Increase existing local frequency
- Vehicles and Branding
- Use existing maintenance facilities
- Use new guideway as soon as ready

BRT Refresher -

BRT is Flexible

- "Tool box" of system components allows BRT to address a wide variety of needs

Denver Mall Ride

407 Transitway

General Approach -

Ridership Forecasting

- The ridership forecasting approach is a 4 Step Process:
  - Step 1 - Selection of 2031 GTHA Person Trip Table
  - Step 2 - Description of 2031 GTHA Road and Rapid Transit Networks
  - Step 3 - Development of 2031 GTHA Transit Trip Table
  - Step 4 - Assignment of Transit Trip Table to Transit Network

4. Ridership Forecasting

Travel Demand Market -

Step 1 - Selection of 2031 GTHA Person Trip Table

2031 GTHA Person Trip Table (A.M. Peak Period)

Year	Internal	Outbound	Inbound	Total
2006	109,000	61,000	52,000	222,000
2031	138,000	76,000	93,000	307,000

- uniform 25% increase in internal and outbound
- 33% increase in trips to PD1
- 80% increase in inbound trips

Implications for Transit Network
- market for transit consistent with current distribution
- slight increase in PD1 trips
- continued focus on integration of local system with GO Lakeshore West commuter rail network

General Approach -

BRT in Halton Region

- BRT in Halton Region is a bus based technology that combines various elements into an integrated system to improve the speed, reliability and operating efficiency of transit service.
- These various elements include:
  - high levels of service (frequency and hours of operation)
  - provision of exclusive guideways and transit priority measures
  - low floor vehicles with enhanced passenger amenities and strong branding
  - stations with full passenger security and amenities
  - real time passenger information
  - full integration with local transit and inter-regional systems
  - complimentary land use development and parking policies

Transit Network Assumptions -

Step 2 - Description of the 2031 GTHA Road and Rapid Transit Networks

Features continued:

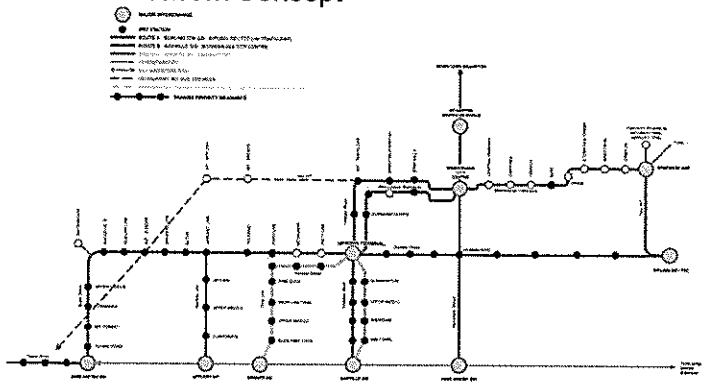
- full integration with local services in Oakville and Burlington with modification of local network to minimize duplication and improve operating efficiency
- increase in level of service on municipal systems by 60 – 100%
- complimentary land use development and parking policies
- development of major and minor stations / stops along Dundas Street, Trafalgar Road, Brant Street, Appleby Line and Third Line corridors
- at major stations, provision of pedestrian access systems, local transit platforms, cycling / kiss & ride facilities, taxi and potential park & ride lots (on Dundas Street west of Third Line)

(Continued)

Transit Network Assumptions -

Step 2 - Description of 2031 GTHA Road and Rapid Transit Networks

GTHA BRT Network Concept



Transit Network Assumptions -

Step 2 - Description of 2031 GTHA Road and Rapid Transit Networks

Features continued:

- full ITS infrastructure related to passenger security, service monitoring and passenger information
- system branding and marketing
- introduction of transit priority on selected north – south arterials terminating at GO Lakeshore West rail stations:
  1. Burlington GO via Brant Street
  2. Applebly GO via Appleby Line
  3. Bronte GO via Third Line

Transit Network Assumptions -

Step 2 - Description of 2031 GTHA Road and Rapid Transit Networks

Features of the BRT Network Concept include:

- exclusive operation on Dundas Street:
  - Brant Street – Trafalgar Road
- exclusive operation on Trafalgar:
  - 407 – QEW
- exclusive connection to Mississauga BRT
- operation of high frequency bus routes offering no transfer service between the major nodes in the system

(Continued)

Transit Network Assumptions -

Step 2 - Description of 2031 GTHA Road and Rapid Transit Networks

Implications:

- significant capital investment in infrastructure, vehicles and support facilities
- significant increase in annual net cost of transit operating costs
- reassessment of land use development policies and initiatives within the urban area and particularly the BRT corridors
- implementation of aggressive parking supply and pricing policies at the GO Lakeshore West rail stations

Ridership Estimates and Implications -

Step 3 - Development of 2031 GTHA Transit Trip Table

2031 GTHA Transit Trips Table (A.M. Peak Period)

Year	Internal	Outbound	Inbound	Total
2006	2,300 (2.1%)	11,500 (19%)	1,900 (3.6%)	15,700 (7.1%)
2031	7,000 (5.0%)	17,600 (23.0%)	8,500 (9.2%)	33,100 (10.8%)

Number of Transit Trips (Transit Mode Share)

- outbound commuter transit trips represents major 2031 market
- 75% of forecast outbound trips destined to PD1

Ridership Estimates and Implications -

Step 3 - Development of the 2031 GTHA Transit Trip Table

Access Mode – Burlington/Oakville Residents

2010 Total GO Boardings	Auto Driver/Passenger	Local Transit	Other
15,300*	75%	18%	7%

**Aldershot, Burlington, Appleby, Bronte, Oakville and Clarkson GO Stations.*

- municipal transit must be given greater priority over the auto to increase its share of the GO commuter market and enhance its attractiveness for local transit trips
- parking supply and pricing policies at the GO stations will be the major influence. Current parking expansion programs are not consistent with this objective

Ridership Estimates and Implications -

Step 3 - Development of 2031 GTHA Transit Trip Table

GO Transit Parking Supply for Oakville / Burlington Residents

Current Parking Supply	Parking Supply with Expansion	2031 Boardings PD1
8,850	11,700	13,100

- Applying the current auto occupancy rate of 1.25 passengers/auto gives a projected capacity of 14,600 passengers, slightly in excess of the forecast demand to PD1 from Burlington/Oakville

Ridership Estimates and Implications -

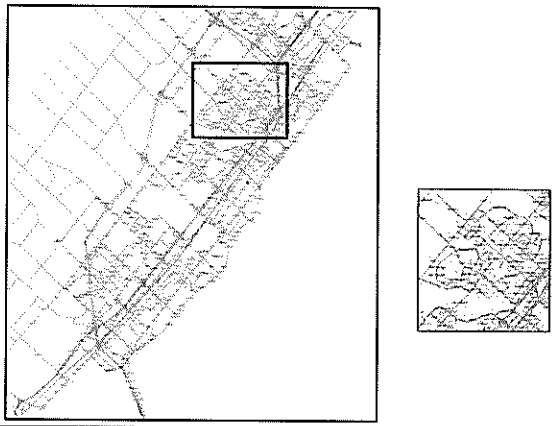
Step 4 - Assignment of Transit Trip Table to Transit Network

Access by Transit to GO Stations (Oakville and Burlington Residents)

	Arriving Patrons	
GO Station	2010 AM Peak Period	2031 AM Peak Period
Clarkson	60	570
Oakville	770	1320
Bronte	280	660
Appleby	160	680
Burlington	460	1100
Aldershot	60	100
Total	1790	4430

Ridership Estimates and Implications -

Step 4 - Assignment of the Transit Trip Table to the Transit Network



Detailed BRT Corridor Development -

Assumptions

- "Take the Long View"
- Land Use
  - Midtown
  - Uptown Core
  - North Secondary
- Local Transit Network

Ridership Estimates and Implications -

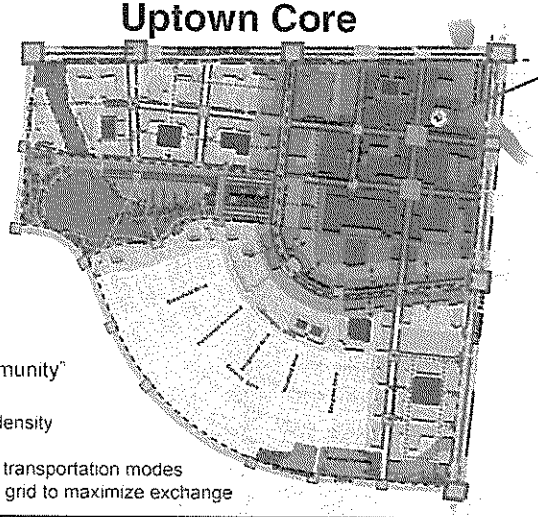
Step 4 - Assignment of Transit Trip Table to Transit Network

2031 Peak Period Peak Direction Transit Volumes on Selected Sections of BRT Corridors

Section	Existing Frequency	2031 AM Peak Period Volumes	2031 Headway Requirement
Trafalgar : North of QEW	5 min.	1280	3.5 min.
Trafalgar : South of Dundas	20 min.	750	6 min.
Dundas : East of Appleby	30 min.	220	20 min. (10 min. policy)
Dundas : East of Third Line	13 min.	480	10 min.
Dundas : West of Trafalgar	40 min.	760	6 min.

Detailed BRT Corridor Development -

Uptown Core



Transfer Station

"Livable Community"

- Walkable
- Increased density
- Mixed uses
- Diversity of transportation modes
- Finer street grid to maximize exchange

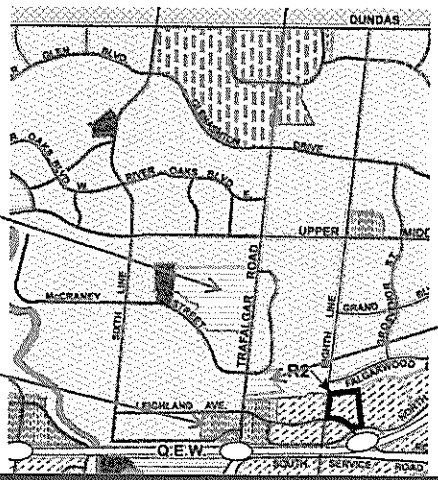
Detailed BRT Corridor Development -

Existing Land Use (QEW to Dundas)

Mainly Residential

Sheridan College

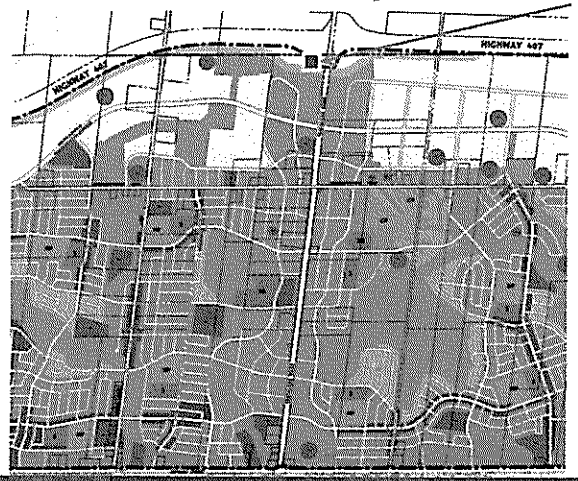
Mall



Town Hall

Detailed BRT Corridor Development -

North Oakville Secondary Plan Area



407 Park-and-Ride

Detailed BRT Corridor Development -

Midtown (Draft)

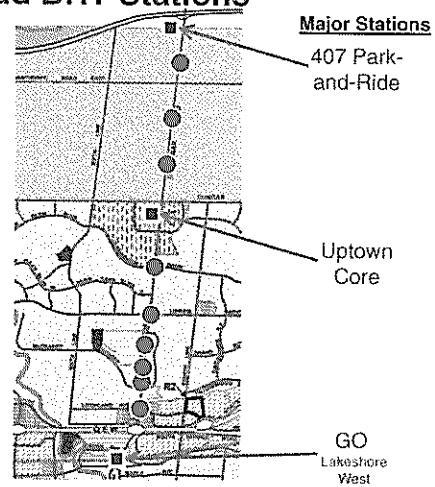
GO

DISCUSSION

- WHAT, IF ANYTHING, IS A SURPRISE OR OUT OF LINE WITH EXPECTATIONS?
- WHAT, IF ANYTHING, IS UNCLEAR OR PERHAPS REQUIRES MORE EXPLANATION — ARE THERE ANY NOTABLE GAPS OR MISSING PIECES IN THE ANALYSIS?
- WHAT, IF ANY, CAUTIONS OR 'YELLOW/RED FLAGS' WOULD YOU LIKE TO RAISE?
- HOW, IF AT ALL, MIGHT THE BRT ROUTE CONFIGURATION, STATION LOCATIONS AND/OR SERVICE LEVELS BE REFINED OR STRENGTHENED?
- WHAT ARE SOME POTENTIAL MEANS OF INCREASING BRT RIDERSHIP BEYOND THE LEVELS SUGGESTED BY THE RIDERSHIP FORECASTING?
- WHAT WOULD YOU SAY ARE THE KEY MESSAGES TO CONVEY TO THE PUBLIC AND HOW MIGHT THEY BE MADE MOST CLEAR?
- ANY OTHER COMMENTS?

Detailed BRT Corridor Development -

Trafalgar Road BRT Stations



Minor Stations

Average 700m Spacing
Preliminary

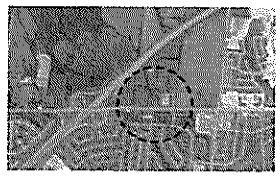
5. BRT Curb versus Median Comparison Factors

Halton REGION

Detailed BRT Corridor Development -

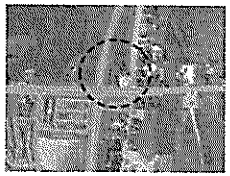
Preliminary Dundas Street BRT Major Stations

Highway 407



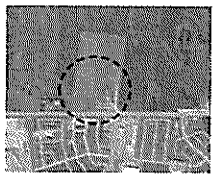
Highway 407

Palermo (Future)



Bronte Road

Hospital (Future)



Third Line

BRT Curb Versus Median Factors –

Average BRT Travel Time

- White Oaks Boulevard (South) to 407 Park-and-Ride
- Average of NB and SB Travel Times
- Includes dwell time at each station
- Includes diversion into off-line Uptown Core Station
- 2031 Traffic Volumes – Microsimulation Modeling results:

  – **Median BRT – 15 minutes 50 seconds**

  – **Curb BRT – 16 minutes 40 seconds**

- *As expected: Without delay at some intersections caused by right-turning vehicles, the median BRT system would have slightly better travel times*

BRT Curb Versus Median Factors –

Comparison Factors

- Travel Time
  - Average BRT Travel Time (Corridor End-to-End)
  - Average Automobile Travel Time (Corridor End-to-End)
- Pedestrians
  - Total Pedestrian Crossing Distance
  - Availability of Crossing Refuge
  - Perceived Passenger Waiting Comfort
- Traffic
  - Impacts to Left-Turning Vehicles
  - Impacts of U-Turns
  - Potential for Neighbourhood Cut-Through Issues
- Station-Area Development
  - Proximity of Stations to Station-Area/Transit-Oriented Development
  - Support of Urban Form and Liveable Community Goals

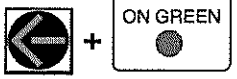
(Continued)

BRT Curb Versus Median Factors –

Left-Turning Vehicles

- **Median BRT** – Left turns are only allowed with protected signal phase (green arrow)

- **Curb BRT** – Left turns can function as now, with both the protected and permitted phase (green arrow and the green signal for through traffic when safe to do so)



- *Capacity for left turns could either be decreased (causing longer left-turn queues) or "green arrow" time can be increased (causing less "green" time for other intersection movements.*

BRT Curb Versus Median Factors –

Comparison Factors

- Right of Way and Property Impacts
  - Required Right-of-Way Acquisition
  - Conversion of Entrances to Right-In-Right-Out
- Transit Integration
  - Benefits to Local Bus Routes
  - Benefits to Express Bus Routes
  - Ease of Transfer between Systems
- Other
  - Roadside Safety
    - Proximity of Station Structure to Traffic
    - Protection of Pedestrians near Station
  - Enforcement Issues (Vehicles in BRT Lanes)
  - Emergency Vehicle Benefits (Use of BRT Lanes)

BRT Curb Versus Median Factors –

Benefits to Local Bus Routes

- **Median BRT** – Existing local route with stops along the BRT route would not benefit, continuing to travel in curb lane. Existing local route with an "express" portion along the BRT route could potentially enter the BRT guideway.

- **Curb BRT** – Any local route along the BRT route could take advantage of the dedicated bus lanes.

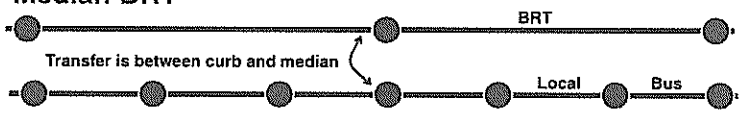
- *Actual ability to take advantage of BRT guideway would depend on the restructuring of local routes and operating plans for both systems.*

BRT Curb Versus Median Factors –

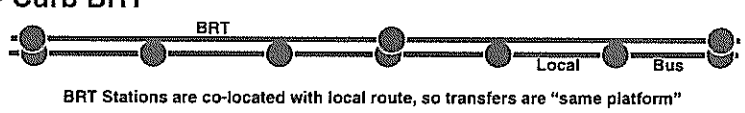
Benefits to Local Bus Routes

(Schematic)

- **Median BRT**



- **Curb BRT**



BRT Curb Versus Median Factors –

Ease of Transfer to/from Local Bus Routes

- **Median BRT** – Except at major connecting stations, passengers must walk from local bus curb stop to BRT median station.

- **Curb BRT** – Any co-located BRT and local bus station is a "same platform" transfer.

BRT Curb Versus Median Factors –

Ease of Transfer to/from Local Bus Routes

(Schematic)

- **Median BRT**

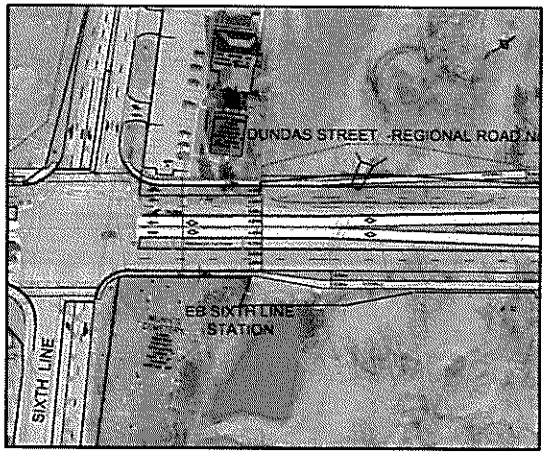
- **Curb BRT**

BRT Stations are co-located with local route, so transfers are "same platform"

BRT Curb Versus Median Factors –

Potential Adjacent Property Impacts

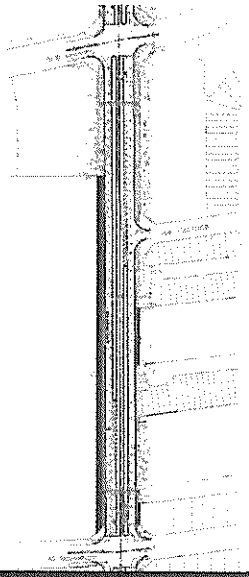
Some property impacts are expected however cross-sections can be modified as required to reduce impacts.



BRT Curb Versus Median Factors –

Potential Adjacent Property Impacts

- Median BRT
  - Glenashton Drive to Oakpark Boulevard ***representative example***
  - Does not yet examine slopes, utility relocations, or other elements potentially impacting right of way
  - Approximately 4m property acquisition required on the west side of Trafalgar Road
  - Two impacted parcels on the east side – with east side boulevard reduced to only 1m
  - Future detailed assessment may determine shift to west to avoid east parcels – this is not possible along the entire corridor
  - Basically, due to center platforms, ROW requirements are greater with Median BRT

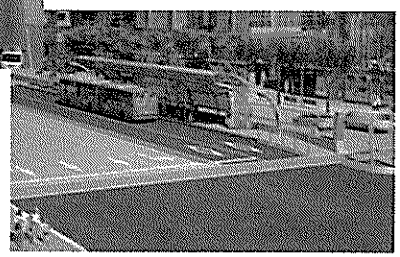


BRT Curb Versus Median Factors –

Perceived Passenger Waiting Comfort - Median

Los Angeles

Pedestrian environment is more constrained in median

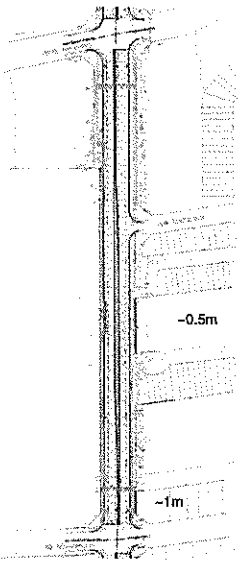


vivaNext

BRT Curb Versus Median Factors –

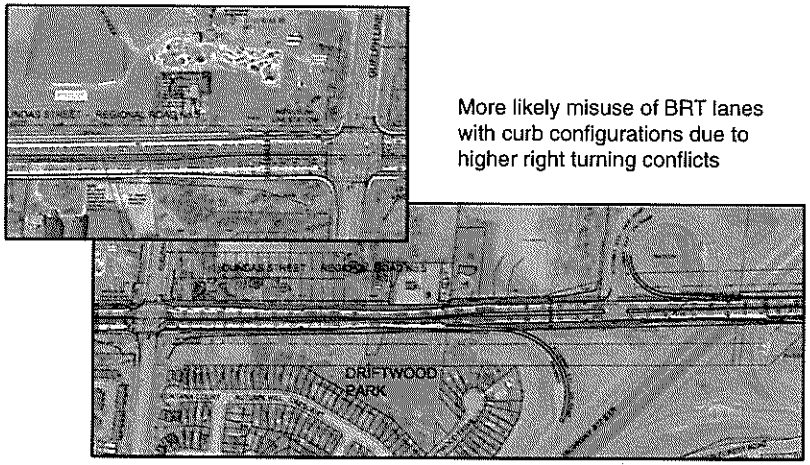
Potential Adjacent Property Impacts

- Curb BRT
  - Glenashton Drive to Oakpark Boulevard ***representative example***
  - Does not yet examine slopes, utility relocations, or other elements potentially impacting right of way
  - Two impacted parcels on the east side (if centerline of Trafalgar Road was retained)
  - Future detailed assessment may determine shift to west, narrowing of boulevard, or narrowing of median width could avoid one or both parcels – although, this is <u>not</u> possible along the entire corridor
  - In general, curb BRT would require less ROW except potentially at specific station locations



BRT Curb Versus Median Factors –

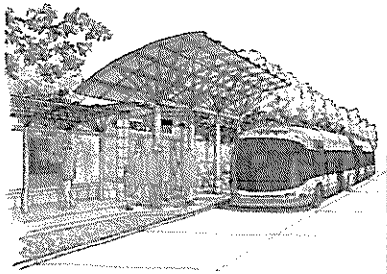
Enforcement Issues



More likely misuse of BRT lanes with curb configurations due to higher right turning conflicts

BRT Curb Versus Median Factors –

Perceived Passenger Waiting Comfort - Curb



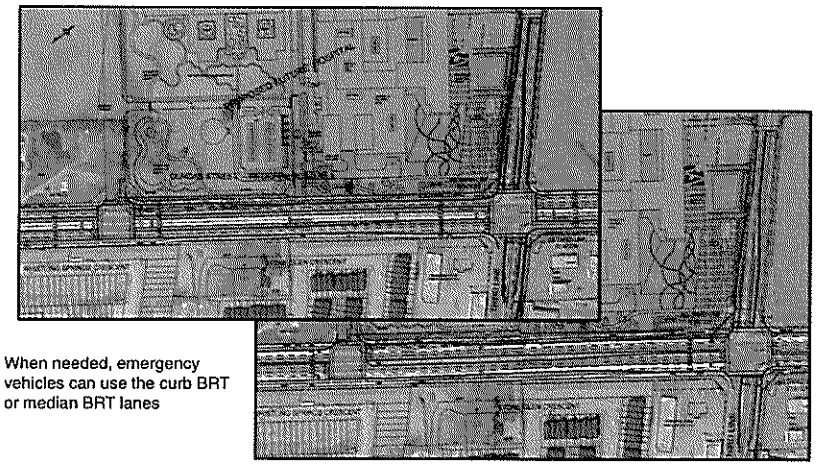
Winnipeg

Pedestrians have less traffic around them at a curb station

Boston

BRT Curb Versus Median Factors –

Emergency Vehicle Benefits

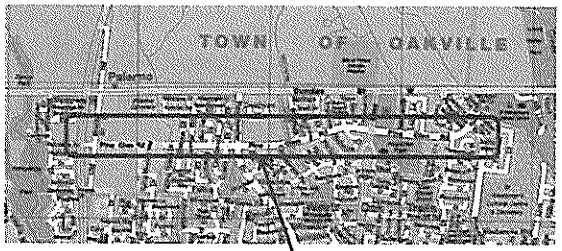


When needed, emergency vehicles can use the curb BRT or median BRT lanes

BRT Curb Versus Median Factors –

Potential for Neighbourhood Cut-Through

As traffic operations change along the BRT corridor, some motorists may select alternate routes including local roads to avoid delays.



e.g. Pine Glen Road

DISCUSSION

6. Urban Design

Halton REGION

Urban Design

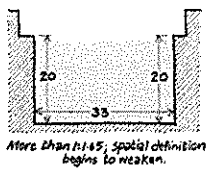
Intentions

- Principal interest: the space between buildings
- Design for spatial comfort and human scale
- Make a place not a thoroughfare
- A pedestrian focus -- if you can accommodate, then all other modes of travel can be satisfied
- For transit projects, all customers are pedestrians before and after journey

Urban Design

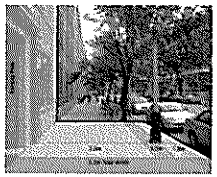
Elements of a Comfortable Street

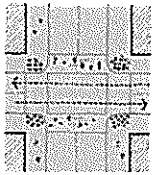
- Human scale and spatial definition
- Proportion of non-vehicular to vehicular spaces
- Comfortable space for walking, street-crossing
- Street trees, materials and furniture design



Spatial Definition


Human Scale


Generous Footpath Zone


Crossing Distance

Urban Design

Accommodate a Satisfactory Landscape

- "Visually expand" the street segment without automobiles
- Target 40% of right-of-way for non-vehicular uses
- Indicate that the transitway is not a formal pedestrian area
  - Texture
  - Colour
  - Street furnishings
  - Trees
  - bollards

Urban Design

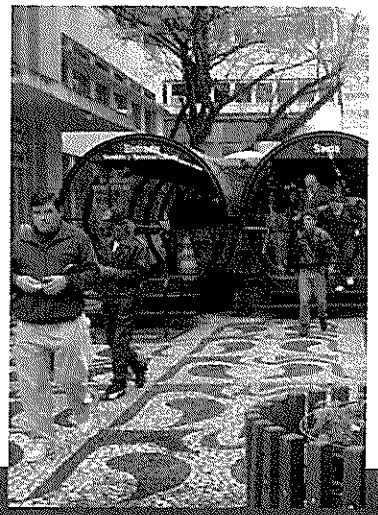
Our Approach

- Develop a Context Sensitive Street Design
- Accommodate a Satisfactory Landscape
- Accommodate a Generous Pedestrian Realm
- Support a Great Cycling Environment
- Provide for an Attractive Transit Service
- Provide Acceptable Traffic Operations
- Improve the Natural Environment

Urban Design

Accommodate a Generous Pedestrian Realm

- Redefine the role of Dundas Street
- Create a lasting, high quality environment
- Add value to the area



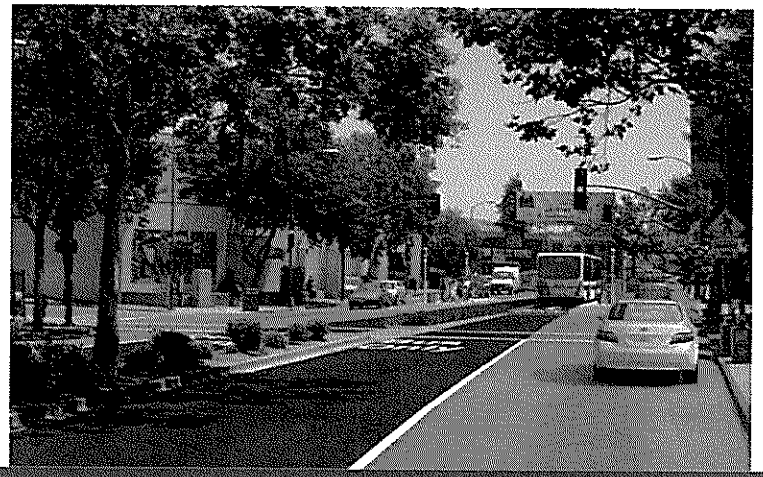
Urban Design

Develop a Context Sensitive Street Design

- Understand and build upon unique qualities of each character area
- Provide adequate capacity and maintain accessibility for residents and businesses
- Restrict turning movements to facilitate better transit operations
- Improve pedestrian crossings to promote a more walking-oriented street

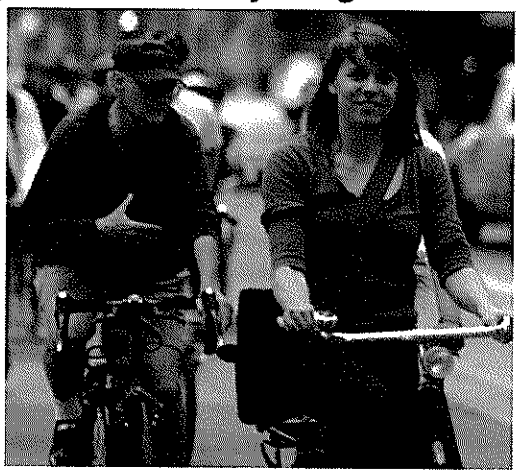
Urban Design

Provide Acceptable Traffic Operations



Urban Design

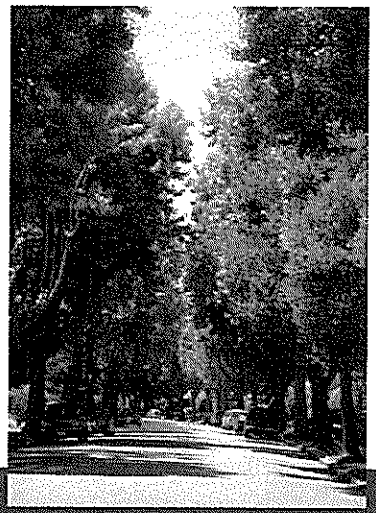
Support a Great Cycling Environment



Urban Design

Improve the Natural Environment

- Large healthy trees are the single most important design element for making great streets
- Big trees require substantial soil volumes with little compaction
- Trees are a significant investment, and should be considered green infrastructure
- The design must consider the life cycle cost for all elements, including trees



Urban Design

Provide for an Attractive Transit Service

7. Next Steps, Post Workshop Communication

Urban Design

DISCUSSION

Next Steps – Dundas and Trafalgar BRT

- Evaluation and selection of preferred BRT alternative configurations - June/11
- Develop future transit network - June/11
- Public Consultation during Pre-Planning - June/11 (Dundas)
  - October/11 (Dundas and Trafalgar
- Initiate TPAP - January/12

8. Adjournment

Halton REGION

DUNDAS STREET BRT PLANNING PROJECT AND TRAFALGAR ROAD BRT PLANNING PROJECT

Workshop #3

Date: Wednesday, November 16, 2011
Time: 9:00 a.m. – 4:00 p.m.
Place: McMaster University (Ron Joyce Centre) – 4350 South Service Road (Great Hall 133)

AGENDA

1.	Introduction	Halton Region
2.	Workshop Overview	G. Pothier, GLP*i*
3.	Study Status and Update	N. Ahmed, MRC
4.	Transit Service Concept	D. Turvey, MRC
5.	Ridership Forecast	D. Turvey, MRC
6.	Trafalgar Road BRT Evaluation	T. Williams, AECOM
7.	Dundas Street BRT Evaluation	N. Ahmed, MRC
8.	Costs & Staging	D. Turvey, MRC / T. Williams, AECOM
9.	Roadway Operations	N. Ahmed, MRC / T. Williams, AECOM
10.	Corridor Development	
	- Station Amenities	M. Langridge, DTAH/ T. Williams, AECOM
	- Streetscaping Opportunities	B. Raymond, DTAH
12.	Next Steps, Post Workshop Communication	P. Neto, AECOM
13.	Adjournment	Halton Region

AECOM

Minutes of Meeting

Date of Meeting	November 16, 2011	Start Time	9:00am	Project Number	60119993
Project Name	Dundas Street BRT Planning Project & Trafalgar Road BRT Planning Project				
Location	Ron Joyce Centre, McMaster University (Burlington Campus)				
Regarding	Stakeholder Workshop #3				
Attendees	- Town of Oakville - Lin Rogers, Dan Cozzi, Tricia Collingwood, Dave Bloomer - Oakville Transit - Barry Cole, Joanne Phoenix - Cole Engineering – Ray Bacquie - City of Mississauga – Willy Ing - Mississauga Transit – Steve MacRae - City of Burlington – Andrea Tang, Donna Shepherd, Vito Tolone - 407 ETR – Dave Bader - Conservation Halton - Jane DeVito - Metrolinx - Morgan Skowronski - DTAH – Mark Langridge, Brent Raymond - Halton Health – Fabio Cabarcas - MRC – Neil Ahmed, Katherine Jim, Dale Turvey - AECOM – Tom Williams, Paula Neto - Halton Region – Bob Wicklund, Melissa Green-Battiston, Maureen Van Ravens, Jeffrey Reid, Nick Zervos, Matt Krusto, Doug Corbett, Christina Mastrangelo, Tim Dennis				
Distribution	All attendees				
Minutes Prepared By	Paula Neto, AECOM				

BRT Workshop – November 16, 2011
Discussion Notes

Discussion Items	Action Items
Study Status and Update Neil Ahmed provided an overview and update of both Trafalgar Road and Dundas Street studies. Neil provided an overview of comments received at PIC #1 for both projects.	
• Trafalgar Road PIC #1 was held in June 2010; the preferred alternative solution of 4 general purpose lanes and 2 bus rapid transit lanes was presented • Dundas Street project PIC #1 was held in June 2011; no preferred alternative was presented at the PIC • Since the last workshop, stakeholder meetings with Conservation Halton, transit operators and property owners have occurred as well as review of other relevant studies • Halton Region's Transportation Master Plan was completed in October 2011. The target is to achieve a 20% transit modal split by 2031, while Halton Region is currently at approximately 5%. Dundas and Trafalgar have been	

Discussion Items	Action Items
identified as higher-order transit corridors **Questions:** No questions were asked.	
Transit Service Concept Dale Turvey provided an overview of the vision for public transit in Halton Region and how to achieve the vision. Dale discussed the strategy proposed including such things as a major expansion of level of transit service, enhanced passenger amenities, introduction of transit priority measures and full integration with GO an adjacent municipal transit services. Dale discussed targeting existing markets within Oakville and Burlington and the importance of providing a service that best meets the demand. Dale provided an overview of the specific transit infrastructure improvements proposed as part of the 2031 transit service plan concept. Items include exclusive transit lanes on Dundas and Trafalgar, transit signal priority, transit priority measures, and terminal and station stop development.	
Questions: How will service be coordinated between operators? • There are elements of the proposed network that are in existence (e.g. Oakville operates into Burlington). Overtime it will be an evolutionary process where operations and relationships are enforced and enhanced. Presto fare card provides a seamless transfer between systems within the GTA. How will this strategy relate to GO Transit's parking strategy? It is important to find a way to reduce desirability of parking at GO stations. • Capacity of GO parking is limited in terms of the ability to expand. GO has a program to expand the capacity by about 10-15% over the next while. Road and parking capacity has to be kept in balance. Limitation on parking capacity (with the electrification of rail line) is real. It is anticipated that by 2014, the increase in access to GO stations will have to be done by public transit because of the shortage of parking. • Parking supply at GO stations is a major factor in determining growth projections for local transit. • GO indicated that it has 3 parking strategy documents. The cost of tiered parking facilities is prohibitive and not a priority. Looking at integrating cycling and walkability strategies into GO stations. • Oakville Transit reported a steady decline in ridership to the Oakville GO Station by almost 9% because of lack of parking. • It was noted that sufficient parking is required but not at the expense of transit.	
Will transit priority be at all intersections? The entire system has to work together. Transit priority is a great thing but it takes time away from other operations. Many intersections are at capacity now. • Yes – the example provided in the presentation was used to provide an illustration of how it could work. Oakville Transit indicated that there is a gap in the provision of stations around the Bronte Road and Appleby Line area given the planned employment lands in the area. • The project team is not in a position to be detailed about the locations of each stop and relies on municipal partners. An approximate 500m spacing	

Discussion Items	Action Items
was used and in some areas it drops to 300-350m spacing depending on the road network and development that exists (i.e. rear facing development). • The plans at the front will identify minor stations along the corridors (approximately 22 along Dundas). Oakville Transit noted that service standards at the level presented would be cost prohibitive at the municipal level. We need the investment strategy from Metrolinx. • MRC noted that to achieve the 12-15% modal split target, these are the kinds of service standards required. Providing an exclusive lane on its own is not sufficient and is only part of the toolkit. • Metrolinx noted that it is looking at operations and multimodal issues and what the investment strategy can address. The City of Burlington indicated that the major station in Burlington should be at the existing 407 lot, at Dundas Street and Northampton Boulevard. There was some discussion regarding service assumptions (e.g. end of service at midnight). • It was explained that the levels of service presented are minimum standards and consistent with the operation of the GO rail system. It is recognized that to achieve the passenger demand, the local system must be in-sync with the major operation (e.g. Oakville - the last bus is 1:30am out of Oakville station therefore the BRT system will have to be tailored to match).	
Ridership Forecasting Dale Turvey provided an overview of the 4 step general approach for ridership forecasting. Dale indicated that a draft report is available for review.	
Questions: Are the trips shorter in distance and equal between AM and PM peaks along Dundas Street? • In 2031, population and employment forecasts indicate that there will be a greater balance in trips originating outside Burlington/Oakville and within, creating a balanced live-work relationship. It is important to look at the assumption that there is a higher-order operation on Trafalgar Road that connects the 407 transitway and transfers at the Kipling GO station. Integration between Mississauga and our proposal is going to be substantially enhanced. Will there be staging to achieve the full 2031concept? • The staging of the service increase will come from a discussion of operational funding of the system and left to the local operators, Metrolinx/GO Transit. There is recognition that there will be a gap between introducing a 10min headway or level of service and when the ridership level will exist. What is the capital cost investment associated with providing physical elements proposed is one part of the equation. The other part is the operating cost associated with it. Both things have to be dealt with in parallel. If funding wasn't an issue, what would be the level of service at opening day? • 5 min headways currently exist (blended) but they all go on the same route. If the electrification occurs, it is anticipated that headways would double.	

Discussion Items	Action Items
How is the development south of Milton considered? • In the transit network model, we have assumed an enhancement of the GO rail service into Milton. The model allows the choice of how transit trips are assigned however most trips originating in Milton will go on the Milton GO line. People may drive from Milton and get on the BRT system to get to the Oakville GO line because of the park n' ride facility. Does this system link to Fairview? • Yes. The BRT system has to connect to a GO station to make it a complete system. The City of Burlington noted that it is launching a secondary plan study in the new year.	
Trafalgar Road BRT Evaluation Tom Williams provided an overview of the components of the typical sections for both the curb and median bus lane alternatives. In addition, Tom provided an overview of the evaluation of the two alternatives. The factors used for the evaluation were based on those presented at the last workshop and augmented by those suggested by workshop participants. The conclusion of the evaluation indicates that both options are similar with each alternative having some advantages and some disadvantages. Overall, BRT operation in a dedicated curb lane along Trafalgar Road is preferred and has been identified as the Technically Preferred Alternative.	
Questions: Was travel time factored in both on auto side and transit? • The buses would stay on Trafalgar and go through the congested QEW interchange area because there is no other means to cross at this time. One proposal is a bus only structure in the mid-town area. Both scenarios were run – staying in traffic congestion and going off-line and taking a new structure. The travel delay is less but the distance is more. The travel time was approximately the same (within 30 seconds). Is the relationship between curb and median the same in terms of travel time? • The relationship stays the same (i.e. under 30 seconds difference). Is there anything in best practises that would say here is the best way to protect the curb lane? • Best practices might include different coloured pavement, markings and signage. Trafalgar Road does not have a lot of loading zones, on-street parking, many entrances, etc., therefore curb BRT fits the corridor character.	
There are differences between the two alternatives in terms of safety criteria. • If we had entrances, full access intersections, etc. this would apply. When this project is complete, there will be no full access intersections. There are minimal now. If the congestion is to a point where there is intersection to intersection queuing, than this becomes an issue. Enforcement is another major issue that should be considered. In Toronto, they no longer enforce the dedicated lanes. Yonge Street is not Trafalgar Road. The right turns will mainly be at intersections.	
Dundas Street BRT Evaluation Neil Ahmed provided an overview of the evaluation of the two alternatives, highlighting only the differences between the Trafalgar Road evaluation and Dundas	

Discussion Items	Action Items
Street. Many of the factors in the evaluation were similar to the Trafalgar Road study. Dundas Street has constrained areas including impacts to built heritage, creek crossings/realignments. The conclusion of the evaluation indicates that both alternatives are similar however curb BRT is more preferred from a transportation perspective and has been identified as the Technically Preferred Alternative. Neil provided an overview of the four Bronte Creek crossing alternatives. Neil noted that the existing structure will have to be replaced. With the removal of the bridge, maintaining the four lanes of traffic during construction is a key consideration. It was determined through the evaluation that Option 1 (widening to two lanes to the north) was the preferred alternative for the Bronte Creek crossing. This would include replacement of the south structure and a new north structure.	
Questions: No questions were asked.	
WORKSHOP DISCUSSION **Curb versus Median Evaluation using the AIMMS approach (advantages, impediments, maybes, missing, surprises)**	
Advantages • General agreement that curb BRT is the preferred approach • Ability to accommodate landscaping/streetscaping • Installation of shelters • Ease of maintenance and snow removal • Safety for riders, passenger boarding and alighting • Pedestrian waiting area/plaza area • Comfort of riders waiting; may feel more comfortable on the curb • Easier to integrate with local service • Ease of implementation (constructability) and staging (quick start) • Easier to fund due to lower costs • Accessibility for development especially for Trafalgar Road from Dundas to 407 ETR (zero setbacks/urban design, short walking distance, ground floor waiting areas) • All modes of traffic have better recycle times **Impediments** • Constraints of existing conditions (e.g. Munn's Church, Munn's Cemetery) • Enforcement for curb BRT (similar to known HOV issues in Toronto) – need for education of the do's and don'ts) • Safety/operational issues with high right turn movements at intersections • Safety in general, on-street parking (north of Dundas) • Deterrent to mixed vehicle use; may leave option to fall back to HOV • May require a centre pedestrian refuge due to long crossing from one direction and may be an issue for people with mobility challenges • Local service may impede BRT and impact travel time of BRT system • Closing off existing full moves (right-in/right-out) will be challenging (residences, churches, etc.) **Maybe's** • Expense and where is funding coming from? • Who will operate? • How will Trafalgar Road over the QEW work/look/transition?	

