# APPENDIX A

## Agency Contact Lists & Correspondence

# APPENDIX A
# AGENCY CONTACT LIST



| AGENCY / ORGANIZATION | NAME | TITLE | STREET ADDRESS | CITY | POSTAL CODE |
|---|---|---|---|---|---|
| **Local Agencies and Municipalities** | | | | | |
| City of Mississauga | Ms. Janice Baker | City Manager & CAO | 300 City Centre Dr | Mississauga, ON | L5B 3C1 |
| City of Mississauga | Ms. Carolyn Parrish | Ward 5 Councillor | 300 City Centre Dr | Mississauga, ON | L3B 3C1 |
| City of Mississauga | Mr. Martin Powell | Commissioner<br>Transportation & Works | 300 City Centre Dr | Mississauga, ON | L5B 3C1 |
| Dufferin-Peel Catholic District School Board<br>Planning & Development | Mr. Vince Nichilo | | 40 Matheson Blvd W | Mississauga, ON | L5R 1C5 |
| Greater Toronto Airports Authority<br>Airport Planning - Strategic Planning & Airport Development | Mr. Gene Corazzola | Manager<br>Groundside Systems | P.O. Box 6031<br>3111 Convair Dr | Toronto AMF, ON | L5P 1B2 |
| Greater Toronto Airports Authority<br>Aviation Infrastructure, Energy, and Environment | Mr. Derek Gray | Manager<br>Environmental Services | P.O. Box 6031<br>3111 Convair Dr | Toronto AMF, ON | L5P 1B2 |
| Greater Toronto Airports Authority | Mr. Mark Nowicki | Manager<br>Aerodrome Planning | P.O. Box 6031<br>3111 Convair Dr | Toronto AMF, ON | L5P 1B2 |
| Greater Toronto Airports Authority | Mr. Wojtek Zurek | Superintendent<br>Land Use Planning | P.O. Box 6031<br>3111 Convair Dr | Toronto AMF, ON | L5P 1B2 |
| Mississauga Board of Trade | Mr. Sheldon Leiba | President & CEO | 701-77 City Centre Dr | Mississauga, ON | L5B 1M5 |
| Mississauga Fire and Emergency Services | Deputy Chief Kevin Duffy | - | 15 Fairview Rd W<br>2nd floor | Mississauga, ON | L5B 1K7 |
| Ontario Provincial Police | Staff Sergeant Carlos Goncalves | - | 49 South Service Rd | Mississauga, ON | L5G 2R8 |
| Ontario Provincial Police | Mr. Brent Mikstas | - | 2682 Keele St | Toronto, ON | M3M 3G5 |
| Ontario Provincial Police<br>Highway Safety Division | Mr. William Grodzinski | - | 100 Bloomington Rd W | Aurora, ON | L4G 6J8 |
| Peel District School Board<br>Planning & Accommodation Department | Mr. Branko Vidovic | Intermediate Planning Officer | 5650 Hurontario St | Mississauga, ON | L5R 1C5 |
| Peel Public Health<br>Environmental Health | Mr. Paul Callanan | Director | 7120 Hurontario St<br>8th floor | Mississauga, ON | L5W 1N4 |
| Peel Regional Paramedic Services | Chief Peter Dundas | - | 5299 Maingate Dr | Mississauga, ON | L4W 1G6 |
| Peel Regional Police<br>Road Safety Services | Inspector Rob Orr | - | 7750 Hurontario St | Brampton, ON | L6V 3W6 |
| Regional Municipality of Peel | Mr. Brock Criger | Manager<br>Development Services | 10 Peel Centre Dr<br>6th floor | Brampton, ON | L6T 4B9 |
| Regional Municipality of Peel<br>Capital Works, Collection & Communal Treatment<br>Wastewater Division | Mr. Bob Lipka | - | 10 Peel Centre Dr.<br>Suite B, 4th floor | Brampton, ON | L6T 4B9 |
| Regional Municipality of Peel<br>Capital Works, Water Division | Mr. Lyle LeDrew | - | 11 Peel Centre Dr.<br>Suite B, 4th floor | Brampton, ON | L6T 4B9 |
| Regional Municipality of Peel<br>Corporate Services | Ms. Kathryn Lockyer | Regional Clerk | 10 Peel Centre Dr<br>Suite A & B | Brampton, ON | L6T 4B9 |
| Regional Municipality of Peel<br>Public Works, Transportation Division | Mr. Steve Ganesh | Manager<br>Infrastructure Programming & Studies | 10 Peel Centre Dr<br>Suite B, 4th floor | Brampton, ON | L6T 4B9 |
| Toronto & Region Conservation Authority | Ms. Sharon Lingertat | Senior Planner<br>Environmental Assessment Planning | 5 Shoreham Dr | Downsview, ON | M3N 1S4 |

# APPENDIX A
# AGENCY CONTACT LIST



| AGENCY / ORGANIZATION | NAME | TITLE | STREET ADDRESS | CITY | POSTAL CODE |
|---|---|---|---|---|---|
| Toronto & Region Conservation Authority | Ms. Chandra Sharma | Etobicoke/Mimico Creek Watershed Specialist | 5 Shoreham Dr | Downsview, ON | M3N 1S4 |
| | | **Provincial Ministries and Agencies** | | | |
| Infrastructure Ontario<br>Environmental Management | Mr. Keith Noronha | Team Assistant | 1 Dundas St W<br>Suite 2000 | Toronto, ON | M5G 2L5 |
| Member of Provincial Parliament<br>Mississauga -- Brampton South | Ms. Amrit Mangat | MPP | 7045 Edwards Blvd<br>Suite 203 | Mississauga, ON | L5S 1X2 |
| Metrolinx | Mr. Jason Ryan | Manager of Environmental Programs | 600-20 Bay St | Toronto, ON | M5J 2W3 |
| Ministry of Agriculture & Food<br>Environmental & Land Use Policy | Ms. Jackie Van de Valk | Rural Planner | 6484 Wellington Rd 7<br>Unit 10 | Elora, ON | N0B 1S0 |
| Ministry of the Environment & Climate Change<br>Central Region | Ms. Chunmei Liu | Environmental Assessment & Project Coordinator | 5775 Yonge St<br>9th floor, north | North York, ON | M2M 4J1 |
| Ministry of the Environment & Climate Change<br>Halton-Peel District | Ms. Tina Defresne | District Manager | 4145 North Service Rd<br>Suite 300 | Burlington, ON | L7L 6A3 |
| Ministry of Municipal Affairs & Housing<br>Central Municipal Services Office | Mr. Bruce Singbush | Manager | 777 Bay St<br>2nd floor | Toronto, ON | M5G 2E5 |
| Ministry of Municipal Affairs & Housing<br>Provincial Planning Policy Branch | Ms. Emma Goldhawk | Planner | 777 Bay St<br>14th floor | Toronto, ON | M5G 2E5 |
| Ministry of Natural Resources | Ms. Jackie Burkart | District Planner | 50 Bloomington Rd W | Aurora, ON | L4G 3G8 |
| Ministry of Tourism, Culture & Sport<br>Culture Services Unit | Ms. Laura Hatcher | Team Lead<br>Heritage Land Use Planning (Acting) | 1700-401 Bay St | Toronto, ON | M7A 0A7 |
| Ministry of Transportation<br>Central Region, Corridor Management Section | Mr. Bryan Porter | Senior Project Manager (Acting) | 1201 Wilson Ave<br>Building D, 7th floor | Downsview, ON | M3M 1J8 |
| Ontario Heritage Trust<br>Conservation Services, Heritage Programs & Operations | Mr. Jeremy Collins | - | 10 Adelaide St E | Toronto, ON | M5C 1E3 |
| Ministry of Aboriginal Affairs | Sir/Madam | - | 160 Bloor St E<br>4th floor | Toronto, ON | M7A 2E6 |
| | | **Federal Agencies and Departments** | | | |
| Aboriginal Affairs and Northern Development Canada<br>Ontario Region - Environmental Assessment Coordination | Ms. Mei Ling Chen | Senior Environmental Officer | 25 St. Clair Ave E<br>8th floor | Toronto, ON | M4T 1M2 |
| Canadian Environmental Assessment Agency | Ms. Louise Knox | Director | 55 St. Clair Ave E<br>Room 907 | Toronto, ON | M4T 1M2 |
| Canadian Transportation Agency<br>Rail, Air and Marine Disputes Doctorate | Mr. Joseph Dion | Director | 15 Eddy St | Gatineau, QC | K1A 0N9 |
| Department of Fisheries & Oceans<br>Fish Habitat Management | Mr. Paul Savole | Regional Environmental Assessment Analyst | 3027 Harvester Rd<br>Suite 304 | Burlington, ON | L7R 4K3 |
| Indian & Northern Affairs Canada<br>Comprehensive Claims Branch | Ms. Louise Trepanier | Director<br>Claims East of Manitoba | 10 Wellington St<br>Room 1310 | Gatineau, QC | K1A 0H4 |
| Indian & Northern Affairs Canada<br>Litigation Management & Resolution Branch | Ms. Josee Beauregard | Litigation Team Leader<br>Ontario/Nunavut team | 25 Eddy St | Gatineau, QC | K1A 0H4 |

# APPENDIX A
# AGENCY CONTACT LIST



| AGENCY / ORGANIZATION | NAME | TITLE | STREET ADDRESS | CITY | POSTAL CODE |
|---|---|---|---|---|---|
| Indian & Northern Affairs Canada<br>Specific Claims Branch | Mr. Don Boswell | Senior Claims Analyst | 10 Wellington St<br>Room 1310 | Gatineau, QC | K1A 0H4 |
| Member of Parliament<br>Mississauga -- Malton | The Honourable Navdeep Bains | MP | via email: info@navdeepbains.ca | | |
| Transport Canada, Marine Office<br>Navigable Waters Protection Program | Sir/Madam | Regional Manager | 100 S Front St<br>1st floor | Sarnia, ON | N7T 2M4 |
| | | **First Nations Representatives** | | | |
| Coordinator for the Williams Treaties | Ms. Karry Sandy-McKenzie | Barrister/Solicitor | 8 Creswick Crt | Barrie, ON | L4M 2J7 |
| Alderville First Nation | Mr. Dave Simpson | Lands and Resources Communications Officer | P.O. Box 46<br>11696 2nd Line Rd | Roseneath, ON | K0K 2X0 |
| Beausoleil First Nation | Chief Rodney Montague, Jr. | - | 1 Ogema St | Christian Island, ON | L0K 1C0 |
| Chippewas of Georgina Island | Chief Donna Big Canoe | - | R.R. #2<br>Box N13 | Sutton West, ON | L0E 1R0 |
| Chippewas of Rama First Nation | Chief Sharon Stinson Henry | - | 5884 Rama Rd<br>Suite 200 | Rama, ON | L3V 6H6 |
| Curve Lake First Nation | Mr. Corey Kinsella | Project Liaison | | Curve Lake, ON | K0L 1R0 |
| Curve Lake First Nation | Chief Phyllis Williams | | 22 Winookeeda Rd | Curve Lake, ON | K0L 1R0 |
| Hiawatha First Nation<br>Mississaugas of Rice Lake | Ms. Diane Sheridan | Land Resource Consultation Worker | 123 Paudash St | Hiawatha, ON | K9J 0E6 |
| Metis Nation of Ontario<br>Lands, Resources, and Consultations Branch | Ms. Melanie Paradis | Director | 75 Sherbourne St<br>Suite 222 | Toronto, ON | M5A 2P9 |
| Mississaugas of Scugog Island First Nation | Councillor Dave Mowat | Consultation Specialist | 22521 Island Road | Port Perry, ON | L9L 1B6 |
| Mississaugas of the New Credit First Nation | Chief Bryan Laforme | - | 2789 Mississauga Rd | Hagersville, ON | N0A 1H0 |
| Mississaugas of the New Credit First Nation | Ms. Margaret Sault | - | 2789 Mississauga Rd | Hagersville, ON | N0A 1H0 |
| | | **Utilities** | | | |
| Bell Canada | Ms. Wendy Lefebvre | Design Manager<br>Access Network | 5115 Creekbank Rd<br>3rd floor | Mississauga, ON | L4W 3R1 |
| Enbridge | Mr. Mike McGivery | Special Project Supervisor | 500 Consumers Rd | North York, ON | M2J 1P8 |
| Enersource | Mr. Dal Cheema | Senior Manager<br>Customer Engineering & Underground Construction | 3240 Mavis Rd | Mississauga, ON | L5C 3K1 |
| Enersource | Mr. Gerry Jacinto | Design Technician | 3240 Mavis Rd | Mississauga, ON | L5C 3K1 |
| Enersource | Mr. Raymond Rauber | Vice President<br>Engineering & Operations | 3240 Mavis Rd | Mississauga, ON | L5C 3K1 |
| Enersource | Mr. Paul Sidhu | Senior Manager<br>Maintenance & Operations | 3240 Mavis Rd | Mississauga, ON | L5C 3K1 |
| Hydro One Networks Inc. | Mr. Cyrus Elmpak-Mackie | Transmission Asset Management Intern | 185 Clegg Road | Markham, ON | L6G 1B7 |
| Hydro One Networks Inc. | Mr. Rick Schatz | Hydro One Real Estate Management | 185 Clegg Road | Markham, ON | L6G 1B7 |
| Rogers Communications | Ms. Marian Wright | Planning Coordinator | 3573 Wofdale Rd | Mississauga, ON | L5C 3T6 |

**Stantec Consulting Ltd.**
300 - 675 Cochrane Drive West Tower
Markham ON L3R 0B8
Tel: (905) 944-7777
Fax: (905) 474-9889

**Attention: [Agency Contact Name & Address]**

November 11, 2013
File: 165010564

Dear [Agency Contact Name],

**Reference: Notice of Commencement**
**Municipal Class Environmental Assessment Study for Courtneypark Drive East**
**City of Mississauga**

Stantec Consulting Ltd., on behalf of the City of Mississauga, has initiated a Class Environment Assessment (Class EA), including the preliminary design, for the section of Courtneypark Drive East, from Kennedy Road to Dixie Road (see enclosed map).

This Class EA is being undertaken to address transportation network demand challenges for the immediate study area and beyond, identify/address roadway safety concerns, accommodate enhanced active transportation measures, and rehabilitate the roadway surface, while accounting for existing land use conditions and any future considerations. This study will follow a comprehensive, sound, and open planning process, during which the overall impact of any potential improvements to Courtneypark Drive East on the social, cultural, and natural environment will be analyzed.

This letter, along with the accompanying notice, signals the commencement of a Class EA – a study which will define the need, identify/evaluate alternative solutions, and determine a preferred design in consultation with regulatory agencies, the public, and other affected stakeholders. The study will be conducted in accordance with the planning and design process for Schedule 'C' projects, as outlined in the "*Municipal Class Environmental Assessment*" document (October 2000, amended in October 2011), which is approved under the Ontario *Environmental Assessment Act*.