Discussion Items	Action Items
Missing • Land use information • Ability to convert to future LRT • Buy-in and acceptance from the customer – what do they perceive to be better? • Funding • Consultation with EMS on emergency access • Rationale needs to be explained to the public as to why bus and not HOV lanes • Cycling lanes on Bronte Road crossing and support for active transportation **Surprises** • Very little difference in travel time between the median and curb street alternatives	
Bronte Creek Crossing Evaluation	
• It was identified that there should be a provision for a cycling facility on the bridge crossing.	
Costs and Staging Dale Turvey provided an overview of the elements that were considered in the estimate of BRT costs along the Dundas Street and Trafalgar Road corridors. The costs are an interim order of magnitude estimates and do not include additional property required at intersection. Elements included in cost estimates are: corridor road expansion, terminal and stop development and support corridor development. The staging for each project was discussed by Dale Turvey and Tom Williams.	
Questions: Are the transit priority measures included in the costing? • Yes – three locations are assumed in the Third Line area under Support Corridor Development. Does not include the Bronte Road station at Wyecroft.	
Can we separate out the supplemental costs as opposed to integrating into one big project (e.g. road improvements will be done by the Region regardless of BRT implementation)? • The full costing information will be provided at the PIC. On road versus off road terminals – if something is located within the corridor, will it be built and paid for as part of road related costs or are you expecting transit operators to deliver? • We have assumed that the development of these terminals would go to the transit side. The project team did not discuss the splitting of the funding of that total. It is based on the Quick Win funds envelope and funding is available. Is the number of major stations/terminals double counted across the two projects? • If Trafalgar Road was a separate project there would be 3 however it is not double counted. The uptown core station cost was associated with Dundas Street project. Are the costs of vehicles included in the Quick Wins funding? • The Quick Wins totals approximately 60 million. The costs of the vehicles were not included in the full cost estimate. Difficult to estimate without an integrated service plan.	

Discussion Items	Action Items
What size of fleet is required for what headway? This is a simple calculation. • This hasn't been dealt with to date. What is assumed as the highest level of amenities provided for stations? • All of the items mentioned. Costs are based on the footprint of the Zum example in Brampton. Does the costing for station developments include the consideration for fibre optics to provide communications capabilities? • The costs associated with stations include this. Fibre optic connections with reconstruction of roadway will include this element.	
Staging Questions Transit service could occur prior to the reconstruction of Dundas Street (transit service and then ultimately BRT). • Yes, however there has been a lot of emphasis on the logistics of the construction and how many contracts are going to be involved consistent with the funding provided. Funding is driven by development charges funding, therefore, progressing from east to west in the corridor makes sense from the overall concept in that services don't start if part of the service is under construction for 2-3 years. Running a rapid transit service through a construction zone would not provide a good service. There was a reference to queue jump lanes as an interim solution for the south end of Trafalgar Road as a longer term strategy. How do you envision this working? • There are no physical changes anticipated but a transit signal to allow transit users to continue (a jump on the cars). Purely a signal and signage change.	
Roadway Operations Neil Ahmed and Tom Williams provided an overview of trip diversion, u-turns, emergency service vehicle access for each corridor as well as where existing right-in/right-out locations are along the corridors. It was noted that an operational plan is still required for emergency service vehicles and will be addressed. The traffic impact summary was provided for both corridors including travel time for transit and autos. The analysis indicates that auto travel times will increase and transit travel time will decrease in 2031 with curb BRT.	
Will the TPA process allow right-in/right-out locations to change if required? • The TPA process will allow this because only concerns of Provincial interest will impact the approval of the project. Have other jurisdictions dealt with EMS vehicles? • We are getting input from EMS and to set expectations that there will be changes to both corridors.	
Corridor Development Mark Langridge, DTAH provided an overview of examples of recently completed stations and the types of amenities that went into the stations including: Union Station in Toronto, McNab Terminal in Hamilton, Zum in Brampton. Tom Williams provided an overview of a preliminary exploration of a minor station. A	

Discussion Items	Action Items
plan view schematic was provided as an illustration. Features that were considered optional and not included in the cost estimates include push-button platform heaters and snow melt technology as they add significant capital and operating costs.	
Discussion and Questions: **Anything we missed during our discussion on amenities?** Is the assumption that all vehicles would have bike racks? • Dwell time has to be kept at a minimum so on-bus bike loading reduces dwell time. The location of minor versus major stations was questioned (e.g. Alton and Palermo may not require a major station; something scaled to be more appropriate to the area). • Agreed. What were the budgets for the station examples provided? • $3.5 million for Union Station terminal (6 yrs ago); $5 million for Hamilton **What do you think is essential for a minor/major station?** • Visual and audible service information is important for real time service information • Major stations should have the amenities as discussed but the size should be scoped as per location • The need for ticketing is likely not required due to the implementation of Presto **Are driver facilities required?** • Yes, at major stations Is bicycle parking included in the cost of minor stations? • The roof was not included over the bike parking area and will be added Is there any potential for vertical pedestrian access happening within either corridor? • There are pedestrian bridges being considered by the Town of Oakville and should be considered in the development of these projects (i.e. Dundas Street and Third Line)	
Streetscaping Opportunities Brent Raymond, DTAH provided an overview of guiding principles to design for each corridor. Brent indicated that the street design should complement the neighbourhood that it is going through. The importance of sustainability, built form character, landscape features, cultural features was discussed. Tom Williams provided an overview of key features in the Trafalgar Road corridor. Tom indicated that the Trafalgar Road project will build upon the work completed through previous studies, including the Midtown Business and Development Plan, Uptown Core Review and the North Oakville East Secondary Plan.	
Questions: There is a prevalence of landscaped berms on the south side of the Dundas corridor.	

Discussion Items	Action Items
Is there potential for them to be integrated? They are on publicly owned land. • They provide opportunities to provide green areas into the corridor. We will be moving into a more site-specific review of the corridor and will include on plans There may be constraints in some areas for providing a multiuse pathway/facility similar to what was shown at Eglinton example (5-6m). • The team isn't dictating landscaping requirements or multiuse trail options but only showing examples of what is possible and completed in other jurisdictions. Please consider that there should be a minimum standard for pedestrian facilities. It is too easy to take away from the pedestrian realm therefore we should protect it. • The Region protects for a 3 m wide active transportation facility on both sides of the road. • If we make wider active transportation facilities then we reduce landscaping room. There needs to be a balance. • Oakville is working on an urban forest strategic plan to understand what is required for trees to survive in an urban environment. You may be asked how your plan complies with the Town of Oakville's strategic plan. What was the design speed for this corridor? • Posted speed of 60 km/hr and the design speed is 80 km/hr. Were the design aspects of the multiuse paths, etc included in the cost estimates? • The items included in the cost estimates came from the roadway capital program (e.g. 3m on each side was used for benchmarking) and estimates will be updated as we move forward.	
Next Steps Paula Neto reviewed the TPA process, project schedule. It was explained that the preliminary design would continue through the next 6-month time frame. PIC #2 is November 24.	
Open Forum Discussion: • Once Phase II of the TPA process begins, it is a 6 month process. While under certain circumstances there is an opportunity to stop the process or restart, the key to a successful project is to do a lot of upfront work during the project pre-planning period. • The team met with MOE and it was concluded that a draft Environmental Project Report will be submitted to MOE for review.	
• Tim Dennis provided closing remarks.	
Adjournment 3:30pm	

Dundas Street BRT Planning Project
Trafalgar Road BRT Planning Project

Stakeholder Workshop #3
November 16, 2011

Halton Region

Introduction

Workshop Overview

- Study status and update
- Transit service concept
- Ridership forecast
- Dundas/Trafalgar BRT evaluation: median or curb?
- Bronte Creek crossing
- Costs and staging
- Roadway operations
- Station amenities and Streetscaping
- Looking ahead

Trafalgar Road BRT PIC #1 – June 2010

- Need for Project
  - Growing demand for mobility
  - Capacity of existing roadway
  - Increasing number of potential collisions
- Alternatives Presented at PIC #1
  - Do Nothing (Base Case)
  - Travel Demand Management & Transportation System Management
  - Upgrade other roadways
  - Widen Trafalgar Road (6 lane and 8 lane options)

Dundas Street BRT PIC #1 – June 2011

- PIC #1 key comments included:
  - Property requirements
  - General support for BRT (either curb or median BRT)
  - General questions regarding BRT (frequency, integration with Oakville Transit and Burlington Transit)
  - Provision of pedestrian / cycling facilities
  - Concern regarding potential increase in traffic noise
  - Reduce posted speed limits
  - Expected construction timing
  - Potential for early introduction of bus services to Dundas Street

Trafalgar Road BRT PIC #1 – June 2010

- Preferred Alternative at PIC #1
  - Widen Trafalgar Road to allow 4 General Purpose Lanes and 2 BRT Lanes
- Key comments:
  - Accommodate Sheridan College pedestrian access
  - Consider all modes including pedestrians and cyclists
  - Assign transit highest priority
  - Lessen impacts to residential properties where possible

Other Activities

- Recent stakeholder involvement included meeting with:
  - Conservation Halton (site visits) / meetings
  - Transit operators
  - Property owners
- Other studies / projects in the study area include:
  - Dundas Street Hwy 403 to Oak Park Boulevard construction
  - Dundas Street watermain implementation (various sections)
  - Sixteen Mile Creek structure construction
  - Ongoing land development (e.g. hospital, residential, etc.)
  - Midtown Oakville
  - Oakville TMP
  - North Oakville Secondary Plan

Dundas Street BRT PIC #1 – June 2011

- Need for Project:
  - Growing demand for mobility
  - Capacity of existing roadway
  - Providing an alternative to automotive travel by providing BRT
- Summary of PIC #1
  - Existing and planned growth along Dundas Street corridor
  - Features of BRT
  - Typical cross section of Curb BRT and Median BRT
  - Evaluation criteria for assessment of Curb BRT and Median BRT

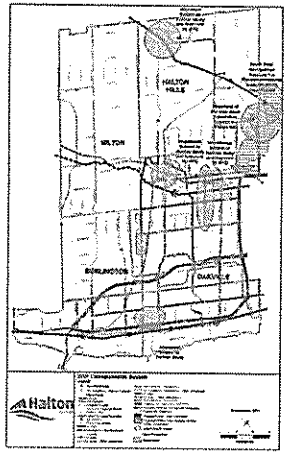
2031 Transit Service Plan Concept

- Example Service Standards

Service Standards	Example
Hours of Operation	6:00 AM – 12:00 midnight
Coverage	90% of population within 450m walking distance of bus stop
Travel time to Key Points	90% of trips not to exceed 150% of auto travel time 90% of trips with not more than one transfer
Frequency of Service	10 minute peak, 20 minute off peak
Stop Spacing	Not less than 250 m
Reliability	90% on-time performance

Regional Transportation Master Plan

- Halton Region TMP completed in October 2011:
  - Target to achieve 20% transit modal split
  - Assumed Metrolinx and GO Transit services proposed improvements are in place
  - Enhancements to transit system are required to meet level of service
  - Dundas Street and Trafalgar Road BRT identified as higher-order transit corridors



2031 Transit Service Plan Concept

- Focus on "In-Scope" Commuter Market

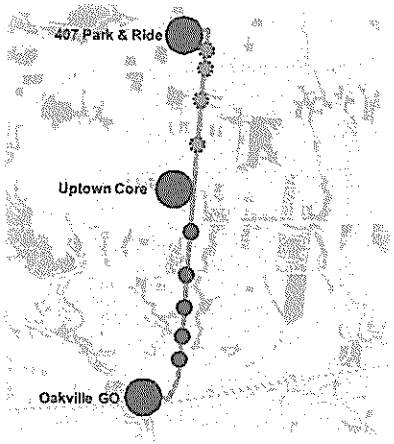
2031 Transit Trip Table (AM Peak Period)

Trip Type	Internal		Outbound			Inbound	Sum
Origin Destination	To Burlington	To Oakville	To PD1	To Rest of Toronto	To Rest of GTA	From Outside	Generated &Attracted
Burlington	2,040	900	5,800	400	1,100	3,440	13,680
Oakville	1,020	3,000	7,500	800	2,000	5,080	19,400
Sum	6,960			17,600		8,520	33,080

2031 Transit Service Plan Concept

- The Strategy
  - major expansion of transit level of service
  - reinforce current focus on "in-scope" commuter market
  - enhance passenger amenities and security
  - increase application of express type operation to reduce transit travel time
  - introduce transit priority measures to improve service reliability
    - exclusive lanes
    - signal priority/queue jump operation
  - full integration with GO and adjacent municipal transit services

Trafalgar Terminals and Stops



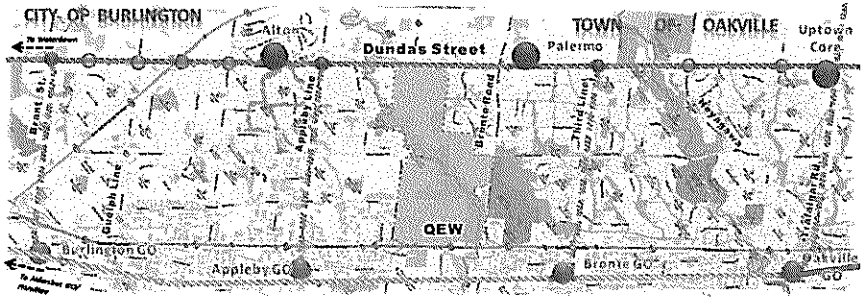
Legend
- Terminal or Major Connection Station
- Stops
- Future Stops*

* With North Oakville East Secondary Area Development

2031 Transit Service Plan Concept

- Specific Transit Infrastructure Improvements:
  - Exclusive transit lanes on Dundas Street – Brant Street to Trafalgar Road
  - Exclusive transit lanes on Trafalgar Road – 407 to Leighland Avenue
  - Transit priority measures from Cornwall Road to Leighland Avenue
  - Transit signal priority at selected intersections along north-south support corridors
  - Transit signal priority at selected GO Lakeshore West Rail Stations
  - Terminal Development:
    - Dundas Street (Alton Terminal, Palermo Terminal, Uptown Core)
    - Trafalgar Road (407/Trafalgar, Uptown Core)
  - Station/stop development within Dundas Street, Trafalgar Road and support corridors

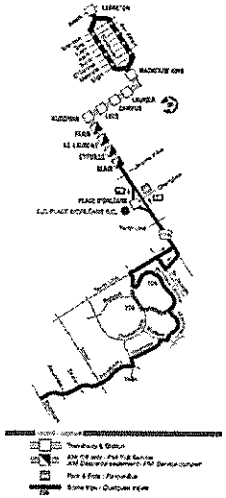
Dundas Terminal and Stops



LEGEND
- Terminal or Major Connection Station
- Supporting Corridor Connection
- Minor Station
- Connection to Hamilton, Aldershot and Waterdown

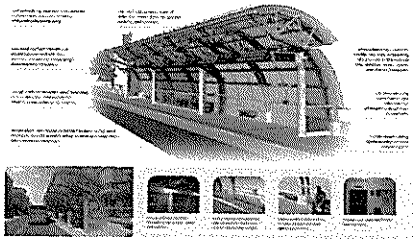
2031 Transit Service Plan Concept

- Example from OC Transpo route map



DISCUSSION

2031 Transit Service Plan Concept



Example of a Terminal
(York Region Transit)

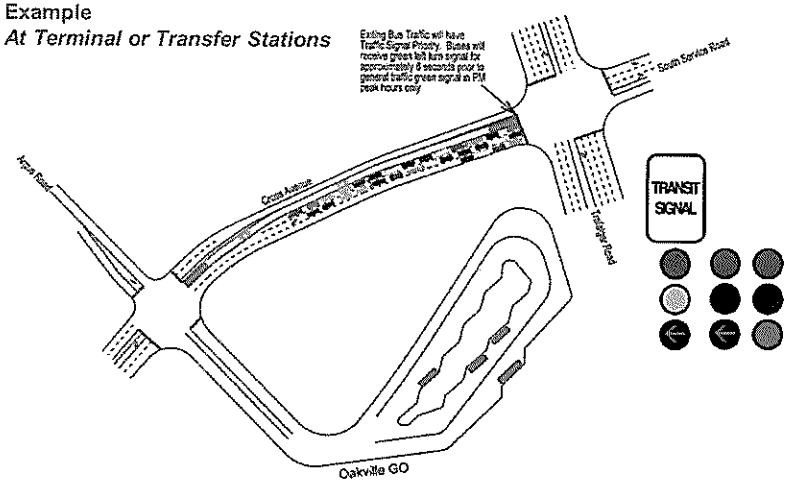
Example of a Stop
(Brampton Züm)

Ridership Forecast

- General Approach:
  - Step 1 - Selection of 2031 GTHA Person Trip Table
  - Step 2 - Description of 2031 GTHA Road and Rapid Transit Networks
  - Step 3 - Development of 2031 GTHA Transit Trip Table
  - Step 4 - Assignment of Transit Trip Table to Transit Network
- Draft Report is available

Traffic Signal Priority

Example
At Terminal or Transfer Stations

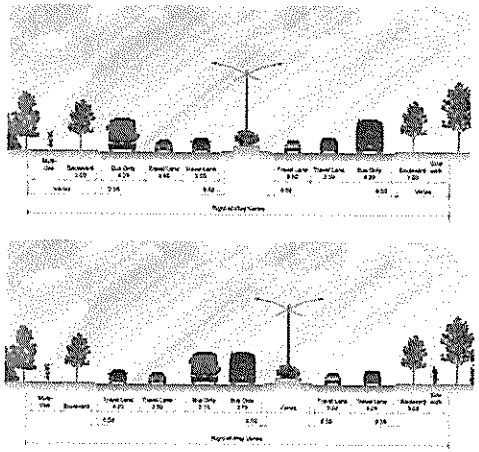


Trafalgar Road BRT Typical Sections

Curb Bus Lane

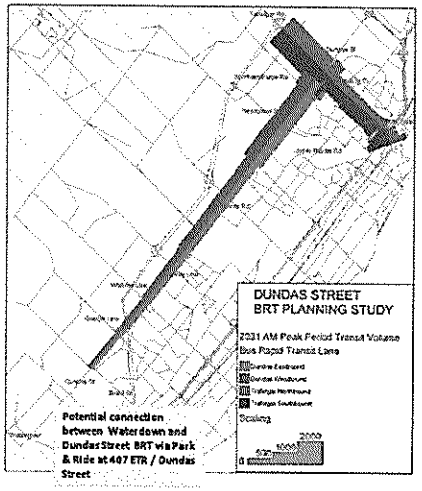
VS.

Median Bus Lane



Ridership Forecast

- Findings indicate that transit ridership will increase incrementally along each corridor to key destinations.



Trafalgar Road BRT Curb vs. Median Evaluation

Factor	Curb-Running BRT	Median BRT
Transportation – Travel Time		
Average BRT Travel Time (407 Park-and-Ride to Oakville GO)	28 minutes	26 minutes
Average BRT Travel Time (Uptown Core to Oakville GO)	18.5 minutes	16.5 minutes
Average Automobile Travel Time (Between 407 and Cornwall Road) projected for year 2031	34 minutes	38 minutes
Transportation – Pedestrians / Riders		
Total Pedestrian Crossing Distance	28 m	33 m
Availability of Crossing Refuge	No*	Yes
Perceived Passenger Waiting Comfort	Better – riders can stand away from road. Station component typically outside of clear zone for urban 60 km/h design speed	Worse – riders must cross lanes to reach platforms and may experience a lower level of comfort waiting in the centre of the roadway. Barrier and/or impact attenuators typically required.
Accessibility	Fully accessible including ramps, visual messaging, and audible signals	
Multi-Use Path	Both options accommodate multi-use paths	

Refuge could be added into design standards for Trafalgar Road curb-running BRT.

DISCUSSION

Trafalgar Road BRT Curb vs. Median Evaluation

Factor	Curb-Running BRT	Median BRT
Socio-Economic Environment		
Proximity of Stations to Station-Area/Transit-Oriented Development	Closer, therefore greater opportunity for integration	Less close, therefore more difficult
Support of Urban Form and Livable Community Goals	Supports goals	
Required Right-of-Way Acquisition	Slightly less ROW required at intersection	Slightly more ROW required at intersection
Potential Impact to Businesses	Similar impact to adjacent businesses due to change in access (right-in/right-out or requires U-turn at intersections)	
Streetscape Enhancement	Less opportunity for planting in the median	More opportunities for planting in the median

Trafalgar Road BRT Curb vs. Median Evaluation

Factor	Curb-Running BRT	Median BRT
Transportation – Traffic Operations		
Impacts to Left-Turning Vehicles	Protected and Permissive Phases	Protected Phase Only
U-Turns to Access Driveways and Entrances	Required	Required
Neighbourhood Cut-Through Issues	Potential	Potential
Enforcement Issues (Other Vehicles in BRT Lanes)	Typically difficult to enforce	Design typically is "self enforcing"
Emergency Vehicle Benefits (Use of BRT Lanes)	Emergency vehicles can utilize lane but may experience interference from other vehicles	Emergency vehicles can utilize lanes and would typically experience less interference
Snow Removal	Procedures will need to address potential for throwing snow into stations	Procedures will need to address clearance of dedicated lanes and potential for throwing snow into platforms

Trafalgar Road BRT Curb vs. Median Evaluation

Factor	Curb-Running BRT	Median BRT
Cultural Environment		
Built Heritage	No Impact	
Archaeological Resources	Limited Impact Any potential impacts expected in undisturbed areas only	
Natural Environment		
Vegetation, Designated Features/Areas	Very limited impact and similar for both options	
Fish and Aquatic Habitat and Wildlife	Impacts are similar for both options. Culvert extension requirements will consider impact to fish habitat where necessary	
Stormwater Management	Stormwater management facilities would be similar for both options	

Overall, both options are similar with each alternative having some advantages and some disadvantages. Overall, BRT operation in a dedicated curb lane along Trafalgar Road is preferred and has been identified as the Technically Preferred Alternative.

Trafalgar Road BRT Curb vs. Median Evaluation

Factor	Curb-Running BRT	Median BRT
Transportation – Transit Integration		
Benefits to Local Bus Routes	Similar for both options	Similar for both options
Benefits to Express Bus Routes	Potential	Potential
Ease of Transfer between Systems	Ease depends on travel direction	Must cross to median platform
Consistency with Dundas Street BRT	Consistent	Not Consistent
Transportation – Cost and Staging		
Staging	Better opportunities to build ridership prior to completion of the BRT project across the entire corridor	Less opportunity to build ridership prior to completion of system
Cost	Less Costly	More Costly

Dundas Street BRT – Curb vs. Median Evaluation

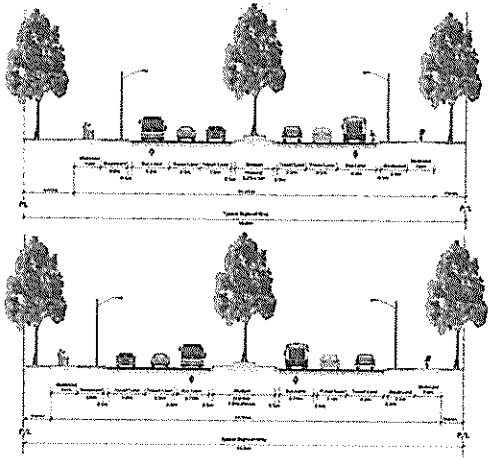
Factor	Curb BRT	Median BRT
Transportation – Traffic Operations		
Impacts to Left-Turning Vehicles	Protected and permissive phases (i.e. can turn on advanced or regular green cycle)	Protected phase only (i.e. can turn during green arrow only)
U-Turns at Intersections to Access Driveways and Entrances	Required	Required
Neighbourhood Traffic Cut-Through Issues	Potential	
Enforcement Issues (Other Vehicles in BRT Lanes)	Typically difficult to enforce	Design typically is "self enforcing"
Emergency Vehicle Benefits (Use of BRT Lanes)	Emergency vehicles can utilize lanes but may experience more interference from other vehicles.	Emergency vehicles can utilize lanes and would typically experience less interference from other vehicles.
Snow Removal	Procedures will need to address potential for throwing snow into platforms.	Procedures will need to address clearance of dedicated lanes and potential for throwing snow into platforms.

Dundas Street BRT – Curb vs. Median

Curb Bus Lane

VS.

Median Bus Lane



Dundas Street BRT – Curb vs. Median Evaluation

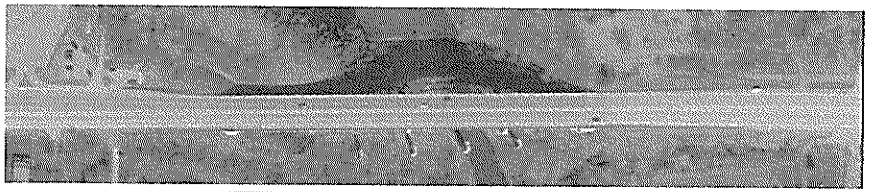
Factor	Curb BRT	Median BRT
Transportation – Transit Integration		
Benefits to Local Bus Routes	Opportunity to use BRT lanes	
Benefits to BRT Bus Routes	High potential to improve travel time	
Ease of Transfer between BRT and Local Bus Services	Better since BRT platform and local bus station would both be adjacent to curb	Worse since BRT platform would be in the median and local bus stop would be adjacent to curb
Consistency with Preferred Trafalgar Road BRT (Curb)	Consistent	Not Consistent
Transportation – Cost and Staging		
Staging	Better opportunities to build ridership prior to implementation of BRT system	Less opportunities to build ridership prior to implementation of BRT system
Cost	Less costly	Significantly more costly

Dundas Street BRT – Curb vs. Median Evaluation

Factor	Curb BRT	Median BRT
Transportation - Travel Time		
Average Bus Travel Time (2031 A.M. Peak Period) - Bronte Road to Trafalgar Road – most congested section	21 minutes	22 minutes
Average Automobile Travel Time (2031 A.M. Peak Period) - Bronte Road to Trafalgar Road – most congested section	19 minutes	21 minutes
Transportation – Pedestrians / Riders		
Total Pedestrian Crossing Distance to/from Platform	35 – 40 m to curb platforms	20 - 25 m to median platforms
Availability of Crossing Refuge in Median	No	Yes
Perceived Passenger Waiting Comfort	Better – less traffic in the platform area. Riders can stand away from the road.	Worse – more traffic in the platform area and riders would have to wait in the centre of roadway. Barrier and/or impact attenuators typically required.
Accessibility	Fully accessible including ramps, visual messaging, and audible signals.	
Multi-Use Path	May require additional right-of-way to locate multi-use path behind station shelters.	No impacts

Bronte Creek Crossing Options

- Bronte Creek Crossing – four options were considered:
  - Option 1: Widen 2 lanes to the north
  - Option 2: Widen 4 lanes to the north
  - Option 3: Maintain existing centreline
  - Option 4: Widen 2 lanes to the south
- Evaluation based on factors in socio-economic environment, cultural environment, natural environment, transportation and cost.

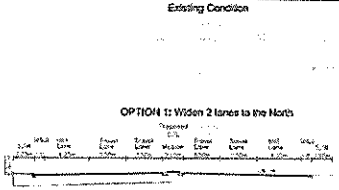


Dundas Street BRT – Curb vs. Median Evaluation

Factor	Curb BRT	Median BRT
Socio-Economic Environment		
Proximity of Stations to Station-Area/Transit-Oriented Development	Closer, therefore greater opportunity for integration	Less close, therefore more difficult
Support of Urban Form and Livable Community Goals	Supports goals	
Required Right-of-Way Acquisition	Slightly less ROW required at intersection	Slightly more ROW required at intersection
Potential Impact to Businesses	Similar impact to adjacent businesses due to change in access (right-in/right-out or requires U-turn at intersections)	
Streetscape Enhancement	Less opportunity for planting in the median	More opportunities for planting in the median

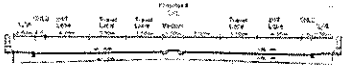
Bronte Creek Crossing Options

Existing Condition



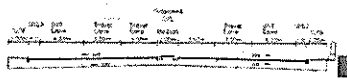
OPTION 1: Widen 2 lanes to the North

OPTION 2: Widen 4 lanes to the North



OPTION 3: Maintain Existing Centreline

OPTION 4: Widen 2 lanes to the South



Dundas Street BRT – Curb vs. Median Evaluation

Factor	Curb BRT	Median BRT
Cultural Environment		
Built Heritage	Limited impact – may have some impact in constrained areas	
Archaeology Resources	Limited impact	
Natural Environment		
Vegetation, Designated Features / Areas	Impact would be similar due to widening of Dundas Street, mostly along areas immediate to Dundas Street	
Fish and Aquatic Habitat and Wildlife	Edge impact to habitat would be similar for both options as a result of the widening of Dundas Street. Culvert extension and potential creek realignment will consider impact to fish habitat and provision for wildlife passage where appropriate	
Stormwater Management	Both options would include an urban cross section for Dundas Street, except for areas with key natural environmental features (e.g. Bronte Creek Provincial Park, Fourteen Mile Creek, etc.). Stormwater management facilities would be similar for both options	

Overall, Curb and Median BRT are similar; however, Curb BRT is more preferred from a transportation perspective and therefore has been identified as the Technically Preferred Alternative

Table Discussion

- **Advantages**: What do you like about the technically preferred alternative for Dundas and Trafalgar — what are the strengths, advantages…what's good about it…what makes it desirable, what benefits might it produce, etc.?
- **Impediments:** What are the weaknesses/disadvantages of the technically preferred alternative — things that don't make sense to you or that are potentially problematic, key barriers to implementation, potential flaws in the rationale underlying the recommendation, etc.?
- **Maybes:** What, if any, are the uncertainties related to the technically preferred alternative? What key questions do you have about it? What are the major unknowns?
- **Missing:** What, if any, considerations have been overlooked? What, if anything, was not covered that you believe should have been?
- **Surprises:** What, if anything, is a surprise or out-of-line with your expectations?

Bronte Creek Crossing Evaluation

	Option 1 (2 lanes to north)	Option 2 (4 lanes to north)	Option 3 (existing centreline)	Option 4 (2 lanes to south)
Socio-economic Environment				
Cultural Environment				
Natural Environment				
Transportation and Cost				
Overall	Preferred	Not Preferred	Not Preferred	Not Preferred

BRT Costs – Dundas Street Corridor

Elements	Estimated Capital Costs
Corridor road expansion	$197.8 M (Halton capital program)
Corridor terminal development @ 3 locations	$ 12.0 M
Stop development	
Signalized intersection stops with queue jump/bus bay @11 locations	$ 9.9 M
Online stop development @ 11 locations	$ 4.1 M
Support corridor development @ 12 locations	$ 18.0 M
Total	$241.8 M

*Cost does not include additional property required at intersection

Bronte Creek Crossing Evaluation

- Evaluation Summary:
  - Option 4 is the least preferred in socio-economic and cultural environment due to displacement of one house. It would also impact the proposed watermain on the south side and lead to a higher construction cost.
  - Option 3 is preferred in socio-economic and natural environment; however, it would require overbuilding to the north to accommodate all four lanes of traffic when the south structure is being constructed.
  - Option 2 is preferred in transportation criteria and ranks similar to Options 1 and 3 in socio-economic and cultural environment; however it is the least preferred in natural environment.
  - Overall, Option 1 would achieve a balance amongst factors in socio-economic, cultural and natural environment, as well as transportation. Whereas, Options 2, 3, and 4 are less desirable in one of the factors.

Option 1 (widen 2 lanes to the north) has been identified as the preferred option. This would include replacement of the south structure and a new north structure.

Typical GTA BRT Start-up Initiatives

- Transit priority measures at key intersections
- Marketing of Presto card use
- More ITS/real time information for patrons
- Park and ride as appropriate
- Integration with GO service and with adjacent bus operators
- Upgrade of fleets
- Introduction of new upgraded stations
- Accommodate added maintenance requirements
- Identify off-line bus facilities near Third Line (interim/temporary)

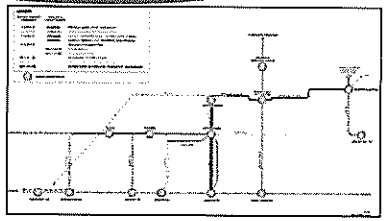
BRT Costs – Trafalgar Road Corridor

Elements	Estimated Capital Costs
Corridor road expansion	$ 57.2 M (Halton capital program)
Corridor terminal development @ 2 locations	$ 8.0 M
Stop development	
Signalized intersection stops with queue jump/bus bay @ 1 location	$ 3.0 M
Online stop development @ 9 locations	$ 3.4 M
Total	**$ 71.6 M**

*Cost does not include additional property required at intersection

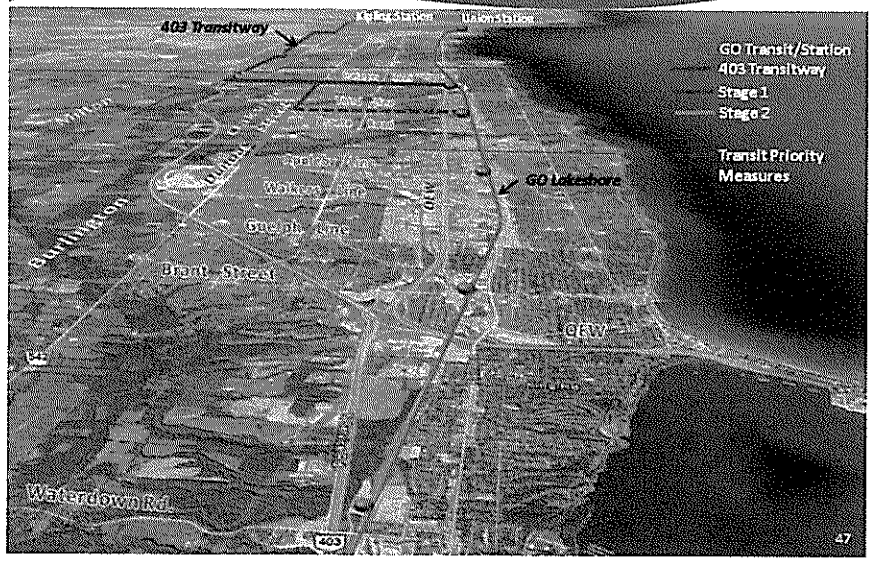
CURRENT – LAKESHORE GO IS ONLY MAJOR TRANSIT SERVICE

Preparing for Implementation



- Introduce preliminary BRT Concept as developed in earlier Business Case Assessment
- Stage appropriately to:
  - build ridership
  - respond to priorities
- Avoid initiatives that would be impacted by construction in the corridor (i.e. delays)
- To be supported by:
  - GO Parking Policy
  - Metrolinx assistance
  - Land development decisions

DUNDAS BRT STAGE 2 (2018) – EXTEND FROM THIRD LINE – APPLEBY LINE



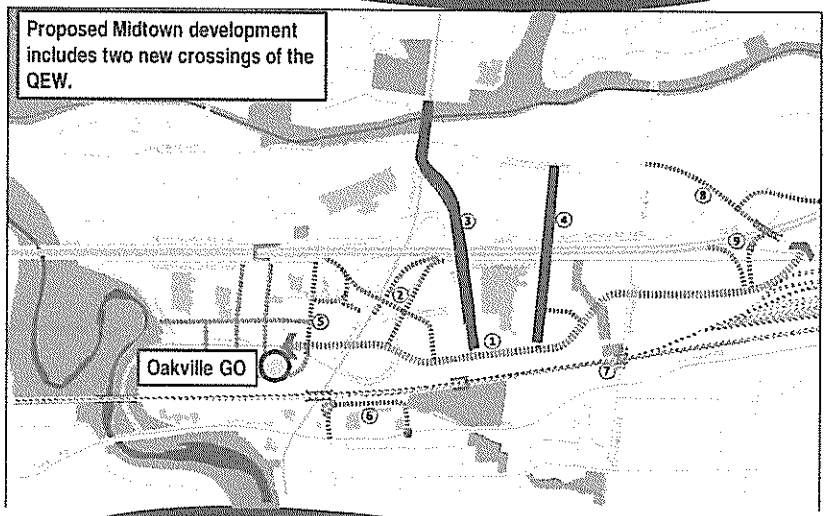
2014 – 2015 FUTURE 403 TRANSITWAY THROUGH MISSISSAUGA

DUNDAS BRT STAGE 3 (2021) – EXTEND FROM APPLEBY LINE – BRANT STREET

BRT STAGE 1 (2016) - TRAFALGAR ROAD AND DUNDAS STREET TO THIRD LINE & CONNECT TO OTHER CORRIDORS

Midtown Development & QEW

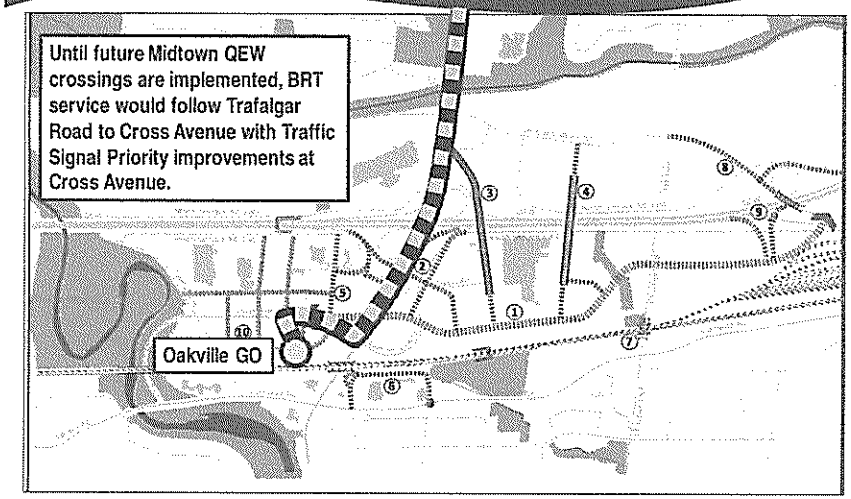
Proposed Midtown development includes two new crossings of the QEW.



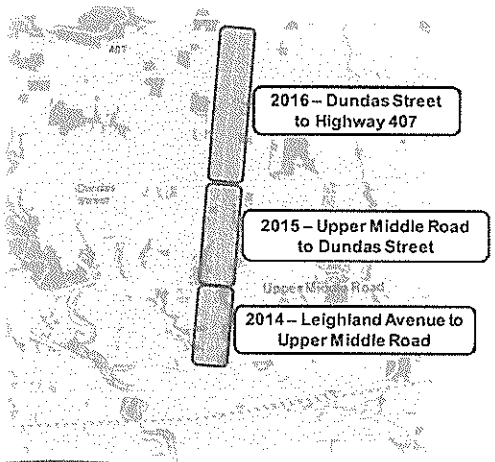
FUTURE EXPANSION – PRIORITY MEASURES – TO WATERDOWN & PLAINS ROAD

Midtown Development & QEW

Until future Midtown QEW crossings are implemented, BRT service would follow Trafalgar Road to Cross Avenue with Traffic Signal Priority improvements at Cross Avenue.

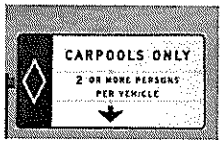


Trafalgar Road BRT – Programmed Construction Phases



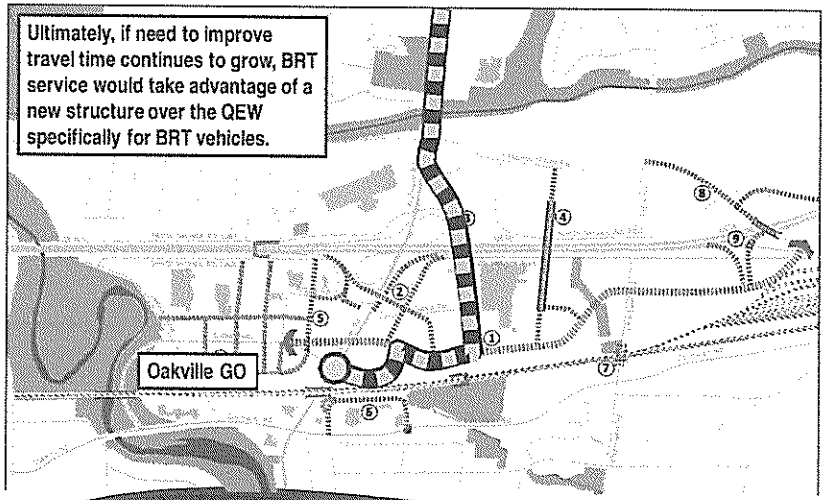
Diversion of Person Trips

- It is expected that if traffic congestion increases, people will change travel patterns to adapt:
  - Use other roads including 407 ETR
  - Travel earlier or later to avoid peak conditions
  - Use transit
  - Use active transportation such as walking, cycling or ride sharing / car pooling



Midtown Development & QEW

Ultimately, if need to improve travel time continues to grow, BRT service would take advantage of a new structure over the QEW specifically for BRT vehicles.



Turning On and Off Dundas Street

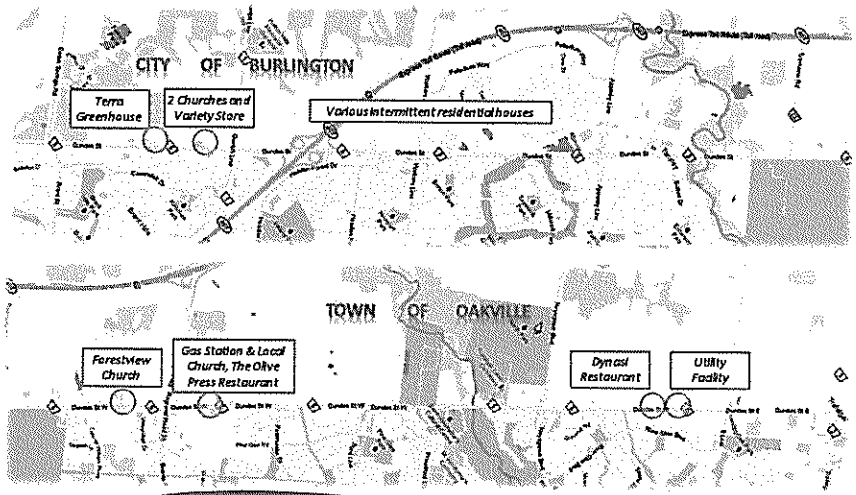
- As a major arterial, Dundas Street will include left and right turn lanes at most signalized intersections.
- When widened, Dundas Street will have a raised median throughout its length except at signalized intersections.
- Private residences and businesses will be affected and will require alternate ways to access / egress – including "U" Turns at signalized intersections.
- Minor unsignalized intersections will have only right-in / right-out available.
- By limiting access, Dundas Street will be more efficient and will operate safely.

DISCUSSION

Westbound Dundas Street at Trafalgar Road

- In the future, Dundas Street will include 3 general purpose westbound lanes approaching Trafalgar Road from Highway 403.
- With only 2 general purpose westbound lanes beyond Trafalgar Road with BRT in operation, through traffic will be required to merge from 3 to 2 lanes.
- The westbound curb lane may become the right turn lane approaching Trafalgar Road.
- Similar conditions will exist for eastbound Dundas Street approaching Brant Street.

Right-in / Right-out Locations – Dundas Street



Dundas Street Traffic Summary

	Existing	2031 No Build	2031 Curb BRT	2031 Median BRT
Average Automobile Travel Time (Bronte Road to Trafalgar Road) (average speed km/h)	10 min (46 km/h)	24 min (20 km/h)	19 min (27 km/h)	21 min (23 km/h)
Average BRT Travel Time (Bronte Road to Trafalgar Road) (average speed km/h)	-	36 min* (13 km/h)	21 min (23 km/h)	22 min (22 km/h)
Level of Service				
Dundas Street at key intersections	D to F	F	E to F	E to F (less desirable for left turn moves)

* Assuming transit operates in mixed traffic

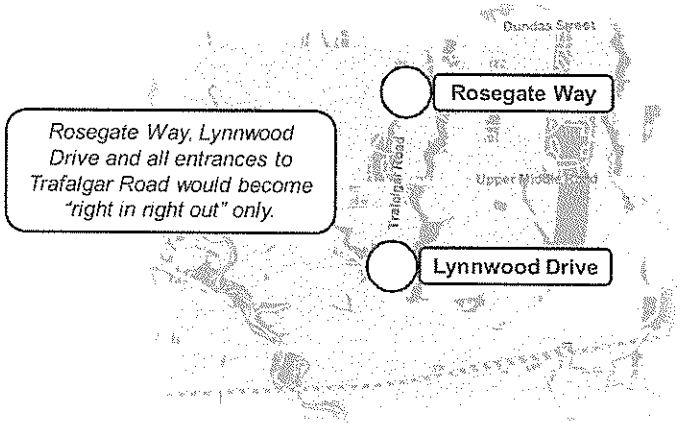
When Emergency Vehicles Approach

- Currently, Halton EMS requests motorists to:
  - Slow down, signal, move to the right, stop when it is safe
- With BRT in the curb lane on Dundas Street, EMS vehicles will likely use the right (curb) lane.
  - it will be the most available lane during peak conditions
- An operational plan is still required for EMS vehicles and will be addressed.

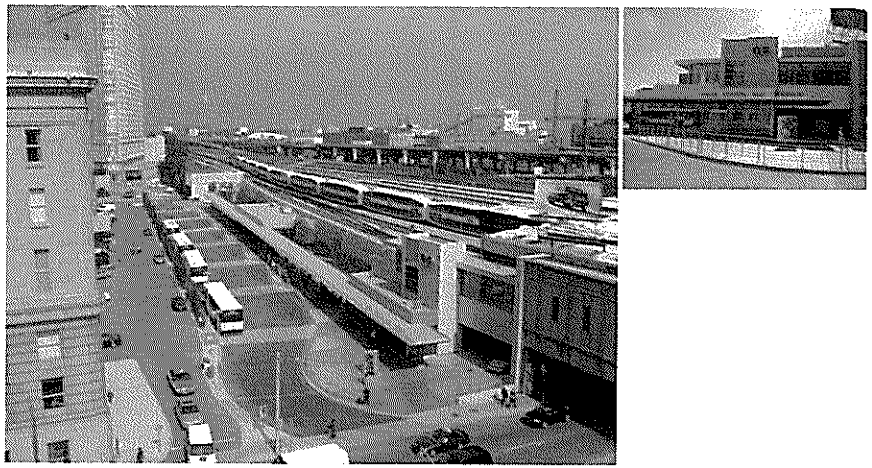
DISCUSSION

Right-in / Right-out Locations – Trafalgar Road

Rosegate Way, Lynnwood Drive and all entrances to Trafalgar Road would become "right in right out" only.



Major Station: GO Bus Terminal, Toronto

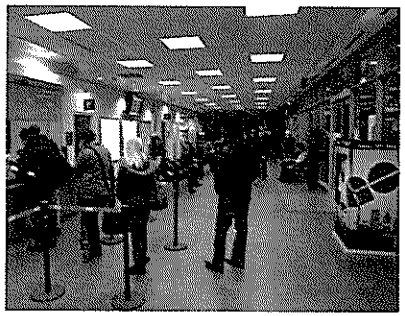


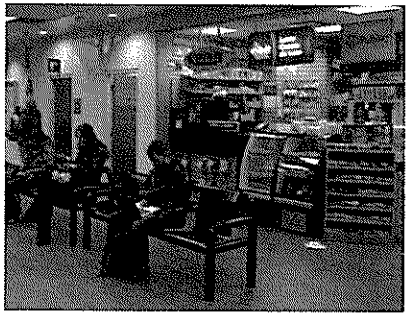
Trafalgar Road Traffic Summary

	Existing	2031 No Build	2031 Curb BRT	2031 Median BRT
Average Automobile Travel Time (between 407 and Cornwall) (mm:ss)	14:35* (15:40 max)	33:00	34:00	38:00
Average BRT Travel Time (between 407 and Oakville GO, including dwell time)	-	-	28:00	26:00
Average BRT Travel Time (Uptown Core to Oakville GO)	-	-	18:30	16:30
Level of Service				
Trafalgar @ Upper Middle	n/a	D	D	D
" @ White Oaks S	n/a	D	C	C
" @ Cross Avenue	n/a	E	E	E

*Field measured 17 Feb 2011 in PM Peak Hour

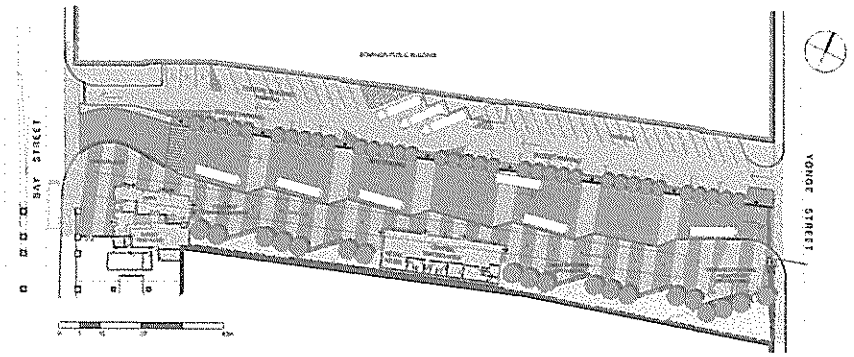
Major Station: GO Bus Terminal, Toronto



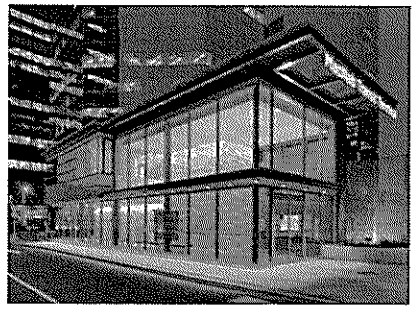


Interior Amenities: Waiting Area, Washrooms, Route Information, Ticketing, Retail Concession

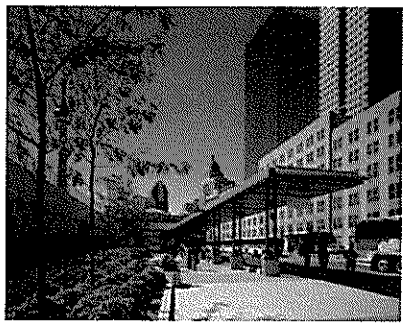
Major Station: GO Bus Terminal, Toronto

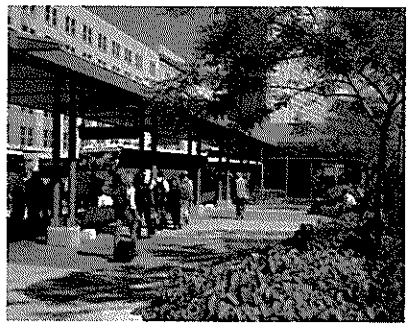


Major Station: MacNab Terminal, Hamilton



Major Station: GO Bus Terminal, Toronto

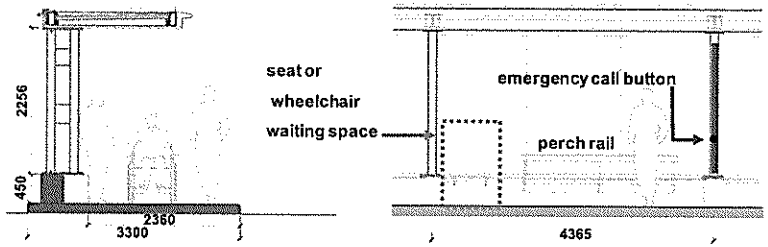




Exterior Amenities: Covered Waiting Area, Outdoor seating, Route Information, Landscaping, Security Features

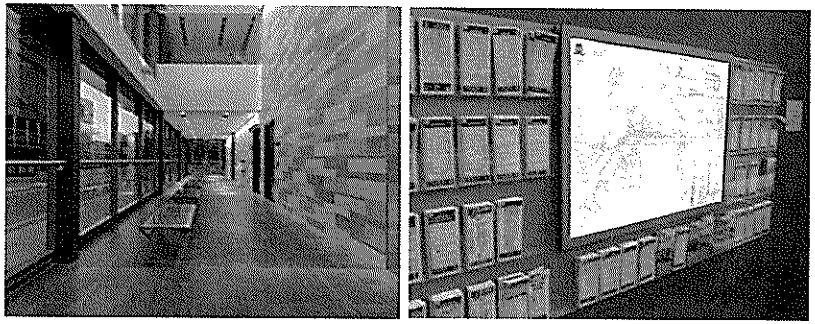
Major Station: MacNab Terminal, Hamilton

Canopy Layout



- Canopy roof 2750mm (9') above platform provides continuous shelter
- Continuous, even lighting to 100 lux (as per guidelines)
- Emergency call buttons conveniently located along platforms

Major Station: MacNab Terminal Hamilton



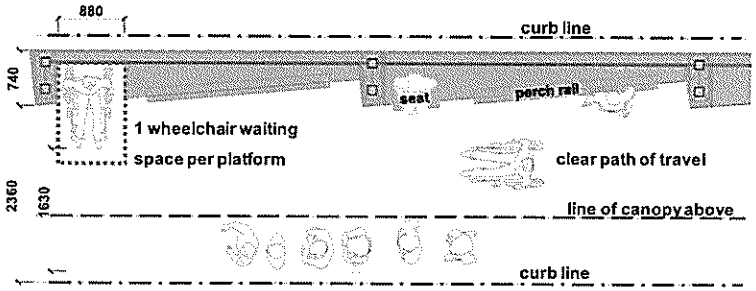
Interior Amenities: Waiting Area, Washrooms, Route / Schedule Information

Major Station: MacNab Terminal, Hamilton

Exterior Amenities: Covered Waiting Area, Seating/Perch Rails, Route/Schedule Information, Security Features

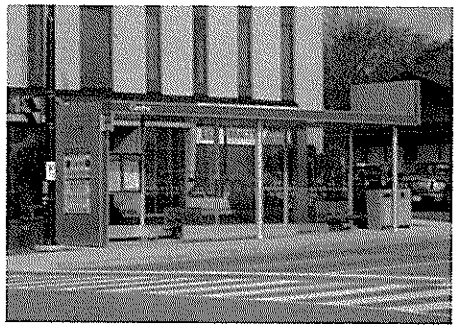
Major Station: MacNab Terminal, Hamilton

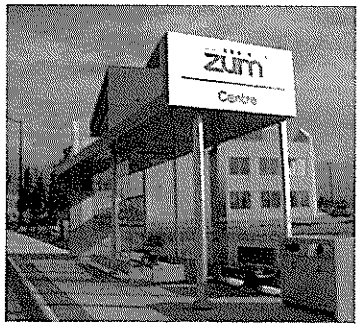
Canopy Layout



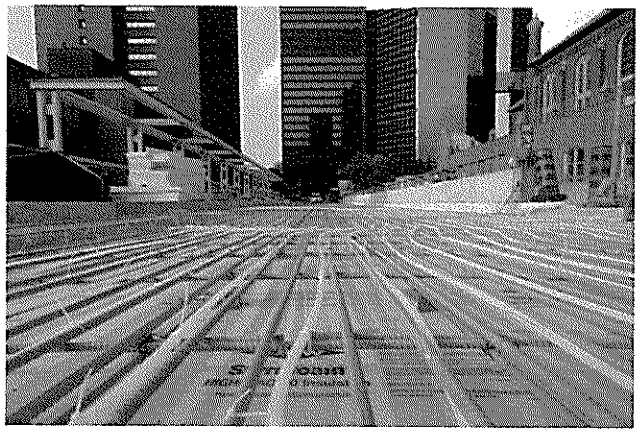
- Typical canopy bay 4365mm long (14' long), oriented towards view of oncoming bus traffic
- 1 seat, 1 perch rail in each typical bay
- 1 wheelchair waiting space in primary position at each platform
- Clear path of travel maintained throughout platforms

Minor Station: ZUM – City of Brampton BRT





Major Station: MacNab Terminal, Hamilton



Snow melting throughout site

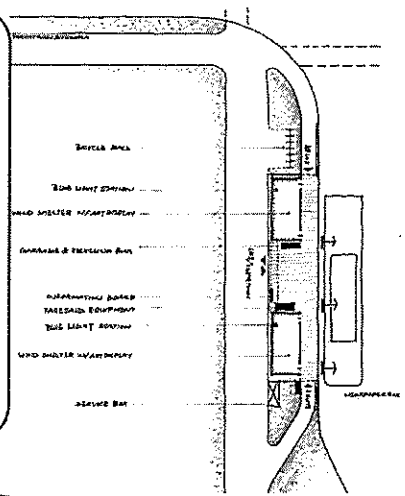
Minor Station: Preliminary Exploration

For Accessibility
- Ramped access to platform
- Tactile strip at platform edge
- Audible and visual displays
- Seating and lean rail

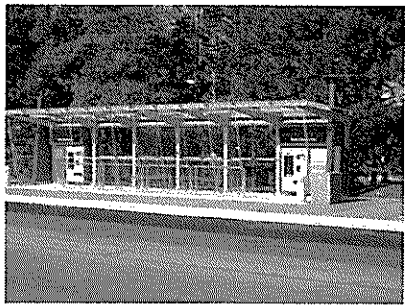
Typical at BRT Stations
- Architectural canopy and windbreak
- Fare vending and service information
- Trash and recycling bins

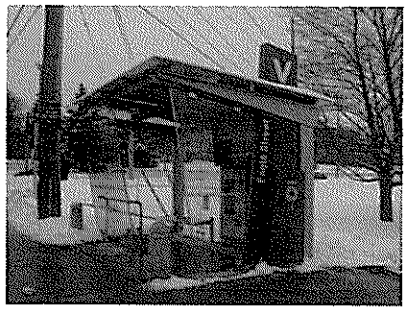
Safety and Security
- "Blue light" station
- Security cameras

Optional Features
- Push-button platform heater
- Snow melt
- *Both add significant cost and operating cost*



Minor Station: VIVA – York Region BRT





Promote Sustainable Design

- The street should be a sustainable and healthy environment that minimizes the use of new materials, manages storm water, contributes to the urban forest canopy, reduces energy consumption and improves biodiversity.

DISCUSSION

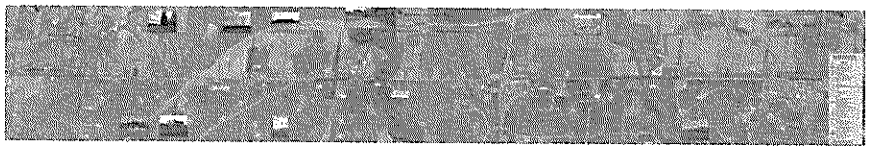
Safe and Efficient Movement

- Ensure pedestrian connections to and from transit.
- Provide pedestrian-scale lighting at stations and intersections.
- Accommodate bike racks or stage lockers at stations.
- Introduce wayfinding and character elements such as public art to enrich the pedestrian environment.

Make a Place Not a Corridor

- Design the street as a key public space, to facilitate and support visually consistent pedestrian and cycling environments with an improved level of amenity, safety and legibility.
- The street design should complement and enhance the adjacent land uses, recognize local context and landscape character, and add value to the local neighbourhoods.

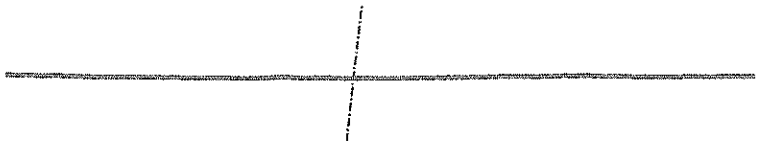
Dundas Street Opportunities and Constraints



Be Consistent and Clear

- The most visible elements – streetlights, street trees, traffic signal mast-arms and signs – should have a clear and consistent character, design and scale that distinguish the corridor while leaving opportunities to reflect the many neighborhoods through which the corridor travels.

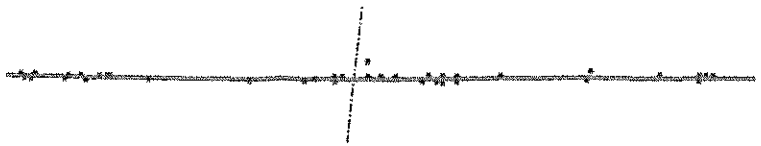
BRT Corridor



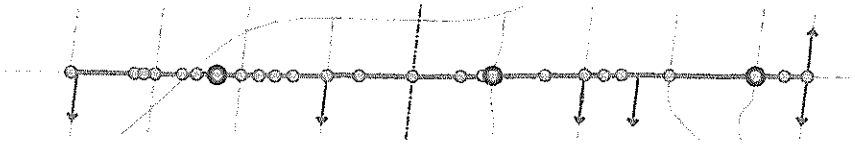
Plant trees to grow large and healthy

- Provide the proper space and soil conditions to grow trees large and healthy to reduce maintenance, add value to the surrounding neighbourhoods, and transform the design character of the corridor.
- Consider street trees as part of the green infrastructure.

Cultural Features



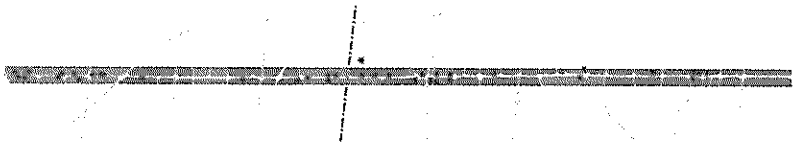
Station Locations



Major Station

Minor Station

Built Form Character



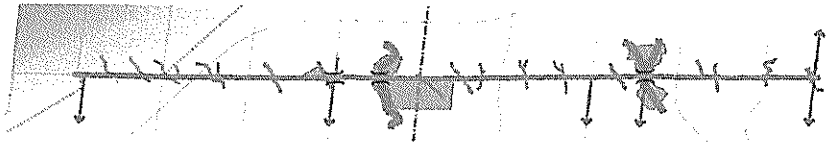
Urban Character

Rural Character

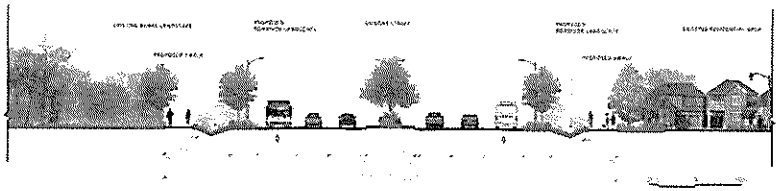
Environmental Protection

Heritage Preservation

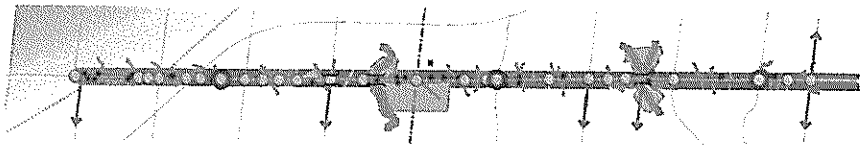
Landscape Features



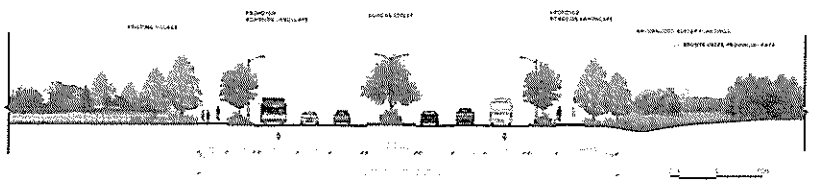
Typical: Rural Character



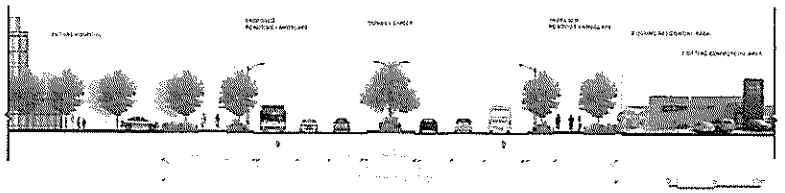
Character Analysis - Composite



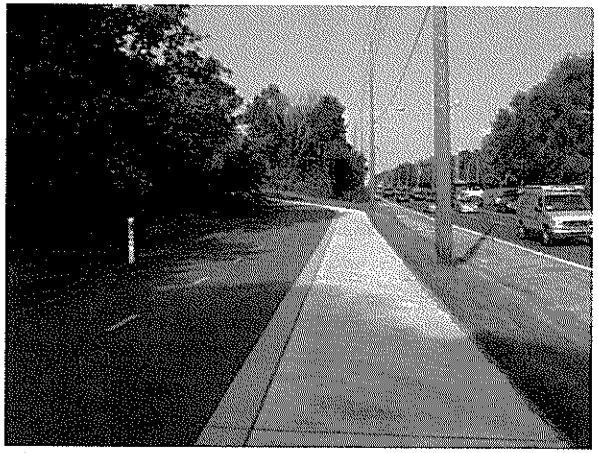
Typical: Environmental Protection Zone



Typical: Urban Character

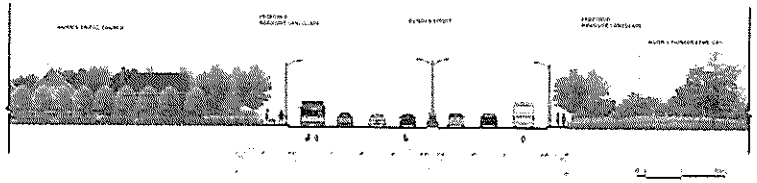


Example of Multi-Use Trail

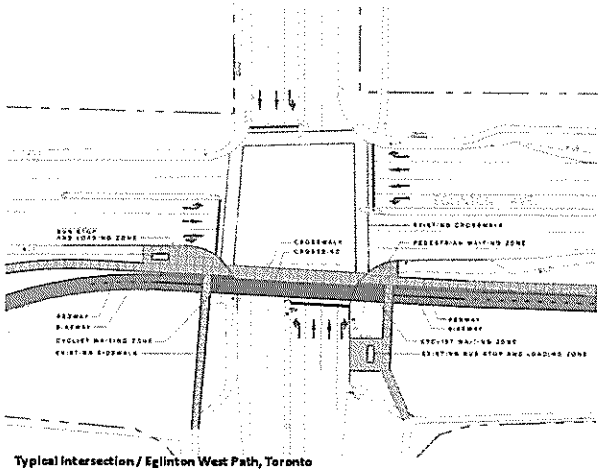


Eglinton West Path, Toronto

Typical: Heritage Preservation



Example of Multi-Use Trail



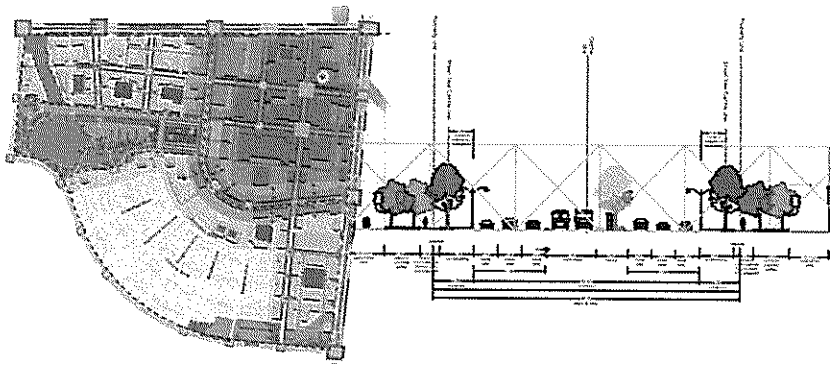
Typical Intersection / Eglinton West Path, Toronto

Example of Multi-Use Trail

Eglinton West Path, Toronto

Streetscaping Opportunities

- Uptown Core

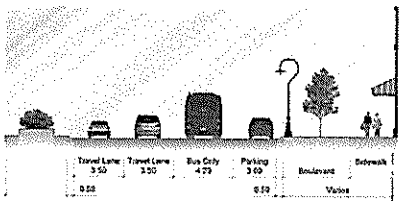


Trafalgar Road Streetscaping Opportunities

- Trafalgar Road landscaping will draw upon:
  - Town of Oakville, Draft Midtown Business and Development Plan, May 2008 – for landscaping south of White Oaks South and at Cross Avenue
  - Existing landscaping between White Oaks South and Marlborough Court and woodlot north of Marlborough Court
  - Sheridan College Campus development
  - Town of Oakville, Uptown Core Review, February 2009
  - Town of Oakville, North Oakville East Secondary Plan, February 2008

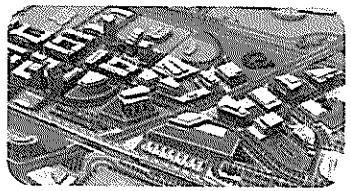
Streetscaping Opportunities

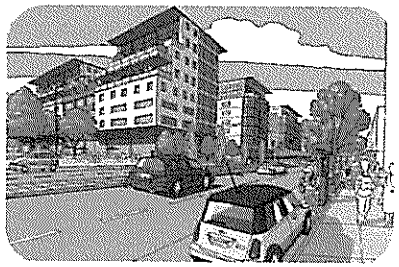
- North Oakville East Secondary Plan



Streetscaping Opportunities

- Midtown Development

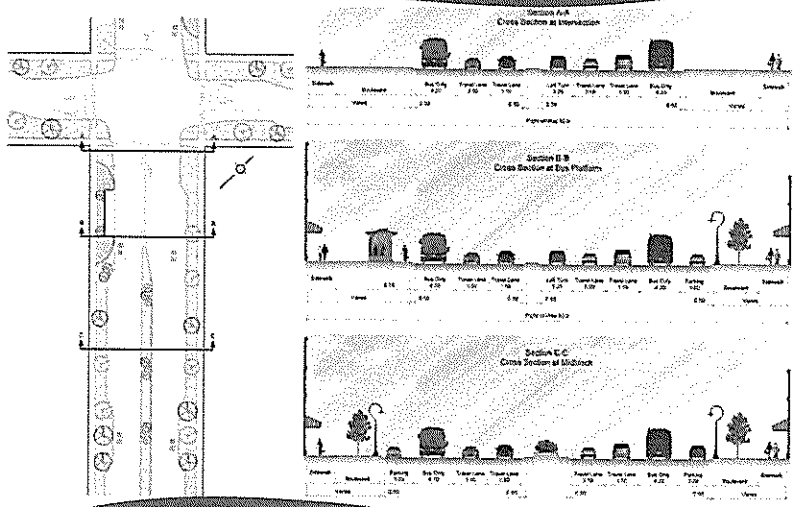




Next Steps, Post Workshop Communication

- Initiating Transit Priority Assessment Process
- Process Review
- Next Steps and Schedule
- PIC #2 – November 24, 2011

Trafalgar Road - NOESA

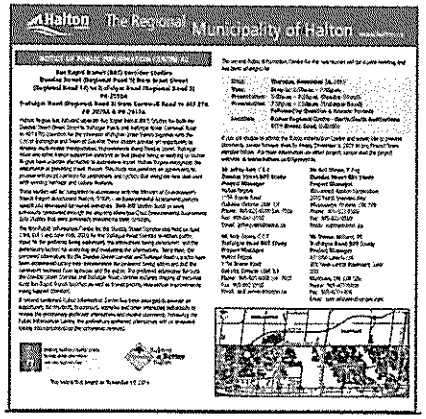


Transit Priority Assessment Process

- The Ministry of the Environment released the Transit Priority Statement in 2008
- This policy outlined the need for the new 6-month Environmental Assessment process for transit projects
- In June 2008, the TPA process was introduced under the Ontario Environmental Assessment Act for the purpose of carrying out public transit projects within the Greater Toronto and Hamilton Area

DISCUSSION

PIC #2 – November 24th



Purpose of PIC :

- Recommended alternative
- Curb vs. median evaluation
- Ridership & service plan
- Station locations and prototype
- TPA process overview
- Effects, mitigation and monitoring

Process Review

We are here

Project Planning
- Class Environmental Assessment Study (Phases 1 & 2)
- Identification of Problem and Opportunities
- Identification and Evaluation of Alternative Solutions
- Public Information Centre #1
- Evaluation of curb vs. median and associated design alternatives
- Public Information Centre #2

6-month TPA Process

120 Days
- Notice of Study Commencement
- Preparation of Environmental Project Report (EPR)
- Public Consultation Activities

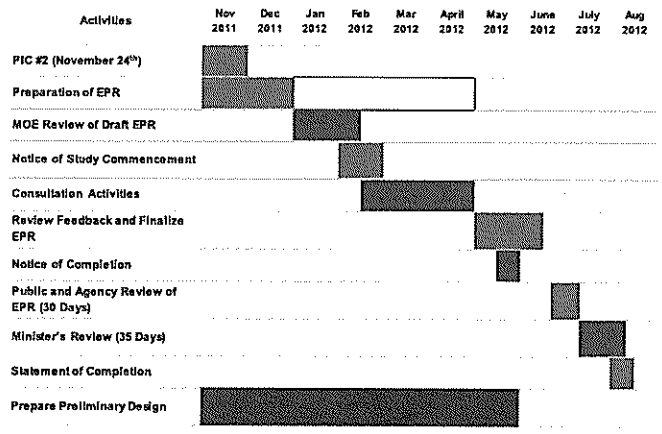
30 Days
- Filing and Notice of Completion of EPR
- Public and Agency Review of EPR
- Public and Agency Submission of "No Objection" or "Objection"

35 Days
- Minister of the Environment Review and Decision

Adjournment

Halton REGION

Next Steps & Schedule



MMM GROUP

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Mississauga, Ontario, L5K 2P8
Tel: (905)823-8500
Fax: (905) 823-8503
Website: www.mmm.ca

MINUTES OF MEETING

PROJECT:	Dundas Street Corridor Improvements EA Brant Street to Bronte Road		
MEETING:	Technical Agencies Committee Meeting		
FILE NO.:	3212082		
DATE:	Wednesday, May 14, 2014	**TIME:**	1:00 p.m. to 2:30 p.m.
PLACE:	Queen Elizabeth Park Community Centre – Room A050		
PRESENT:	Jeff Reid		Halton Region
	Melissa Green-Battiston		Halton Region
	Darryl Young		Halton Region
	Stirling Todd		Halton Region – Planning Services
	Anna Kalnina		Halton Region – Planning Services
	Richard Clark		Halton Region – Planning Services
	Rick Reitmeier		Halton Region – Planning Services
	Vito Tolone		City of Burlington
	Jenny Setterfield		City of Burlington
	Steve Lucas		Burlington Transit
	Dragan Mrkela		407 ETR
	Jillian Van Niekerk		Bronte Creek Provincial Park
	Luke Coady		Bronte Creek Provincial Park
	Ross Monteith		Burlington Fire Department
	Laureen Choi		Halton District School Board
	Jon Foreshew		Oakville Hydro
	Monisa Nandi		GO Transit
	Neil Ahmed		MMM
	Katherine Jim		MMM
PURPOSE:	Technical Agencies Committee to discuss "Section 3" of Dundas Street EA from Brant Street to Bronte Road, and to review the preliminary plan, key issues associated with this section and input from the respective technical agencies, as well as next steps		

MINUTES: **ACTION BY:**

ITEM 1 – DUNDAS STREET EA – OVERALL STUDY STATUS / SCHEDULE

1.1 Those at the meeting were introduced.

1.2 Using a presentation and handout package, MMM reviewed the overall Dundas Street EA Study status, access, implementation strategy and preliminary shelter concept (see attached).

MINUTES: **ACTION BY:**

1.3 Overall Dundas Street Environmental Assessment Study status and schedule:

- Overall, Halton Region is planning for the widening of Dundas Street from 4 to 6 lanes. There are opportunities for the widened lanes to function as High Occupancy Vehicle (HOV) lanes / transit lanes and then ultimately be converted to dedicated transit lanes (by 2031).
- Section 1 – Dundas Street between Bronte Road and Proudfoot Trail. The Environmental Assessment (EA) Study for this section was completed in 2012 and is currently in detailed design.
- Section 2 – Dundas Street between Neyagawa Boulevard and Oak Park Boulevard. The EA for this section was completed in 2013. The construction of this section will likely follow the section between Bronte Road and Proudfoot Trail.
- Section 3 – Dundas Street Brant Street to Bronte Road – current study; approximately 10 km in length.

ITEM 2 – STUDY AREA AND EXISTING CONDITIONS

2.1 The Existing Conditions plan (Slides 4-6) illustrates the key features and constraints along the Dundas Street corridor between Brant Street and Bronte Road, including land uses, policy areas, cultural heritage features, natural environment features, etc.

2.2 Dundas Street is transforming from a rural highway corridor to a pedestrian and cyclist-friendly Regional arterial road. Dundas Street is proposed to be posted at 60 km/h (reduced from 80 km/h).

ITEM 3 – HOV / TRANSIT STRATEGY

3.1 The overall bus rapid transit concept plan outlines the broader higher order transit network in Halton Region and in the GTA. The concept plan illustrates potential services on Dundas Street connecting to Kipling GO / TTC Station; this reflects the Metrolinx plan – The Big Move.

3.2 The implementation of higher order transit operation on Dundas Street is the Region's long term vision (by 2031). A staged implementation approach will be used, which allows flexibility to phase in transit services as required. Transit elements may be introduced in different phases as transit ridership builds.

3.3 Widening Dundas Street from 4 to 6 lanes will provide an opportunity to introduce Highway Occupancy Vehicle (HOV) curb lanes in the interim.

3.4 Enhanced bus shelters are proposed at all signalized intersections. Bus stops are generally provided on the far side of the intersection (i.e. after the intersection) where feasible. Some bus stops are

MINUTES: **ACTION BY:**

proposed to be located on the near side due to land use and access constraints.

ITEM 4 – TYPICAL CROSS SECTION

4.1 General cross section elements include: 50 m ROW, urban cross section, 6 travel lanes (2 general purpose lanes and 1 HOV/Transit lane in each direction), 5.5 m to 6.5 m raised median. Active transportation facilities (e.g. multi-use paths, sidewalks and cycling lanes) are based on the draft Halton Region Active Transportation Master Plan (ATMP) Study and they vary through three general sections – Brant Street to Northampton Boulevard, Northampton Boulevard to Appleby Line, Appleby Line to Bronte Road.

4.2
- Three typical cross sections were presented, which include Active Transportation (AT) elements noted above. The three typical cross sections include the following AT elements:
  - Brant Street to Northampton Boulevard: 4 m multi-use path on the south side only (bi-directional).
  - Northampton Boulevard to Appleby Line: Cycle track consisting of 1.8 m bike lane + 0.5 m buffer (delineated by breakaway bollards), and 2.0 m sidewalk on both sides of the road.
  - Appleby Line to Bronte Road: 1.5 m on-road bike lanes + 0.3 m buffer and 3.0 m multi-use path on both sides of the road.

4.3 The implementation of bollards with the buffer area between Northampton Boulevard and Appleby Line will be a seasonal pilot project for the Region; and may be expanded to other parts of the Region if suitable.

4.4 The crossing of Bronte Creek is located between Appleby Line and Tremaine Road. The Bronte Creek valley is an important natural environment feature and four options were developed for the widening of the structure. Following the analysis and evaluation of the four Bronte Creek Crossing Options, the preferred option is to widen two lanes to the north, including the replacement of the south bridge (one of two existing structures). A Constructability Workshop will be organized later in the study process, currently anticipated in Fall 2014.

ITEM 5 – ACCESS

5.1 There are a number of existing full-movement private accesses on Dundas Street. With the proposed widening, these full-movement accesses will become right-in/right-out only. This is consistently applied in other sections of Dundas Street between Bronte Road and Highway 403. The Project Team have met with some of the affected property owners.

MINUTES: **ACTION BY:**

5.2 It is the Region's vision to have controlled access (i.e. right-in/right-out) along the corridor to ensure operational efficiency and safety of the corridor. U-turns will be permitted at signalized intersections

ITEM 6 – BUS SHELTER CONCEPT

6.1 The enhanced bus shelters will be funded and constructed by Halton Region. The local transit operators will likely be responsible for the maintenance of the facilities.

6.2 Through photo renderings and conceptual layouts, it was illustrated that the bus shelters are designed to be modular. A "suite" of shelters are proposed – "Small", "Typical" and "Extended". The shelter may be subsequently expanded subject to ridership.

6.3 Features at the enhanced bus shelters may include: real-time message boards, landscape planters, seating areas, covered bicycle racks, community wall, etc. The operation of some of these amenities may be phased, as needs arise. The type of features will be finalized during detailed design subject to discussion with local transit operators. The electrical and communication infrastructure required for these amenities would be installed or provisions installed during construction to prepare for future implementation.

ITEM 7 – DISCUSSION

The following summarizes key discussion points from the respective agencies:

7.1 City of Burlington

- City of Burlington asked if curb vs. median bus lanes have been considered and evaluated. As part of the earlier work in the planning of Dundas Street improvements, the Project Team evaluated the advantages and disadvantages of median vs. curb dedicated transit lanes. The curb lane option has been identified as preferred, as it will integrate better with the community and allow greater flexibility to transition from HOV lanes to dedicated transit lanes. This is documented in the Dundas Street EA Studies for Section 1 (Bronte Road to Proudfoot Trial) and Section 2 (Neyagawa Boulevard to Oak Park Boulevard).
- The Project Team noted that while a sidewalk / multi-use path is not proposed on the north side of Dundas Street between Brant Street and Northampton Boulevard, the current plan for the widening of Dundas Street does not preclude the implementation of these facilities in the future. The protected right-of-way on the north side is being shown as boulevard and is sufficient to accommodate active transportation facilities should they be required in the future.
- There was some discussion about the safety of cyclists and

MINUTES: **ACTION BY:**

pedestrians crossing at intersections (e.g. would cyclists have to dismount). The Project Team will explore this in further detail and reference Ontario Traffic Manual (OTM) Book 18 – Cycling Facilities. The Region added that a pilot layout is being planned at the Dundas Street / Third Line intersection, which is currently in detailed design. — MMM / Halton Region

7.2 Oakville Hydro

- Oakville Hydro noted that there are hydro poles on the south side of Dundas Street within the Town of Oakville. The proposed plantings may be in conflict with hydro facilities. The Project Team responded that a landscaping plan will be developed during detailed design and will be in consultation with utility organizations, including Oakville Hydro.

7.3 Halton Agricultural Advisory Committee (H.A.A.C.)

- H.A.A.C. asked if mountable curb may be considered to accommodate farming equipment on Dundas Street.
- The Region responded that mountable curb will likely not be used on Dundas Street to avoid motorists parking along the road. However, in special locations (e.g. at specific locations requested by the Bronte Creek Provincial Park), mountable curbs will be implemented for park maintenance equipment access.
- With Dundas Street widened to 3 lanes in each direction, this will provide a wider platform for farm vehicles.
- During detailed design and construction, the Region should consider sourcing landscape plantings from local suppliers. This was noted by Halton Region for consideration during detailed design.

7.4 Halton Region – Planning Services

- Planning Services asked how the future intersections (between Tremaine Road and Bronte Road) are identified on the plans. The Project Team responded that future intersections between Tremaine Road and Bronte Road are shown based on the North Oakville Secondary Plan.
- Planning Services advised that future land use and development in the northwest quadrant of Dundas Street / Tremaine Road has not been confirmed at this time and that the future intersection should not be shown.
- It was noted that Halton Region Council previously approved a Tree-Canopy Replacement Policy. The Project Team is aware of this and noted in the Environmental Study Report for Dundas Street Sections 1 and 2 that a Tree Preservation Plan will be developed as part of the mitigation measures to determine compensation required based on Regional Policy.

MINUTES: **ACTION BY:**

7.5 Bronte Creek Provincial Park

- Ontario Parks initiated a formal proposal for the expansion of the Bronte Creek Provincial Park (north of Dundas Street). They have yet to finalize the Park expansion. The expansion of the Provincial Park will require an amendment to the Regulation. Therefore, it would be preferred for the amendment process to also account for the amount of the property required for the widening of Dundas Street.
- Ontario Parks required that a partial plan in the proximity of the Bronte Creek Provincial Plan be provided for information, and to better understand the amount of property required as a result of Dundas Street widening. MMM
- Species at Risk (SAR) is an important issue and must be addressed.
- The Project Team noted that multi-use paths are provided on both sides of the Bronte Creek crossing to ensure continuity.
- There will be ongoing consultation with Conservation Halton / Ministry of Natural Resources (including Ontario Parks) / Niagara Escarpment Commission.