A key component of the study will be consultation with interested stakeholders (public and agencies). Two Public Information Centres will be held to allow the public, agencies, and other stakeholders to meet with the project team and provide input on the proposed project. Additionally, a comment form is included with this letter so that you may advise the project team of any interest that you or your organization may have in this study.

**Reference: Notice of Commencement**
**Municipal Class Environmental Assessment Study for Courtneypark Drive East**
**City of Mississauga**

Upon completion of the study, an Environmental Study Report (ESR) will be prepared and made available for public review and comment. If you have any questions or require additional information, please contact the undersigned at gordon.murray@stantec.com or (905) 944-7786.

Regards,

**STANTEC CONSULTING LTD.**

Gordon Murray, P.Eng., PE, PTOE, MBA
Consultant Project Manager
Phone: (905) 944-7786

Attachment: Notice of Study Commencement
Notification response sheet

c. Farhad Shahla, City of Mississauga

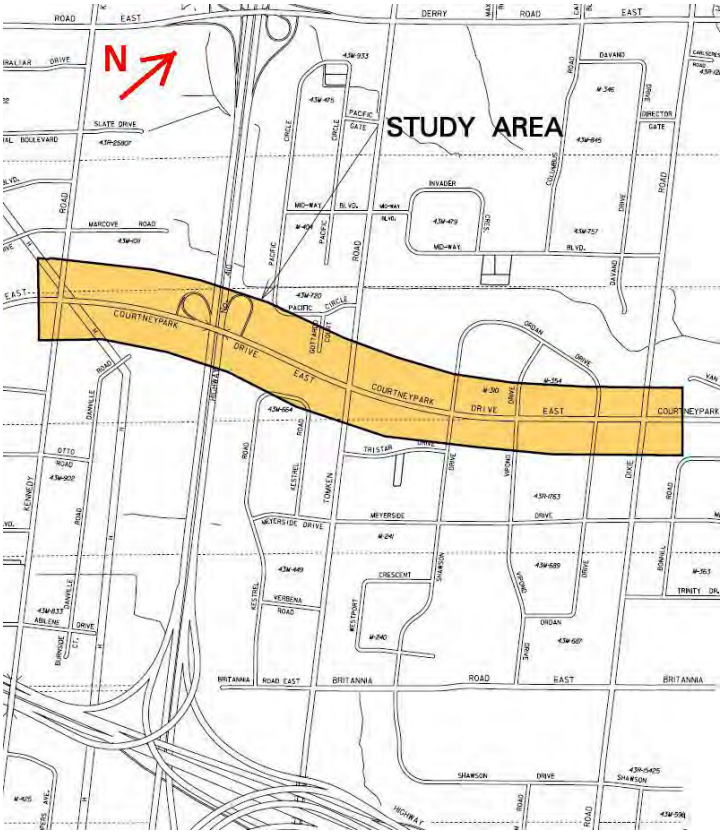
cms v:\01650\active\165010564 - courtneypark drive east class ea\report\appendices\app_a_agencies\01_tmp_notice_20141113.docx

# CITY OF MISSISSAUGA
# NOTICE OF STUDY COMMENCEMENT

## Municipal Class Environmental Assessment Study for Courtneypark Drive East

**THE STUDY:**

The City of Mississauga has initiated a Class Environmental Assessment (Class EA) Study, including Preliminary Design, for the section of Courtneypark Drive East, from Kennedy Road to Dixie Road (see map). In light of current roadway conditions, the intent of this study is to address network demand challenges, identify/address safety concerns, accommodate active transportation measures, and rehabilitate the roadway surface. The alternative solutions may include (but are not limited to) the potential widening of Courtneypark Drive East, the examination of the transportation benefits of a full movement interchange at Highway 410 (per the MTO's approved 2010 TESR), as well as various improvements to selected intersections, traffic operations, transit, and/or active transportation. The overall impact of such improvements on the social, cultural, and natural environments will also be analyzed.




**THE PROCESS:**

This notice signals the commencement of the Class EA, a study which will define the problem, identify/evaluate alternative solutions, and determine a preferred design in consultation with regulatory agencies and the public. The study is being undertaken in accordance with the planning and design process for Schedule 'C' projects, as outlined in the "*Municipal Class Environmental Assessment*" document (October 2000, amended in 2011), which is approved under the Ontario *Environmental Assessment Act*.

**PUBLIC CONSULTATION:**

A key component of the study will be consultation with interested stakeholders (public and agencies). Two Public Information Centres (PICs) will be held to present the project, review the study scope, and discuss issues related to the project, including alternative solutions and evaluation criteria, as well as environmental impacts and mitigation measures. Details regarding forthcoming PICs will be advertised as the study progresses. Upon completion of the study, an Environmental Study Report (ESR) will be prepared and made available for public review and comment. If you have any questions or comments regarding the study, or wish to be added to the study mailing list, please contact either of the following team members:

**Farhad Shahla, M.Eng., P.Eng**
*Project Manager*
City of Mississauga
201 City Centre Dr, Suite 800
Mississauga, ON L5B 2T4
(905) 615-3200, ext. 3377
farhad.shahla@mississauga.ca

**Gord Murray, P. Eng.**
*Consultant Project Manager*
Stantec Consulting Ltd.
300 – 675 Cochrane Dr, West Tower
Markham, ON L3R 0B8
(905) 944-7786
gordon.murray@stantec.com

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

This notice was first issued on November 13th, 2013.

# CITY OF MISSISSAUGA
# NOTIFICATION RESPONSE SHEET

## Municipal Class Environmental Assessment Study for Courtneypark Drive East

*Please respond by Friday, December 6, 2013*

**ATTENTION:** Gordon Murray
Consultant Project Manager
Stantec Consulting Ltd.

**MAILING ADDRESS:** 300-675 Cochrane Dr, West Tower
Markham, ON L3R 0B8

**E-MAIL ADDRESS:** gordon.murray@stantec.com

**FAX NUMBER:** (905) 474-9889

**FROM:** _____

_____

**RE:** Municipal Class Environmental Assessment Study for Courtneypark Drive East

---

☐ We have no concerns and do not wish to be involved in this study.

☐ We have no concerns at this time, but we wish to remain on the contact list for this study.

☐ We have the following comment(s) and/or information requirements:

_____

_____

_____

_____

_____

# Student dies in hospital after collapsing at schoo

By LOUIE ROSELLA
Staff

A 13-year-old Mississauga Valley boy has died after he collapsed at school while walking with his class on Nov. 6.

Ahmed Khan, a Grade 8 student at Valleys Senior Public School, died the following night.

He had been taken to the hospital on Tuesday, after he collapsed while he was walking with his class around the Mississauga Valley Community Centre, according to school principal Christine Majeau.

"This tragedy has brought great sadness to the students and staff at The Valleys Senior Public School," she said in a letter that went home to students last week.

"Ahmed's death is deeply felt by everyone at the school. Even students who did not personally know him may be affected by this loss."

Members of the Peel District School Board's Critical Incident Response Team came to the school and have been providing counselling to Ahmed's friends and classmates, as well as other students and staff.

The counsellors will remain at the school as long as they are needed.

"He loved basketball. That's the one thing I will always remember about him," said a Grade 8 student at the school. "His dream was to play for the Raptors one day."

A memorial table in the main atrium of the school continues to get flooded with heartfelt messages from students and staff.

"We will miss you," read one message. "You were very quiet and kind and had a great sense of humour."

*lrosella@mississauga.net*

Friends set up a memorial table school.