7.6 Halton District School Board

- The School Board receives many inquires about the safety of students crossing Dundas Street. Parents often think it is unsafe to cross Dundas Street and request school bus services.
- The School Board has not deemed Dundas Street crossing as a hazard.
- The Project Team noted that the posted speed along Dundas Street has already been reduced from 80 km/h to 60 km/h and is in the process of implementing a Community Safety Zone to double the fines for speeding infractions. Also, when Dundas Street is widened to 6 lanes, it will be a more pedestrian and cyclist friendly corridor, including full illumination.

7.7 Burlington Fire Department

- Key concern is raised medians and ability for emergency vehicles to cross the road from one direction to another.
- The Project Team responded that they will provide opportunities for emergency services to identify key locations where they need to cross and mountable curb will be considered at those locations. MMM will forward a copy of the preliminary plan to Burlington Fire Department for markup. MMM
- During detailed design, there will be more opportunities for emergency services to provide comments.

MINUTES: **ACTION BY:**

ITEM 8 – NEXT STEPS

8.1 The Public Information Centre is scheduled to be held on May 29, 2014. Technical agencies and utilities on the study mailing lists have been provided with a copy of the Notice of PIC via mail.

The foregoing represents the writer's understanding of the major items of discussion and the decisions reached and/or future actions required. If the above does not accurately represent the understanding of all parties attending, please notify the undersigned within 48 hours of receiving these minutes at 905-823-8500.

Minutes prepared by,
MMM Group

K Jim

Katherine Jim, P.Eng.
cc: all attending

Encl: Presentation (UPDATED)

Agenda

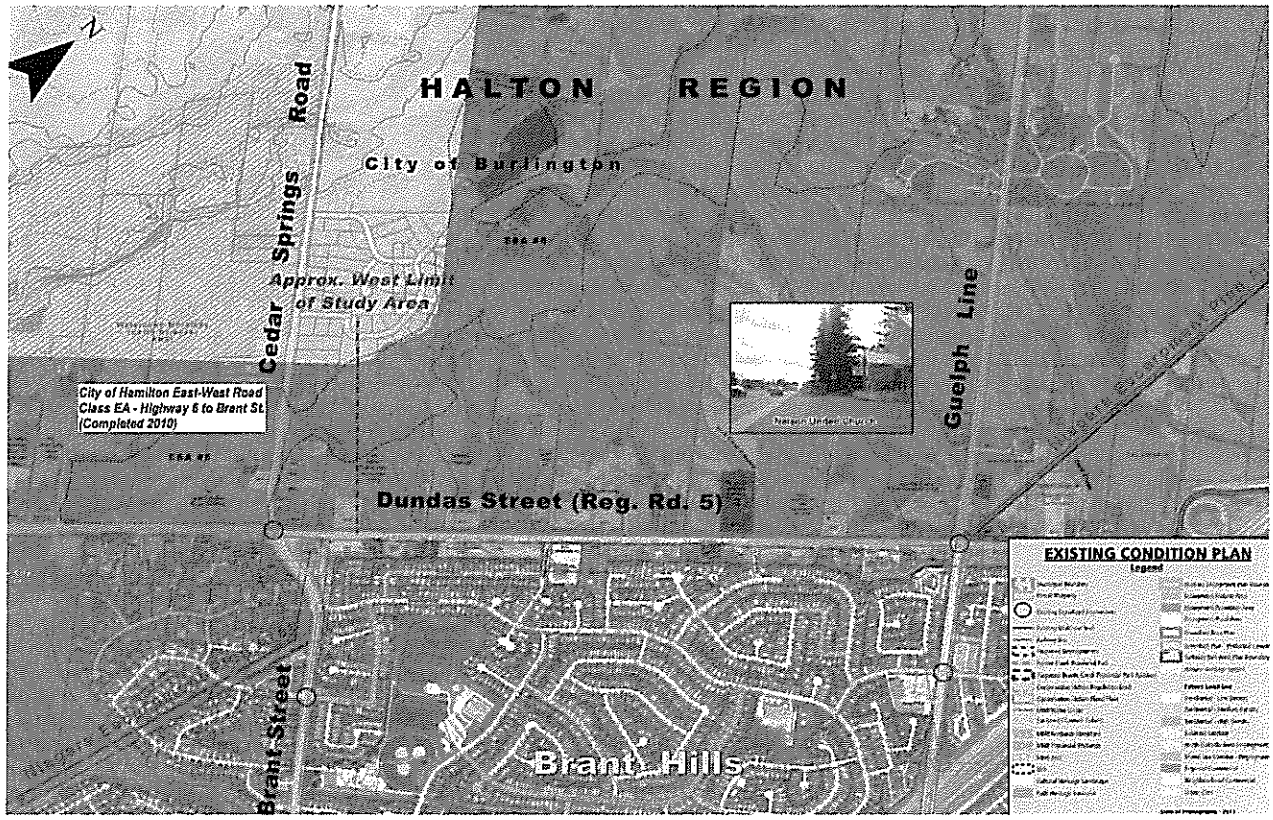
- Dundas Street EA Study Process
- Study Area and Existing Conditions
- HOV / Transit Strategy
- Typical Cross Sections
- Proposed Corridor Improvements
- Property Access
- Bus Shelter Concept
- Next Steps

Dundas Street Corridor Improvements
Class Environmental Assessment Study
Bronte Road to Brant Street

Technical Agencies Committee Meeting
May 14, 2014

Halton REGION

Existing Conditions: Brant Street to 407 ETR



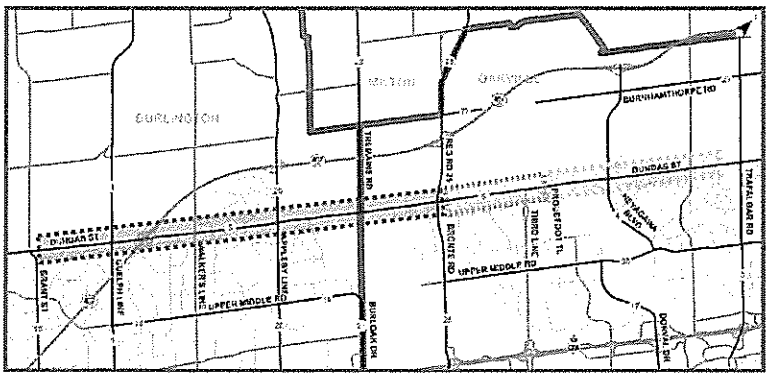
Current Study Process

- Municipal Class Environmental Assessment (Class EA) process.
- Some planning and construction completed for 6 lanes
- Remaining planning being completed in 3 stages :

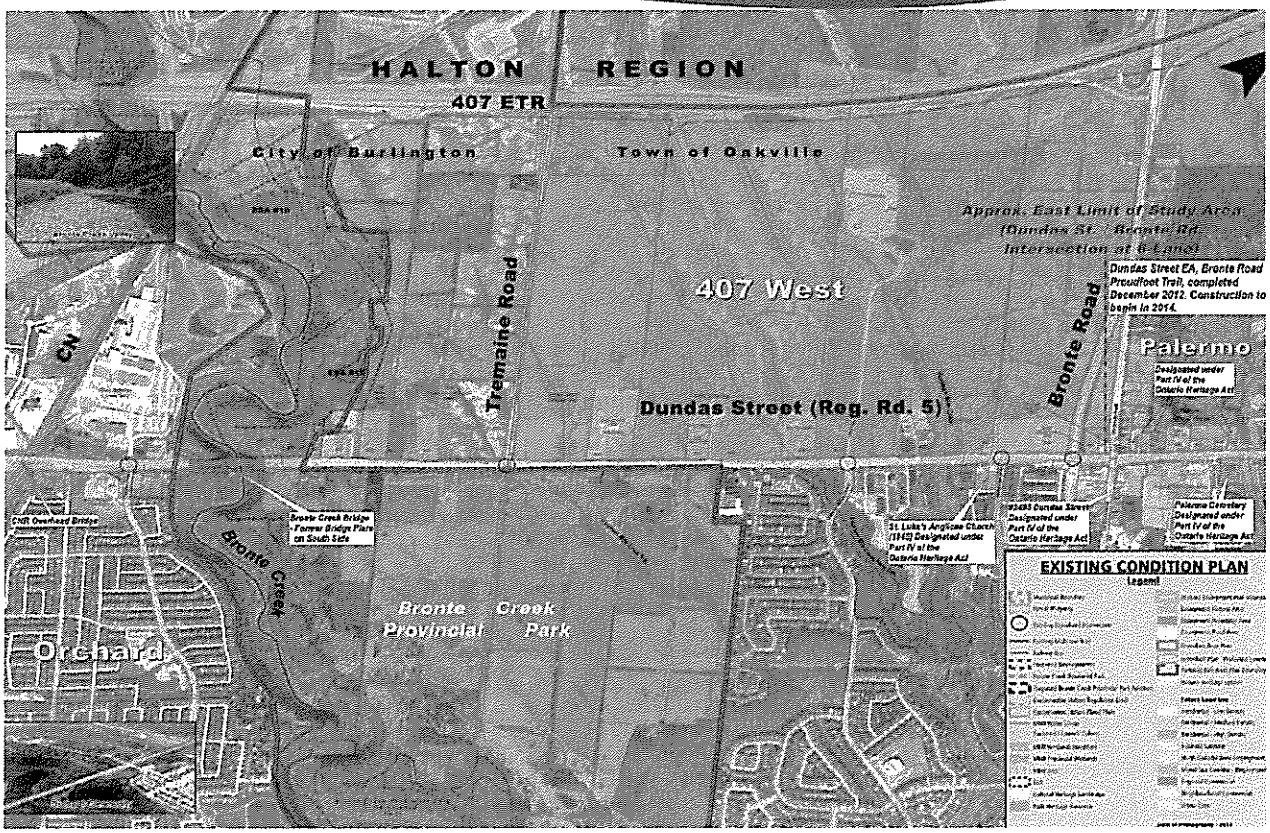
Section 1: Dundas Street Class EA – Proudfoot Trail to Bronte Road ***[Completed December 2012 Currently in detailed design.]***

Section 2: Dundas Street Class EA – Oak Park Boulevard to Neyagawa Boulevard ***[Completed December 2013.]***

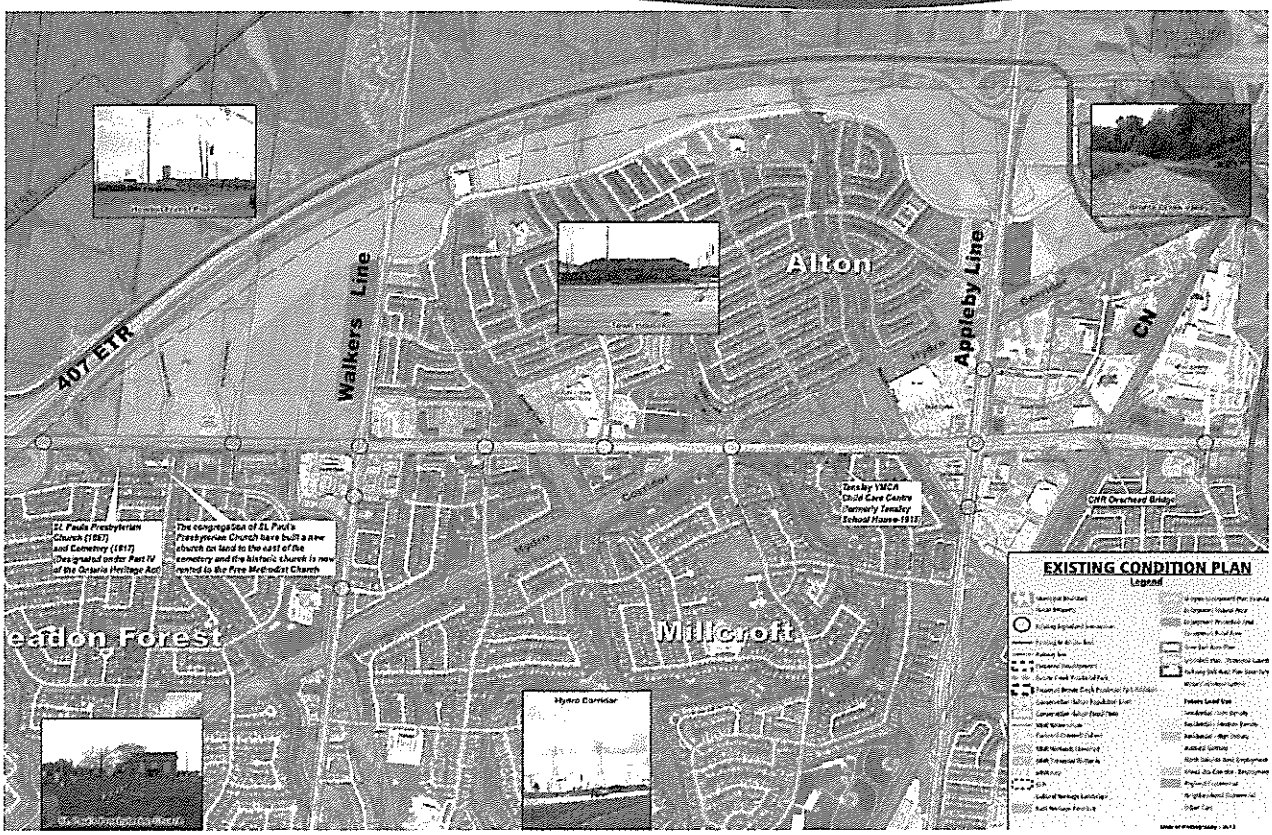
Section 3: Dundas Street Class EA – Bronte Road to Brant Street ***[Current Study]***



Existing Conditions: CN to Bronte Road



Existing Conditions: 407 ETR to CN



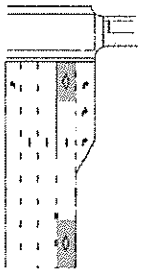
HOV / Transit Strategy

- **<u>Dedicated bus lanes are proposed for Dundas Street by 2031</u>**
- Phased introduction of higher-order transit is proposed

Phasing of Implementation

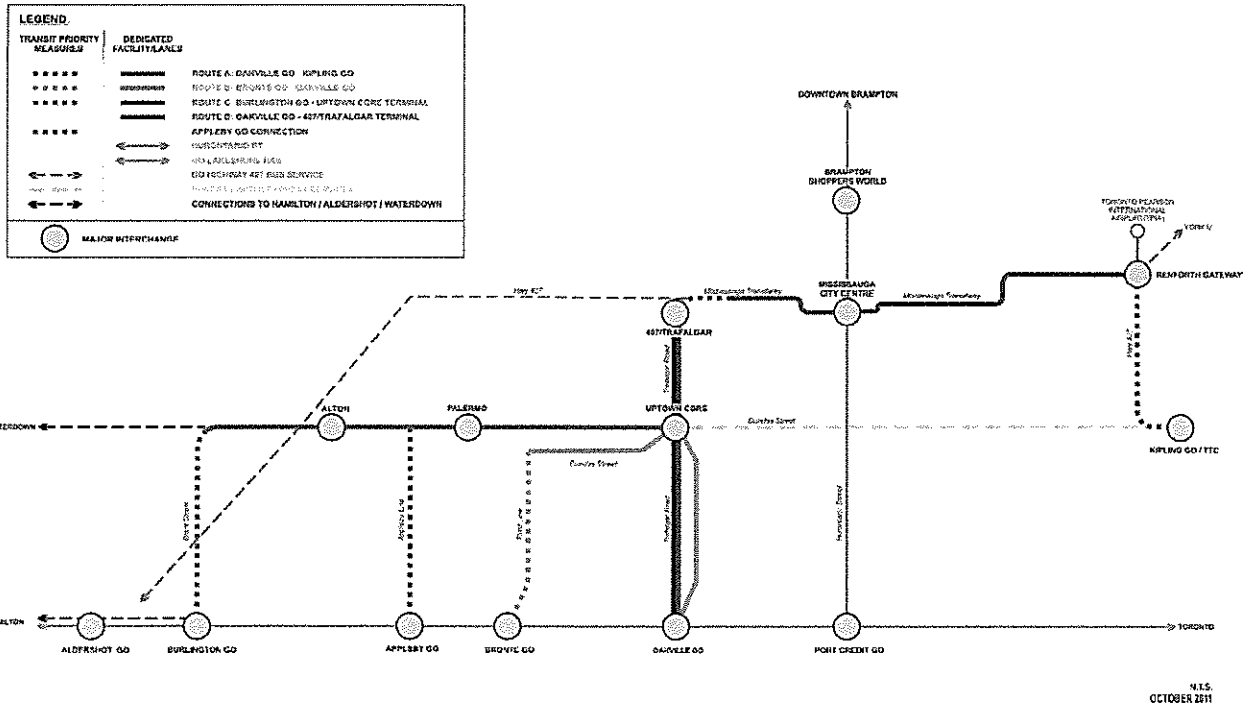
Widening Dundas Street from 4 to 6 lanes will provide an opportunity to introduce **High Occupancy Vehicle (HOV)** curb lanes

- Active Transportation (on/off-road) and transit supportive measures (bus bays / transit stations) will be provided
- HOV / Transit Lanes for private vehicles with 2 or more occupants, taxis, buses and emergency vehicles. This is similar to provincial HOV facilities in the area



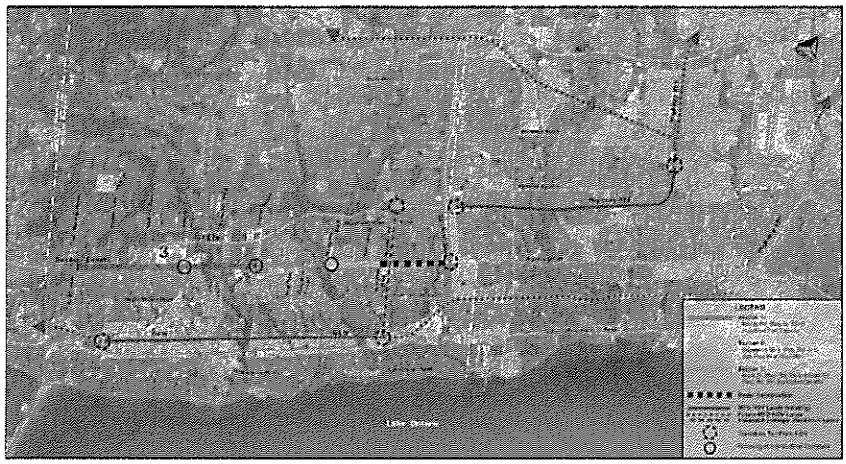
- A separate right-turn lane will be provided to accommodate turning vehicles at almost all signalized intersections
- Property access using HOV / transit lanes is permitted
- **Ultimately**, as transit ridership builds, HOV / Transit Lanes will be converted into dedicated bus lanes, by 2031

Bus Rapid Transit Concept Plan



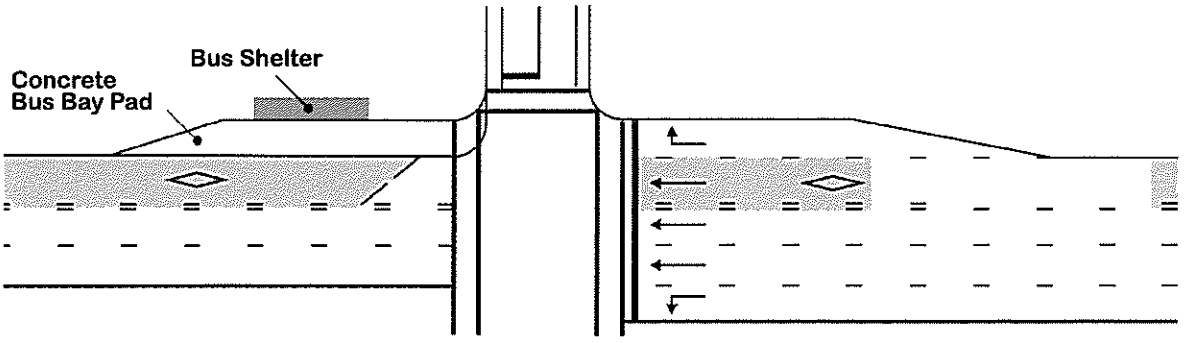
Dundas Street Improvement Construction

- Improvements (6 lanes) between Oak Park Boulevard and Highway 403 will be completed in Fall 2014
- Improvements (6 lanes) between Bronte Road and Proudfoot Trail to be constructed starting in 2014 and completed mid by 2015
- Improvements (6 lanes) between Neyagawa Boulevard and Oak Park Boulevard to be constructed starting in 2016
- Improvement (6 lanes) between Brant Street and Bronte Road to be phased from 2017 to 2020 (start of construction)

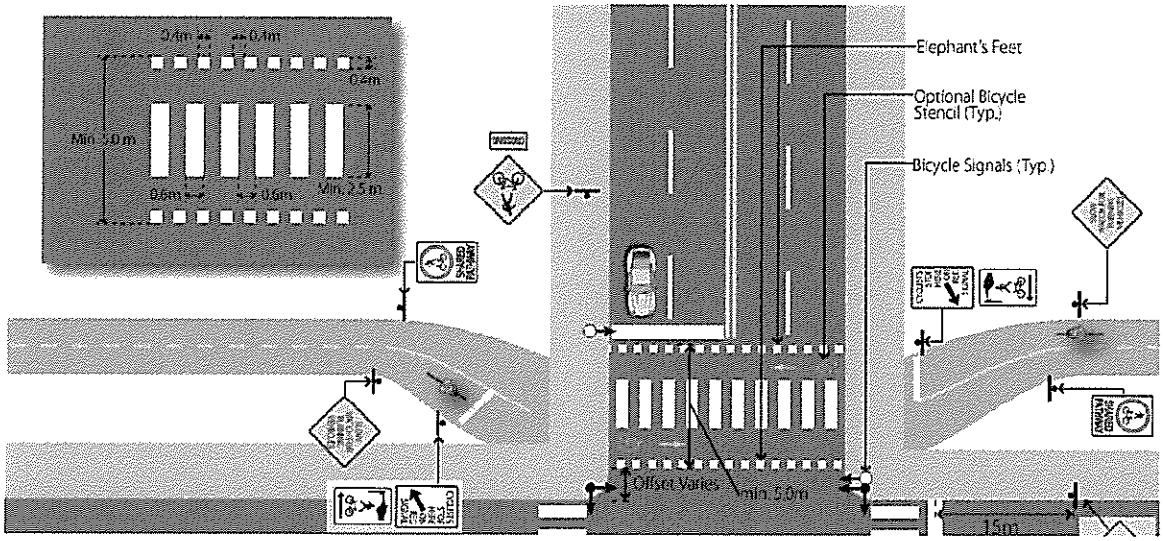


Implementation of Transit Elements

- Far-side bus stops proposed where feasible
- Bus bays provided where feasible
- Location and dimension of bus shelters dependent on expected demands and local conditions



Active Transportation at Intersections



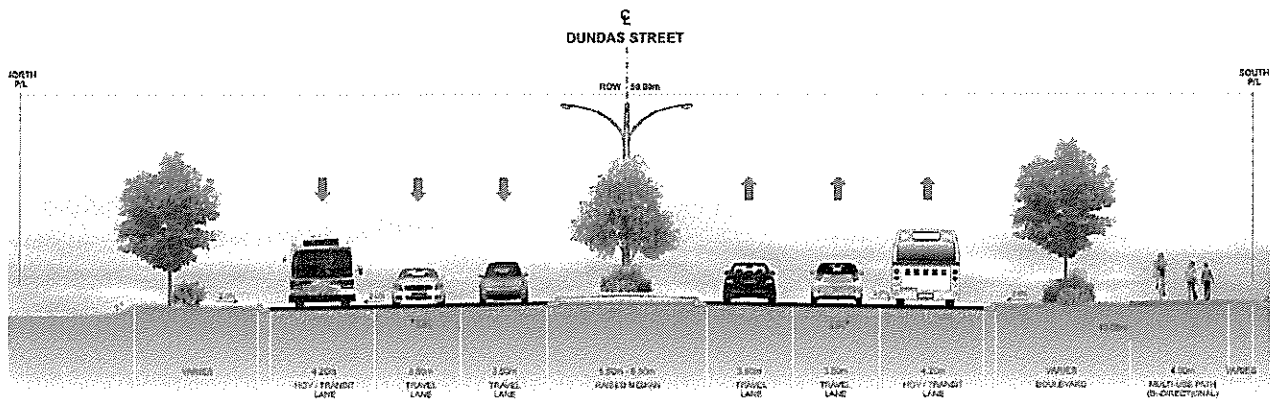
Combined Pedestrian and Cyclist Crossride (Signalized)

Source: Based on Ontario Traffic Manual Book 18,. Figure 4.102

Proposed Improvements on Dundas Street

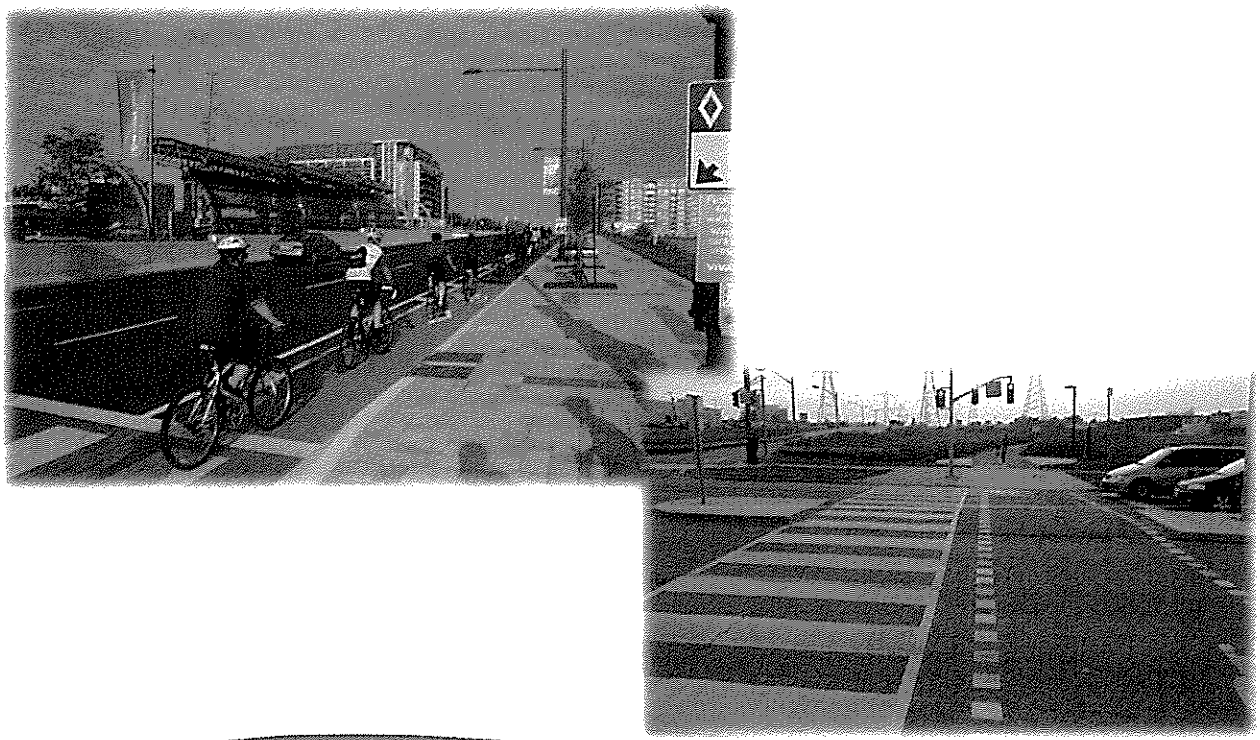
- 50 m right-of-way (per Halton Region Transportation Master Plan),
- 6 travel lanes (2 general purpose lanes and 1 HOV/Transit lane in each direction)
- Urban section (curb and gutter)
- 5.5 m to 6.5 m raised median
- Active transportation facilities (per draft Halton Region Active Transportation Master Plan)
  - Multi-use path
  - Sidewalk
  - Cycle track / Bike lane
- Posted speed 60 km/h
- Illumination
- Opportunities for landscape features

Typical Cross Section

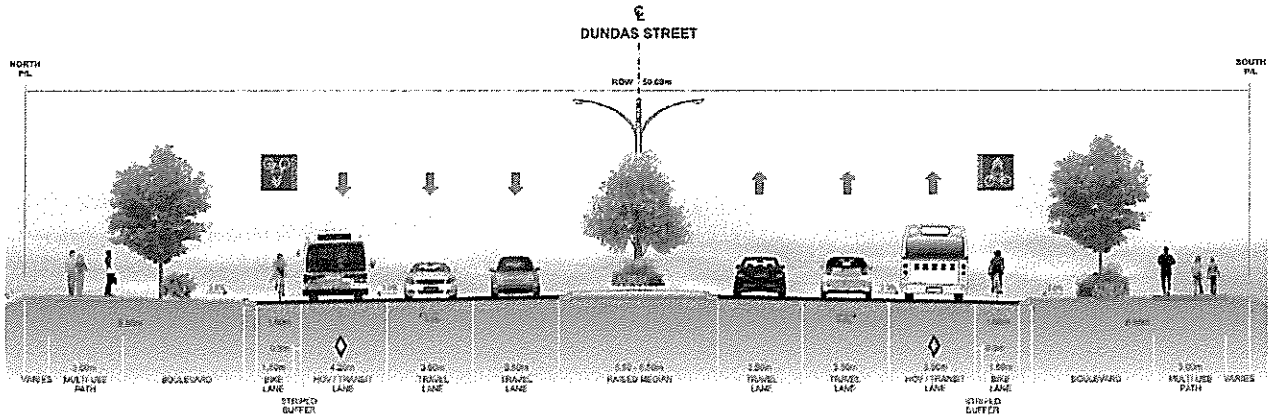


BRANT STREET (10+000) TO NORTHAMPTON BOULEVARD (13+660)

Active Transportation at Intersections

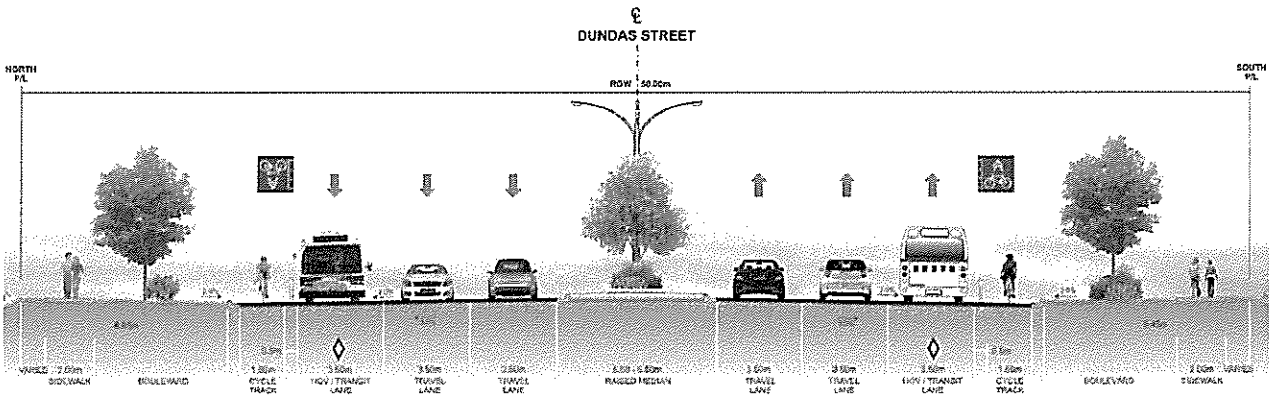


Typical Cross Section



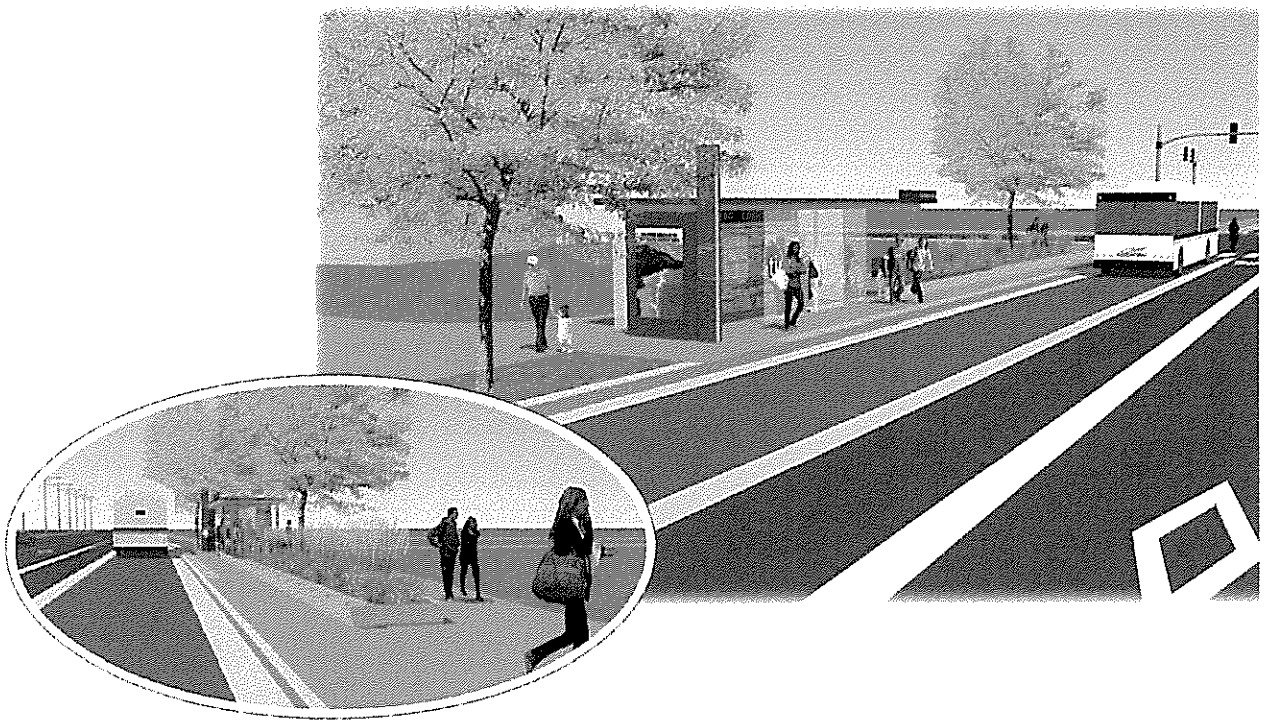
APPLEBY LINE (16+145) TO BRONTE ROAD (20+100)

Typical Cross Section

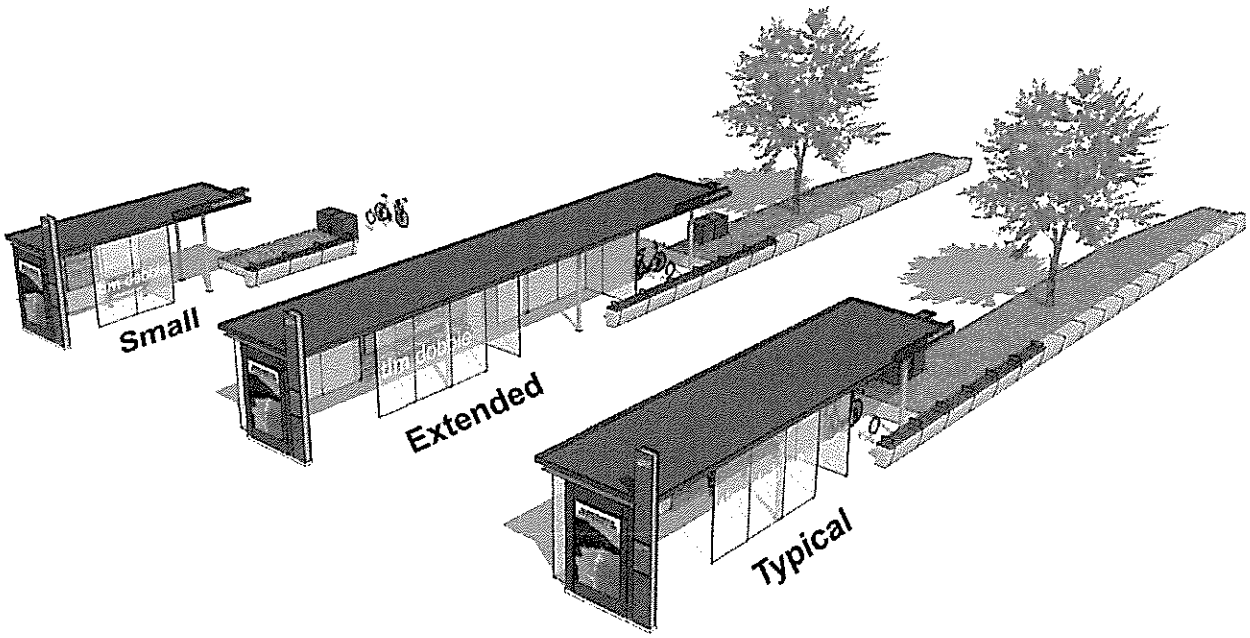


NORTHAMPTON BOULEVARD (13+660) TO APPLEBY LINE (16+145)

Proposed Bus Shelter Design



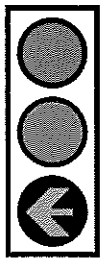
Proposed Bus Shelter Family



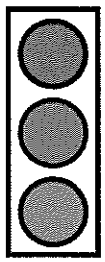
Traffic Operations - Access

Access on Dundas Street

- As a major arterial, Dundas Street will include left and right turn lanes at most signalized intersections.
  - Left turns could proceed during the protected signal phase and the permissive signal phase (when safe to do so).
  - Right turns would be made from the right lane. Entry into the HOV lane is typically permitted between intersecting roads.
- There are existing commercial and residential properties along Dundas Street that currently have full move access (i.e. can turn left and right).
- However, when Dundas Street is widened, there would be a raised median throughout its length except at signalized intersections.



Protected
Left Turn Phase

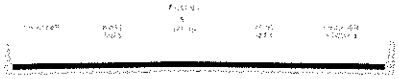


Permissive
Left Turn Phase

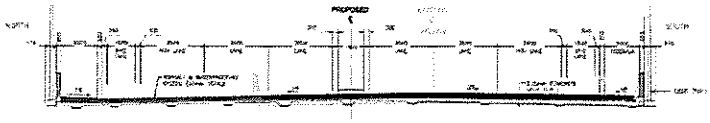
Proposed Bus Shelter Design

Bronte Creek Crossing Options

- Four options were considered
- Including replacement of existing south structure (Options 1, 3 and 4)
- Constructability Workshop to be undertaken in Fall 2014

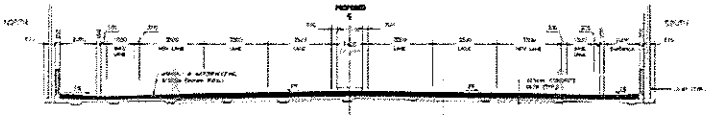


Existing Conditions

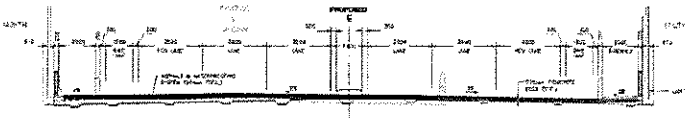


Option 1: Widen 2 lanes to the north (Preferred)

Option 2: Widen 4 lanes to the north



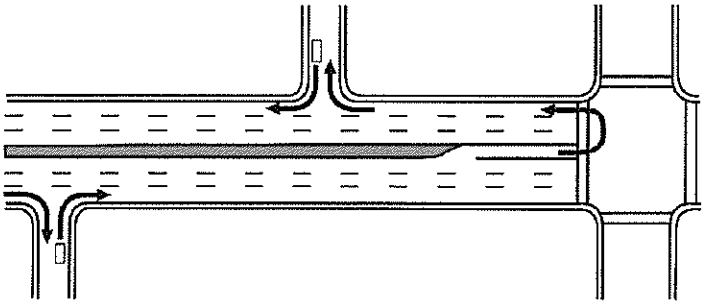
Option 3: Widen on both sides



Option 4: Widen 2 lanes to the south

Traffic Operations - Access

- Access to some commercial and residential properties would become right-in / right-out access only.
- Private residences and businesses will be affected and will require alternate ways to access / egress – including "U" Turns at signalized intersections.
- By limiting access, Dundas Street will be more efficient and will operate safely.



Next Steps

- Public Information Centre –
  May 29, Tansley Woods Community Centre, 6:30 – 8:30pm
- Additional consultation with technical agencies (as required)
- Review and respond to comments received
- Constructability Workshop for Bronte Creek structures (Fall 2014)
- Incorporate revisions and finalize preliminary plan
- Prepare Environmental Study Report (Fall 2014)
- File ESR for public review (minimum 30 day review period)

Visit the study website at:
www.halton.ca/EAprojects

Conservation Halton Meeting Minutes

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MINUTES OF MEETING

PROJECT:	Halton Region Dundas Street (Regional Road 5) Class EA Study Brant Street (Regional Road 18) to Proudfoot Trail		
FILE NO.:	W.O. 7108-08		
DATE:	Friday, April 16, 2010	**TIME:**	9:00 a.m. to 11:00 a.m.
PLACE:	Halton Region 1151 Bronte Road Nelson Room		

PRESENT:		
	Jane De Vito	Conservation Halton
	Samantha Mason	Conservation Halton
	Kim Barrett	Conservation Halton
	Janette Brenner	Conservation Halton
	Jeff Reid	Halton Region
	Melissa Green-Battiston	Halton Region
	Erin Blenkhorn	Ecoplans
	Stephen Dinka	Ecoplans
	Pippy Warburton	MRC
	Neil Ahmed	MRC
	Leslie Green	MRC

PURPOSE: Agency meeting to discuss the project approach, existing conditions and process for evaluation, as per the issued agenda.

MINUTES: **ACTION BY:**

ITEM 1 - INTRODUCTIONS

1. J. Reid welcomed all attendees and provided a brief introduction of the study.

ITEM 2 – STUDY STATUS / APPROACH

1. N. Ahmed noted this meeting was arranged to follow-up to the Technical Agencies Committee (TAC) Meeting #1 held in November 2009, which Conservation Halton (CH) attended. The Project Team is interested in engaging CH early in the alternative development stage of the study so to understand their issues / concerns regarding the corridor.
2. It was noted that since the first PIC (November 2009), there has been a preliminary review of alternative scenarios at key locations due to local

MINUTES: **ACTION BY:**

issues e.g. proposed hospital site and proposed interconnecting watermain adjacent to the Bronte Creek Bridge.

3. As mentioned at the TAC meeting, the Region is completing the Dundas Street Bus Rapid Transit (BRT) Corridor Feasibility and Implementation Study. This study will be integrating the recommendations of the BRT study.
4. Based on the schedule that was presented at the first TAC meeting, the second Public Information Centre and TAC meeting were planned for Spring 2010. However, due to the delay of the BRT study, these meeting are scheduled for Fall 2010. It is expected that the filing of the ESR will be in Winter 2011.

ITEM 3 – DUNDAS STREET CORRIDOR

1. Key Features
   a) Using an aerial mosaic of the study area, N. Ahmed reviewed the key features within the study area. The study area is highly constrained, it includes: several designated heritage properties adjacent to Dundas Street; older residential properties with direct access to Dundas Street; multiple existing commercial entrances along Dundas Street and two structures (Bronte Creek (Tansley) Bridge and CN structure).
   b) The study limits are from Brant Street to Proudfoot Trail, however, the following sections of the corridor are excluded but will be integrated into this study:
      - Brant Street intersection - The intersection is included in the ongoing Waterdown Aldershot Transportation Master Plan Study.
      - Appleby Line intersection - included in the approved Appleby Line (Regional Road 20) Environmental Study Report (March 2006).
      - Dundas Street from 350m east of Colonel William Parkway to 350m west of Postmaster Drive - part of the approved Bronte Road (Regional Road 25) Environmental Study Report (September 2002).
      - Proudfoot Trail intersection - included in the approved Dundas Street at Sixteen Mile Creek Environmental Study Report (May 2003).
2. Focus Areas for Alternative Evaluation
   a) N. Ahmed noted that the preferred widening alternative of Dundas Street would be along the centreline, which would result in an equal widening north and south of Dundas Street. However, this is not possible along the entire corridor due to surrounding constraints. As a result, the sections of roadways that are constrained will be areas of focus that require multiple alternatives to be developed.

MINUTES: **ACTION BY:**

b) Based on a review of the corridor, the following 6 Focus Areas were identified:

- East and west of Guelph Line– there are multiple heritage properties adjacent to Dundas Street on the north and south side with direct access including St. John's Anglican Church and Nelson United Church. The Nelson United Church entrance and parking lot abut the Dundas Street ROW. St. John's Anglican Church and cemetery are offset from Dundas Street, however, they are significantly lower in elevation than the roadway.
- 407 Interchange – Various alternatives may be considered including widening the structure or modifying the 2 through lanes and auxiliary lane in each direction to 3 through lanes with a standard sidewalk width.
- St. Paul's Presbyterian Church and Cemetery– The Provincially designated church and cemetery abut the Dundas Street ROW.
- CNR Overhead Structure - The south side of the structure currently meets minimum vertical clearance at the CN tracks. In addition, the superstructure is superelevated to the north, to accommodate the horizontal curve.
- Tansley Creek Bridge– The land north of the structure is relatively undisturbed and Bronte Creek Provincial Park is located on the south side. In addition, heritage properties are located in the vicinity of the structure's southwest corner.
- East of Tremaine Road – multiple heritage properties adjacent to Dundas Street on the north side with direct access, as well as, 2 businesses with direct access to Dundas Street on the south side of the corridor. In addition, Bronte Creek Provincial Park is located on the south side of the roadway.

c) MRC noted that preliminary alternatives have been developed for the Tansley Creek Bridge. Using a plan, MRC described the alternatives:

- The alternatives developed include widening along the centreline, fully to the north and fully to the south, as well as, maintaining or replacing the older truss structure. It was noted that based on a detailed structural evaluation and assessment by MRC, the truss structure will require significant rehabilitation to meet current design standards and increased annual maintenance.
- MRC noted that the alternatives for the crossing requirements will be evaluated based on criteria including structural, natural environment and heritage factors.
- CH noted that for a new structure, longer spans should be considered to minimize the number of piers in the valley. MRC

3. Proposed Development Implications

a) MRC noted that there are many developments occurring along the

MINUTES: **ACTION BY:**

corridor and the information is currently being assembled by the Project Team. MRC has included the draft plans of the proposed developments that have been received to date on the plans.

b) It was noted that MRC is currently completing a peer review of the Environmental Implementation Report & Functional Servicing Study for the Halton Healthcare Hospital Plan. J. Brenner noted that there is a flooding issue at this location and there is currently consideration of a new pipe system at this location on Dundas Street. It was noted that these discussions are preliminary and are not included in the above noted report. The Region will provide updated information to MRC when available. *[Post Meeting Note: The Region provided additional information on the revised erosion analysis via email April 26/10].* Region

c) J. Brenner noted that as part of the Tremaine & Dundas Secondary Plan, the tributary of the Fourteen Mile Creek that is located in the northwest quadrant of Tremaine Road and Dundas Street is now considered regulated.

ITEM 4 – NATURAL ENVIRONMENT

1. Existing Conditions

a) E. Blenkhorn provided an overview of the watersheds within the study area and noted the following:

- The Dundas Street study limits traverse the watersheds of Tuck Creek, Shoreacres Creek, Appleby Creek, Sheldon Creek, Fourteen Mile Creek and McCraney Creek.
- Ecoplans conducted fish habitat assessments on 30 watercourses including micro drainage features. The watercourses were reviewed from approximately 100 m upstream of Dundas Street to 200 m downstream.
- The tributaries of Tuck Creek, Shoreacres Creek and Sheldon Creek have been highly modified through channelization and realignment.
- The Tuck Creek tributaries are piped underground, presenting barriers to fish movement.
- Tuck Creek, Shoreacres Creek, Appleby Creek, Sheldon Creek, Fourteen Mile Creek and McCraney Creek support warmwater baitfish habitat.
- The Bronte Creek supports warmwater sportfish and baitfish habitat and migratory runs of Rainbow Trout and salmon. In addition, the creek supports Redside Dace, a sensitive species designated as 'Endangered' both federally and provincially. Ecoplans noted that recreational fishing occurs in this section of the creek. CH inquired if Ecoplans obtained temperature data for the creek. Ecoplans noted that no temperature data was

MINUTES: **ACTION BY:**

available.

- Fourteen Mile Creek supports Redside Dace. The stream is channelized for approximately 10 m upstream of the culvert. It was noted that this crossing is a 2 box culvert. CH noted that consideration should be given to replacing this culvert and including an open bottom crossing. — MRC / Ecoplans

b) S. Dinka provided an overview of the terrestrial environment within the study area and noted the following:

- Ecoplans reviewed the terrestrial environment from approximately 50 m north and south of Dundas Street.
- The predominant features within the study limits are associated with the Bronte Creek valley, Bronte Creek Provincial Park and the narrow vegetated valleys of the Fourteen Mile Creek tributaries. Small patches of forest and cultural woodland are scattered along the study limits, mainly associated with the Nelson Escarpment Woods (located at the Brant Street intersection) and rural residences along the north side of Dundas Street.
- Other vegetation features scattered throughout the Study Area include hedgerows and small patches of cultural woodland around residential enclaves.
- Roadside areas typically support disturbed culturally influenced habitats including small cultural woodlands/plantations, old-field meadow and tolerant marsh communities.
- ESA #6 (Nelson Escarpment Woods) is generally disturbed, a scattering of residential homes are located within the area. The area is dominated by Buckthorn.
- ESA #10 (Bronte Creek valley) is generally disturbed in the area of the bridge piers.
- CH recommended including the areas that are identified as woodlands within the study area be added to the plans. — MRC/Ecoplans
- The study area provides habitat for a range of common, generalist wildlife species that are tolerant of urban and semi-urban conditions. No significant wildlife habitat features are identified by MNR within the area.
- CH noted that a frog inventory was conducted in the vicinity of Glenorchy Conservation Area. CH will provide the information to the Project Team. *[Post Meeting Note: The Region provided the report via email April 20/10].*
- CH noted that the Interconnecting Watermain EA Study completed a breeding bird survey, which identified Chimney Swifts within the study area. The species was found in the study area and was not confirmed as nesting in the area. The Region

MINUTES: **ACTION BY:**

will provide the study to MRC / Ecoplans. *[Post Meeting Note: The Region provided the report via email April 20/10].*

- CH noted that additional information on wildlife at the western end of the study area would be available in the draft Waterdown Aldershot Transportation Master Plan. The Region will provide the draft report to MRC / Ecoplans. *[Post Meeting Note: The Region provided the report via email April 19/10].*

2. Proposed Evaluation Factors

c) MRC provided a table which included the proposed evaluation factors that will be applied to evaluation of alternatives. E. Blenkhorn reviewed the proposed Natural Environment factors and the following was noted:

- CH noted that Factor 3.2.a. (Effect on fish and fish habitat considering sensitivity and relative magnitude of potential effect) should include specific effects on spawning, rearing, feeding, etc. Ecoplans concurred. Ecoplans noted that although the factor does not include the breakdown of effects that will be assessed, consideration of specific effects including the above will be taken into consideration during the evaluation process. — MRC / Ecoplans
- CH recommended that Factor 3.2 (Fish and Aquatic Habitat) include impacts to headwater functions as an additional effect to consider, as well as groundwater impacts. — MRC / Ecoplans
- CH recommended that Factor 3.3 (Wildlife) include impacts to Halton Local Status species. — MRC / Ecoplans

ITEM 5 – DRAINAGE

1. Existing Conditions

a) P. Warburton provided an overview of the drainage conditions within the study area and noted the following:

- Dundas Street is currently drained by typical roadside ditches along both the north and south sides between Brant Street to Walkers Line, along the north side of the road from Walkers Line to Rotary Way/Berwick Drive, and once again along both north and south sides from Rotary Way/Berwick Drive to Proudfoot Trail.
- The culverts within the study area are generally in good condition.
- As a result of this study, improvements to the existing roadway drainage and storm water management facilities may be required. This may include rehabilitation and/or replacement of existing storm sewers, storm sewer outfalls and culverts, relocation of roadside ditching, erosion protection, and construction of new storm water management facilities to provide the required level of storm water quality and quantity

MINUTES: **ACTION BY:**

control.

- MRC noted that they are currently developing the hydrology model for the study. CH noted that the flows from the approved Alton Community Secondary Plan and North Oakville Secondary Plan should be used for the model. — MRC
- CH recommended upgrading the culverts to accommodate the Regional Storm. The Region noted that culvert upgrades will be consistent with the other sections of Dundas Street. The Region will confirm the standard for overtopping. — Region

2. Proposed Evaluation Factors

a) P. Warburton reviewed the proposed Stormwater drainage factors and the following was noted:

- CH recommended that a new factor be included in the evaluation table – Potential Natural Hazard. The criteria would include: impact on floodplain, erosion risks, and slope stability. As a result, the criteria for Factor 3.5 (Stormwater Management) would be revised to include sediment control (water quality) and opportunity to accommodate stormwater management measures. — MRC

ITEM 6 – NEXT STEPS

a) CH provided a letter and attachments (April 15, 2010) regarding their comments on the Public Information Centre (PIC) #1 displays and their checklist for Environmental Assessments. For any questions on the content of the letter, J. DeVito is to be contacted.

b) CH recommended a site visit in the areas of Bronte Creek and Fourteen Mile Creek prior to the selection of the preferred alternative. The Region agreed that a combined site visit and meeting to discuss the evaluation of alternatives will be arranged with CH in the Fall 2010. — Region

c) CH inquired about the timing of construction of Dundas Street. The Region noted that based on the current 10-year Capital Project list, construction of the corridor is from 2012 to 2017. Construction is expected to commence for the following sections of Dundas Street in 2012:

- Appleby Line to Walker's Line
- East of Bronte Road to Proudfoot Trail

In addition, construction of the Bronte Creek Bridge and CN Structure are scheduled for 2012. The Region's Roads Capital Map (2010-2019) is attached.

ITEM 7 – OTHER BUSINESS

- No other business was discussed.

Minutes prepared by,

McCormick Rankin Corporation

Leslie Green
cc: all attending, Project Team

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Website: www.mrc.ca

MINUTES OF MEETING

PROJECT:	Dundas Street BRT Corridor Study		
DATE:	Tuesday, July 19, 2011	**TIME:**	10:00 a.m. to 12:30 p.m.
PLACE:	Halton Region Halton Room		
PRESENT:	Jane De Vito	Conservation Halton	
	Samantha Mason	Conservation Halton	
	Kim Barrett	Conservation Halton	
	Janette Brenner	Conservation Halton	
	Jeff Reid	Halton Region	
	Melissa Green-Battiston	Halton Region	
	Anne MacMillan	Ecoplans	
	Kristen Harrison	Ecoplans	
	Kim LeBrun	Ecoplans	
	Neil Ahmed	MRC	
	Stephen Braun	MRC	
	Trevor Small	MRC	
	Leslie Green	MRC	
PURPOSE:	Meeting with Conservation Halton (CH) to discuss the key natural and drainage features along the Dundas Street corridor.		

MINUTES: **ACTION BY:**

ITEM 1 – INTRODUCTIONS

J. Reid welcomed all attendees and provided a brief introduction of the study. It was noted that this meeting was to originally occur as a site visit to key features along the corridor but due to a heat advisory, the site visit was postponed. As a result, the meeting's format included a discussion of the key features using maps and photographs. The Region will reschedule the site visit. *[Post Meeting Note – The corridor site visit has been arranged for September 22/11 (Rain Date - September 23)].* Region

ITEM 2 – STUDY STATUS

N. Ahmed provided a brief overview of the study status. The following was noted:

1. A Dundas BRT Business Plan Assessment was undertaken by the Region. The Business Plan Assessment provided an appraisal of the merits of the BRT initiative. As part of the Business Plan Assessment, it was recommended that the planning work done to date on Dundas Street from Brant Street to Trafalgar Road, including the Dundas Street

MINUTES: **ACTION BY:**

Class EA Study (Brant Street to Proudfoot Trail), be folded into a single project under the Transit Project Assessment Process (TPAP). The project is now referred to as the Dundas Street BRT Corridor Study.

2. As part of the Dundas Street BRT Corridor Study, workshops are being held with Technical Agencies (Federal Agencies, Provincial Ministries, Local Municipalities and Utilities) throughout the planning process, which CH has attended. The workshops are being held in conjunction with the Trafalgar Road BRT Corridor Study. The workshop format is considered effective in engaging the agencies in the BRT planning process for the Dundas Street corridor. The first workshop was held in March 2011 to introduce the study. The second workshop was held in May 2011 to receive input on the development of the BRT concepts for Dundas Street prior to PIC #1 (June 23/11). A third workshop will be held prior to the second PIC in the Fall. In addition to the workshops, the Project Team will be meeting key agencies, including CH, to discuss specific issues related to the study.
3. In April 2010, MRC met with CH to discuss the Dundas Street Class EA Study (Brant Street to Proudfoot Trail). At that meeting, CH provided a letter dated April 15, 2010 (attached) regarding their initial comments on the project and their checklist for Environmental Assessments. As MRC proceeds with the Dundas Street BRT Corridor Study, the comments provided by CH in the letter will be taken into consideration. MRC

ITEM 3 – KEY NATURAL ENVIRONMENT FEATURES

Ecoplans noted that due to the length of the study corridor, key natural features that were representative of the area were selected for review with CH.

1. McCraney Creek:
   a) McCraney Creek is classified as a Valleyland/Watercourse in the Town of Oakville Official Plan and identified as a 'medium constraint' in the North Oakville Secondary Plan.
   b) North of Dundas Street, this area is primarily agricultural with narrow / limited presence of cultural / old field species in close proximity to the swale. Upstream, the swale is poorly defined through predominantly agricultural fields with limited flows. The channel gains more definition in close proximity to the culvert at Dundas Street.
   c) The lack of defined flow upstream of the existing crossing, as well as the lack of flow during drier periods, would act as seasonal barriers to upstream fish movement in this watercourse.
   d) South of Dundas Street, the area is a channelized valley / system

MINUTES: **ACTION BY:**

and dominated by common old field species, with dense cattail cover within the channel. The watercourse downstream is channelized through rip rap substrates within 20 m of the crossing, and then flows through a densely cattail vegetated system before outletting to an engineered channel further south/downstream.

e) CH noted that based on previous contact with Infrastructure Ontario (formerly ORC), McCraney Creek north of Dundas Street may be lowered in the future. CH will confirm the status. *[Post Meeting Note – CH confirmed that Infrastructure Ontario intends to lower McCraney Creek north of Dundas Street and provided the Infrastructure Ontario contact for further information (Email dated August 4/11)].* CH

2. Fourteen Mile Creek East Tributary (East of Old Bronte Road):

a) The Fourteen Mile Creek East Tributary is classified as a Valleyland/Watercourse in the Town of Oakville Official Plan and identified as a 'high constraint' in the North Oakville Secondary Plan.

b) This stream has been identified as Redside Dace habitat based on DFO mapping. It also supports warmwater baitfish species. Species observed in the field include Blacknose Dace, Bluntnose Minnow, Creek Chub, Fathead Minnow, Goldfish, and White Sucker. CH noted that they have received funding to restore the channel upstream to improve the habitat for Redside Dace.

c) A portion of the the Oakville-Milton Provincially Significant Wetlands is found immediately north of Dundas Street, upstream of a dam structure. The wetland communities present upstream include shallow aquatic and shallow marsh, with some meadow marsh. There is a large on-line pond that is lined with cattail vegetation and the outlet is a large drop structure composed of geotextile blocks. Between the blocks and culvert there is a small section of natural channel with a scour pool at the inlet of the culvert where the culvert footings are being undermined. Substrates were assumed to be silt and organics in the pond, and sand between the pond outfall and existing culvert.

d) South of Dundas Street the watercourse has recently undergone channel realignment and associated works. The banks were just being vegetated when the site investigation was completed. There is a large drop structure of armour stone within 5 m of the existing road crossing (over 5 feet in height) that is currently acting as a permanent barrier to upstream movement. A large outlet pool below this drop area is acting as refuge habitat for resident fish. There is a long area between the culvert outlet and drop area that is lined by rip rap and very little water. In addition, there are

MINUTES: **ACTION BY:**

cultural species along the road allowance, including daisy, clover, chickory, and grass species. Within the realigned section, there were grass species that dominated the planting.

e) CH noted that the area upstream of the culvert is discussed in the Master Plan for Glenorchy Conservation Area (available on CH website). The Glenorchy Conservation Area is located in North Oakville and is roughly bounded by Regional Road 25, Highway 407, Neyagawa Boulevard and Dundas Street. The plan consists of development and restoration plans for the area.

f) MRC noted that based on a preliminary review, the culvert will require extension on both sides of Dundas Street. It is expected that the road will drain south and not impact the wetland. CH noted that future documentation should include the wetland and note if any changes are expected to it.

3. Fourteen Mile Creek East Tributary (West of Colonel William Parkway):

a) The Fourteen Mile Creek East Tributary is classified as a Valleyland/Watercourse in the Town of Oakville Official Plan and identified as a 'high constraint' in the North Oakville Secondary Plan.

b) North of Dundas Street the terrestrial environment includes open canopy willow and lowland deciduous forest. The watercourse upstream flows through agricultural land. A side channel connects a large pond to the main channel within approximately 500 m upstream of Dundas Street. The main channel is narrow and fairly linear supporting mainly riffle/runs, before entering a lowland reach where the stream meanders before entering a confined/channelized reach approximately 30 m upstream of Dundas Street (contained within concrete walls). Within the meandering reach, debris jams cause braided flow.

c) South of Dundas Street, the vegetation is disturbed upland and lowland deciduous forest. The watercourse flows through a forested valley supporting mainly flat morphology.

d) This stream has been identified as Redside Dace habitat based on DFO mapping, as well as, records of Redside Dace. In addition, warmwater baitfish communities are supported in this system

e) CH noted that there may be a buried river valley in the vicinity; which would have been identified in the Halton Region's Zone 3 Watermain Study. The Region will confirm if there is a buried river valley in the area. Region

4. Sheldon Creek:

a) The landscape upstream and downstream of Dundas Street has

MINUTES: **ACTION BY:**

been modified.

b) The watercourse supports a warmwater baitfish community. Based on DFO mapping, there is a potential presence of, or habitat for Silver Shiner.

c) The tributary has been modified upstream of Dundas Street. The tributary drains through a pipe from a SWM pond into a large pool upstream of the culvert. Upstream of the pond appears to have been redesigned using natural channel design principles.

d) The tributary flows through Millcroft Golf Course downstream, with minimal riparian cover, and flows through a few online ponds through the golf course property.

5. Shoreacres Creek Tributaries:

a) The terrestrial environment has been heavily modified. Recent construction of natural channel design includes planting with cultural meadow and common riparian species. A small marsh community is present south of Dundas Street, at the confluence of two west branches of Shoreacres Creek. The marsh is dominated by Common Reed with some young trees present.

b) There are records of Carp and Minnow species in the Shoreacres Tributaries. All three Shoreacres Tributaries have been heavily modified. As mentioned, two show recent natural channel design, however, water is almost stagnant and all three channels are heavily vegetated upstream.

c) CH noted that as part of the proposed development at the northwest quadrant of Dundas Street and Walkers Line, realignment of the Shoreacres tributary is proposed. The Region will provide the latest development plan to MRC. Region

6. Tuck Creek:

a) Dundas Street traverses the headwaters of Tuck Creek, crossing a large number of tributaries. In general, these tributaries are not well defined, and often, are piped downstream for long distances, or are connected to SWM facilities downstream of Dundas Street under existing residential developments.

b) In general, most of these tributaries are swale features through agricultural fields. Some tributaries have narrow bands of riparian vegetation dominated by old field and / or common moisture-tolerant riparian species.

c) Fisheries potential is relatively low as a result of barriers present (primarily piping of the tributaries downstream of Dundas Street). Additionally, several of the Tuck Creek tributaries provide only seasonal / event conveyance. Sampling records did not indicate fish were present in these headwaters tributaries.

MINUTES: **ACTION BY:**

7. Black Walnut:
   a) This is a young provincially rare vegetation community (Fresh-Moist Black Walnut Deciduous Forest, S2S3 per NHIC). It is bordered on the east and west by intermittent watercourse features and is part of the Nelson Slope Forest ANSI and Escarpment Natural Area. White Spruce and Eastern Red Cedar, which are regionally rare/uncommon, are also noted in the area.
8. Bronte Creek:
   a) Highest quality natural feature in the study corridor. A high quality forest, especially on east valley slope north of Dundas Street, which includes several regionally rare species including Shagbark Hickory, Round-lobed Hepatica, Hairy Beardtongue, Downy Arrow-wood.
   b) Butternut identified on the west valley slope and in the hedgerow south of Dundas Street as part of the Zone 3 Watermain Study. All Butternut south of Dundas Street are confirmed hybrids by MNR.
   c) Terrestrial environment is generally disturbed adjacent to the current and historic structures.
   d) This stream has been identified as a potential Redside Dace habitat and/or presence based on DFO mapping. The creek is a coldwater community with migration of rainbow trout and chinook salmon. It also supports sportfish and baitfish communities. CH noted that MNR stocked the creek with salmon.
   e) CH noted that a study on Chimney Swifts was undertaken for the Zone 3 Watermain Study. Chimney Swifts were identified on the abandoned bridge piers. Ecoplans noted that they will review the study findings. Ecoplans
   f) MRC noted that the existing structure crossing at Bronte Creek will require widening from 4 lanes to 6 lanes. The following was noted:
      - The Tansley Bridge crossing the Bronte Creek is composed of two structures: the westbound steel girder structure and eastbound truss structure. The truss structure is longer than the girder structure. There is a longitudinal expansion joint between the two structures and this is problematic.
      - Four options have been developed for considerations of widening the structure from 4 lanes to 6 lanes:
        - Option 1 – widen 2 lanes to the north
        - Option 2 – widen 4 lanes to the north
        - Option 3 – widen on the centreline
        - Option 4 – widen 2 lanes to the south

MINUTES: **ACTION BY:**

The truss structure is structurally at capacity – no additional load can be added to it. In addition, the annual maintenance cost of the structure is high. Therefore, the above options all consider removing the truss structure and replacing it with a girder structure.

- It was noted that due to the watermian being constructed on the abandoned bridge piers, which are located immediately to the south of the Tansley Bridge, widening to the south is not preferred.
- CH inquired if the new structure could be a 3 span structure. MRC noted that a 3 span structure would be incompatible with the existing 4 span structure. The new structure would have piers in the same location as the existing girder structure.
- CH inquired if a fluvial geomorphologist will be involved in the study. It was noted that MRC's fluvial geomorphologist will be involved in the project as necessary. — MRC
- It was noted that a separate site visit to Bronte Creek to discuss the alternatives is preferred. The Region will schedule the site visit. *[Post Meeting Note – The Bronte Creek site visit was held on August 30/11)].* — Region

9. CH noted that ESA permits will be needed from MNR for the project, which typically are difficult to obtain in a timely manner. Ecoplans noted that ESA implications and permit requirements will be identified as part of the study process. It was also noted that conceptual buy-in from MNR at the planning stage is important, which may improve the process of obtaining the required permits. MRC noted that MNR has been contacted as part of this project. CH noted that they will discuss this project at their next monthly meeting with MNR. — CH
10. MRC noted that many of the culvert accommodate the Regional Storm event; however, some of the culverts will not. MRC noted that they conducted a peer review of the Environmental Implementation Report and Functional Servicing Study for the future hospital at Third Line and Dundas Street, and there will be minor flooding of the roadway. CH noted that their preference is to be flood-free at all culverts; however, it is recognized that this is not always possible. As a result, if flooding is unavoidable, MTO criteria for flooding is applied.
11. MRC noted that the study area includes over 60 culverts. CH noted that documentation on the culverts should include information on the culvert so to understand the proposed changes to it (e.g. extension/replacement, type, height, etc.).
12. CH noted that thermal impacts associated with stormwater management should be considered. MRC noted that Credit Valley

MINUTES: **ACTION BY:**

Conservation recently completes a study on thermal impacts and will provide the report to CH. *[Post Meeting Note – MRC provided the Credit Valley Conservation Thermal Impacts of Urbanization including Preventative and Mitigation Techniques (January 2011) via email July 20/11].* MRC

13. MRC noted that they received the hydraulic models from CH in 2009 for the Alton Community Area and inquired if there are any updated models or information for this area. CH will provide additional information, if available, to MRC. *[Post Meeting Note – CH confirmed (email dated August 3/11) that most of the relevant models for the area were provided in 2009 to MRC. MRC will contact CH for additional information on the Main Sheldon Creek. For stormwater management design briefs on the developments of West and Central Alton Community, as well as, the Northeast Alton Community Stormwater Management Master Plan, CH advised MRC to contact the City of Burlington.]* CH

ITEM 3 – NEXT STEPS

As noted in Item 1. The Region will reschedule the site visit. *[Post Meeting Note – The corridor site visit has been arranged for September 22/11 (Rain Date - September 23)].* Region

ITEM 4 – OTHER BUINESS

No other business was discussed.

Minutes prepared by,
McCormick Rankin Corporation

Leslie Green, P.Eng.
cc: all attending

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MINUTES OF MEETING

PROJECT:	Dundas Street BRT Corridor Study		
DATE:	Tuesday, August 30, 2011	**TIME:**	10:00 a.m. to 12:30 p.m.
PLACE:	Bronte Creek Valley		
PRESENT:	Samantha Mason	Conservation Halton	
	Kim Barrett	Conservation Halton	
	Janette Brenner	Conservation Halton	
	Jeff Reid	Halton Region	
	Patrick Monaghan	Halton Region	
	Anne MacMillan	Ecoplans	
	Kristen Harrison	Ecoplans	
	Kim LeBrun	Ecoplans	
	John Beebe	JTB Environmental Systems Inc	
	Sally Kelday	MRC	
	Neil Ahmed	MRC	
	Trevor Small	MRC	
	Leslie Green	MRC	
PURPOSE:	Site Meeting with Conservation Halton (CH) to discuss Bronte Creek Valley and Tansley Bridge improvements as part of the Dundas Street BRT corridor improvements.		

MINUTES: **ACTION BY:**

A site visit of the Bronte Creek Valley and Tansley Bridge was held with CH as a preliminary component of an overall plan to field visit key natural features within the corridor. Using stakes, MRC had earlier marked the limits of the proposed structure and potential construction area requirements along the northside of the existing structures. The following was discussed at the site visit:

1. MRC noted that the existing structure crossing (Tansley Bridge) at Bronte Creek will require widening from 4 lanes to 6 lanes. The Tansley Bridge crossing Bronte Creek is composed of two structures: the westbound steel girder structure and the older eastbound truss structure.
2. There is a longitudinal expansion joint between the two structures and this is problematic. The two structures types, which are also different in length, expand and contract independently, resulting in degrading/leaking of the joint. As a result it is preferable to construct structures that are the same type and length so they perform/function together.
3. Four options of widening the structure from 4 lanes to 6 lanes have

MINUTES: **ACTION BY:**

been developed for consideration:

- Option 1 – widen 2 lanes to the north
- Option 2 – widen 4 lanes to the north
- Option 3 – widen on the centreline
- Option 4 – widen 2 lanes to the south

The truss structure is structurally at capacity – no additional load (i.e. widening) can be added to it. In addition, the annual maintenance cost of the structure is high. Therefore, the above options all consider removing the truss structure and replacing it with a girder structure in its place. As mentioned in Item 2, constructing girder structures will result in compatible structures and will eliminate the longitudinal expansion joint issue.

4. It was noted that Option 3 was not carried forward due to the future watermain that will be constructed on the abandoned bridge piers located to the southside of the existing truss structure. In addition, Option 4 was not carried forward since overbuilding of the structure would be required for construction staging (i.e. maintaining 2 travel lanes in each direction) and would result in similar impacts as Option 1 or Option 3. Option 1 is preferred since Option 2 would result in further disturbance of the natural area to the north and would result in significant property impacts to the adjacent properties.
5. Option 1 (Preferred) would result in a new north girder structure. The structure would be widened approximately 12 m (preliminary and will be confirmed as the study progresses) from the existing girder structure. A new structure is also proposed to replace the existing truss structure but with a smaller footprint.
6. CH inquired if the new structure could be a 3 span structure. MRC noted that a 3 span structure would be incompatible with the existing 4 span structure. The new structure would have piers in the same lateral locations as the existing girder structure.
7. MRC reviewed potential construction methods for the proposed work. The following was noted:

   a) CH noted that EA document should include the most likely construction method. It should also identify alternative construction methods in the event the proposed method is determined not feasible following EA approval.

   b) MRC noted that construction access to the valley is difficult in particular on the north-west side due to the steep valley walls. Various options will be considered. Consideration will be given to using the access road that will be constructed as part of the future watermain.

   c) The piers of the new structures will be in line with the piers of the existing girder structure as well as similar physical size. It was noted that the existing piers for the truss structure would likely be removed and the footings would be excavated. The new piers

MINUTES: **ACTION BY:**

would then be erected by crane, which would involve excavation for new footings. CH inquired if the truss structure footings would need to be excavated, or if they could be left in place to reduce potential impacts associated with excavation and dewatering. MRC noted that it may be possible to leave the existing footings and accommodate the new footings. MRC will review the feasibility of this option. MRC

d) CH inquired if groundwater impacts will be reviewed. MRC noted that existing geotechnical reports will be reviewed for the study area including the report completed for the Zone 3 Watermain Study. Ecoplans noted that a possible method to avoid artisan conditions, if identified as an issue, is by using caissons. MRC noted that historically the structures in the Bronte Creek Valley have used footings, so it is expected that spread footings will be constructed. MRC

e) CH inquired what type of temporary creek crossing would be required for the crane. MRC noted that using culverts to maintain base flow may be a consideration. CH noted that due to the construction period (3+ years), the temporary creek crossing should accommodate the 5-year conveyance. As a result, MRC noted that the temporary crossing may require a temporary bridge, which is similar to the temporary crossing used at the Sixteen Mile Creek crossing.

f) MRC noted that different methods of construction for the girders will be considered due to the complexity of the area. The following options were discussed:

- Cranes would be assembled in the valley and used to lift the girders. The cranes would require a 15 m platform in the valley. It was noted that valley wall is too steep on the east side of the creek to accommodate a crane so a two crane system (1 in the valley and 1 above on Dundas Street) would be needed to launch the east girders. It was also noted it would be difficult to achieve a 15 m platform on the north west valley wall due to its steepness.
- Launching of the spans involves building the spans on land. This method was used for the Sixteen Mile Creek crossing. The centre spans are large so temporary piers would need to be constructed. Also, due to the size of the centre spans, the girders would need to be overbuilt for launching. This would result in a differential stiffness with the adjacent existing girder structure, which is not desirable.
- Heavy lift cranes could be used to erect the end spans from behind the new abutments. Then cranes on the westbound structure would be used to erect the centre spans. This would require reducing Dundas Street from 4 to 2 lanes for 2-3 weekends. *[Post Meeting Note – The Region noted that lane*

MINUTES: **ACTION BY:**

restrictions (one lane in each direction) on Dundas Street are permitted from a Friday, starting at 9 p.m. to Monday at 5 a.m.]

MRC will further review potential construction methods. *[Post Meeting Note – Consideration will be given to holding a Constructability Workshop for the proposed Tansley bridge work].* MRC

8. MRC noted that fluvial geomorphology will be taken into consideration for the Bronte Creek crossing. It was noted that the fluvial geomorphology approach will be similar to the approach undertaken for the Sixteen Mile Creek crossing. Baseline conditions will be established, alternatives will be developed and a preferred concept will be identified. MRC noted that the east bank is receding and could eventually impact the pier located on the east side of the creek. Potential options could include cutting the bank back and restoring the area, which would minimize bank retreat.
9. As mentioned previously, the east side of the creek would likely not accommodate a crane. MRC noted that the creek could be temporarily diverted to the west, which would provide an area to accommodate a crane of the east side of the creek. CH noted that temporarily diverting the creek is not to be considered due to fisheries. The creek is a coldwater community with migration of rainbow trout and chinook salmon. CH noted that MNR stocked the creek with salmon.

Minutes prepared by,
McCormick Rankin Corporation

Leslie Green, P.Eng.
cc: all attending

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MINUTES OF MEETING

PROJECT:	Dundas Street BRT Corridor Study		
DATE:	Thursday, September 22, 2011	**TIME:**	9:00 a.m. to 3:30 p.m.
PLACE:	Dundas Street Corridor		
PRESENT:	Jane De Vito (Part-time)	Conservation Halton	
	Samantha Mason	Conservation Halton	
	Janette Brenner	Conservation Halton	
	Jeff Reid	Halton Region	
	Melissa Green-Battiston	Halton Region	
	Kristen Harrison	Ecoplans	
	Kim LeBrun	Ecoplans	
	Neil Ahmed	MRC	
	Stephen Braun	MRC	
	Sally Kelday	MRC	
	Leslie Green	MRC	
PURPOSE:	Site Meeting with Conservation Halton (CH) to discuss the key natural and drainage features along the Dundas Street corridor.		

MINUTES: **ACTION BY:**

A second site visit of the key natural features within the corridor (excluding Bronte Creek) was held with CH. MRC provided a handout (attached), which was a map of the features that would be visited and included a description of the terrestrial conditions and fisheries associated with the features. Using the handout, the Project Team reviewed the key features. The following key comments are noted:

1. McCraney Creek:
   - CH noted that based on previous contact with Infrastructure Ontario (formerly ORC), McCraney Creek north of Dundas Street may be lowered in the future. The Region noted that they have not been provided any plans from Infrastructure Ontario. MRC noted that when the information is available, it will be incorporated into the study. CH will check the status of their discussions with Infrastructure Ontario. S. Braun will contact Infrastructure Ontario *(Contact information provided to S. Braun via email Aug. 4/11).* — CH/MRC
2. Fourteen Mile Creek East Tributary (East of Old Bronte Road):
   - A portion of the Oakville-Milton Provincially Significant Wetlands is found immediately north of Dundas Street, upstream of a dam structure. CH noted that the dam is failing and in the event that it

MINUTES: **ACTION BY:**

does fail, CH would like to investigate the possibility reverting back to a creek upstream.

3. Fourteen Mile Creek East Tributary (West of Colonel William Parkway):
   - CH noted that the crossing of the Fourteen Mile Creek on the north side is located in a steep valley. The channel is heavily modified to the north with concrete walls forming the channel banks. MRC noted that a culvert extension would be required at this location and realignment of the channel would be required for the extension.
   - CH noted that the 407 West Employment Area Environmental Implementation Report and Functional Servicing Study (EIS/FSS) should be reviewed as part of this study. MRC noted that they have reviewed and provided comments on the 407 West Employment Area Servicing Plan to the Region. The Region will provide the EIS/FSS to MRC. — Region
4. Sheldon Creek:
   - MRC noted that the roadway in the vicinity of Sheldon Creek has been widened to 6 lanes as part of the Appleby Line Class EA. CH noted that there is a great deal of information on the stormwater design of the area (Alton Community) and advises that MRC contact the City of Burlington for the information. S. Braun will contact the City of Burlington *(Contact information provided to S. Braun via email Aug. 4/11).* — MRC
5. Shoreacres Creek Tributaries:
   - CH noted that as part of the proposed development at the northwest quadrant of Dundas Street and Walkers Line, realignment of the Shoreacres tributary is proposed. The Region noted that they are aware of the development. The plan available to the Region is a year old and has been provided to MRC. It is the Region's understanding that the City is still in discussions with the proponent and ORC regarding the north leg at Dundas Street & Northampton Boulevard. The Region will contact the City on the status of their discussions. — Region
6. Tuck Creek
   - The Tuck Creek tributaries were briefly visited. CH had no questions/comments.
7. Black Walnut/Regulated Area east of Terra Greenhouses (2273 Dundas Street):
   - The Black Walnut Forest was not visited due to safety concerns associated with accessing the site (vehicles would be required to park on the road shoulder). The information provided on the

MINUTES: **ACTION BY:**

handout was considered sufficient.

- At the request of CH, the team took the opportunity to visit the regulated area on the northside of Dundas Street east of Terra Greenhouses (2273 Dundas Street). CH attendees noted that they have not had a prior opportunity to visit this site. CH had no questions/comments on the area.

8. MRC noted that many of the culverts accommodate the Regional Storm event; however, some of the culverts will not. CH noted that their preference is to be flood-free at all culverts; however, it is recognized that this is not always possible. As a result, if flooding is unavoidable, MTO criteria for flooding is applied.
9. MRC noted that the study area includes over 60 culverts. CH noted that documentation on the culverts should include information on the culvert so as to understand the proposed changes to it (e.g. extension/replacement, type, height, etc.).

Minutes prepared by,
McCormick Rankin Corporation

Leslie Green, P.Eng.
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MINUTES OF MEETING

PROJECT:	Dundas Street Corridor Improvements EA Brant Street to Bronte Road		
MEETING:	MNR / NEC / CH		
FILE NO.:	3212082		
DATE:	Thursday, March 13, 2014	**TIME:**	1:00 p.m. to 2:45 p.m.
PLACE:	Halton Region – Dakota / Glenorchy Rooms		
PRESENT:	Jeff Reid	Halton Region	
	Melissa Green-Battiston	Halton Region	
	Patrick Monaghan	Halton Region	
	Jane Devlin	Ministry of Natural Resources (MNR)	
	Tim Marchand	MNR – Ontario Parks	
	Jillian Van Niekerk	MNR – Ontario Parks	
	Kellie McCormack	Niagara Escarpment Commission (NEC)	
	Janette Brenner	Conservation Halton (CH)	
	Neil Ahmed	MMM	
	Katherine Jim	MMM	
PURPOSE:	Meeting with MNR, NEC, and CH to discuss the re-initiation of "Section 3" of Dundas Street EA from Brant Street to Bronte Road, and to review the preliminary plan and key issues (including natural environment constraints, Bronte Creek Provincial Park, and potential impact to NEC lands) associated with this section.		

MINUTES: **ACTION BY:**

ITEM 1 – DUNDAS STREET EA – OVERALL STUDY STATUS / SCHEDULE

1.1 Those at the meeting were introduced.

1.2 Using a handout package, MMM reviewed the overall Dundas Street EA Study status, Dundas Street improvement construction, Bus Rapid Transit (BRT) concept plan, access, implementation of transit elements, shelter design, Bronte Creek crossing options and study schedule. Key points are noted as follows:

- Overall, Halton Region is planning for the widening of Dundas Street from 4 to 6 lanes. There are opportunities for the widened lanes to function as High Occupancy Vehicle (HOV) lanes / transit lanes and then ultimately be converted to dedicated transit lanes (by 2031).

MINUTES: **ACTION BY:**

- Section 1 – Dundas Street between Bronte Road and Proudfoot Trail. The Environmental Assessment (EA) Study for this section was completed in 2012 and is currently in detailed design.
- Section 2 – Dundas Street between Neyagawa Boulevard and Oak Park Boulevard. The EA for this section was completed in 2013. The construction of this section will likely follow the section between Bronte Road and Proudfoot Trail.
- Section 3 – Dundas Street Brant Street to Bronte Road – current study; approximately 10 km in length.
- Enhanced bus shelters are proposed at most signalized intersections. Concepts developed for the Town of Oakville were shared at the meeting. Similar concepts may be adopted in the City of Burlington.
- Following the analysis and evaluation of four Bronte Creek Crossing Options, the preferred option is to widen two lanes to the north, including the replacement of the south bridge (one of two existing structures). A Constructability Workshop will be organized later in the study process, currently anticipated in Fall 2014.

1.3 Earlier in the study process, site visits were held with CH and the Project Team's ecologists to discuss features at the Bronte Creek Valley (August 2011) and also drainage features along the Dundas Street corridor (September 2011).

1.4 J. Devlin asked about MNR's earlier involvement in the study process as she is new to this project. The Project Team responded that MNR has been notified at key milestones of the study (e.g. Notice of Study Commencement, Public Information Centres, etc.) and that background information requests have been completed along each stage of the project. Representatives of MNR were also invited to attend three Agency Workshops. (Slides from the three Agency Workshops are attached.)