# *Don't raise tax to fund transi says PC Leade*

By CHRIS CLAY
Staff

Ontario's Liberal government is driving in the direction when it comes to overhauling the ince's transit and transportation network, Pro Conservative Leader Tim Hudak told *The Mis News* yesterday in an exclusive interview.

Hudak said he wants the provincial governm take over the planning, execution and funding o projects and doesn't believe the pundits who sa tional fees and taxes must be implemented to pay for them. Hudak believes the money (it's estimated to cost about $50 billion to pay for all of the Metrolinx projects under the Big Move banner) can be found within the Province's budget and doesn't need to come from the pockets of taxpayers.

*Tim Hudak*

"I just think the taxpayers have done their share and it's time the government did ours," said Hudak. "You could fund all those projects in the Big Move simply by finding 1.5 cents in every dollar the Province spends. I don't believe anyone out there the Province is 98.5 per cent efficient (in its spen

Hudak, adding he rejects the idea of the increase taxes, said efficiencies in spending coupl exploring the idea of public/private partnersh commercializing existing transit could cover the c

"Before we ask people for more money, the ment needs to do its share and I believe we c savings within our $128-billion budget by settin ties," said Hudak.

The party leader drew some criticism recent Mayor Hazel McCallion for his comments ex concern over the LRT and a suggestion that he f subways. Mississauga's LRT project is in the e mental assessment phase and, when completed, from Port Credit up Hurontario St. to Bramp expected to cost about $1.7 billion.

Hudak told *The News* he would prefer to GO Transit service and implement highway improvements over other transit projects.

"(I'm open) basically to whatever works bes Hudak. "Is actually taking out a lane on Huronta to Main (St.) in Brampton (for LRT) the best us lars? My mind is open to whatever helps the p Mississauga spend more time with the families."

COPY

MISSISSAUGA

# CITY OF MISSISSAUGA
# NOTIFICATION RESPONSE SHEET

## Municipal Class Environmental Assessment Study for Courtneypark Drive East

*Please respond by Friday, December 6, 2013*

**ATTENTION:** Gordon Murray
Consultant Project Manager
Stantec Consulting Ltd.

**MAILING ADDRESS:** 300-675 Cochrane Dr, West Tower
Markham, ON L3R 0B8

**E-MAIL ADDRESS:** gordon.murray@stantec.com

**FAX NUMBER:** (905) 474-9889

**FROM:** Kevin Duffy

DEPUTY FIRE CHIEF 905-615-3758

**RE:** Municipal Class Environmental Assessment Study for Courtneypark Drive East

---

☐ We have no concerns and do not wish to be involved in this study.

☒ We have no concerns at this time, but we wish to remain on the contact list for this study.

☐ We have the following comment(s) and/or information requirements:

# CITY OF MISSISSAUGA
# NOTIFICATION RESPONSE SHEET

## Municipal Class Environmental Assessment Study for Courtneypark Drive East

*Please respond by Friday, December 6, 2013*

**ATTENTION:** Gordon Murray
Consultant Project Manager
Stantec Consulting Ltd.

COPY

**MAILING ADDRESS:** 300-675 Cochrane Dr, West Tower
Markham, ON L3R 0B8

**E-MAIL ADDRESS:** gordon.murray@stantec.com

**FAX NUMBER:** (905) 474-9889

**FROM:** Insp. R. Orr
Peel Regional Police - Road Safety Services

**RE:** Municipal Class Environmental Assessment Study for Courtneypark Drive East

---

☐ We have no concerns and do not wish to be involved in this study.

☑ We have no concerns at this time, but we wish to remain on the contact list for this study.

☐ We have the following comment(s) and/or information requirements:

**Ministry of the Environment**

Central Region
Technical Support Section

5775 Yonge Street, 8th Floor
North York, OntarioM2M 4J1

Tel.: (416) 326-6700
Fax: (416) 325-6347

**Ministère de l'Environnment**

Région du Centre
Section d'appui technique

5775, rue Yonge, 8ième étage
North York, Ontario M2M 4J1

Tél. : (416) 326-6700
Téléc. : (416) 325-6347

Ontario

November 15, 2013

File: EA01-06-05

Farhad Shahla, M.Eng., P. Eng.
Project Manager
City of Mississauga
21 City Centre Dr., Suite 800
Mississauga ON L5B 2T4

**RE: Courtneypark Drive East**
**City of Mississauga**
**Class Environmental Assessment**
**Notice of Study Commencement**

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

Based on the information submitted, we have identified the following areas of interest with respect to the proposed undertaking:

- Ecosystem Protection and Restoration
- Planning and Policy
- Surface Water and Groundwater
- Air Quality, Dust and Noise
- Contamination and Waste
- Mitigation and Monitoring
- Class EA Process
- Aboriginal Consultation

We are providing the following general comments to assist your project team in effectively addressing these areas of interest:

**Ecosystem Protection and Restoration**

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

- All natural heritage features should be identified and described in detail to assess potential impacts and to develop appropriate mitigation measures. Our records confirm that the sensitive environmental features including a watercourse and woodlots are located within or adjacent to the study area.

We recommend consulting with the Ministry of Natural Resources (MNR), Fisheries and Oceans Canada (DFO) and your local conservation authority to determine if special measures or additional study will be necessary to preserve and protect these sensitive features.

The Region of Peel and City of Mississauga Official Plan policies related to ecosystem protection within the study area should be referenced to ensure that all environmental protection policies are satisfied. The ESR should also discuss the levels of growth proposed for the area, how this proposal addresses those levels of growth, and how any proposed road improvements will affect local traffic flows.

**Planning and Policy**

- The 2005 *Provincial Policy Statement* contains policies that protect Ontario's Natural Heritage. Applicable policies should be referenced in the ESR, and you should demonstrate how this proposed project is consistent with these policies.

- The Places to Grow Plan contains policies which guide decisions on a range of issues such as infrastructure planning and land-use planning to ensure that stronger and more prosperous communities are built in the Greater Golden Horseshoe. The ESR should demonstrate how this project adheres to the relevant policies of the Places to Grow Plan, including Sections 3, which contain specific policies for Infrastructure to Support Growth.

**Surface Water and Groundwater**

- The ESR must include a sufficient level of information to demonstrate that there will be no negative impacts on the natural features or ecological functions of any watercourses within the study area. Measures should be included in the planning and design process to ensure that any impacts to watercourses from construction or operational activities (e.g. spills, erosion, pollution) are mitigated as part of the proposed undertaking.

- Additional stormwater runoff from new pavement can impact receiving watercourses and flood conditions. Quality and quantity control measures to treat stormwater runoff should be considered for all new impervious areas and, where possible, existing surfaces. The ministry's *Stormwater Management Planning and Design Manual* (2003) should be referenced in the ESR and utilized when designing stormwater control methods. We recommend that a Stormwater Management Plan should be prepared as part of the Class EA process that includes:

    - Strategies to address potential water quantity and erosion impacts related to stormwater draining into streams or other sensitive environmental features, and to ensure that adequate (enhanced) water quality is maintained
    - Watershed information, drainage conditions, and other relevant background information
    - Future drainage conditions, stormwater management options, information on erosion and sediment control during construction, and other details of the proposed works
    - Information on maintenance and monitoring commitments.

- The status of, and potential impacts to any well water supplies should be addressed. If the project involves groundwater takings or changes to drainage patterns, the quantity and quality of groundwater may be affected due to drawdown effects or the redirection of existing contamination flows. In addition, project activities may infringe on existing wells such that they must be reconstructed or sealed and abandoned. Appropriate information to define existing groundwater conditions should be included in the ESR.

- If the potential construction or decommissioning of water wells is identified as an issue, the ESR should refer to Ontario Regulation 903, Wells, under the *Ontario Water Resources Act*.