1.5 The existing conditions map on aerial photo base were reviewed (2013 photography). The map illustrates land uses, including the Niagara Escarpment, natural environment features, cultural heritage features, future land use designations, etc. NEC suggested distinguishing the different types of NEC lands based on the Niagara Escarpment Plan (e.g. "Protected Area", "Rural Area" and "Natural Area"). MMM

ITEM 2 – REVIEW OF NATURAL ENVIRONMENTAL FEATURES PLATES

2.1 MMM Group reviewed the key natural environment features within the Study Area. Key notes are as follows:

MINUTES: **ACTION BY:**

- Tuck Creek Tributary #7 and Tributary #8 are indirect fish habitat since the tributaries are piped south of Dundas Street.
- Shoreacres Tributary #1, Tributary #2 and East Branch would require fish passage, as fish are observed within the road right-of-way.
- Appleby Creek supports warmwater fish community.
- Culverts 13 and 15 are mapped as potential Silver Shiner locations under DFO distribution mapping. However, the data may be old and the Project Team will follow up with MNR to classify habitat at these locations. MMM
- CN crossing has the potential for Barn Swallow nestings.
- In the proximity of Bronte Creek Provincial Park, Butternut trees were discovered on the south side of Dundas Street that were confirmed to be hybrids. Also one additional Butternut tree observed on north side of Dundas Street but is a fair distance (~100m) away from the road and will not be impacted.
- Fourteen Mile Creek West Tributaries (Culvert 22 and Culvert 23) support occupied Reside Dace habitat (confirmed through records with CH and MNR). These are existing concrete box culverts.
- Survey for bobolink, eastern meadowlark (avian SAR) will be carried out during detailed design.
- Amphibian survey may be carried out. [*Subsequent to the meeting, MMM ecologist noted that there are no record or endangered amphibian in the study area; they will follow up with CH to determine if a survey is required as part of the EA Study or if surveys can be done at detail design along with the avian SAR surveys.*]

ITEM 3 – REVIEW OF PRELIMINARY PLAN

3.1 The Project Team reviewed the typical cross sections and preliminary plan (1:1000 scale) of Dundas Street between Brant Street and Bronte Road. The following were noted:

- General cross section elements include: 50 m ROW, urban / rural sections, 6 travel lanes (2 general purpose lanes and 1 HOV/Transit lane in each direction), 5.5 m to 6.5 m raised median. Active transportation facilities (e.g. multi-use path, sidewalk and cycling lanes) are based on the draft Halton Region Active Transportation Master Plan (ATMP) Study and they vary through three general sections – Brant Street to Northampton Boulevard, Northampton Boulevard to Appleby Line, Appleby Line to Bronte Road.
- Three typical cross sections were presented, which include AT

MINUTES: **ACTION BY:**

elements noted above. The three typical cross sections differ mainly on the type of AT elements provided:

- Brant Street to Northampton Boulevard: 4 m multi-use path on the south side only.
- Northampton Boulevard to Appleby Line: 1.8 m on-road cycle tracks with 0.5 m buffer (delineated by breakaway bollards), and 2.0 m sidewalk on both sides of the road.
- Appleby Line to Bronte Road: 1.5 m on-road bike lanes with 0.3 m buffer and 3.0 m multi-use path on both sides of the road.

- The proposed property line (i.e. right-of-way) is shown in a red-dashed line, and the grading limits are shown in an orange-dashed line.
- The grading impacts through the rural areas are, in some sections, well beyond the proposed property line. [*Subsequent to the meeting, the Project Team decided that Dundas Street will have an urban cross section between Brant Street and Bronte Road to minimize impacts to adjacent properties as a result of grading. The urban section is also more suitable for active transportation uses.*]

ITEM 3 – DISCUSSION

3.1 Ontario Parks - Bronte Creek Provincial Park

- Ontario Parks provided an update on the Bronte Creek Provincial Park expansion proposal. They have yet to formalize the Park expansion. The expansion of the Provincial Park will require an amendment to the Regulation. Therefore, it would be preferred for the amendment process to also account for the amount of the property required for the widening of Dundas Street.
- As part of the Provincial Park expansion, Ontario Parks has yet to explore direct trail connection to Dundas Street; however, this may be considered in the future. For the purpose of the EA Study, it will assume no trail design under Bronte Creek Bridge (Tansley Bridge).
- Future parking areas adjacent to Dundas Street has also not been considered as part of the Provincial Park expansion. For the purpose of the EA Study, it will assume no direct trail access or parking areas from Dundas Street to the Bronte Creek Provincial Park (i.e. per existing conditions).
- Recognizing that the construction and staging for the Bronte Creek crossing widening will be very complex, a Constructability Workshop will be held later on in the study as noted earlier. Dundas Street will maintain 2 lanes of traffic in peak direction during construction. (i.e. Eastbound during the AM peak and

MINUTES: **ACTION BY:**

Westbound during the PM peak.)

- Due to impacts to Ontario Realty Corporation (ORC) lands, the Environmental Study Report (ESR) will document and satisfy requirements of the Ministry of Infrastructure EA process.
- Ontario Parks would like to maintain the existing access from Dundas Street for maintenance vehicles and equipment. There are currently two accesses and will be noted on the preliminary plan. MMM
- The existing horse trail has since been replaced with farming activities.
- Ontario Parks requested that a partial preliminary plan be provided which indicates the amount of property required as a result of Dundas Street widening. MMM
- Ontario Parks (with agreement from CH) would also like to see some kind of preliminary test case aesthetic/landscape enhancements along the Bus Stop areas within the Ontario Parks property. MMM group with consider options for a test case.

3.2 MNR

- MNR would like to explore the opportunities to enhancing culvert crossings (i.e. upgrade from a culvert to a bridge) to accommodate fish passage and animal crossings.
- Other areas of concerns would be water quality, hydrology, Best Management Practice, etc., especially in regards to Redside Dace water crossings and SWM outletting. MNR would like to be kept informed about study progress.

3.3 Conservation Halton

- Fourteen Mile Creek West Tributaries (Culvert 22 and Culvert 23) are Reside Dace habitat. These are existing concrete box culverts. CH noted that the analysis of structures should consider replacement as an alternative. The Project Team will be undertaking the hydraulic analysis (existing and future) and assessing the condition, as well as life span of the existing culvert as part of the preliminary design.
- Low Impact Development (LID) for drainage needs to be considered. It was suggested that this may be explored in a local area, for example at Tremaine Road, which is in the proximity of the Bronte Creek Provincial Park

3.4 Niagara Escarpment Commission

- NEC would like to confirm if any endangered species are within the right-of-way. MMM ecologist will confirm. MMM
- Criteria and requirements in the Niagara Escarpment Plan must be

MINUTES: **ACTION BY:**

referenced. Different portions/specific designations within the Niagara Escarpment Plan should be shown on the mapping plates.

- The intersection improvement of Dundas Street / Brant Street is currently in detailed design (previously approved under a separate EA Study). NEC will be contacted as the study progresses.

ITEM 4 – NEXT STEPS

4.1 A Technical Agency Committee (TAC) Meeting will likely be scheduled for mid-May. MNR, CH and NEC will be invited to attend. [*Post Meeting Note: TAC Meeting scheduled for May 14, 2014.*]

4.2 A meeting with MNR, CH and NEC will be arranged to review details related to bus shelters and stop locations. [*Post Meeting Note: MNR / CH / NEC meeting scheduled for June 2, 2014.*] MMM

4.3 The Public Information Centre is scheduled to be held on May 29.

4.4 The draft ESR will be provided to MNR, CH and NEC for review.

The foregoing represents the writer's understanding of the major items of discussion and the decisions reached and/or future actions required. If the above does not accurately represent the understanding of all parties attending, please notify the undersigned within 48 hours of receiving these minutes at 905-823-8500.

Minutes prepared by,
MMM Group

Katherine Jim, P.Eng.
cc: all attending

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MINUTES OF MEETING

PROJECT:	Dundas Street Corridor Improvements EA Brant Street to Bronte Road		
MEETING:	MNR / NEC / CH		
FILE NO.:	3212082		
DATE:	Monday, June 2, 2014	**TIME:**	1:00 p.m. to 3:00 p.m.
PLACE:	Halton Region – Halton Room		

PRESENT:		
	Jeff Reid	Halton Region
	Melissa Green-Battiston	Halton Region
	Tim Marchand	MNR – Ontario Parks
	Jillian Van Niekerk	MNR – Ontario Parks
	Kellie McCormack	Niagara Escarpment Commission (NEC)
	Leah Chima	Conservation Halton (CH)
	Samantha Mason	CH
	Leslie Matich	CH
	Neil Ahmed	MMM
	Anne MacMillan	MMM
	Kim LeBrun	MMM
	Manish Kaushal	MMM
	Katherine Jim	MMM

PURPOSE: Meeting with MNR, NEC, and CH to discuss the proposed improvements of Dundas Street EA from Brant Street to Bronte Road, and to review the preliminary plan and key issues (including natural environment constraints, Bronte Creek Provincial Park, and potential impact to NEC lands) associated with this section.

MINUTES: **ACTION BY**:

ITEM 1 – MEETING MINUTES MARCH 13, 2014

1.1 Those at the meeting were introduced.

1.2 Action items from the March 13, 2014 meeting minutes have mostly been addressed. MMM ecology group will continue to follow up with MNR regarding Species At Risk (SAR). MMM will forward partial preliminary plan to Ontario Parks in the proximity of the Bronte Creek Provincial Park as requested. [*Subsequent to the meeting, MMM received clarification from MNR re: SAR, and which watercourses should be considered as supporting SAR – Bronte Creek and Fourteen Mile Creek crossings.]* MMM

MINUTES: **ACTION BY**:

ITEM 2 – STUDY STATUS / RECENT CONSULTATION

2.1 Since the last meeting with CH/MNR/NEC, the Project Team carried out a number of consultation events:

- Meetings with technical agencies (City of Burlington / Burlington Transit, Oakville / Oakville Transit, and MTO / 407 ETR)
- Meetings with several property owners along the Dundas Street corridor
- Technical Agencies Committee Meeting (May 14, 2014)
- Public Information Centre (PIC) (May 29, 2014 – open house format; approximately 50 people signed in)

2.2 The preliminary plan for Dundas Street (1:1000 scale) was presented at the May 29 PIC.

ITEM 3 – STORMWATER MANAGEMENT REVIEW

3.1 The Project Team reviewed the preliminary plan (1:1000 scale) of Dundas Street between Brant Street and Bronte Road. The following were noted re: stormwater management (SWM).

- A peak flow analysis has been carried out on all culvert crossings. A hydrologic analysis will be carried out next.
- The design storm is to be consistent with the other two Dundas Street EAs (Bronte Road to Proudfoot Trail and Neyagawa Boulevard to Oak Park Boulevard) – 100 year storm. There should be no overtopping of Dundas Street.
- A SWM Existing Conditions mosaic has been prepared, identifying which culverts will overtop during the Regional storm. The mosaic also identifies the conditions of the respective culverts. The Project Team briefly reviewed the conditions of the culverts in the Study Area.
- MMM noted that Culvert C21 is a CSP and is in good condition.
- Culvert 22 is also in good condition and does not overtop. However, CH noted that water is going under the culvert. This culvert consists of three sections - the original centre portion plus extensions on both ends. Flow appears to move under the inlet section; John Pisapio of MNR had been monitoring the situation. None of MMM staff had any notes to this effect, although they noted the condition survey would be focused on the structural aspects and not necessarily looking underneath the culvert. CH also noted this situation may not be evident under higher flow conditions (and that it would be nice to address this issue and replacement [with open footing structure] as part of the 'net benefit' plan). MMM will review the situation further. MMM

MINUTES: **ACTION BY**:

- There was some further discussion about the provision of a clear span structure / open footing culvert at Culverts 22 and 23 since they are part of the Fourteen Mile Creek system with Redside Dace habitat. CH indicated that as part of the consultation regarding the 407 Area Servicing Plan, a commitment was made to use clear-span structures. Neither Halton Region or MMM are aware of this commitment; however, the EA is committed to reviewing SWM strategy required for the widening of Dundas Street. CH then qualified that the 407 Area Servicing Plan likely referred to works and not preclude future replacement options for the culverts.
- The Project Team will review the need and feasibility to provide a clear span structure in relation to the currently proposed design of an extension of the existing culvert, which does not require replacement. Another meeting will then be held to discuss the crossing design requirements.
- Culvert C23 is also in good condition. It was noted that the existing culvert at Culvert 23 is approximately 54 m and would be able to accommodate the widening of Dundas Street (i.e., so it could be left as it). CH noted that given it also supports Redside Dace habitat, and because this crossing is pretty much in a constraining valley setting with a meandering stream, replacement with a bigger clear-span structure would be a benefit.

ITEM 4 – ADDITIONAL NATURAL ENVIRONMENT REVIEW

4.1 MMM Group reviewed the key natural environment features within the Study Area. Key notes are as follows:

- Amphibian survey was completed at stormwater ponds and shallow marsh areas within the study area, as well as in the area of Bronte Creek. There was no evidence of chorus frogs based on the amphibian survey.
- Access and potential impact to the Bronte Creek valley will be subject to outcome of the constructability workshop which will be held in the fall. (See discussion under Item 6.1.)
- Vegetation field work will be completed in June. Eastern flowering dogwood was not found. It was noted by Ontario Parks that eastern flowering dogwood are found along the ridge/top of east valley slope of Bronte Creek to the north and south of Dundas Street. They were not found in the watermain work area
- Butternut trees are outside of the Dundas Street widening impacted areas.
- Silver shiners are noted in Bronte Creek. CH noted that these reaches also support “monster bass”.

MINUTES: **ACTION BY**:

- Vegetation unit FOD7-4 (fresh-moist black walnut low land deciduous forest) is located on the north side of Dundas Street, east of Brant Street, within NEC lands. This vegetation unit is flagged by MNR as being a Provincially rare vegetation community and impacts should be avoided / minimized to the extent feasible. MMM indicated that this should be possible as there is no sidewalk or multi-use path proposed on the north side in this section and only minor grading to tie in from the 6 lane section. CH noted that MMM should be aware that this vegetation may extend into the existing right-of-way.
- Regarding NEC policies, MMM will review and confirm whether any Species At Risk (SAR) have been observed in the Niagara Escarpment Plan (NEP) Area.
- There was some discussion about the potential to realign some of the creek sections that currently run parallel to Dundas Street through some areas (e.g. Culverts 6, 10 and 11).
- The Region noted that the section at C3 is challenging with the Church on the north side, and they are already looking at using a retaining wall to avoid impacts to the Church. Although there is a pond upstream, fish cannot access it as the channel is enclosed in a buried pipe on the downstream side.
- CH indicated that watercress is present at C10 so there could be groundwater. MMM confirmed their fluvial geomorphologist is involved, and will review.

ITEM 5 – DISCUSSION

5.1 Ontario Parks - Bronte Creek Provincial Park

- Ontario Parks provided an update on the Bronte Creek Provincial Park expansion proposal. They have yet to formalize the Park expansion, but a proposed boundary plan has been prepared internally. The expansion of the Provincial Park will require an amendment to the Regulation. Therefore, it would be preferred for the amendment process to also account for the amount of property required for the widening of Dundas Street.
- Ontario Parks is currently working with MTO regarding the expansion of the Provincial Park in areas near 407 ETR.
- The consultation process for the Provincial Park expansion will take approximately 3-6 months.
- Ontario Parks requested that a partial preliminary plan be provided which indicates the amount of property required as a result of Dundas Street widening. *[Subsequently provided in an email dated July 31, 2014.]*

MINUTES: **ACTION BY**:

- Ontario Parks will need to be aware of the proposed work on culverts through the Bronte Creek Provincial Park (i.e. Culverts 20 and 21).

5.2 Conservation Halton

- The use of a bio-retention unit may help to deal with salt runoff, and can deal with all runoff up to a 25 year storm (so none goes directly to watercourses).
- The use of bio-retention units may help to deal with salt runoff. The Region will work with CH to find an appropriate bio-retention pilot location within the Dundas Street corridor. [*Subsequent to the meeting, CH provided example to the Project Team for consideration.*]
- There was some discussion about the construction of the Bronte Creek structure. An access road was constructed from the west side of the Bronte Creek valley for the construction of Zone 3 watermain by Halton Region. CH and Ontario Parks would like that access road to be used as construction access for the Bronte Creek structure widening. CH indicated that they were told then and by the Region that there would be no new access disturbance into the valley. The Project Team noted this will be one of the considerations as part of the Constructability Workshop.
- It was noted that GEMS was involved and assessed groundwater conditions in advance of construction. CH asked how groundwater was managed at the Sixteen Mile Creek and whether those techniques would be useful here. The Region noted that the spread pier footing configuration would be above the groundwater elevation.
- Restoration aspects in relation to the watermain construction were also discussed in terms of potential to re-disturb them; restoration was done on the south side.
- The bridge works were discussed briefly, including potential works required in the valley. The south bridge requires replacement but the north bridge will be retained, with the addition of two lanes which can be added on the north side to facilitate traffic staging during replacement of the south bridge

5.3 Niagara Escarpment Commission

- NEC noted that the ESR will need to demonstrate and document that the works are “essential”; transportation and utility facilities are permitted in Escarpment Natural Areas provided they are “essential”. Also need to review NEP development criteria to confirm that the proposed works meet criteria related to wooded areas, water, transportation and utilities, etc. MMM
- NEC noted that it is important to confirm whether any SAR have

MINUTES: **ACTION BY**:

been observed in the NEP Area. Development is not permitted in identified habitat of endangered species (no damage or destruction of habitat); a NEP Amendment would be required to do so. A Niagara Escarpment Development Permit would still be required for the works, even if not identified as endangered species habitat.

- Staff will review the ESR and will provide a report to the NEC with a recommendation about whether the ESR should be supported (i.e., sufficient justification has been provided for the works to be considered "essential"). Niagara Escarpment Development Permits would still be required afterwards.

ITEM 6 – NEXT STEPS

6.1 Constructability Workshop:

- A 1-day constructability workshop is to be held in Fall 2014 to review constructability issues associated with the Bronte Creek crossing.
- CH and MNR / Ontario Parks will be invited to attend.

6.2 A subsequent meeting with MNR, CH and NEC will be arranged to review details related to drainage, SWM and natural environment recommendations on a crossing by crossing basis. MMM

6.3 The draft ESR will be provided to MNR, CH and NEC for review.

The foregoing represents the writer's understanding of the major items of discussion and the decisions reached and/or future actions required. If the above does not accurately represent the understanding of all parties attending, please notify the undersigned within 48 hours of receiving these minutes at 905-823-8500.

Minutes prepared by,
MMM Group

Katherine Jim, P.Eng.
cc: all attending

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MINUTES OF MEETING

PROJECT:	Dundas Street Corridor Improvements EA Brant Street to Bronte Road		
MEETING:	Conservation Halton (CH) and Ministry of Natural Resources and Forestry (MNRF)		
FILE NO.:	3212082		
DATE:	Monday, September 29, 2014	**TIME:**	1:00 p.m. to 4:00 p.m.
PLACE:	Halton Region – Nelson Room		
PRESENT:	Jeff Reid	Halton Region	
	Melissa Green-Battiston	Halton Region	
	Patrick Monaghan	Halton Region	
	Aurora McAllister	MNRF	
	Leah Chima	CH	
	Samantha Mason	CH	
	Holly Anderson	CH	
	Janette Brenner	CH	
	Sarah Matchett	CH	
	Sally Kelday	MMM	
	Neil Ahmed	MMM	
	Anne MacMillan	MMM	
	Kim LeBrun	MMM	
	Kristina Domsic	MMM	
	Amy Nicoll	MMM	
	Manish Kaushal	MMM	
	Katherine Jim	MMM	
PURPOSE:	Meeting with MNRF and CH to review the preliminary plan and key issues (including stormwater management strategy, fluvial geomorphic requirements, natural environment constraints, etc.)		

MINUTES: **ACTION BY:**

ITEM 1 – MEETING MINUTES JUNE 2, 2014

1.1 Those at the meeting were introduced.

1.2 Action items from the June 2, 2014 meeting minutes were to be discussed at the meeting.

ITEM 2 – STUDY STATUS / RECENT CONSULTATION

2.1 A Constructability Workshop for Tansley Bridge (Bronte Creek

MINUTES: **ACTION BY:**

crossing) was carried out on September 23, 2014. CH representatives participated.

ITEM 3 – REVIEW OF PRELIMINARY PLAN

3.1 The Project Team reviewed the preliminary plan (1:1000 scale) of Dundas Street between Brant Street and Bronte Road. A set of drainage mosaic and natural environment exhibits were provided to those at the meeting. The drainage mosaic identified the storm sewer subcatchment area, proposed quality treatment such as Oil Grit Separators (OGS), as well as the identification of whether a culvert is proposed to be extended or replaced based on hydraulic analysis.

3.2 CH suggested that floodlines and the length of the culverts be added to the drainage mosaic exhibits. CH will review the packages distributed at the meeting and provide comments. MMM / CH

3.3 There are a total of 27 culvert crossing locations and each was reviewed at the meeting in terms of SWM requirements, fluvial geomorphic requirements (if applicable), and natural environmental constraints. The proposed Bronte Creek crossing structure was also discussed.

3.4 The SWM design condition assumes no overtopping of Dundas Street under the Regional Storm event; this is consistent with the planning of other sections of Dundas Street from Bronte Road to Oak Park Boulevard.

3.5 The following is a summary of the culverts. (Additional information can be found in the drainage mosaic package provided at the meeting.) It should be noted that the proposed changes noted are based on hydraulic criteria. Other factors may impact the final proposed changes.

Culvert #	Watercourse	Existing Type	Existing Condition	Proposed Changes Based On Hydraulics
1	Tuck Creek Tributary	CSP	Poor	Replace with concrete culvert (see notes under Item 3.6)
2	Tuck Creek Tributary	CSP Arch	Good	Replace with concrete box culvert. No channel realignment required.
3	Tuck Creek Tributary	Concrete	Good	Replace with concrete box culvert
4	Tuck Creek Tributary	CSP	Good	Replace with concrete culvert. May require channel realignment in the ditch line.
5	Tuck Creek Tributary	HDPE Lined	Good	Replace with concrete culvert
6	Tuck Creek Tributary	HDPE Lined	Good	Replace with concrete culvert
7	Tuck Creek	Concrete	Good	Replace with concrete box culvert
8	Tuck Creek	Concrete	Good	Replace with concrete box culvert
9	Shoreacres Creek	Concrete	Good	Replace with concrete box culvert

Culvert #	Watercourse	Existing Type	Existing Condition	Proposed Changes Based On Hydraulics
10	Shoreacres Creek	Concrete	Good	Replace with concrete box culvert
11	Shoreacres Creek East Branch	Concrete	Good	To be extended (see notes under Item 3.11)
12	Appleby Creek	Concrete	Good	Replace with concrete box culvert
13	West Sheldon Creek	Concrete	Good	Replace with concrete box culvert
14	Sheldon Creek (Local drainage)	Concrete	Good	To be removed
15-1	Sheldon Creek Tributary (Twin Culvert)	Concrete	Good	To be extended (see notes under Item 3.12)
15-2		Concrete	Good	To be extended
16	Sheldon Creek (Local drainage)	Concrete	Good	No change (Dundas Street / Appleby Line intersection already at 6 lanes)
17	Sheldon Creek (Local drainage)	Concrete	Good	Already removed
18	Bronte Creek (Local drainage)	CSP	Poor	See notes under Items 3.13, 3.14 and 3.15
19	Fourteen Mile Creek Tributary (Local Drainage)	HDPE Lined	Good	To be extended
20	Fourteen Mile Creek Tributary	CSP	Poor	Replace with concrete culvert (see notes under Item 3.17)
21A	Fourteen Mile Creek Tributary	CSP	Good	Replace with concrete culvert
21B	Fourteen Mile Creek Tributary	CSP	Good	Replace with concrete culvert
22	Fourteen Mile Creek	Concrete	Good	See notes under Items 3.18 to 3.22
22A	Fourteen Mile Creek Tributary	CSP	Good	To be extended
22B	Fourteen Mile Creek Tributary	CSP	Good	To be extended
23	Fourteen Mile Creek Main	Concrete	Good	Existing culvert would accommodate 6 lanes Dundas Street See notes under Items 3.18 to 3.22

3.6 Culvert C1: This is located immediately to the east of the Dundas Street / Brant Street intersection, which is currently under detailed design for improvements (by others). The two Project Teams will coordinate to determine the SWM treatment at the intersection and how it would best tie into Dundas Street drainage (specifically, Culvert C1). Existing Culvert C1 is a CSP in poor condition, and is proposed to be replaced. MMM

3.7 In areas where existing ditches would be filled as a result of the widening of Dundas Street, erosion hazard will have to be considered.

3.8	Since many of the culverts are being replaced, CH asked if there may be opportunities to remove or reduce the skew of the crossings in order to reduce the overall length of the culvert. Following some discussion, CH and the Project Team agreed that this was not advisable overall since sharp bends would then be created from the culvert inlet and/or outlet to the adjacent channel sections (unless relatively long sections of the channel are realigned), potentially resulting in erosion issues. The Project Team will consider this opportunity where appropriate based on the existing channel alignment.	MMM
3.9	Sizing of the culverts in relation to fluvial geomorphic requirements was discussed. CH indicated a fixed span based on bankfull width was not required in general. Instead they are asking that fluvial geomorphic aspects be reviewed and recommendations provided (e.g, considering bankfull, erosion etc., but CH do not have a specific fluvial geomorphic assessment protocol). They will review internally and provide a list of those watercourses they want reviewed, to the Project Team by the end of October.	CH
3.10	CH will also confirm which watercourses are regulated. [*Post meeting note: In an email dated October 1, CH confirmed that Tuck Creek tributaries are regulated by CH. Based on CH mapping, the tributaries that cross at Culverts C1, C2, C3, C7 and C8 are all regulated on both sides of Dundas Street, therefore erosion hazards have to be considered similar to flooding hazard impacts. However, the tributaries at Crossings C4, C5 and C6 are not regulated.]*	
3.11	Shoreacres Creek connecting to Culvert 11 is being realigned as part of future development. The Project Team is coordinating with the developer to explore opportunities for Dundas Street drainage to be accommodated in the developer SWM pond. [*Post Meeting Note: Developer is no longer pursing development. Drainage from Dundas Street will be handled through OGS and in-pipe storage.*]	
3.12	The existing twin culverts at Culvert C15-1 and C15-2 are in good condition and would not overtop under Regional Storm event. However, CH believes they have seen past modelling that does show the twin culverts overtopping. CH will confirm.	CH
3.13	The Project Team suggested that Culvert C18 be removed and the drainage that currently flows to the south via C18 be re-directed along the north side of Dundas Street into the Bronte Creek valley. Drainage from the deck is proposed to be collected in the OGS east of Sutton Drive. An enhanced grass swale would be provided before outletting into Bronte Creek. MNRF indicated they will need to review the stormwater quality aspects. The Project Team explained that the new Bronte Creek structure piers are proposed to be out of the channel (~2m between the bank and existing piers), however they also added that a temporary	

crossing of Bronte Creek will be required for the construction of the piers (this was discussed at the September 23 Constructability Workshop) to access the east pier given the challenges associated with accessing the valley from the east.

MNRF asked about the duration of the temporary crossing over Bronte Creek. It was noted that the duration is expected to be upward of 3 years. MNRF emphasized that sizing was a major issue to avoid the structures 'blowing out', and sometimes deck protection was a concern. MMM noted the situation was similar to the Sixteen Mile Creek bridge twinning. Temporary construction access and crane pads around the piers may also be required. MMM noted that a lot of effort was put into modifying construction methods and design to minimize the equipment requirements and degree of disturbance in that valley. MMM will provide the Constructability Workshop Workbook and Summary Report to MNRF. — MMM

MNRF noted that there will be commitments that should be included in the ESR.

MNRF confirmed the presence of Silver Shiner and American Eel in Bronte Creek. MNRF will review their data to see what if any SAR records or habitat information they have near the bridge specifically. Silver Shiner habitat includes the floodplain, but the habitat definition/regulation is still pending. They will also provide locations of any Flowering Dogwood (GIS mapping). — MNRF

3.14 MNRF noted the erodibility potential of Bronte Creek valley slopes and whether the enhanced grass swale is a feasible solution to handle the deck drainage. CH noted that swales are not feasible on the slopes, as there are already significant erosion problems on the slopes. However the intent is to use them on the tableland, which requires further review by the Project Team. The option of shifting the OGSs further back to provide more swale length should be reviewed. The drainage still has to be taken down into the valley for release without eroding the slopes further. — MMM

It is crucial that both qualitative and quantitative treatments are provided. CH added that the OGS is to be used in conjunction with a treatment train. The Project Team responded that opportunities of a treatment train may be limited in a road project where there is a confined right-of-way, with intensive adjacent urban development and various constraints.

3.15 Following considerable discussion around slope erosion issues and getting stormwater into the valley, CH noted that further review of the impacts of removing C18 is required. This could be completed during Detail Design, however, CH's preference is to include it within the EA process. Halton Region will check with staff from the watermain project about the condition of Culvert C18. — Halton Region

3.16 CH asked about the opportunities for LID along the Dundas Street corridor noting that they are also looking for consideration of thermal aspects and use of more innovative techniques, especially in SAR habitat. The Project Team responded that since it is mostly shale along the corridor, the opportunities for LID may be limited. However, a commitment to explore LID opportunities during detailed design can be included in the Dundas Street ESR. MMM

3.17 CH advised that 20% to the drainage area identified in NOCSS flow should be added (for culverts in the Town of Oakville) since the new EIR/FSS (Environmental Implementation Report / Functional Servicing Study) is using higher flows. MMM

3.18 From a hydraulic calculation perspective, Culvert 22 would not overtop Dundas Street under Regional Storm condition and therefore would not require a full replacement strictly from this perspective. CH, however requested consideration of a clear-span structure. CH advised that this was discussed when reviewing the design of West Fourteen Mile Creek. It was CH's expectation that a structure would be used at East Fourteen Mile Creek.

3.19 There was much discussion about the provision of a clear span structure / open footing culvert at Culverts 22 and 23 since they are part of the Fourteen Mile Creek system with Redside Dace habitat.

3.20 Culvert 22 is in good condition and does not overtop. However, CH noted that water is going under the box culvert. This culvert consists of three sections - the original centre portion plus extensions on both ends. Flow appears to move under the inlet section. None of MMM staff had any notes confirming this based on recent site visits in summer 2014.

3.21 CH suggested the Project Team consider the replacement of Culvert 22 with a 55 m clear span structure (i.e. to span meander belt width). The Project Team noted the challenges associated with providing a 55 m clear span structure along an existing heavily urbanized road, and especially at this location given the proximity to existing development and Colonel William Parkway intersection. The opportunities to raise the road profile to achieve the clearance required for a 55 m structure are very limited. However, a structure will be investigated further to identify a reasonable and feasible alternative.

MMM also noted that it was their understanding that requirements for clear span structures spanning meander belt in Redside Dace habitat were for new road crossings, not expansion or works on existing crossings. Replacing the culvert with a clear span crossing of reasonable breadth would provide considerable benefit to the channel and habitat.

MNRF commented that while a 55 m span structure may not be technically feasible, the replacement of a culvert with a structure is an overall benefit and a structure of some sort should be pursued. The

Project Team will carry out an evaluation of the structure alternatives compared to culvert extension at C22. MMM

3.22 Culvert C23 is also in good condition. In this case, the existing culvert at Culvert 23 is approximately 54 m and can accommodate the widening of Dundas Street (i.e., so it could be left "as is"). It is possible looking at its design that it was overbuilt originally to accommodate the future road widening. The Project Team also noted that it is difficult to justify constructing a new and very expensive bridge when the existing culvert is in good condition, and particularly where no work at all is required on the culvert. CH noted that given it also supports Redside Dace habitat, and because this crossing (at C23) is in a constrained valley setting with a meandering stream, replacement with a bigger clear-span structure would be a benefit.

The Project Team will also carry out an evaluation of the structure alternatives compared to culvert extension at C22 to determine where the best opportunities for enhancement are. The C22 channel is very degraded at present (e.g., existing concrete walls and slab floor along channel, failing retaining walls upstream), whereas the C23 channel is in much better condition and much more natural. Integration with the upstream land development would also likely be required to address the retaining wall issues.

ITEM 4 – BRONTE CREEK PROVINCIAL PARK EXPANSION

4.1 The Project Team understands the Bronte Creek Provincial Park expansion process is still ongoing. A partial preliminary plan for Dundas Street in the proximity of the Bronte Creek Provincial Park has been provided to representatives of Ontario Parks.

ITEM 5 – OTHER BUSINESS

5.1 CH asked if the EA process looked at different road alignment alternatives. The Project Team advised that three workshops involving agencies (including CH) were carried out to review the analysis and evaluation of curb Bus Rapid Transit vs. median Bus Rapid Transit in addition to alternative Bronte Creek and CN Rail crossings. For a corridor like Dundas Street where there are multiple constraints on either side of the road, the proposed widening will be based on a "best fit" alignment to minimize impacts to existing land uses. This approach was used in the planning of other sections of Dundas Street between Bronte Road and Highway 403. The decision making process has been documented in the Environmental Study Report of the respective sections of the Dundas Street EA.

ITEM 6 – NEXT STEPS

6.1 A subsequent meeting with MNRF and CH will be arranged to review details related to the crossing at Fourteen Mile Creek Tributary (Culverts 22 and 23). MMM

The foregoing represents the writer's understanding of the major items of discussion and the decisions reached and/or future actions required. If the above does not accurately represent the understanding of all parties attending, please notify the undersigned within 48 hours of receiving these minutes at 905-823-8500.

Minutes prepared by,
MMM Group

K Jim

Katherine Jim, P.Eng.
cc: all attending

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MINUTES OF MEETING

PROJECT:	Dundas Street Corridor Improvements EA Brant Street to Bronte Road		
MEETING:	Conservation Halton (CH) and Ministry of Natural Resources and Forestry (MNRF)		
FILE NO.:	3212082		
DATE:	Monday, December 8, 2014	**TIME:**	1:00 p.m. to 3:00 p.m.
PLACE:	Halton Region – Aldershot Room		

PRESENT:		
	Jeff Reid	Halton Region
	Melissa Green-Battiston	Halton Region
	David Collum	Halton Region
	Patrick Monaghan	Halton Region
	Mark Heaton	Ministry of Natural Resources and Forestry (MNRF)
	Aurora McAllister	MNRF
	Paul Bond	Conservation Halton (CH)
	Holly Anderson	CH
	Sarah Matchett	CH
	Cory Harris	CH
	Sally Kelday	Kelday Geomorphic
	Neil Ahmed	MMM
	Anne MacMillan	MMM
	Peter Lim	MMM
	Manish Kaushal	MMM
	Katherine Jim	MMM

PURPOSE: Meeting with MNRF and CH to review the proposed work at Culvert 22 and Culvert 23 (Fourteen Mile Creek), and overall stormwater management and fluvial geomorphic recommendations associated with the Dundas Street Class EA Study

MINUTES: **ACTION BY**:

ITEM 1 – STUDY PROGRESS UPDATE

1.1 Those at the meeting were introduced.

1.2 The Project Team is in the process of preparing the Environmental Study Report (ESR), which would document the decision making process of the EA Study. Technical agencies, including CH and MNRF, will be provided with the draft ESR for review. A 4-week

MINUTES: **ACTION BY**:

review period will be provided. The ESR is anticipated to be filed in May 2015.

1.3 The purpose of the meeting is to address some of the outstanding issues resulting from the September 29, 2014 meeting. While the general approach is to be determined during the EA Study, the Project Team noted that some of the more in-depth analysis and questions may have to be addressed during detailed design.

ITEM 2 – FOURTEEN MILE CREEK TRIBUTARY (C22)

2.1 A table has been prepared to compare the advantages and disadvantages of the four alternatives developed for Culvert 22 (C22) –Fourteen Mile Creek West on Dundas Street, located west of Colonial Williams Parkway. The analysis and evaluation of the alternatives addresses socio-economic, natural environmental, drainage/water resources, geometrics and order of magnitude construction cost factors.

2.2 The four following alternatives were reviewed, using partial preliminary plans (scale 1:500) developed to show the three structural alternatives:

- (Alternative 1) Extension of Culvert 22 – this alternative, which is all that is required to address standard project requirements since the culvert is adequate hydraulically and is in good condition (i.e., does not require replacement) proposed that the existing culvert be extended approximately 11 m to the north to accommodate the road widening. It is the Project Team's understand from the September 29 meeting that this is not an option preferred by CH and MNRF as it does not factor in enhancement opportunities and consider what would be preferable from a natural environmental perspective, and it does not address a full range of alternatives in relation to overall impacts (positive and negative) to Redside Dace (i.e., a clear span structure would provide an overall benefit to the stream and Redside Dace habitat).
- (Alternative 2) Replacement with a 9 m span structure – the existing bankfull width is approximately 3 m. Therefore, a 9 m span structure would provide 3x times bankfull width crossing.
- (Alternative 3) Replacement with a 20 m span structure – the span width in this alternative developed based on the required openness ratio for wildlife crossing that would accommodate large animals (e.g. White-tailed deer) as well as consideration of in-channel velocities and associated fluvial geomorphic implications. Specifically, through the in-channel velocities calculations at 5 m span width intervals, it was found that 20 m is the span width where a significant improvement in fluvial geomorphic function is observed. A retaining wall is proposed

MINUTES: **ACTION BY**:

in the northwest side of the structure to minimize and avoid encroaching into the channel and minimize the fill footprint in the regulated Redside Dace habitat beyond the bankfull channel.

- (Alternative 4) Replacement with a 60 m span structure – based on work by others, the meander belt width associated broadly with this tributary is approximately 60 m. This alternative is developed to span this general meander belt width, however, it was noted that the meander belt at the crossing may be narrower than 60m. A retaining wall is proposed in the northwest side of the structure to avoid encroachment into the channel.

2.3 Socio-Economic Environment

- Factors in this category include property impact, noise, access, built heritage/heritage landscape, aesthetics and utilities.
- Overall, the longer the span, the greater the impact to the adjacent property, which is a built heritage feature.
- The 60 m span would impact the existing access to 3269/3271 Dundas Street.

2.4 Natural Environment

- Fisheries: Technically, there are no direct impacts to the channel and associated fish habitat given that the channel is bounded by concrete walls and a floor; therefore, the analysis focuses on relative opportunities for enhancement of existing conditions. The fluvial geomorphic is closely linked to the fish habitat analysis. That is, the ability to provide 'natural' substrate and a naturally functioning channel by increasing the span and reducing in-channel velocities is directly related to opportunities to enhance fish passage and local habitat opportunities. The 20 m span structure provides a significant enhancement relative to the 9 m span structure. The 60 m span structure provides only limited incremental improvement beyond the 20 m. All of the clear span options enhance fish movement significantly by removing the concrete floor. Habitat opportunities within the structures are limited by the height of the bridge regardless of its span. MNRF commented that whatever can be done to increase the height would be beneficial. The Region/MMM explained that increasing the profile wasn't feasible given the existing constraints.
- Wildlife: The 9 m span structure would only accommodate small animal movement whereas the 20 m span structure would provide for movement of large mammals (e.g. While-tailed Deer by providing an openness ratio of ~1.0 and a height of ~2.5m. The 60 m span structure would provide no real commensurate benefit for the movement of wildlife and would potentially reduce the height of the structure since a deeper deck width

MINUTES: **ACTION BY**:

would likely be required for the longer span.

- Vegetation: All alternatives would provide opportunities for enhanced riparian vegetation within the disturbed portions of the floodplain. However, the structure height associated with all the alternatives would be insufficient to allow much light penetration other than immediately at the inlet and outlet.

2.5 Drainage / Water Resources:

- Fluvial Geomorphology: While the flow velocities would improve under the 9 m span alternative, the northwest embankment footprint of the 9 m structure would directly impact the creek. The 20 m span structure would provide a significant improvement in flow velocities compared to existing conditions. Similar to the 20 m span alternative, the 60 m span would represent significant improvements in flow velocities compared to existing conditions, however, only nominal incremental velocity reductions relative to the 20 m span alternative.
- Furthermore, the existing floodplain is only ~15 m upstream of the road and 15-25m downstream of the road (widens significantly further downstream), and there is no benefit to widening the span to accommodate any future migration potential as the widening cannot occur in the direction that the channel 'wants' to migrate.
- It was noted that there is no benefit to replacing the existing culvert with any type of open span crossing to fluvial geomorphic function unless the existing concrete channelization upstream is removed and the channel restored. The channel section upstream should then be realigned as part of the 20 m span or 60 m span alternatives to achieve a better channel configuration before the inlet.
- During detailed design, analysis would need to be completed to confirm an appropriate low flow width through the culvert and detailed survey will need to be carried out.
- MNRF noted that they assumed the channel section through the new structure would not be straight as shown conceptually on the plan. MMM indicated it would likely be fairly straight, noting that a sinuous channel section would not likely be sustained over the longer term. MNRF commented that incorporating some degree of sinuosity was appropriate.

2.6 Geometric

- The water level was calculated to be at approximate elevation 144 m regardless of the span of the structure. The profile of Dundas Street will generally remain the same as existing for all alternatives; a clearance of approximately 2.5 m would be provided.

MINUTES: **ACTION BY**:

- The proposed profile of Dundas Street is to generally remain the same as existing to minimize impact to adjacent land uses. This is similar to other sections of Dundas Street.
- In terms of construction staging, the 60 m span structure would require the longest detour during construction and would likely impact the operation of Colonial William Parkway intersection due to the proximity to the intersection.

2.7 **Overall, the replacement with a 20 m span structure is recommended.** This alternative would provide significant improvements in fluvial geomorphic function and related fish habitat and movement opportunities compared to existing conditions and accommodate opportunities for movement of large animals. There is little incremental benefit associated with the 60m span, and the valley configuration is such that there is no incremental benefit to accommodation of long term migration opportunities, and the height may be reduced, potentially impacting large animal movement opportunities and light penetration.

2.8 CH noted that the proposed improvements at C22 should be reviewed in the context of the Halton Region Natural Heritage System (NHS) plan. MMM will add this to the analysis and evaluation table. MMM

2.9 CH also noted that opportunities to reduce the thickness of the deck based on structure type should be explored further in detailed design.

2.10 MNRF noted that natural environment factor should also include specific consideration of the areas of Species At Risk habitat impacted (i.e., Category 1, 2 and 3 habitat zones), or in the case of Redside Dace, habitat within bankfull channel, meander belt and 30 m from either side of the meander belt. Habitat would be defined as anything beyond the edge of gravel. MNR noted that this analysis would help to understand the impacts of each of the alternatives on the three habitat sensitivity zones. MMM will update the analysis and evaluation, as well as the preliminary plans. MMM

2.11 MNRF generally supports the recommendation for the 20 m span structure (+/- 5 m) subject to further review during detailed design.