- Potential impacts to groundwater-dependent natural features should be addressed. Any changes to groundwater flow or quality from groundwater taking may interfere with the ecological processes of streams, wetlands or other surficial features. In addition, discharging contaminated or high volumes of groundwater to these features may have direct impacts on their function. Any potential effects should be identified, and appropriate mitigation measures should be recommended. The level of detail required will be dependent on the significance of the potential impacts.

- Any potential approval requirements for groundwater taking or discharge should be identified in the ESR. In particular, a Permit to Take Water (PTTW) under the *Ontario Water Resources Act* will be required for any water takings that exceed 50,000 litres per day.

**Air Quality, Dust and Noise**

- Any potential air quality impacts should be assessed and used in the evaluation of alternatives for the proposed project. Appropriate mitigation measures of any potential effects should be identified.

- Dust and noise control measures should be addressed and included in the construction plans to ensure that nearby residential and other sensitive land uses within the study area are not adversely affected during construction activities.

- The ESR should consider the potential impacts of increased noise levels during the operation of the undertaking due to potentially higher traffic volumes resulting from this project. The proponent should explore all potential measures to mitigate significant noise impacts during the assessment of alternatives.

**Contamination and Waste**

- Since the removal or movement of soils may be required, appropriate tests to determine contaminant levels from previous land uses or dumping should be undertaken. If the soils are contaminated, you must determine how and where they are to be disposed of, consistent with *Part XV.1 of the Environmental Protection Act (EPA)* and Ontario Regulation 153/04, Records of Site Condition, which details the new requirements related to site assessment and clean up. We recommend contacting the ministry's Halton Peel District Office in Burlington for further consultation if contaminated sites are present.

- The location of any underground storage tanks within or adjacent to the study area should be investigated in the ESR. Measures should be identified to ensure the integrity of these tanks and to ensure an appropriate response in the event of a spill. The ministry's Spills Action Centre must be contacted in such an event.

- Any current or historical waste disposal sites within or adjacent to the study area should be identified in the ESR. The status of these sites should be determined to confirm whether approval pursuant to Section 46 of the *Environmental Protection Act* may be required for land uses on former disposal sites.

- The ESR should identify any underground transmission lines within or adjacent to the study area. The owners should be consulted to avoid impacts to this infrastructure, including potential spills.

**Mitigation and Monitoring**

- All waste generated during construction must be disposed of in accordance with ministry requirements.

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

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

**Class EA Process**

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

- The Class EA requires the consideration of the effects of each alternative on all aspects of the environment. The ESR should include a level of detail (e.g. hydrogeological investigations, terrestrial and aquatic assessments) such that all potential impacts can be identified and appropriate mitigation measures can be developed. Any supporting studies conducted during the Class EA process should be referenced and included as part of the ESR.

- Please include in the ESR a list of all subsequent permits or other approvals that may be required for the implementation of the preferred alternative, including Permits to Take Water, Environmental Compliance Approvals, approval under the *Canadian Environmental Assessment Act* (CEAA), and conservation authority permits.

- Please note that ministry guidelines and other information related to the issues noted above are available at www.ene.gov.on.ca under the publications link. We encourage the proponent to review all the available guides and to reference any relevant information in the ESR.

**Consultation with First Nation and Métis Communities**

The Crown has a duty to consult First Nation and Métis communities if there is a potential impact to Aboriginal or treaty rights. As the proponent of this project, you have a responsibility to conduct adequate consultation with First Nation and Métis communities as part of the environmental assessment process. The Crown is therefore, delegating the procedural aspects of consultation to you as outlined in the attached document.

You must contact the Director, Environmental Approvals Branch if a project may adversely affect an Aboriginal or treaty right, or if a Part II Order request is anticipated; the Ministry will then determine whether the Crown has a duty to consult. Information and resources to assist you in fulfilling this requirement are provided as an attachment.

Thank you for the opportunity to comment on this project. A draft copy of the ESR should be sent to this office prior to the filing of the final draft, allowing approximately 30 days review time for the ministry's technical reviewers to provide comments. Please also forward our office the Notice of Completion and ESR when completed. Should your project team have any questions regarding the above, please contact me at 416-326-4886.

Yours sincerely,

Chunmei Liu
Environmental Resource Planner and EA Coordinator
Air, Pesticides and Environmental Planning

c. T. Dufresne, Manager, Halton Peel District Office, MOE
Central Region EA File
A & P File

## ABORIGINAL CONSULTATION INFORMATION

### *Interest-based consultation with First Nation and Métis Communities*

Proponents subject to the *Environmental Assessment Act* are required to consult with interested First Nation and Métis communities in addition to consultation with interested persons. Special effort may be required to ensure that First Nation and Métis communities are made aware of the project and are afforded an opportunity to provide comments.

Proponents are required to contact the Ministry of Aboriginal Affairs (MAA) and Aboriginal Affairs and Northern Development Canada (AANDC) to help identify which First Nation and Métis communities may be impacted by your project. **It is important to ensure that MAA and AANDC are advised of any communities identified for consultation during previous stages of the project when making this request.** For more information in this regard, refer to the Aboriginal Information Resources web page of the Ministry of the Environment's internet site at: http://www.ene.gov.on.ca/en/eaab/aboriginal-resources.php. You are advised to provide notification directly to all of the First Nation and Métis communities who may be interested in the project.

### *Rights-based consultation with First Nation and Métis Communities*

Proponents should also be aware that certain projects may affect the ability of a First Nation or Métis community to exercise their confirmed or asserted Aboriginal or treaty rights. In such cases, Ontario may have a duty to consult to ensure the protection of the potentially affected right. Activities which may restrict access to unoccupied Crown lands, or could result in a potential to impact to land or water resources, generally have the potential to impact Aboriginal or treaty rights. For assistance in determining whether your project could affect these rights, refer to the attached "Preliminary Assessment Checklist: First Nation and Métis Community Interest."

If there is an impact to Aboriginal or treaty rights, accommodation may be required to avoid or minimize the adverse impacts. Accommodation is an outcome of consultation and includes any mechanism used to avoid or minimize adverse impacts to Aboriginal or treaty rights and traditional uses. Solutions could include adjustments in the timing or geographic location of the proposed activity; accommodation does not necessarily require the provision of financial compensation.

The proponent must contact the Director, Environmental Approvals Branch if a project may **adversely affect an Aboriginal or treaty right**, or if a **Part II Order or an elevation request is anticipated**; the Ministry will then determine whether the Crown has a duty to consult. The Director of the Environmental Approvals Branch can be notified either by email with the subject line "Potential Duty to Consult" to EAASIBgen@ontario.ca or by mail or fax at the address provided below:

| | |
|---|---|
| **Email:** | EAASIBgen@ontario.ca<br>Subject: Potential Duty to Consult |
| **Fax:** | 416-314-8452 |
| **Address:** | Environmental Approvals Branch<br>12A Flr., 2 St Clair Ave W<br>Toronto ON M4V1L5 |

***Delegation of Procedural Aspects of Consultation***

Proponents, by virtue of their knowledge and participation in project activities, have an important and direct role in the consultation process to ensure both success and certainty. Where the Crown's duty to consult is triggered, **Ontario is delegating these procedural aspects of this rights-based consultation to you as the proponent of the project.**

Ontario will have an oversight role as the consultation process unfolds but will be relying on the steps undertaken and information you obtain to ensure adequate consultation has taken place. To ensure that First Nation and Métis communities have the ability to assess a project for its potential to impact on an Aboriginal or treaty right, there are certain procedural aspects of consultation that Ontario requires proponents to undertake.

The responsibilities of the proponent for procedural aspects of consultation include:

- Providing notice to the elected leadership of the First Nation and/or Métis communities (e.g., First Nation Chief) as early as possible regarding the project;
- Providing First Nation and/or Métis communities with information about the proposed project including anticipated impacts, information on timelines and your environmental assessment process;
- Following up with First Nation and/or Métis communities to ensure they received project information and that they are aware of the opportunity to express comments and concerns about the project; **if you are unable to make the appropriate contacts (e.g. are unable to contact the Chief) please contact the Ministry of the Environment for further direction.**
- Providing First Nation and/or Métis communities with opportunities to meet with appropriate representatives to discuss the project;
- Gathering information about how the project may adversely impact the Aboriginal and/or Treaty rights (for example, hunting, fishing) or sites of cultural significance (for example, burial grounds, archaeological sites);
- Considering the comments and concerns provided by First Nation and/or Métis communities and providing responses;
- Where appropriate, discussing potential mitigation strategies with First Nation and/or Métis communities;
- Bearing the reasonable costs associated with these procedural aspects of consultation.
- Maintaining a Consultation Record and upon request, providing copies of the Consultation Record to Ontario. The Consultation Record should:
    - summarize the nature of any comments and questions received from First Nation and/or Métis communities
    - describe the response to comments and how concerns were considered
    - include a communications log indicating the dates and times of all communications; and
    - document activities in relation to consultation.

Successful consultation depends, in part, on early engagement by proponents with First Nation and Métis communities. Information shared with communities must be clear, accurate and complete, and in plain language where possible. The consultation process must maintain sufficient flexibility to respond to new information, and we trust you will make all reasonable efforts to build positive relationships with all First Nation and Métis communities contacted.

**Preliminary Assessment Checklist: First Nation and Métis Commu**

**nity Interest**

Some main concerns of First Nation and Métis communities deal with/a
gathering, trapping, and fishing – these activities generally occur on Cr
As such, projects related to Crown land or water bodies, or changes to

ddress rights for hunting,
own land or wa er bodies.
them, may be of concern.

Where you have identified that your project may trigger rights-based co
following questions, a pre-consultation meeting with the ministry and p
early opportunity to confirm whether Ontario's duty to consult is trigger
and responsibilities in that event.

nsultation thro gh the
oponent will pr vide an
ed and to discu s roles

Please answer the following questions. A "yes" response will indicate
Aboriginal or treaty rights.

a potential impact on

| | YES | NO |
|---|---|---|
| 1. Are you aware of concerns from First Nation and Métis communities about your project or a similar project in the area? The types of concerns can range from interested inquiries to environmental complaints, and even to land use concerns. You should consider whether the interest represents on-going, acute and/or widespread concern. | | |
| 2. Is your project occurring on Crown land, or is it close to a water body, or might it change access to either? | | |
| 3. Is the project located in an open or forested area where hunting or trapping could take place? | | |
| 4. Does the project involve the clearing of forested land? | | |
| 5. Is the project located away from developed, urban areas? | | |
| 6. Is your project close to, or adjacent to, an existing reserve? Projects in areas near reserves may be of interest to your First Nation and Métis community neighbours. | | |
| 7. Will the project affect First Nations and/or Métis right of access? | | |
| 8. Is the area subject to a land claim? Information about land claims filed in Ontario is available from the Ministry of Aboriginal Affairs; information about claims filed with the federal government is available from Aboriginal Affairs and Northern Development Canada. | | |
| 9. Does the project have potential to cause cumulative effects at the present time or over a long period of time (e.g. several small expansions of an urban area)? | | |
| 10. Does the project have the potential to impact any archaeological sites? | | |

MB / FILE 1650 10584 / 37

COPY

•peel District School Board

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

RECEIVED
Stantec-Markham
NOV 20 2013

November 18, 2013

Mr. Gord Murray, P. Eng.
Consultant Project Manager
Stantec Consulting Ltd.
300-675 Cochrane Dr, West Tower
Markham, ON L3R 0B8

Dear Mr. Murray:

RE: **Notice of Commencement**
**Class Environmental Assessment Study for Courtneypark Drive East**
**City of Mississauga**

---

Thank you for your letter to the Board dated November 11, 2013 informing the Board of the commencement of the above noted study. The Board has no concerns at this time. Please keep us informed of the status of this project and provide us with any information you have available so that we may monitor its progress and provide comments as necessary.

If you require any further information please contact me at 905-890-1010, ext. 2724.

Yours truly,

Branko Vidovic
Planning Assistant
Planning and Accommodation Department

c. D. Dundas, Peel District School Board
F. Shahla, City of Mississauga

Courtneypark Drive East Comm.doc

# CITY OF MISSISSAUGA
# NOTIFICATION RESPONSE SHEET

## Municipal Class Environmental Assessment Study for Courtneypark Drive East

*Please respond by Friday, December 6, 2013*

COPY

**ATTENTION:** Gordon Murray
Consultant Project Manager
Stantec Consulting Ltd.

**MAILING ADDRESS:** 300-675 Cochrane Dr, West Tower
Markham, ON L3R 0B8

**E-MAIL ADDRESS:** gordon.murray@stantec.com

**FAX NUMBER:** (905) 474-9889

**FROM:** _____

_____

**RE:** Municipal Class Environmental Assessment Study for Courtneypark Drive East

☑ We have no concerns and do not wish to be involved in this study.

☐ We have no concerns at this time, but we wish to remain on the contact list for this study.

☐ We have the following comment(s) and/or information requirements:

_____

_____

_____

_____

_____

## Bradley, Michael

**From:** Murray, Gordon
**Sent:** Friday, November 22, 2013 12:44 PM
**To:** Bradley, Michael; Korpijaakko, Carla; Stuart, Sean
**Subject:** RE: Class EA for Courtneypark Drive East, Mississauga

FYI
Mike – Please file.
Gord

---

**From:** Burkart, Jackie (MNR) [mailto:Jackie.Burkart@ontario.ca]
**Sent:** Friday, November 22, 2013 12:34 PM
**To:** Murray, Gordon
**Subject:** Class EA for Courtneypark Drive East, Mississauga

Good morning Gordon,

MNR has reviewed the subject Class EA and environmental information and advises that we have no concerns with this project.

Sincerely,

**Jackie Burkart**
District Planner
Ministry of Natural Resources | 50 Bloomington Road, Aurora, ON L4G 0L8 | Phone: 905-713-7368 | Fax: 905-713-7360 | Email: jackie.burkart@ontario.ca |

**ALDERVILLE FIRST NATION**
**11696 Second Line**
**P.O. Box 46**
**Roseneath, Ontario K0K 2X0**
**Phone: (905) 352-2011**
**Fax: (905) 352-3242**



COPY

November 26, 2013

Stantec Consulting Ltd.
300 – 675 Cochrance Drive West Tower
Markham, ON L3R 0B8

Att: Gordon Murray, Consultant Project Manager

**Re: Notice of Commencement**
**Municipal Class Environmental Assessment Study for Courtneypark Drive East**
**City of Mississauga**

Dear Gordon Murray,

Thank you for your consultation request to Alderville First Nation regarding the Class Environmental Assessment Study for Courtneypark Drive East which is being proposed within our Traditional and Treaty Territory. We appreciate the fact that Stantec Consulting Ltd. recognizes the importance of First Nations Consultation and that your office is conforming to the requirements within the Duty to Consult Process.