2.12 The updated analysis and evaluation table will be distributed with the meeting minutes in early January 2015. MMM

ITEM 3 – FOURTEEN MILE CREEK TRIBUTARY (C23)

3.1 Culvert 23 (approximately 4.5 m in width by 2.5 m in height, and 50+ m in overall length) is located west of Bronte Road. It is an existing culvert that is in good condition and would not require replacement based on the hydrologic analysis carried out. Furthermore, it is long enough to accommodate the road works without any extension.

3.2 Dundas Street is generally at 6 lanes in the area of C23. As part of the

MINUTES: **ACTION BY**:

road widening, an on-street bike lane and a multi-use path would be provided, added on both sides of the road.

3.3 Although the culvert does not require any extension for the road works, retaining walls on both sides of the culvert are proposed to reduce earth fill into the valley. This is shown on a 1:500 partial preliminary plan and a series of cross section in the proximity of C23. This is similar to treatment at West Morrison Creek and Joshua Creek on Dundas Street in the Town of Oakville.

3.4 MNRF advised that as part of the ESA permit requirement, an analysis and evaluation of alternatives will still need to be prepared. For example, alternatives will have to be developed to show how efforts have been made in the design to reduce the footprint into the valley, such as using retaining walls to reduce fill slopes versus or reducing the road cross section (such as only eliminating one of the multi-use paths, which the Region explained wasn't feasible given prior commitments.

3.5 The Project Team noted that the boulevard has already been removed in this area to reduce impact. These and other design changes to help reduce the overall footprint should be documented.

3.6 MMM indicated bankfull width is ~1.5 m to 1.8m. CH noted that it would be useful to have velocity information showing changes under different storm conditions, and that the Project Team should consider the long term benefits for the feature. The widening of Dundas Street would be an opportunity to provide improvements to the crossing; this may be more economical in the long term. As the areas surrounding Dundas Street become urban, this will serve as an important natural linkage.

3.7 MMM noted that C23 culvert is in good shape and still has a long life span. MMM will again review the NHS Strategy for any relevant recommendations regarding this crossing.

3.8 MMM will prepare an analysis and evaluation table for C23 and will be distributed with the meeting minutes for review in February 2015. Similar factors used in the evaluation of C22 will be applied. The decision will be based on a balance amongst all factors. MMM

3.9 There was some discussion about potential for use of the Exemption Regulation under the ESA. MNRF noted that the exemption can only be used in works in the zones within 30m of the bankfull channel are less than 300 m^2 in area. MMM asked whether this area was to include temporary as well as permanent works, since based on other current project experience, other MNRF staff have indicated this area is the permanent footprint change and does not include areas temporarily disturbed and the restored following construction. However, MNRF interrupts the 300 m^2 to apply to both permanent and temporary disruption. MNRF will follow up and confirm MNRF

MINUTES: **ACTION BY**:

ITEM 4 – DUNDAS STREET – OVERALL STORMWATER MANAGEMENT STRATEGY AND FLUVIAL GEOMORPHOLOGY

4.1 There are a total of 26 culvert crossing locations within the study limits between Brant Street and Bronte Road. The culvert crossings are associated with Tuck Creek, Shoreacres Creek, Appleby Creek, Sheldon Creek, Bronte Creek and Fourteen Mile Creek. Using a set of drainage mosaic (18 exhibits), MMM reviewed the overall stormwater management strategy.

4.2 Tuck Creek: C1 to C8 (Exhibit 1 to Exhibit 5). Quantitative and qualitative control will be provided through pipe storage and oil grit separator (OGS), respectively. Culvert C1 is located immediately to the east of the Dundas Street / Brant Street intersection, which is currently under detailed design for improvements (by others). Based on information provided by others, MMM understands the drainage from the Dundas Street / Brant Street intersection is to be drained into the existing storm sewer south of Dundas Street.

4.3 Shoreacres Creek: C9 to C11 (Exhibit 6 to Exhibit 8). Drainage through this area is in the proximity of the 407 ETR interchange. Quantitative and qualitative control will be provided through pipe storage and OGS, respectively.

4.4 Appleby Creek: C12 (Exhibit 9). Quantitative and qualitative control will be provided through pipe storage and OGS, respectively.

4.5 Sheldon Creek: C13 to C17 (Exhibit 10 to Exhibit 13. C13 - Quantitative and qualitative control will be provided through pipe storage and OGS, respectively and discharge into Sheldon Creek. C14 to C16 are located within the proximity of the Dundas Street / Appleby Line intersection that is already 6-lane. Drainage through this area will connect to existing storm sewer. C17 is an abandoned culvert which no longer exists.

4.6 Bronte Creek: C18 (Exhibit 14). The culvert will be replaced. Recent improvements made in the area for erosion control as part of the recent watermain work have stabilized/armoured the slope and discharge zone so that replacement is now a feasible option. West of the Bronte Creek structure, there is an existing storm sewer where deck drainage will discharge to. The swales have been removed. MMM reviewed various options for getting water down to the floodplain, noting that a ‘rock-step’ design may be most feasible, or possibly a ‘half-CSP’ culvert. Given the major drop into the valley, they did not think a drop man-hole would work. MMM will identify the various potential design options that may be implemented in the ESR.CH noted there were definitely opportunities to improve the current discharge situation. They noted the new CH Board policy required drop structures for all new outlets at major crossings. So if MMM

MINUTES:		ACTION BY:
	this option is not feasible, rationale should be provided.	
4.7	Fourteen Mile Creek: C19 to C23 (Exhibit 15 to Exhibit 18). Quantitative and qualitative control will be provided through pipe storage and OGS, respectively. MNRF inquired about the potential to install a "jelly fish" adaption at some of these locations to increase fine sediment capture efficiency (i.e. a "super OGS"). MMM will review their feasibility.	
4.8	MNRF noted they would like the existing discharge on the north side of Dundas Street at C23 to be diverted to a wetland area on the north side instead of discharging directly into Fourteen Mile Creek. There is a significant sediment plume which exists.	MMM
4.9	CH inquired about the maintenance schedule of the OGS. Halton Region advised the maintenance is contracted out to the Town of Oakville and follows the Halton Region standard. Halton Region will follow up with the Operation Department about the maintenance schedule of the OGS.	Halton Region
4.10	In terms of fluvial geomorphology, creek realignment will be required at C1, C3, C10 and C11. Currently, a portion of the creek in the respective areas runs along the Dundas Street ditchline and will have to be realigned (e.g. shifted to the north) as a result of the widening. CH noted they would like to review these sites in the field with the fluvial geomorphologist.	
4.11	It was noted that the creek realignment at C11 will be an interim solution until the site get redeveloped. Ultimately, Shoreacres Creek will be realigned as part of future development. This will be noted in the drainage mosaic. CH also inquired about the area required for the creek realignment at C11 and noted that this is to be identified in the EA. MMM will update.	MMM
4.12	CH will forward YouTube links to the Project Team related to the August 4 flooding issue in the City of Burlington for information. CH will also be releasing a report in the near future on the August flood incident and will share with the Project Team.	CH
4.13	CH noted that the City of Burlington is carrying out a City wide stormwater management review to address the recent flood issue in the City. Halton Region is aware of such initiative, and a meeting is being set up with the Dundas Street EA Project Team and the consultant representing the City on the city wide stormwater management review.	
ITEM 5 – BRONTE CREEK		
5.1	The Constructability Workshop Report together with the Constructability Workshop Workbook will be provided to MNRF for information.	MMM
5.2	MNRF verified that the Silver Shiner habitat definition is occupied	

MINUTES: **ACTION BY**:

reaches plus the associated floodplain. They noted that only the general habitat definition is in place now but it is anticipated the full habitat regulation would be in place by the time the project reaches Detail Design. The question pertaining to interpretation of the criteria for use of the ESA Exemption Regulation was discussed under Item 2.

ITEM 6 – NEXT STEPS

6.1 The analysis and evaluation table for C22 updated, and an analysis and an evaluation table for C23 design options will be prepared. These will be provided together with the meeting minutes for CH and MNRF review and comment. The Project Team is providing CH and MNRF with a 2-week review period.

6.2 The Project Team is in the process of preparing the Environmental Study Report (ESR), which would document the decision making process of the EA Study. The objective is to circulate a draft for review in March. Technical agencies, including 407 ETR and MTO, will be provided with the draft ESR for review. A 4-week review period will be provided. The ESR is anticipated to be filed in May 2015.

6.3 A site visit will be organized between CH (C.Harris) and S. Kelday. CH / S. Kelday

The foregoing represents the writer's understanding of the major items of discussion and the decisions reached and/or future actions required. If the above does not accurately represent the understanding of all parties attending, please notify the undersigned within 48 hours of receiving these minutes at 905-823-8500.

Minutes prepared by,
MMM Group

Katherine Jim, P.Eng.
cc: all attending

Property Owner Meeting Minutes

MMM GROUP

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MINUTES OF MEETING

PROJECT:	Dundas Street Corridor Improvements EA Brant Street to Bronte Road		
MEETING:	Property Owner Meeting – Terra Greenhouse (2273 Dundas Street)		
FILE NO.:	3212082		
DATE:	Wednesday, April 2, 2014	**TIME:**	9:30 a.m. to 10:30 a.m.
PLACE:	Halton Region – Silvercreek Room		
PRESENT:	Jeff Reid	Halton Region	
	Melissa Green-Battiston	Halton Region	
	Andrew Pepetone	Terra Greenhouse	
	James Fisher	Terra Greenhouse	
	Andy Broadbent	Terra Greenhouse	
	Neil Ahmed	MMM	
	Katherine Jim	MMM	
PURPOSE:	Meeting with Terra Greenhouse to discuss the proposed improvements to Dundas Street from Brant Street to Bronte Road, and to review the preliminary plan and key issues and potential impact to Terra Greenhouse.		

MINUTES: **ACTION BY:**

ITEM 1 – INTRODUCTION

1.1 Those at the meeting were introduced.

ITEM 2 – DUNDAS STREET CLASS EA STUDY OVERVIEW AND STUDY STATUS

2.1 Using a handout package, MMM reviewed the overall Dundas Street EA Study status, access, implementation strategy and preliminary shelter design. Key points are noted as follows:

- Overall, Halton Region is planning for the widening of Dundas Street from 4 to 6 lanes. There are opportunities for the widened lanes to function as High Occupancy Vehicle (HOV) lanes / transit lanes and then ultimately be converted to dedicated transit lanes (by 2031).
- Section 1 – Dundas Street between Bronte Road and Proudfoot Trail. The Environmental Assessment (EA) Study for this section was completed in 2012 and is currently in detailed design.
- Section 2 – Dundas Street between Neyagawa Boulevard and Oak

MINUTES: **ACTION BY:**

Park Boulevard. The EA for this section was completed in 2013. The construction of this section will likely follow the section between Bronte Road and Proudfoot Trail.

- Section 3 – Dundas Street from Brant Street to Bronte Road – current study; approximately 10 km in length.
- Enhanced bus shelters are proposed at most signalized intersections. Bus stops are generally provided on the far side of the intersection (i.e. after the intersection) where feasible. Bus shelter concepts were shared at the meeting.
- There are a number of existing full-move private accesses on Dundas Street. With the proposed widening, these full-move accesses will become right-in/right-out only. This is applied in other sections of Dundas Street between Bronte Road and Highway 403.
- It is the Region's vision to have controlled access along the corridor to ensure operational efficiency and safety of the corridor. U-turns will be permitted at signalized intersections.
- Dundas Street will transform from a rural corridor to a pedestrian and cyclists friendly Regional arterial road. Dundas Street is proposed to be posted at 60 km/h (reduced from 80 km/h)
- While Halton Region is providing the infrastructure for the future dedicated transit lanes (i.e. road widening and bus shelters), the operation of the transit services would be provided by the local transit authorities.

ITEM 3 – PROPOSED IMPROVEMENTS ON DUNDAS STREET / REVIEW OF PRELIMINARY PLAN / POTENTIAL IMPACTS TO SPECIFIC PROPERTY

3.1 The Project Team reviewed the preliminary plan (1:1000 scale) of Dundas Street in the proximity of Terra Greenhouse (2273 Dundas Street):

- General cross section elements include: 50 m right-of-way (per Halton Region Transportation Master Plan), urban section, 6 travel lanes (2 general purpose lanes and 1 HOV/Transit lane in each direction), 5.5 m to 6.5 m raised median. Active transportation facilities (e.g. multi-use path, sidewalk and cycling lanes) are based on the draft Halton Region Active Transportation (AT) Master Plan.
- In the proximity of Terra Greenhouse, a 4 m multi-use path on the south side only is proposed as there is no planned development on the north side of Dundas Street (i.e. the Niagara Escarpment is on the north side of Dundas Street from Guelph Line westerly). Pedestrian crossings will be provided at signalized intersection

MINUTES: **ACTION BY:**

(Eaglesfield Drive) to provide pedestrian connection from the south side of Dundas Street to Terra Greenhouse.

- On the preliminary plan, the proposed property line (i.e. right-of-way) is shown in a red-dashed line, and the grading limits are shown in a blue-dashed line.
- Bus stops are proposed at Eaglesfield Drive (eastbound – far side station, westbound – near side station). The westbound near side station is to avoid impact to the existing (and only) access to the property at 2217 Dundas Street, which is immediately to the west of Terra Greenhouse.
- The profile of future Dundas Street will generally remain the same as existing.
- Planting will be provided in the raised median where feasible, and the corridor will be fully illuminated.

3.2 Access and Parking

- The existing full move access to Terra Greenhouse on Dundas Street east of Eaglesfield Drive will become right-in/right-out only.
- The Dundas Street / Eaglesfield Drive intersection will become signalized and will facilitate U-turn movements.
- Terra Greenhouse noted that the existing entrance opposite to Eaglesfield Drive is currently mainly used for vendor access.
- While the main parking area is on the east side of the store, the areas to the west side of the store is currently used for overflow parking. The busiest time of the year is typically in May and June.
- The access will have to accommodate farming equipment (they provide services to farms in the area), as well as snow removal equipment in the winter time.
- Terra Greenhouse asked if a signalized intersection may be provided at their current full move access. The Project Team responded that the distance between the access and Eaglesfield Drive is too close to allow another signalized intersection (approximately 170 m). Typical spacing between signalized intersections is 400 m.
- Drivers may enter the HOV lane when they need to make a right turn to access a property. MMM
- Terra Greenhouse requested that a right turn taper be provided for the right-in/right-out access. The Project Team will update the preliminary plan.
- There was also some discussion about a right-turn lane at the westbound Terra Greenhouse / Eaglesfield Drive intersection; however, it is not considered to be feasible due to conflict with the bus stop. There will also be additional impact to the property.
- Terra Greenhouse asked if the access from the roadway to 2217

MINUTES: **ACTION BY:**

Dundas Street is removed, whether the bus stop may be moved to the far side of the intersection (i.e. 2217 Dundas Street would have a shared access from the new Terra Greenhouse / Eaglesfield Drive intersection). The Region responded that there will have to be an agreement between Terra Greenhouse and the property owner of 2217 Dundas Street for a shared access. The negotiation would be between the two parties and outside the scope of the EA Study.

3.3 Signage

- There was some discussion about impacts to existing signage at the Terra Greenhouse entrance as a result of the widening. Halton Region will be responsible for the reconstruction of driveway / access and replacement of existing signs due to the widening.
- Terra Greenhouse asked if signage may be provided for eastbound Dundas Street as it approaches Eaglesfield Drive. Halton Region will confirm whether Terra Greenhouse qualify for the Tourism Oriented Destination Signage (TODS) program. [*Subsequent to the meeting, Halton Region followed up with the Operations Department and confirmed that Terra Greenhouse should qualify for directional signage under the TODS program. Tom Sliwinski (Halton Region, Transportation Technician, 905-825-6000 at ext. 7578) may be contacted for more information.*]

3.4 Drainage

- Dundas Street will become an urban roadway with curb and gutter. Stormwater management will be reviewed as part of the EA Study.
- Terra Greenhouse noted that they have a significant amount of drainage into the rural ditch. Terra Greenhouse will provide the Project Team with their current drainage plan. — Terra Greenhouse

3.5 Discussion

- The start of construction for Dundas Street widening between Guelph Line and Kerns Road is proposed for 2020 based on the current capital program; subject to annual council review. Based on this construction schedule, detailed design will likely take place around 2017-2018.
- A landscape plan for the Dundas Street corridor will be prepared during detailed design.
- Terra Greenhouse noted that they have some plans to replace one of the existing smaller buildings into a commercial building for retail uses.

ITEM 4 – NEXT STEPS

4.1 The Public Information Centre (PIC) is scheduled to be held on May 29. Similar information shown at the meeting will be presented

MINUTES: **ACTION BY:**

at the PIC. Representatives of Terra Greenhouse will receive a notification about the PIC.

4.2 A copy of the partial preliminary plan in the proximity of Terra Greenhouse is attached with the meeting minutes, as requested. (See attached).

4.3 J. Fisher is a member of the Ontario Federation of Agriculture and asked if the Project Team would present to the Halton Agricultural Advisory Committee (HAAC). Halton Region responded that T. Stirling (HAAC representative) is already on the study mailing list and he may share status of the Dundas Street EA Study with Committee members.

The foregoing represents the writer's understanding of the major items of discussion and the decisions reached and/or future actions required. If the above does not accurately represent the understanding of all parties attending, please notify the undersigned within 48 hours of receiving these minutes at 905-823-8500.

Minutes prepared by,
MMM Group

Katherine Jim, P.Eng.
cc: all attending

DRAFT

NOTE: CONFIGURATION OF PARKING AREA SUBJECT TO DISCUSSION WITH PROPERTY OWNER DURING DETAILED DESIGN

EXISTING PROPERTY LINE

PROPOSED REGION RIGHT-OF-WAY

#2273 TERRA GREENHOUSES

2301

PROPOSED SIGNALIZED INTERSECTION

2247

RAISED MEDIAN WITH LANDSCAPE

10+800

10+900

11+000

11+100

WB EAGLESFIELD STATION

PASSENGER PLATFORM

BUS BAY

52.29m

50.00m

BUS BAY

PASSENGER PLATFORM

PRELIMINARY ONLY, SUBJECT TO FURTHER REVIEW

EB EAGLESFIELD STATION

RETAINING WALL

CURB

4.0m MULTI-USE PATH

TEMPORARY CONSTRUCTION EASEMENT

MMM GROUP

HALTON REGION
DUNDAS STREET (REGIONAL ROAD No.5) CLASS EA STUDY
BRANT STREET TO BRONTE ROAD

LEGEND:

EXISTING PROPERTY LINE

PROPOSED REGION RIGHT-OF-WAY

TEMPORARY CONSTRUCTION EASEMENT

5 0 20
SCALE 1:1000

MAY 14, 2014

MMM GROUP

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MINUTES OF MEETING

PROJECT:	Dundas Street Corridor Improvements EA Brant Street to Bronte Road		
MEETING:	Property Owner Meeting – Tansley YMCA Child Care (4426 Dundas Street)		
FILE NO.:	3212082		
DATE:	Thursday, April 3, 2014	**TIME:**	3:00 p.m. to 3:45 p.m.
PLACE:	Halton Region – Kelso Room		
PRESENT:	Jeff Reid	Halton Region	
	Melissa Green-Battiston	Halton Region	
	Kimberly Clark	Tansley YMCA Child Care	
	Lori Williams	Tansley YMCA Child Care	
	Neil Ahmed	MMM	
	Katherine Jim	MMM	
PURPOSE:	Meeting with Tansley YMCA Child Care to discuss the proposed improvements to Dundas Street from Brant Street to Bronte Road, and to review the preliminary plan and key issues and potential impact to Tansley YMCA Child Care.		

MINUTES: **ACTION BY:**

ITEM 1 – INTRODUCTION

1.1 Those at the meeting were introduced.

ITEM 2 – DUNDAS STREET CLASS EA STUDY OVERVIEW AND STUDY STATUS

2.1 Using a handout package, MMM reviewed the overall Dundas Street EA Study status, access, implementation and preliminary shelter design. Key points are noted as follows:

- Overall, Halton Region is planning for the widening of Dundas Street from 4 to 6 lanes. There are opportunities for the widened lanes to function as High Occupancy Vehicle (HOV) lanes / transit lanes and then ultimately be converted to dedicated transit lanes (by 2031).
- Section 1 – Dundas Street between Bronte Road and Proudfoot Trail. The Environmental Assessment (EA) Study for this section was completed in 2012 and is currently in detailed design.
- Section 2 – Dundas Street between Neyagawa Boulevard and Oak Park Boulevard. The EA for this section was completed in 2013.

MINUTES: **ACTION BY:**

The construction of this section will likely follow the section between Bronte Road and Proudfoot Trail.

- Section 3 – Dundas Street from Brant Street to Bronte Road – current study; approximately 10 km in length.
- Enhanced bus shelters are proposed at most signalized intersections. Bus stops are generally provided on the far side of the intersection (i.e. after the intersection) where feasible. Bus shelter concepts were shared at the meeting.
- There are a number of existing full-move private accesses on Dundas Street. With the proposed widening, these full-move accesses will become right-in/right-out only. This is applied in other sections of Dundas Street between Bronte Road and Highway 403.
- It is the Region's vision to have controlled access along the corridor to ensure operational efficiency and safety of the corridor. U-turns will be permitted at signalized intersections.
- Dundas Street will transform from a rural corridor to a pedestrian and cyclists friendly Regional arterial road. Dundas Street is proposed to be posted at 60 km/h (reduced from 80 km/h).
- While Halton Region is providing the infrastructure for the future dedicated transit lanes (i.e. road widening and bus shelters), the operation of the transit services would be provided by the local transit authorities.

ITEM 3 – PROPOSED IMPROVEMENTS ON DUNDAS STREET / REVIEW OF PRELIMINARY PLAN / POTENTIAL IMPACTS TO SPECIFIC PROPERTY

3.1 The Project Team reviewed the preliminary plan (1:1000 scale) of Dundas Street in the proximity of Tansley YMCA Child Care (4426 Dundas Street):

- General cross section elements include: 50 m right-of-way (per Halton Region Transportation Master Plan), urban section, 6 travel lanes (2 general purpose lanes and 1 HOV/Transit lane in each direction), 5.5 m to 6.5 m raised median. Active transportation facilities (e.g. multi-use path, sidewalk and cycling lanes) are based on the draft Halton Region Active Transportation (AT) Master Plan.
- In the proximity of Tansley YMCA Child Care, proposed active transportation facilities include on-road cycle tracks, consisting of a 1.8m exclusive bike lane with 0.5 m buffer (delineated by breakaway bollards), and 2.0 m off-road sidewalk on both sides of the road.
- On the preliminary plan, the proposed property line (i.e. right-of-

MINUTES: **ACTION BY:**

way) is shown in a red-dashed line, and the grading limits are shown in a blue-dashed line. There will be no property requirement from the Tansley YMCA Child Care; grading will be accommodated within the Region's right-of-way.

- Nearby bus stops are proposed at Appleby Line and Millcroft Park Drive.
- Planting will be provided in the raised median where feasible, and the corridor will be fully illuminated.

3.2 Access and Parking

- The existing full move access to Tansley YMCA Day Care on Dundas Street will become right-in/right-out only.
- Representatives of Tansley YMCA Day Care advised that their busiest time is between 7:00 am and 9:30 am. The facility is currently licensed to care for 44 children. There are also day program participants.
- Most of the families who use the facility are from the Alton Community.
- As noted above, U-turns will be permitted at signalized intersections (Appleby Line and Millcroft Park Drive which are the closest signalized intersections).

3.3 Discussion

- The Tansley YMCA Day Care has no immediate plan for expansion.
- There is fencing on the east and west sides of the property; however, teenagers in the community often trespass into the property in the morning for "short-cut" to Dundas Street.
- During detailed design, the Project Team will work with representatives of Tansley YMCA Day Care about potential impact to access during construction and will provide advanced notice should access be disrupted. Representatives of Tansley YMCA Day Care appreciate receiving advance notice in order to notify parents.
- Representatives of Tansley YMCA Day Care are in general support for the proposed improvements on Dundas Street. The introduction of a multi-modal corridor (active transportation and transit) provides options for staff and the local communities.
- The start of construction for Dundas Street widening between Northampton Boulevard and Appleby Line is proposed for 2017 based on the current capital program; subject to annual council review. Detailed design will likely begin 2-3 years prior.
- A landscape plan will be prepared during detailed design.

MINUTES: **ACTION BY:**

ITEM 4 – NEXT STEPS

4.1 The Public Information Centre (PIC) is scheduled to be held on May 29. Similar information shown at the meeting will be presented at the PIC. Representatives of Tansley YMCA Child Care will receive a notification about the PIC.

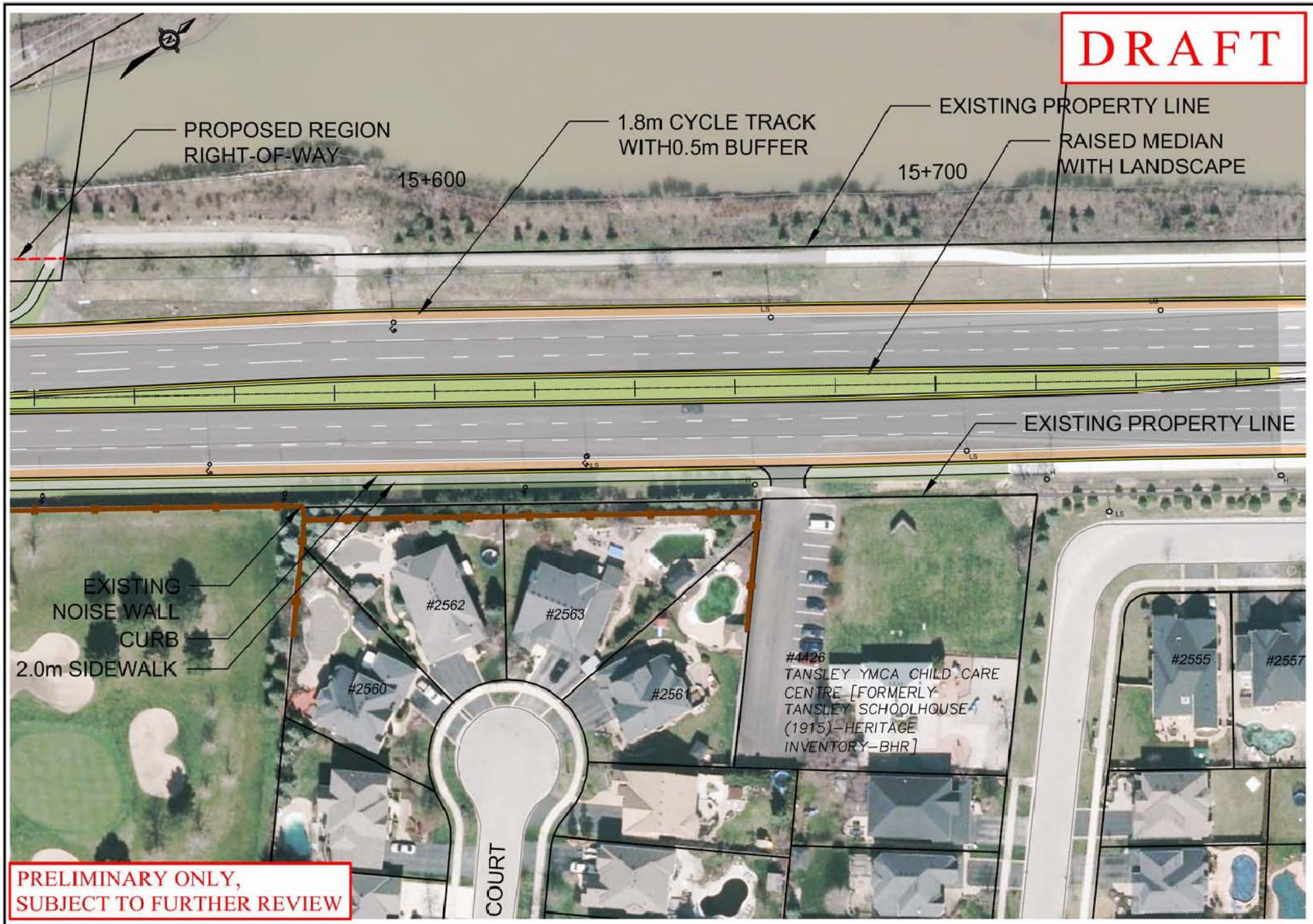
4.2 A copy of the partial preliminary plan in the proximity of Tansley YMCA Child Care is attached with the meeting minutes, as requested. (See attached).

The foregoing represents the writer's understanding of the major items of discussion and the decisions reached and/or future actions required. If the above does not accurately represent the understanding of all parties attending, please notify the undersigned within 48 hours of receiving these minutes at 905-823-8500.

Minutes prepared by,
MMM Group

K Jim

Katherine Jim, P.Eng.
cc: all attending



MMM GROUP

HALTON REGION
DUNDAS STREET (REGIONAL ROAD No.5) CLASS EA STUDY
BRANT STREET TO BRONTE ROAD

LEGEND:
EXISTING PROPERTY LINE
TEMPORARY CONSTRUCTION EASEMENT
PRCPOSED REGION RIGHT-OF-WAY

5 0 20
SCALE 1:1000

MAY 14, 2014

MMM GROUP

2655 North Sheridan Way, #300
Mississauga, Ontario, L5K 2P8
Tel: (905)823-8500
Fax: (905) 823-8503
Website: www.mmm.ca

MINUTES OF MEETING

PROJECT:	Dundas Street Corridor Improvements EA Brant Street to Bronte Road		
MEETING:	Property Owner Meeting – St. John's Anglican Church (2464 Dundas Street)		
FILE NO.:	3212082		
DATE:	Tuesday, April 8, 2014	**TIME:**	9:30 a.m. to 10:30 a.m.
PLACE:	Halton Region – Kelso Room		
PRESENT:	Jeff Reid	Halton Region	
	Melissa Green-Battiston	Halton Region	
	Patrick Monaghan	Halton Region	
	Brain Prescott	St. John's Anglican Church	
	Malcolm Jarman	St. John's Anglican Church	
	Raymond Biggar	St. John's Anglican Church	
	Neil Ahmed	MMM	
	Katherine Jim	MMM	
PURPOSE:	Meeting with St. John's Anglican Church to discuss the proposed improvements to Dundas Street from Brant Street to Bronte Road, and to review the preliminary plan and key issues and potential impact to St. John's Anglican Church.		

MINUTES: **ACTION BY:**

ITEM 1 – INTRODUCTION

1.1 Those at the meeting were introduced.

ITEM 2 – DUNDAS STREET CLASS EA STUDY OVERVIEW AND STUDY STATUS

2.1 Using a handout package, MMM reviewed the overall Dundas Street EA Study status, access, implementation strategy and preliminary shelter design. Key points are noted as follows:

- Overall, Halton Region is planning for the widening of Dundas Street from 4 to 6 lanes. There are opportunities for the widened lanes to function as High Occupancy Vehicle (HOV) lanes / transit lanes and then ultimately be converted to dedicated transit lanes (by 2031).
- Section 1 – Dundas Street between Bronte Road and Proudfoot Trail. The Environmental Assessment (EA) Study for this section was completed in 2012 and is currently in detailed design.

MINUTES: **ACTION BY:**

- Section 2 – Dundas Street between Neyagawa Boulevard and Oak Park Boulevard. The EA for this section was completed in 2013. The construction of this section will likely follow the section between Bronte Road and Proudfoot Trail.
- Section 3 – Dundas Street from Brant Street to Bronte Road – current study; approximately 10 km in length.
- Enhanced bus shelters are proposed at most signalized intersections. Bus stops are generally provided on the far side of the intersection (i.e. after the intersection) where feasible. Bus shelter concepts were shared at the meeting.
- There are a number of existing full-move private accesses on Dundas Street. With the proposed widening, these full-move accesses will become right-in/right-out only. This is applied in other sections of Dundas Street between Bronte Road and Highway 403.
- It is the Region's vision to have controlled access along the corridor to ensure operational efficiency and safety of the corridor. U-turns will be permitted at signalized intersections.
- Dundas Street will transform from a rural corridor to a pedestrian and cyclists friendly Regional arterial road. Dundas Street is proposed to be posted at 60 km/h (reduced from 80 km/h).
- While Halton Region is providing the infrastructure for the future dedicated transit lanes (i.e. road widening and bus shelters), the operation of the transit services would be provided by the local transit authorities.

ITEM 3 – PROPOSED IMPROVEMENTS ON DUNDAS STREET / REVIEW OF PRELIMINARY PLAN / POTENTIAL IMPACTS TO SPECIFIC PROPERTY

3.1 The Project Team reviewed the preliminary plan (1:1000 scale) of Dundas Street in the proximity of St. John's Anglican Church (2464 Dundas Street):

- General cross section elements include: 50 m right-of-way (per Halton Region Transportation Master Plan), urban section, 6 travel lanes (2 general purpose lanes and 1 HOV/Transit lane in each direction), 5.5 m to 6.5 m raised median. Active transportation facilities (e.g. multi-use path, sidewalk and cycling lanes) are based on the draft Halton Region Active Transportation (AT) Master Plan.
- In the proximity of St. John's Anglican Church, a 4 m multi-use path on the south side only is proposed as there is no planned development on the north side of Dundas Street (i.e. the Niagara Escarpment is on the north side of Dundas Street from Guelph

MINUTES: **ACTION BY:**

Line westerly).

- The profile of future Dundas Street will generally remain the same as existing.
- On the preliminary plan, the proposed property line (i.e. right-of-way) is shown in a red-dashed line, and the grading limits are shown in a blue-dashed line.
- Bus stops closest to the St. John's Anglican Church are proposed at Guelph Line and Blackwood Drive.
- Planting will be provided in the raised median where feasible, and the corridor will be fully illuminated.

3.2 Drainage

- Representatives of St. John's Anglican Church advised that drainage on the property is one of their major concerns. It has been a problem ever since Dundas Street was widened from 2 to 4 lanes. The profile of the road was raised at that time. Overflow from the roadway led to ponding in the parking area and other low points on the property. The cemetery area at the front of the property has experienced ponding in the past.
- The Project Team responded that a stormwater management (SWM) review will be carried out as part of the EA Study. Dundas Street will become an urban road with curb/gutter, together with catch basins and a SWM system.

3.3 Access and Parking

- The existing full move access to St. John's Anglican Church on Dundas Street will become right-in/right-out only.
- As noted above, U-turns will be permitted at signalized intersections (Guelph Line and Blackwood Drive which are the closest signalized intersections).
- Representatives of St. John's Anglican Church commented that the existing westbound left turn into the Church is a safety concern; some are already using the local street as an alternate route to avoiding making a left turn from Dundas Street. They agreed the access should become right-in/right-out.
- The curb/gutter will formalize the entrance to the Church.
- Currently, the Church leases property from ORC for overflow parking (i.e. property immediately to the east of the Church). There is no immediate plan to convert the grass area into paved parking.
- As part of the Dundas Street widening, the access to the Church will be reconstructed. The Region will work with the Church during detailed design to configure and better delineate the existing parking area that is gravel (will not include the overflow grassed parking area).
- Representatives of St. John's Anglican Church advised there is a

MINUTES: **ACTION BY:**

fire hydrant at the back of the church. A depressed median may be provided to allow access for fire trucks.

3.4 Discussion

- Due to the difference in elevation between the widened Dundas Street and the Church property, retaining walls will be provided to minimize impact to the cemetery and to the parking area.
- The multi-use path has been shifted to be directly adjacent to the curb to minimize impact to the Church property.
- The long term plan of the Church is to create a pathway system to the east of the existing property. The implementation of this is subject to available funding.
- Representatives of St. John's Anglican Church are in general support for the proposed improvements on Dundas Street.
- Halton Region noted that the widening of Dundas Street to 6 lanes is the ultimate plan. The Region does not envision further widening beyond 6 lanes.
- During detailed design, the Project Team will work with representatives of St. John's Anglican Church about potential impact to access during construction and will provide advanced notice should access be disrupted.
- Representatives of St. John's Anglican Church advised there is an access on the west side of Guelph Line, south of Dundas Street. The access is not used by the Church but appears to be a maintenance access of some sort. The Project Team responded the access will not be impacted as part of the Dundas Street widening.

3.5 Overall Schedule

- The EA Study (preliminary planning) of Dundas Street between Brant Street and Bronte Road is anticipated to be completed by the end of 2014.
- The start of construction for Dundas Street widening between Guelph Line and Kerns Road is proposed for 2020 based on the current capital program; subject to annual council review. Based on this construction schedule, detailed design will likely take place around 2017-2018.

ITEM 4 – NEXT STEPS

4.1 The Public Information Centre (PIC) is scheduled to be held on May 29. Similar information shown at the meeting will be presented at the PIC. Representatives of St. John's Anglican Church will receive a notification about the PIC.

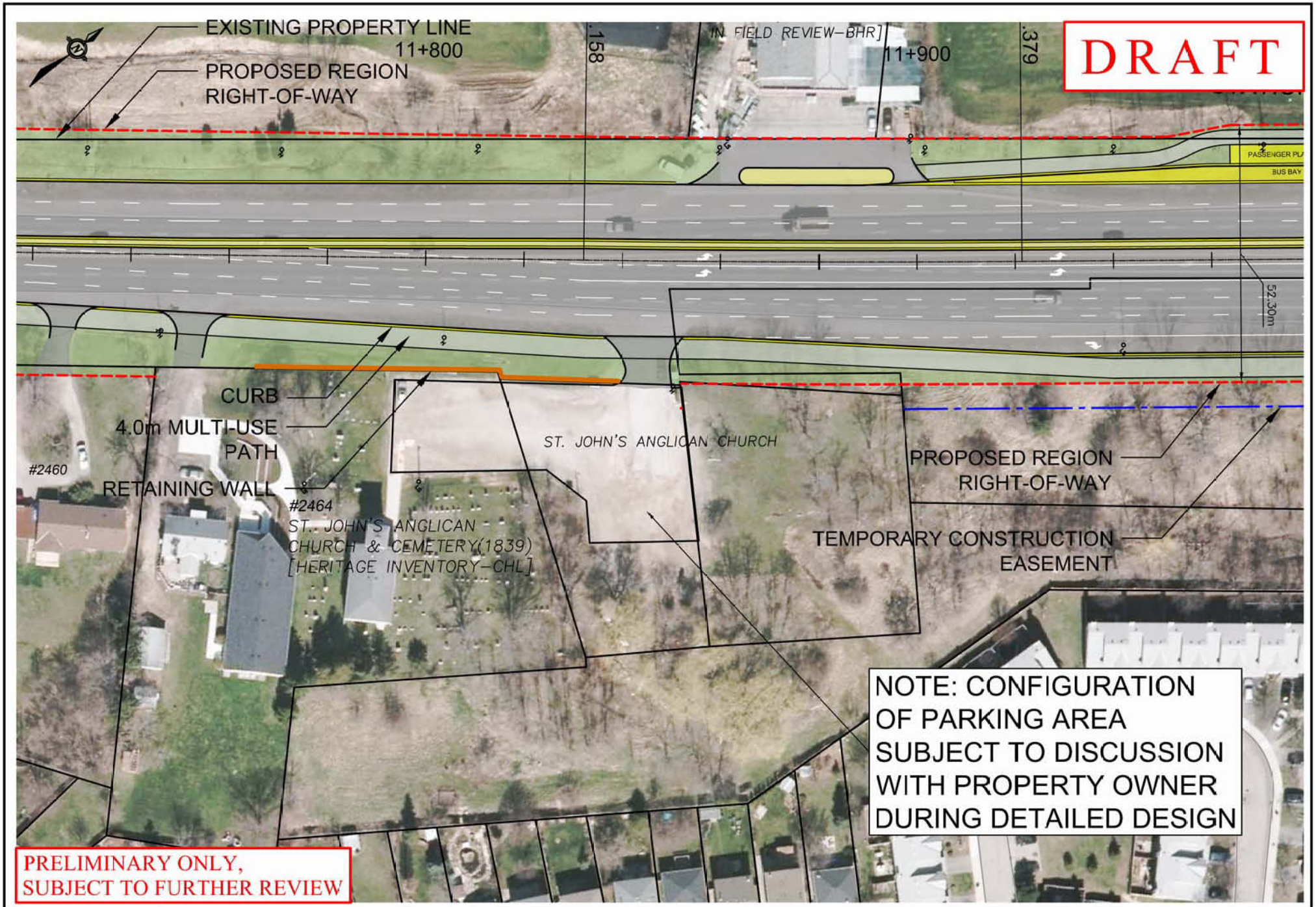
4.2 A copy of the partial preliminary plan in the proximity of St. John's Anglican Church is attached with the meeting minutes, as requested. (See attached).

The foregoing represents the writer's understanding of the major items of discussion and the decisions reached and/or future actions required. If the above does not accurately represent the understanding of all parties attending, please notify the undersigned within 48 hours of receiving these minutes at 905-823-8500.

Minutes prepared by,
MMM Group

K. Jim

Katherine Jim, P.Eng.
cc: all attending



MMM GROUP

HALTON REGION
DUNDAS STREET (REGIONAL ROAD No.5) CLASS EA STUDY
BRANT STREET TO BRONTE ROAD

LEGEND:
- EXISTING PROPERTY LINE
- TEMPORARY CONSTRUCTION EASEMENT
- PROPOSED REGION RIGHT-OF-WAY

5 0 20
SCALE 1:1000

MAY 14, 2014

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MINUTES OF MEETING

PROJECT:	Dundas Street Corridor Improvements EA Brant Street to Bronte Road		
MEETING:	Property Owner Meeting – Eaglesfield Community Church (2501 Dundas Street)		
FILE NO.:	3212082		
DATE:	Wednesday, May 7, 2014	**TIME:**	10:00 a.m. to 10:45 a.m.
PLACE:	Halton Region – Dakota Room		
PRESENT:	Jeff Reid	Halton Region	
	Melissa Green-Battiston	Halton Region	
	Patrick Monaghan	Halton Region	
	Andrew Kim	Eaglesfield Community Church (Pastor)	
	Ryan	Eaglesfield Community Church (Elder)	
	Neil Ahmed	MMM	
	Katherine Jim	MMM	
PURPOSE:	Meeting with Eaglesfield Community Church to discuss the proposed improvements to Dundas Street from Brant Street to Bronte Road, and to review the preliminary plan and key issues and potential impact to Eaglesfield Community Church.		