As per the Alderville First Nation Consultation Protocol, your proposed project is deemed a level 3, having minimal potential to impact our First Nations' rights, therefore, please keep Alderville apprised of any changes to your project. I can be contacted at the mailing address above or electronically via email, at the email address below.

In good faith and respect,

Dave Simpson
Lands and Resources
Communications Officer
Alderville First Nation

dsimpson@aldervillefirstnation.ca

Tele: (905) 352-2662
Fax: (905) 352-3242

Chippewas of RAMA First Nation

COPY

5884 Rama Road, Suite 200
Rama, Ontario L3V 6H6
T 705.325.3611 F 705.325.0879

*A Proud Progressive First Nation Community*

*OFFICE OF THE CHIEF*



November 28, 2013

Stantec Consulting Ltd.
300-675 Cochrane Drive West Tower
Markham, ON L3R 0B8

Attention: Gordon Murray, P.Eng., PE, PTOE, MBA, Consultant Project Manager

**Re: Notice of Commencement**
**Municipal Class Environmental Assessment Study for Courtneypark Drive East**
**City of Mississauga**

Dear Mr. Murray:

As a member of the Williams Treaties First Nations, Rama First Nation acknowledges receipt of your letter of November 11, 2013, which was received on November 20, 2013.

A copy of your letter has been forwarded to Karry Sandy-McKenzie, Barrister & Solicitor, Coordinator for Williams Treaties First Nations for further review and response directly to you. Please direct all future correspondence and inquires, with a copy to Rama First Nation, to Ms. Sandy-McKenzie at 8 Creswick Court, Barrie, ON L4M 2J7 or her email address at k.a.sandy-mckenzie@rogers.com. Her telephone number is (705) 792-5087.

We appreciate your taking the time to share this important information with us.

Sincerely,

Chief Sharon Stinson Henry

c: Council, Rama First Nation
Jeff Hewitt, General Counsel
Karry Sandy-McKenzie, Coordinator for Williams Treaties First Nations
Chief Roland Monague, Portfolio Chief for Williams Treaties First Nations

GOVERNMENT SERVICES BUILDING
AND CULTURAL CENTRE

CURVE LAKE
FIRST NATION

CURVE LAKE, ONTARIO K0L 1R0

PHONE (705) 657-8045
FAX (705) 657-8708

COPY



December 2, 2013

Gordon Murray
300-675 Cochrane Drive West
Markham, Ontario L3R 0B8

Dear Gordon Murray,

RE: Notice of Commencement, Municipal Class Environmental Assessment

We would like to acknowledge receipt of your correspondence, which we received on 11/11/2013 regarding the above noted project.

As you may be aware, the area in which your project is proposed is situated within the Traditional Territory of Curve Lake First Nation. Our First Nation's Territory is incorporated within the Williams Treaty Territory and is the subject of a claim under Canada's Specific Claims Policy. We strongly suggest that you provide Karry Sandy-Mackenzie, Williams Treaty First Nation Claims Coordinator, 8 Creswick Court, Barrie, ON L4M 2S7, with a copy of your proposal as your obligation to consult to also extend to the other First Nations of the Williams Treaty.

Although we have not conducted exhaustive research nor have we the resources to do so, Curve Lake First Nation Council is not currently aware of any issues that would cause concern with respect to our Traditional, Aboriginal and Treaty rights.

Please note that we have particular concern for the remains of our ancestors. Should excavation unearth bones, remains or other such evidence of a native burial site or any Archaeological findings, we must be notified without delay. In the case of a burial site, Council reminds you of your obligations under the *Cemeteries Act* to notify the nearest First Nation Government or other community of Aboriginal people which is willing to act as a representative and whose members have a close cultural affinity to the interred person. As I am sure you are aware, the regulations further state that the representative is needed before the remains and associated artifacts can be removed. Should such a find occur, we request that you contact our First Nation immediately. Curve Lake First Nation also has available, trained Archaeological Liaisons who are able to actively participate in the archaeological assessment process as a member of a field crew, the cost of which will be borne by the proponent.

If any new, undisclosed or unforeseen issues should arise, that has potential for anticipated negative environmental impacts or anticipated impacts on our Treaty and Aboriginal rights we require that we be notified regarding these as well.

Thank you for recognizing the importance of consultation and respecting your duty to consult obligations as determined by the Supreme Court of Canada.

Should you have further questions or if you wish to hire a liaison for a project, please feel free to contact Corey Kinsella at 705-657-8045x222 or cdutytoconsult@curvelakefn.ca.

Yours sincerely,

Chief Phyllis Williams
Curve Lake First Nation

# CITY OF MISSISSAUGA
# NOTIFICATION RESPONSE SHEET

## Municipal Class Environmental Assessment Study for Courtneypark Drive East

*Please respond by Friday, December 6, 2013*

**ATTENTION:** Gordon Murray
Consultant Project Manager
Stantec Consulting Ltd.

COPY

**MAILING ADDRESS:** 300-675 Cochrane Dr, West Tower
Markham, ON L3R 0B8

**E-MAIL ADDRESS:** gordon.murray@stantec.com

**FAX NUMBER:** (905) 474-9889

**FROM:** Mississaugas of Scugog Island First Nation
22521 Island Road, Port Perry, ON, L9L 1B6
Contact: Dave Mowat, Consultation Specialist

**RE:** Municipal Class Environmental Assessment Study for Courtneypark Drive East

---

☑ We have no concerns and do not wish to be involved in this study.

☐ We have no concerns at this time, but we wish to remain on the contact list for this study.

☐ We have the following comment(s) and/or information requirements:

**Bradley, Michael**

**From:** Murray, Gordon
**Sent:** Tuesday, December 03, 2013 3:11 PM
**To:** Bradley, Michael
**Subject:** FW: Courtneypark Drive East Class EA

COPY

Mike – Please put a copy in both the Utilities file. I assume this is the line that crosses just east of Kennedy, however, there is also a line of big wooden poles that crosses Hwy 410 on the south side of Courtneypark, so we should confirm exactly where the Hydro One facilities are. I suspect the wood poles belong to Enersource (Miss. Hydro).
Gord

---

**From:** Cyrus.Elmpak-Mackie@HydroOne.com [mailto:Cyrus.Elmpak-Mackie@HydroOne.com]
**Sent:** Tuesday, December 03, 2013 3:02 PM
**To:** farhad.shahla@mississauga.ca; Murray, Gordon
**Cc:** ierullo@HydroOne.com; w.d.kloostra@HydroOne.com; rick.schatz@HydroOne.com
**Subject:** Courtneypark Drive East Class EA

Dear Mr. Shahla and Mr. Murray,

In our initial review, we have confirmed that Hydro One Transmission facilities are located within immediate vicinity of the proposed site in your study area. Please allow appropriate lead-time in your project schedule in the event that proposed development impacts Hydro One infrastructure which requires relocation or modifications, or needs an outage, that may not be readily available.

In planning, please note that developments should not reduce line clearances and limit access to our facilities at any time in the study area of your Proposal. Any construction activities must maintain the electrical clearance from the transmission line conductors as specified in the Ontario Health and Safety Act for the respective line voltage.

The integrity of the structure foundations must be maintained at all times, with no disturbance of the earth around the poles, guy wires and tower footings. There must not be any grading, excavating, filling or other civil work close to the structures.

Note that existing rights of ways may have provisions for future lines or already contain secondary land uses (i.e. pipelines, water mains, parking, etc). Please take this into consideration in your planning.