MINUTES: **ACTION BY:**

ITEM 1 – INTRODUCTION

1.1 Those at the meeting were introduced.

ITEM 2 – DUNDAS STREET CLASS EA STUDY OVERVIEW AND STUDY STATUS

2.1 Using a handout package, MMM reviewed the overall Dundas Street EA Study status, access, implementation strategy and preliminary shelter design. Key points are noted as follows:

- Overall, Halton Region is planning for the widening of Dundas Street from 4 to 6 lanes. There are opportunities for the widened lanes to function as High Occupancy Vehicle (HOV) lanes / transit lanes and then ultimately be converted to dedicated transit lanes (by 2031).
- Section 1 – Dundas Street between Bronte Road and Proudfoot Trail. The Environmental Assessment (EA) Study for this section was completed in 2012 and is currently in detailed design.

MINUTES: **ACTION BY:**

- Section 2 – Dundas Street between Neyagawa Boulevard and Oak Park Boulevard. The EA for this section was completed in 2013. The construction of this section will likely follow the section between Bronte Road and Proudfoot Trail.
- Section 3 – Dundas Street from Brant Street to Bronte Road – current study; approximately 10 km in length.
- Enhanced bus shelters are proposed at most signalized intersections. Bus stops are generally provided on the far side of the intersection (i.e. after the intersection) where feasible. Bus shelter concepts were shared at the meeting.
- There are a number of existing full-move private accesses on Dundas Street. With the proposed widening, these full-move accesses will become right-in/right-out only. This is applied in other sections of Dundas Street between Bronte Road and Highway 403.
- It is the Region's vision to have controlled access along the corridor to ensure operational efficiency and safety of the corridor. U-turns will be permitted at signalized intersections.
- Dundas Street will transform from a rural corridor to a pedestrian and cyclist-friendly Regional arterial road. Dundas Street is proposed to be posted at 60 km/h (reduced from 80 km/h).
- While Halton Region is providing the infrastructure for the future dedicated transit lanes (i.e. road widening and bus shelters), the operation of the transit services would be provided by the local transit authorities.

ITEM 3 – PROPOSED IMPROVEMENTS ON DUNDAS STREET / REVIEW OF PRELIMINARY PLAN / POTENTIAL IMPACTS TO SPECIFIC PROPERTY

3.1 The Project Team reviewed the preliminary plan (1:1000 scale) of Dundas Street in the proximity of Eaglesfield Community Church (2501 Dundas Street):

- General cross section elements include: 50 m right-of-way (per Halton Region Transportation Master Plan), urban section, 6 travel lanes (2 general purpose lanes and 1 HOV/Transit lane in each direction), 5.5 m to 6.5 m raised median. Active transportation facilities (e.g. multi-use path, sidewalk and cycling lanes) are based on the draft Halton Region Active Transportation (AT) Master Plan.
- In the proximity of Eaglesfield Community Church, a 4 m bi-directional multi-use path on the south side only is proposed as there is no planned development on the north side of Dundas Street (i.e. the Niagara Escarpment is on the north side of Dundas Street

MINUTES: **ACTION BY:**

from Guelph Line westerly).

- The profile of future Dundas Street will generally remain the same as existing.
- On the preliminary plan, the proposed property line (i.e. right-of-way) is shown in a red-dashed line, and the grading limits are shown in a blue-dashed line.
- The eastbound Dundas Street bus stop at Eaglesfield Drive is proposed along the frontage of the Eaglesfield Community Church (i.e. far side of the intersection). Westbound Dundas Street bus stop at Eaglesfield Drive is proposed on the near side across the street from the Church along the Terra Greenhouses property.
- Planting will be provided in the raised median where feasible, and the corridor will be fully illuminated.

3.2 Access and Parking

- Currently, Eaglesfield Drive / Dundas Street intersection is unsignalized. A signal will be provided at this intersection as part of the Dundas Street improvements.
- Current access to Eaglesfield Community Church is on Eaglesfield Drive and will remain the same with the widening on Dundas Street. However, access to the property immediately east of the Church parking (i.e. where the existing soccer field is located) from Dundas Street will become right-in/right-out only due to the raised median.
- As noted above, U-turns will be permitted at signalized intersections (Eaglesfield Drive and Blackwood Drive will be the closest signalized intersections).
- There will be some property requirement along the Dundas Street frontage of the property, both adjacent to the soccer field and the parking area, including day-lighting (Dundas Street and Eaglesfield Drive). The Project Team recognizes that the existing parking area for the Church is being fully utilized on Sundays, and to avoid impacts to the parking area due to grading and the proposed bus stop, a retaining wall is proposed along the parking lot area adjacent to Dundas Street. Region
- A few of the parking spots under the existing parking configuration are located within the proposed daylight area of the intersection. This will be reviewed further during detailed design and an easement agreement with the Region may be setup to allow parking within the daylight.
- Representatives of Eaglesfield Community Church are in general agreement with the proposed improvements on Dundas Street and the proposed mitigation on the property.

MINUTES: **ACTION BY:**

3.3 Discussion

- The Project Team and representatives of Eaglesfield Community Church reviewed the approximate property requirement along the frontage of the property; specifically the property immediately east of the Church parking (i.e. where the existing soccer field is located). In general, the property requirement ranges from 4 m to 10 m from the existing property line. A 5 m temporary construction easement is also shown.
- It was noted that during the detailed design process, Halton Region will be in contact with the Church again for property negotiation and mitigation; the Church property will be compensated with fair market value.
- A landscaping plan will be developed during detailed design.
- Halton Region noted that the widening of Dundas Street to 6 lanes is the ultimate plan. The Region does not envision further widening beyond 6 lanes.
- During detailed design, the Project Team will work with representatives of Eaglesfield Community Church about potential impact to the property and access during construction.

3.5 Overall Schedule

- The EA Study (preliminary planning) of Dundas Street between Brant Street and Bronte Road is anticipated to be completed by the end of 2014.
- The start of construction for Dundas Street widening between Guelph Line and Kerns Road is proposed for 2020 based on the current capital program; subject to annual Regional Council review. Based on this construction schedule, detailed design will likely take place around 2017-2018.

ITEM 4 – NEXT STEPS

4.1 The Public Information Centre (PIC) is scheduled to be held on May 29. Similar information shown at the meeting will be presented at the PIC. Representatives of Eaglesfield Community Church will receive a notification about the PIC.

4.2 A copy of the partial preliminary plan in the proximity of Eaglesfield Community Church will be provided with the meeting minutes, as requested. (See attached).

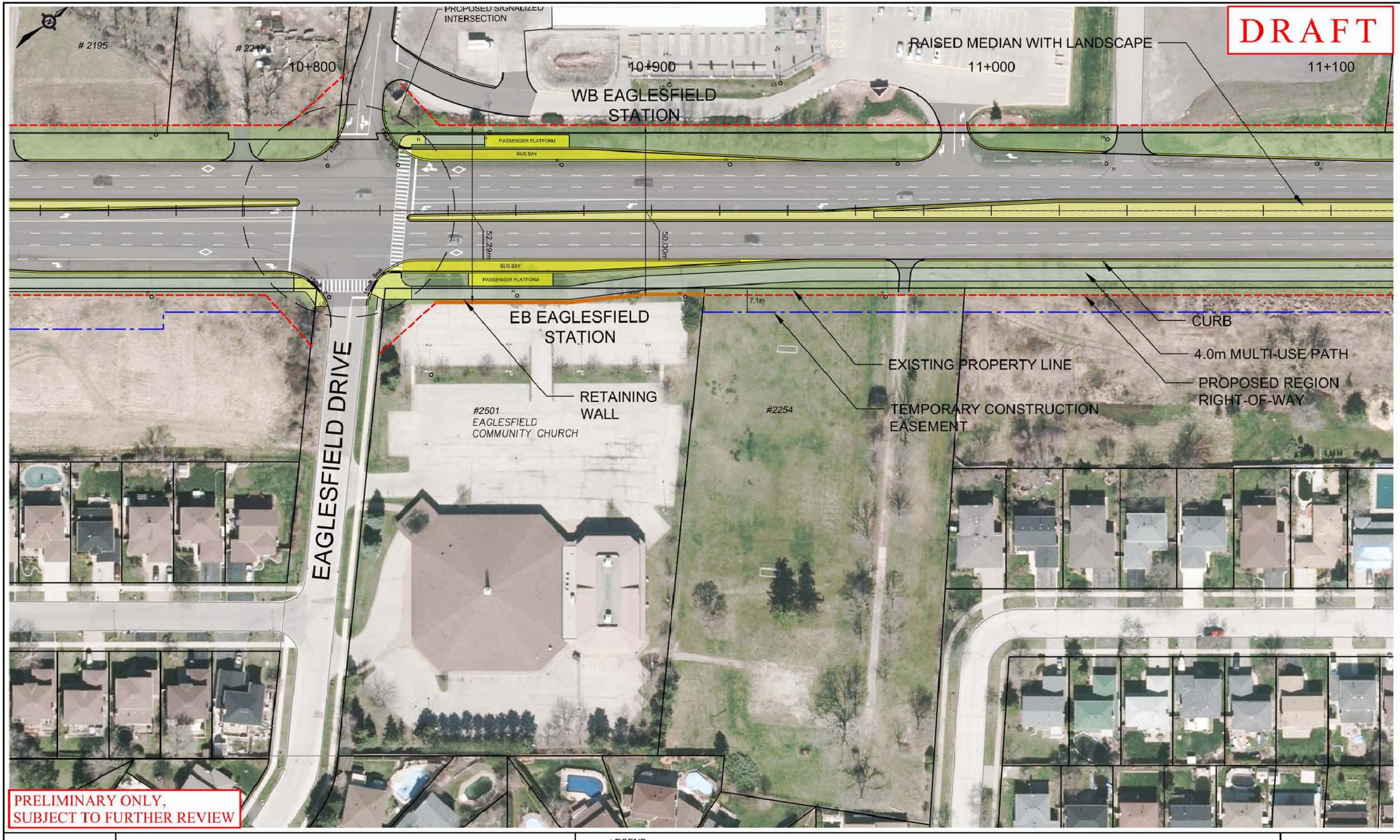
The foregoing represents the writer's understanding of the major items of discussion and the decisions reached and/or future actions required. If the above does not accurately represent the understanding of all parties attending, please notify the undersigned within 48 hours of receiving these minutes at 905-823-8500.

Minutes prepared by,
MMM Group

K Jim

Katherine Jim, P.Eng.
cc: all attending

DRAFT



PRELIMINARY ONLY,
SUBJECT TO FURTHER REVIEW

MMM GROUP

HALTON REGION
DUNDAS STREET (REGIONAL ROAD No.5) CLASS EA STUDY
BRANT STREET TO BRONTE ROAD

LEGEND:

EXISTING PROPERTY LINE

PROPOSED REGION RIGHT-OF-WAY

TEMPORARY CONSTRUCTION EASEMENT

5 0 20
SCALE 1:1000

MAY 14, 2014

MMM GROUP

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MINUTES OF MEETING

PROJECT:	Dundas Street Corridor Improvements EA Brant Street to Bronte Road		
MEETING:	Property Owner Meeting – Millcroft Golf Course (2155 Country Club Drive)		
FILE NO.:	3212082		
DATE:	Friday September 12, 2014	**TIME:**	10:00 a.m. to 10:45 a.m.
PLACE:	Halton Region – Aldershot Room		
PRESENT:	Jeff Reid	Halton Region	
	Melissa Green-Battiston	Halton Region	
	Ed Liptay	Millcroft Golf Course	
	Neil Ahmed	MMM	
	Stefan Sirianni	MMM	
PURPOSE:	Meeting with Millcroft Golf Course to discuss the proposed improvements to Dundas Street from Brant Street to Bronte Road, and to review the preliminary plan and key issues, as well as potential impact to Millcroft Golf Course.		

MINUTES: **ACTION BY:**

ITEM 1 – INTRODUCTION

1.1 Those at the meeting were introduced.

ITEM 2 – DUNDAS STREET CLASS EA STUDY OVERVIEW AND STUDY STATUS

2.1 Using a handout package, MMM reviewed the overall Dundas Street Environmental Assessment (EA) Study status, access, implementation strategy and preliminary shelter design. Key points are noted as follows:

- Overall, Halton Region is planning for the widening of Dundas Street from 4 to 6 lanes. There are opportunities for the widened lanes to function as High Occupancy Vehicle (HOV) lanes / transit lanes and then ultimately be converted to dedicated transit lanes (by 2031).
- Section 1 – Dundas Street between Bronte Road and Proudfoot Trail. The EA Study for this section was completed in 2012 and is currently in detailed design.
- Section 2 – Dundas Street between Neyagawa Boulevard and Oak Park Boulevard. The EA for this section was completed in 2013. The construction of this section will likely follow the section

MINUTES: **ACTION BY:**

between Bronte Road and Proudfoot Trail.

- Section 3 – Dundas Street from Brant Street to Bronte Road – current study; approximately 10 km in length, for which an Environmental Assessment study is underway.
- Enhanced bus shelters are proposed at most signalized intersections. Bus stops are generally provided on the far side of the intersection (i.e. downstream of the intersection) where feasible. Bus shelter concepts were shared at the meeting.
- There are a number of existing full-move private accesses on Dundas Street. With the proposed widening, these full-move accesses will become right-in/right-out only. This is consistently applied to the Dundas Street corridor between Bronte Road and Highway 403.
- It is the Region's vision to have controlled access along the corridor to ensure operational efficiency and safety of the corridor. U-turns will be permitted at signalized intersections.
- Dundas Street will transform from a rural higher-speed corridor to a pedestrian and cyclist-friendly Regional arterial road. Dundas Street is proposed to be posted at 60 km/h (reduced from 80 km/h).
- While Halton Region is providing the infrastructure for the future dedicated transit lanes (i.e. road widening and bus bays), the operation of the transit services would be provided by the local transit authorities.

ITEM 3 – PROPOSED IMPROVEMENTS ON DUNDAS STREET / REVIEW OF PRELIMINARY PLAN / POTENTIAL IMPACTS TO SPECIFIC PROPERTY

3.1 The Project Team reviewed the preliminary plan (1:1000 scale) of Dundas Street in the proximity of Millcroft Golf Course:

- General cross section elements include: 50 m right-of-way (per Halton Region Transportation Master Plan), urban cross-section, 6 travel lanes (2 general purpose lanes and 1 HOV/Transit lane in each direction) and 5.5 m to 6.5 m raised median. Active transportation facilities (e.g. multi-use path and cycle tracks) are proposed, consistent with the Region's draft Active Transportation (AT) Master Plan.
- Adjacent to Millcroft Golf Course a 3 m wide multi-use path and cycle track (comprised of a 1.8 m exclusive bike lane and a 0.5 m painted buffer with bollards) on both sides of the road is proposed.
- The profile of future Dundas Street will generally remain the same as existing.
- On the preliminary plan, the proposed property line (i.e. right-of-way) is shown in a red-dashed line, and the temporary grading

MINUTES: **ACTION BY:**

limits are shown in a blue-dashed line.

- Planting will be provided in the raised centre-median where feasible, and the corridor will be fully illuminated.

3.2 Millcroft Park Drive

- An eastbound Dundas Street bus bay and bus shelter is proposed on the far side (east side) of Millcroft Park Drive where Millcroft Golf Course fronts Dundas Street. Additionally, the proposed 3 m wide multi-use path will pass behind this bus shelter. Millcroft Golf Course's existing wooden privacy wall follows the existing property line. A portion of this privacy wall will have to be relocated or replaced to accommodate the bus shelter and multi-use path.
- Existing signage for Millcroft Golf Course at the proposed bus shelter will most likely need to be relocated.
- There will most likely not be any operational impacts to the south cross-walk at Millcroft Park Drive. Golfers (and carts) will be able to continue using this intersection for transitioning between holes 12 and 13.
- Grading changes may be required at the hydro tower standing approximately 90 m west of Millcroft Park Drive on Hydro One property. The tower is in close proximity to Millcroft Golf Course's property. Millcroft Golf Course will be informed of any temporary impacts this work might have on their operations.
- Due to the median on Dundas Street, Millcroft Golf Course's maintenance entrance west of Millcroft Park Drive will become right-in/right-out only. Other movements can be accomplished via U-turn at Millcroft Park Drive or Tim Dobbie Drive.

3.3 Discussion

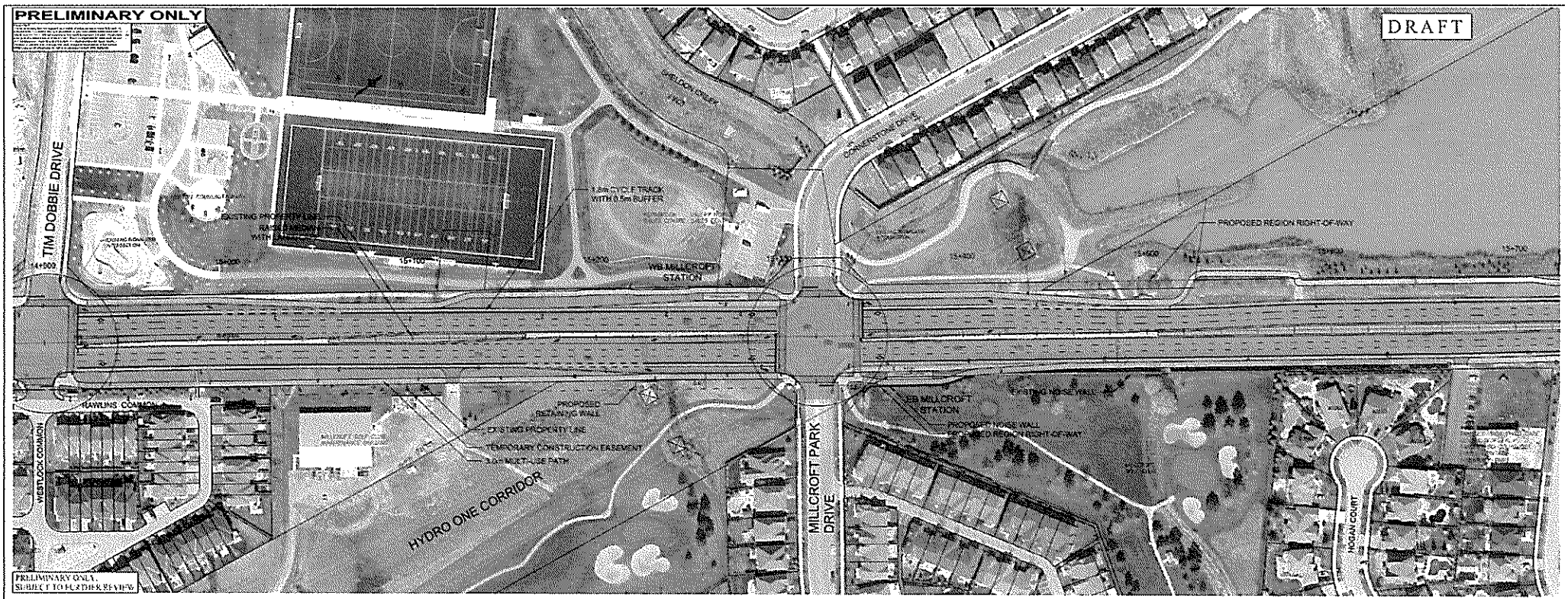
- The Project Team and representative of Millcroft Golf Course reviewed the approximate property requirements along the frontage of the property; specifically the properties on both sides of the Millcroft Park Drive intersection.
- It was noted that during the detail design process, Halton Region will contact Millcroft Golf Course again for property impacts and mitigation details.
- A landscaping plan will be developed during detail design.
- Halton Region noted that the widening of Dundas Street to 6 lanes is the ultimate plan. The Region does not envision further widening beyond 6 lanes.
- During detail design, the Project Team will work with representatives of Millcroft Golf Course regarding potential impact to the properties and access during construction.
- The representative of Millcroft Golf Course was generally

MINUTES:	ACTION BY:
accepting of the proposed improvements on Dundas Street and the proposed mitigation on the property.	
3.4 Overall Schedule • The EA Study (preliminary planning) of Dundas Street between Brant Street and Bronte Road is anticipated to be completed in early 2015. • The start of construction for Dundas Street widening between Guelph Line and Kerns Road is proposed for 2020 based on the current Halton Region capital program; subject to annual Regional Council review. Based on this construction schedule, detail design will likely take place in the 2018 timeframe.	
ITEM 4 – NEXT STEPS	
4.1 Millcroft Golf Course to send follow-up email outlining input and concerns (e.g. maintaining signage, crossings, etc.)	Millcroft Golf Course
4.2 A copy of the partial preliminary plan with detailed dimensions in the proximity of Millcroft Golf Course will be provided with the meeting minutes, as requested (See attached PDF).	

The foregoing represents the writer's understanding of the major items of discussion and the decisions reached and/or future actions required. If the above does not accurately represent the understanding of all parties attending, please notify the undersigned within 48 hours of receiving these minutes at 905-823-8500.

Minutes prepared by,
MMM Group

Stefan Sirianni, EIT
cc: all attending



MMM GROUP

HALTON REGION
DUNDAS STREET (REGIONAL ROAD No.5) CLASS EA STUDY
BRANT STREET TO BRONTE ROAD

LEGEND

SEPTEMBER 2014

MMM GROUP

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MINUTES OF MEETING

PROJECT:	Dundas Street Corridor Improvements EA Brant Street to Bronte Road		
MEETING:	Property Owner Meeting – First Student (5401 Dundas Street)		
FILE NO.:	3212082		
DATE:	Friday September 12, 2014	**TIME:**	11:30 a.m. to 12:00 p.m.
PLACE:	Halton Region – Aldershot Room		
PRESENT:	Jeff Reid	Halton Region	
	Melissa Green-Battiston	Halton Region	
	Penny Kranz	First Student	
	Neil Ahmed	MMM	
	Stefan Sirianni	MMM	
PURPOSE:	Meeting with First Student to discuss the proposed improvements to Dundas Street from Brant Street to Bronte Road, and to review the preliminary plan and key issues, as well as potential impact to First Student.		

MINUTES: **ACTION BY:**

ITEM 1 – INTRODUCTION

1.1 Those at the meeting were introduced.

ITEM 2 – DUNDAS STREET CLASS EA STUDY OVERVIEW AND STUDY STATUS

2.1 Using a handout package, MMM reviewed the overall Dundas Street Environmental Assessment (EA) Study status, access, implementation strategy and preliminary shelter design. Key points are noted as follows:

- Overall, Halton Region is planning for the widening of Dundas Street from 4 to 6 lanes. There are opportunities for the widened lanes to function as High Occupancy Vehicle (HOV) lanes / transit lanes and then ultimately be converted to dedicated transit lanes (by 2031).
- Section 1 – Dundas Street between Bronte Road and Proudfoot Trail. The EA Study for this section was completed in 2012 and is currently in construction.
- Section 2 – Dundas Street between Neyagawa Boulevard and Oak Park Boulevard. The EA for this section was completed in 2013. The construction of this section will likely follow the section

MINUTES: **ACTION BY:**

between Bronte Road and Proudfoot Trail.

- Section 3 – Dundas Street from Brant Street to Bronte Road – current study; approximately 10 km in length, for which an Environmental Assessment study is underway.
- Enhanced bus shelters are proposed at most signalized intersections. Bus stops are generally provided on the far side of the intersection (i.e. downstream of the intersection) where feasible. Bus shelter concepts were shared at the meeting.
- There are a number of existing full-move private accesses on Dundas Street. With the proposed reconstruction of Dundas Street, these full-move accesses will become right-in/right-out only. This access control is being consistently applied to the Dundas Street corridor between Bronte Road and Highway 403.
- It is the Region's vision to implement controlled access along the corridor to ensure operational efficiency and safety of the corridor. U-turns will be permitted at signalized intersections.
- Dundas Street will transform from a rural higher-speed corridor to a pedestrian and cyclist-friendly Regional arterial road. Dundas Street is proposed to be posted at 60 km/h (reduced from 80 km/h).
- While Halton Region is providing the infrastructure for the future dedicated transit lanes (i.e. road widening and bus bays), the operation of the transit services would be provided by the local transit authorities.

ITEM 3 – PROPOSED IMPROVEMENTS ON DUNDAS STREET / REVIEW OF PRELIMINARY PLAN / POTENTIAL IMPACTS TO SPECIFIC PROPERTY

3.1 The Project Team reviewed the preliminary plan (1:1000 scale) of Dundas Street in the proximity of First Student's property at 5401 Dundas Street:

- General cross section elements include: 50 m right-of-way (per Halton Region Transportation Master Plan), urban cross-section, 6 travel lanes (2 general purpose lanes and 1 HOV/Transit lane in each direction) and 5.5 m to 6.5 m raised median. Active transportation facilities (e.g. multi-use path, and exclusive bike lanes) are proposed, consistent with the Region's draft Active Transportation (AT) Master Plan.
- The profile of future Dundas Street will generally remain the same as existing.
- On the preliminary plan, the proposed property line (i.e. right-of-way) is shown in a red-dashed line, and the grading limits are shown in a blue-dashed line.
- Planting will be provided in the raised centre-median where feasible, and the corridor will be fully illuminated.

MINUTES: **ACTION BY:**

- School buses will be permitted to use future HOV and BRT lanes.

3.2 Access

- Due to the centre-median on Dundas Street, access to 5401 Dundas Street will be right-in/right-out only.
- To maintain a consistent design along the corridor, the centre-median will be continuous and not provide for left-turn access to/from First Student's property.
- Halton Region stated that signalized intersections are typically only provided for municipal roads, not for private businesses.
- Currently, there are three access points/driveways at the First Student property. One of the three accesses is a private shared entrance with the adjacent property (5421 Dundas Street) to the east.
- According to First Student, approximately 190 routes originate from this location. One bus can do up to four routes in the am period and four routes pm period.

3.3 Discussion

- The Project Team and representatives of First Student reviewed the approximate property requirements along the frontage of the property. In general, the property requirement is approximately 3.8 m from the existing property line. First Student indicated that this should not be problematic as the existing parking lot can be reconfigured and accommodated within the property.
- First Student has no plans to relocate their business at this time.
- Currently, First Student provides service to the Halton Regional School Board, French schools, and other private contracts.
- According to First Student, the school boards identify the bus services for companies to bid on. Contracts with school boards are typically set-up between five to eight years. Generally five years with an option to expand for additional three one-year terms. Routes are reviewed each year for travel time effectiveness. The current contract will expire in 2016 with the option of extension through the 2018 school year.
- Turning radius of a school bus is a minimum of 12.0 metres. Therefore, U-turns at nearby Tremaine Road and Sutton Drive signalized intersections for access to the property would not be feasible.
- Potential for buses to turn around at John William Boich Elementary School's loading zone was discussed, though viability depends on the time of day for when students and parents pick-up/drop-off are scheduled.
- School bus drivers typically begin leaving the yard at 6:30 am and 1:30 pm. Drivers return anytime between 3:30 pm and 5:00 pm.
- It was noted that following approval of the Environmental

MINUTES: **ACTION BY:**

Assessment study and during the detail design process, Halton Region will contact First Student again for property impacts and mitigation.

- A landscaping plan for the entire corridor will be developed during detail design.
- Halton Region noted that the widening of Dundas Street to 6 lanes is the ultimate plan. The Region does not envision further widening beyond 6 lanes.
- During detail design, the Project Team will work with representatives of First Student regarding potential impact to the property and access during construction.

3.4 Overall Schedule

- The EA Study (preliminary planning) of Dundas Street between Brant Street and Bronte Road is anticipated to be completed in early 2015.
- The start of construction for Dundas Street widening between Appleby Line and Tremaine Road is proposed for 2017 based on the current Halton Region capital program; subject to annual Regional Council review. Based on this construction schedule, detailed design will likely take place in the 2015/2016 timeframe.

ITEM 4 – NEXT STEPS

4.1 First Student to provide contract information for Halton Student Transportation Services, who are responsible for routing. *[post-meeting note – First Student provided Karen Lacroix contact information by email on September 15, 2014]* — Halton Region / MMM

4.2 A copy of the partial preliminary plan with detailed dimensions in the proximity of First Student will be provided with the meeting minutes (See attached PDF).

The foregoing represents the writer's understanding of the major items of discussion and the decisions reached and/or future actions required. If the above does not accurately represent the understanding of all parties attending, please notify the undersigned within 48 hours of receiving these minutes at 905-823-8500.

Minutes prepared by,
MMM Group

Stefan Sirianni, EIT
cc: all attending

MMM GROUP

HALTON REGION
DUNDAS STREET (REGIONAL ROAD No.5) CLASS EA STUDY
BRANT STREET TO BRONTE ROAD

LEGEND:
- EXISTING PROPERTY LINE
- TEMPORARY CONSTRUCTION EASEMENT
- PROPOSED REGION RIGHT-OF-WAY

5 0 20
SCALE 1:1000

SEPTEMBER 30, 2014

MMM GROUP

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Mississauga, Ontario, L5K 2P8
Tel: (905)823-8500
Fax: (905) 823-8503
Website: www.mmm.ca

MINUTES OF MEETING

PROJECT:	Dundas Street Corridor Improvements EA Brant Street to Bronte Road		
MEETING:	Property Owner Meeting – Nelson Variety (2495 Dundas Street)		
FILE NO.:	3212082		
DATE:	Friday September 12, 2014	**TIME:**	12:00 p.m. to 12:45 p.m.
PLACE:	Halton Region – Aldershot Room		
PRESENT:	Jeff Reid	Halton Region	
	Melissa Green-Battiston	Halton Region	
	Sandra (Property Owner)	Nelson Variety	
	Charlie (Nelson Flowers)	Nelson Variety	
	Neil Ahmed	MMM	
	Stefan Sirianni	MMM	
PURPOSE:	Meeting with Nelson Variety to discuss the proposed improvements to Dundas Street from Brant Street to Bronte Road, and to review the preliminary plan and key issues, as well as potential impact to Nelson Variety.		

MINUTES: **ACTION BY:**

ITEM 1 – INTRODUCTION

1.1 Those at the meeting were introduced.

ITEM 2 – DUNDAS STREET CLASS EA STUDY OVERVIEW AND STUDY STATUS

2.1 Using a handout package, MMM reviewed the overall Dundas Street Environmental Assessment (EA) Study status, access, implementation strategy and preliminary shelter design. Key points are noted as follows:

- Overall, Halton Region is planning for the widening of Dundas Street from 4 to 6 lanes. There are opportunities for the widened lanes to function as High Occupancy Vehicle (HOV) lanes / transit lanes and then ultimately be converted to dedicated transit lanes (by 2031).
- Section 1 – Dundas Street between Bronte Road and Proudfoot Trail. The EA Study for this section was completed in 2012 and is currently in construction.
- Section 2 – Dundas Street between Neyagawa Boulevard and Oak Park Boulevard. The EA for this section was completed in 2013.

MINUTES: **ACTION BY:**

The construction of this section will likely follow the section between Bronte Road and Proudfoot Trail.

- Section 3 – Dundas Street from Brant Street to Bronte Road – current study; approximately 10 km in length, for which an Environmental Assessment study is underway.
- Enhanced bus shelters are proposed at most signalized intersections. Bus stops are generally provided on the far side of the intersection (i.e. downstream of the intersection) where feasible. Bus shelter concepts were shared at the meeting.
- There are a number of existing full-move private accesses on Dundas Street. With the proposed widening, these full-move accesses will become right-in/right-out only. This is consistently applied to the Dundas Street corridor between Bronte Road and Highway 403.
- It is the Region's vision to have controlled access along the corridor to ensure operational efficiency and safety of the corridor. U-turns will be permitted at signalized intersections.
- Dundas Street will transform from a rural higher-speed corridor to a pedestrian and cyclist-friendly Regional arterial road. Dundas Street is proposed to be posted at 60 km/h (reduced from 80 km/h).
- While Halton Region is providing the infrastructure for the future dedicated transit lanes (i.e. road widening and bus bays), the operation of the transit services would be provided by the local transit authorities.

ITEM 3 – PROPOSED IMPROVEMENTS ON DUNDAS STREET / REVIEW OF PRELIMINARY PLAN / POTENTIAL IMPACTS TO SPECIFIC PROPERTY

3.1 The Project Team reviewed the preliminary plan (1:1000 scale) of Dundas Street in the proximity of Nelson Variety:

- General cross section elements include: 50 m right-of-way (per Halton Region Transportation Master Plan), urban cross-section, 6 travel lanes (2 general purpose lanes and 1 HOV/Transit lane in each direction) and 5.5 m to 6.5 m raised median. Active transportation facilities (e.g. multi-use paths) are based on the draft Halton Region Active Transportation (AT) Master Plan.
- In proximity to Nelson Variety, a 4 m bi-directional multi-use path on the south side (only) is proposed as there is no planned development on the north side of Dundas Street (i.e. the Niagara Escarpment on the north side of Dundas Street from Guelph Line westerly).
- The profile of future Dundas Street will generally remain the same as existing.

MINUTES: **ACTION BY:**

- On the preliminary plan, the proposed property line (i.e. right-of-way) is shown in a red-dashed line, and the grading limits are shown in a blue-dashed line.
- There will be no notable property requirements from Nelson Variety as a result of the proposed work on Dundas Street. However, a curb will be implemented that will affect existing parking, which is partially within the Region's right-of-way.
- A sidewalk connecting the property to the nearby westbound bus station at Guelph Line will be provided.
- It should be noted that the easterly property line of Nelson Variety as depicted on preliminary drawings is not accurate and will be updated.
- Planting will be provided in the raised centre-median where feasible, and the corridor will be fully illuminated.

3.2 Access and Parking

- Access to the property at Dundas Street will become right-in/right-out only due to the raised centre-median.
- As noted above, U-turns will be permitted at signalized intersections (Guelph Line and Blackwood Drive will be the closest signalized intersections).
- A few of the parking spots within the existing parking configuration are located inside the Region's right-of-way. This will be reviewed further during detail design and an easement agreement with the Region may be considered.
- Representatives of Nelson Variety are accepting of the proposed improvements on Dundas Street and the proposed mitigation on their property.

3.3 Discussion

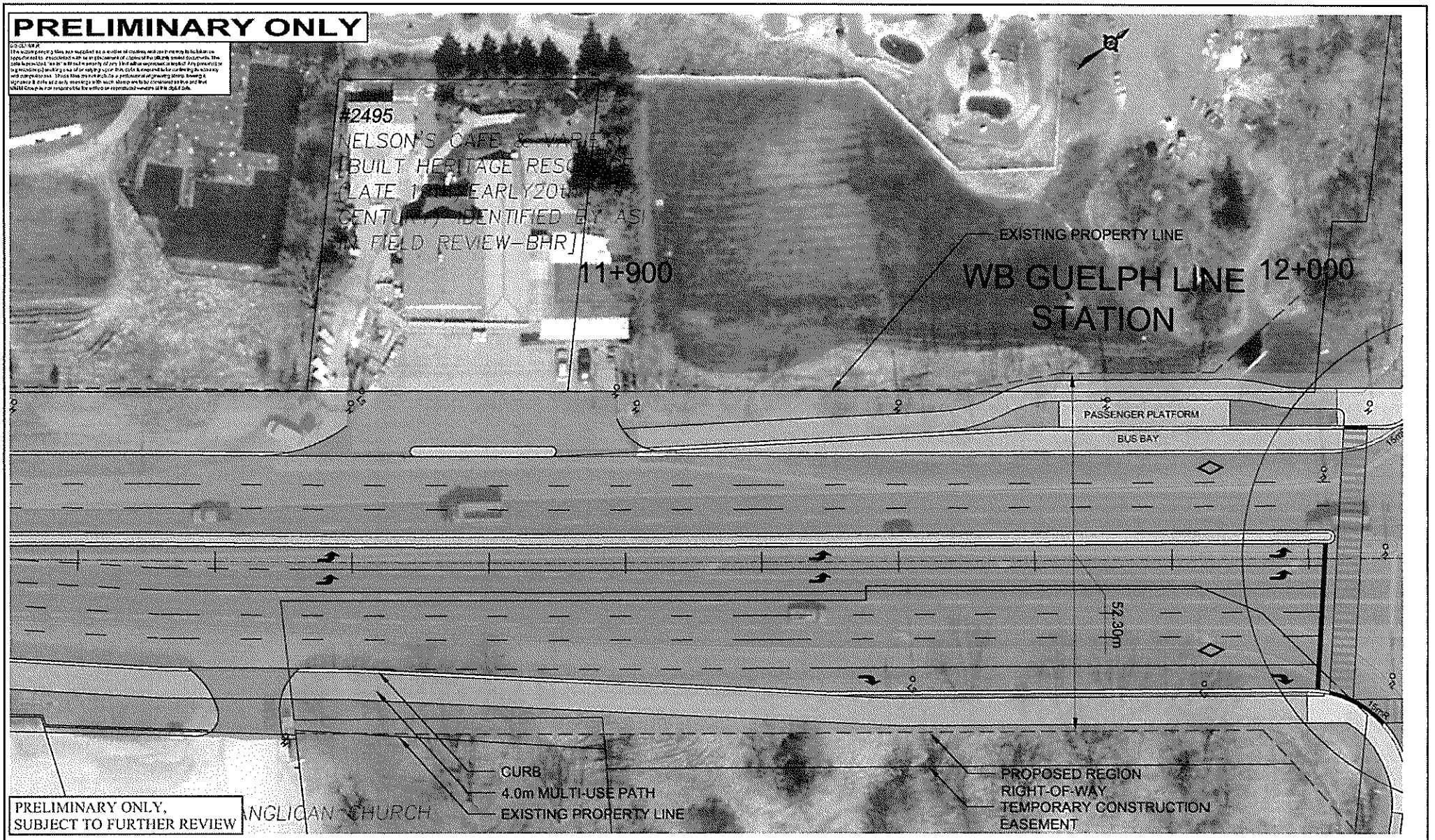
- It was noted that during the detail design process, Halton Region will be in contact with Nelson Variety to discuss mitigation measures.
- Nelson Variety agreed that the proposed raised centre-median would provide improved safety for overall road operation.
- A landscaping plan for the Dundas Street corridor will be developed during detail design.
- Halton Region noted that the widening of Dundas Street to 6 lanes is the ultimate plan. The Region does not envision further widening beyond 6 lanes.
- During detail design, the Project Team will work with representatives of Nelson Variety regarding potential impact to the property and access during construction.
- Concerns about construction start time, duration, and potential impacts on businesses were brought up, though it is too early to

MINUTES:	ACTION BY:
provide specific details at this time.	
3.4 Overall Schedule • The EA Study (preliminary planning) of Dundas Street between Brant Street and Bronte Road is anticipated to be completed in early 2015. • The start of construction for Dundas Street widening between Brant Street and Guelph Line is proposed for 2020 based on the current capital program; subject to annual Regional Council review. Based on this construction schedule, detail design will likely begin in the 2018 timeframe.	
ITEM 4 – NEXT STEPS	
4.1 Halton Region will follow up internally with its Legal Department concerning the possibility of an encroachment agreement that would permit Nelson Variety customers to occupy parking stalls, parallel to Dundas Street within the paved parking lot (within the Region's right-of-way). Note that once Dundas Street is widened to six lanes, customer parking along the paved/gravel shoulder will no longer be possible with the implementation of curb and gutter. [Post Meeting Note: Consideration of an encroachment agreement will be confirmed during detail design in consultation with the Region's Transportation, Legal and Realty Departments].	Halton Region
4.2 Project Team to verify vehicular maneuverability within Nelson Varity's parking lot to confirm operations/safety with planned improvements. [Post Meeting Note: An AutoTurn analysis was completed to verify if a Passenger Car Unit (PCU) would be able to geometrically/safely park, back-out and then exit the site. With modifications (i.e. narrowing) of the internal parking lot median (perpendicular to Dundas Street) a PCU should be able to safety manoeuvre within the proposed parking lot. This will be further confirmed during detail design].	MMM
4.3 A copy of the partial preliminary plan with detailed dimensions in the proximity of Nelson Variety will be provided with the meeting minutes, as requested (See attached PDF).	

The foregoing represents the writer's understanding of the major items of discussion and the decisions reached and/or future actions required. If the above does not accurately represent the understanding of all parties attending, please notify the undersigned within 48 hours of receiving these minutes at 905-823-8500.

Minutes prepared by,
MMM Group

Stefan Sirianni, EIT
cc: all attending



MMM GROUP

HALTON REGION
DUNDAS STREET (REGIONAL ROAD No.5) CLASS EA STUDY
BRANT STREET TO BRONTE ROAD

LEGEND:

EXISTING PROPERTY LINE

TEMPORARY CONSTRUCTION EASEMENT

PROPOSED REGION RIGHT-OF-WAY

2 0 10
SCALE 1:500

OCTOBER 24, 2014

Katherine Jim

From: Jennipher Orr <jenniphero@bellnet.ca>
Sent: October-31-14 5:00 PM
To: 'Reid, Jeffrey'
Cc: Neil Ahmed; Katherine Jim; Stefan Sirianni; 'Green-Battiston, Melissa'; 'Monaghan, Patrick - Transportation Services'
Subject: RE: Dundas Street Class EA - Meeting Minutes (with Millcroft Golf Course)

Thank you Jeff,

At this time, and as per your minutes supplied to our owner, Ed Liptay, per section 4.1-Item 4 – Next Steps, our owner Ed does not have any other input or immediate concerns at this time. As the project moves forward and more information is known for the area being affected by/near the golf course, he only asks that he be kept in the loop as to any new information known. If along the way, he has any concerns or additional input, we will send an email to you noting them.

Thanks kindly,
Jennipher Orr
Manager of Administration
Millcroft Golf Club
2155 Country Club Drive
Burlington, ON L7M 4A8
Ph: 905-332-5111 ext. 25
Em: jenniphero@bellnet.ca
www.millcroftgolfclub.com

From: Reid, Jeffrey [mailto:Jeffrey.Reid@halton.ca]
Sent: October-27-14 9:21 AM
To: Jennipher Orr (jenniphero@bellnet.ca)
Cc: Neil Ahmed; Katherine Jim (JimK@mmm.ca); Stefan Sirianni (SirianniS@mmm.ca); Green-Battiston, Melissa; Monaghan, Patrick - Transportation Services
Subject: Dundas Street Class EA - Meeting Minutes (with Millcroft Golf Course)

Hi Jennipher,

As a follow-up to the Region's meeting with Ed Liptay on September 12, 2014, please find attached the meeting Minutes and draft Partial Preliminary Plan adjacent to Millcroft Golf Club properties along Dundas Street, within the City of Burlington.

In terms of process, the Region anticipates filing the Notice of Study Completion and Environmental Study Report (ESR) for a 30-day Public Review period in late Winter 2015/early Spring 2015. As a stakeholder, Millcroft Golf Course will continue to receive direct correspondence from the Dundas Street Project Team.

Can you please relay this information to Mr. Liptay and please let me know if he has any questions.

Thanks,

Jeff