Once details are known and it is established that your development will affect Hydro One facilities including the rights of way, please submit plans that detail your development and the affected Hydro One facilities to:

Rick Schatz, Hydro One Real Estate Management
185 Clegg Road, Markham L6G 1B7
Phone: (905) 946-6242
rick.schatz@HydroOne.com

Please note that the proponent will be responsible for costs associated with modification or relocation of Hydro One facilities, as well as any added costs that may be incurred due to increase efforts to maintain our facilities.

Regards,

**Cyrus Elmpak-Mackie**
Hydro One Networks Inc.
Secondary Land Use
Transmission Asset Management

Toronto and Region Conservation
*for* The Living City

January 8, 2014 CFN 50250

**BY E-MAIL ONLY** (farhad.shahla@mississauga.ca)

Farhad Shahla
City of Mississauga
201 City Centre Drive, Suite 800
Mississauga, ON L5B 2T4

**Re: Response to Notice of Study Commencement**
**Municipal Class Environmental Assessment - Schedule C**
**Courtneypark Drive East (Kennedy Road to Dixie Road)**
**Etobicoke Creek Watershed; City of Mississauga; Regional Municipality of Peel**

Toronto and Region Conservation Authority (TRCA) staff received the Notice of Study Commencement for the above noted Environmental Assessment (EA) on November 13, 2013. It is our understanding that this undertaking will address network demand challenges, safety concerns, active transportation measures and will involve rehabilitating the road surface.

## TRCA Areas of Interest

Staff has identified the following Areas of Interest within the study area:

Regulated Areas

- Regulation Limit
- Wetlands

TRCA Program and Policy Areas

- Terrestrial Species and Habitat
- Terrestrial Natural Heritage Strategy

TRCA mapping currently shows a wetland on the north side of Courtneypark Drive, west of the Highway 410 ramp. It is unclear whether this feature still exists and will need to be confirmed by TRCA staff on site at a later date when ground conditions permit.

In the meantime, available mapping and program information regarding these Areas of Interest will be sent under separate cover for your reference. Please ensure that the status, potential impacts and opportunities for enhancement related to these Areas of Interest are documented and assessed through a review of background material, technical study, field assessment and detailed evaluation, as appropriate.

## Selection of Alternatives

Based on the results of a site visit, in consideration of TRCA's *Valley and Stream Corridor Management Program*, Ontario Regulation 166/06, and TRCA's other programs and policies, staff requires that the preferred alternative meets the following criteria:

1. Prevents the risk associated with flooding, erosion or slope instability.
2. Protects and rehabilitates existing landforms, features and functions.
3. Provides for aquatic, terrestrial and human access.
4. Minimizes water/energy consumption and pollution.
5. Addresses TRCA property and heritage resource concerns.

TRCA staff recommends that a summary of detailed design commitments be included in the EA as a Pre-design Brief. This summary should include, but not be limited to:

a. An aerial photo indicating the study area, regulated area, existing conditions and preferred solution/design;
b. Text indicating the preferred alternative solution/design;
c. A Reference list of alternative solutions and designs considered;
d. A synopsis of all TRCA requirements and technical commitments.

It is intended that the proponent and their consultants, as well as TRCA, would use the Pre-design Brief during the preliminary stages of detailed design. In the Pre-design Brief, commitments made during the EA would be clearly articulated in order to facilitate a 90 % detailed design submission to TRCA for all required permits. TRCA staff would then be able to review the required studies, reports or plans; and confirm any additional study requirements or revisions to the submitted materials. Ideally, the completion of the Pre-Design Brief will result in a more timely and streamlined permit approval process in the future.

**TRCA Review**

Prior to selecting the preferred alternative solution and design, please arrange a meeting to discuss issues that relate to our program and policy concerns. In addition, please add TRCA's Etobicoke/Mimico Creek Watershed Specialist, Chandra Sharma, to the project mailing list to receive any public information updates.

Please provide the following submissions to expedite TRCA review:

- Notices of public meetings and display material and handouts
- Four hard copies of the Phases 1 and 2 Report
- Four hard copies of the Phase 3 Report
- Four hard copies of the Draft EA Document
- One hard copy of the Final EA Document.

Please include a digital copy of all submitted material. Materials must be submitted in PDF format, with drawings pre-scaled to print on 11"x17" pages. Materials may be submitted on discs, via e-mail (if less than 2.5 MB), or through file transfer protocol (FTP) sites (if posted for a minimum of two weeks).

Should you have any questions, please contact me at extension 5717or at slingertat@trca.on.ca.

Yours truly,

Sharon Lingertat
Senior Planner, Environmental Assessment Planning
Planning and Development

Encl.: TRCA Areas of Interest Summary Table

**BY E-MAIL**

cc: Stantec: Gord Murray (gordon.murray@stantec.com)
TRCA: Beth Williston, Senior Manager, Environmental Assessment Planning
Chandra Sharma, Watershed Specialist, Etobicoke/ Mimico Creek

C:\A\50250 - Noc.Docx

Toronto and Region Conservation for The Living City

# TRCA AREAS OF INTEREST



EA Requirements

Document and assess the status, potential impacts and opportunities for enhancement that relate to the following Areas of Interest through a review of background material, technical study, field assessment and detailed evaluation, as appropriate. Make reference to the applicable Program and Policy documents. Include in the EA Document appendices any minutes, structure summary sheets for watercourses or wetlands, or other material collected through meetings with TRCA staff. Natural features may need to be confirmed on site by TRCA staff.

| Area of Interest / Data Availability | Program and Policy Concerns |
|---|---|
| **TRCA REGULATED AREAS** | |
| Regulation Limit | In accordance with Ontario Regulation 166/06 (Development, Interference with Wetlands and Alterations to Shorelines and Watercourses), a permit is required from the TRCA prior to any development (e.g. construction) if, in the opinion of TRCA, the control of flooding, erosion, dynamic beaches or pollution or the conservation of land may be affected. The Regulation Limit defines the greater of the natural hazards associated with Ontario Regulation 166/06 (listed below).<br><br>NOTE: The Regulation Limit provides a geographical screening tool for determining if Ontario Regulation 166/06 will apply to a given proposal. Through site assessment or other investigation, it may be determined that areas outside of the defined Regulation Limit require permits under Ontario Regulation 166/06. In these instances, it is the text of the regulation that will prevail; modifications to the regulation line may be required.<br><br>Any development within the Regulation Limit must comply with the applicable sections of TRCA's *Valley and Stream Corridor Management Program*. |
| Wetlands | Wetlands are sensitive natural habitats that play an important role in numerous physical, chemical and biological processes, including storm water control, natural habitat and water quality improvement. Most wetlands are designated by the Ministry of Natural Resources as Provincially Significant or Locally Significant. Other wetlands have also been identified on a site specific basis by TRCA. All of these are regulated under Ontario Regulation 166/06. TRCA may require an environmental study or site confirmation of wetlands locations. |
| **TRCA PROGRAM AND POLICY AREAS**<br>*Note: Additional program and policy information may be available at www.trca.on.ca, or by request.* | |
| Terrestrial Natural Heritage System Strategy | TRCA has identified the need to improve both the quality and quantity of terrestrial habitat. TRCA's *Terrestrial Natural Heritage System Strategy* sets measurable targets for attaining a healthier natural system by creating an expanded and targeted land base. It includes strategic directions for stewardship and securement of the land base, a land use policy framework to help achieve the target system, and other implementation mechanisms. |
| Terrestrial Species and Habitat | The terrestrial system includes landscape features, vegetation communities and flora and fauna species. Terrestrial species and habitat should be assessed based on their conservation status according to sensitivity to disturbance and specialized ecological needs, as well as rarity.<br><br>TRCA may require a site assessment and terrestrial inventory to confirm impacts to these resources. TRCA's *Terrestrial Natural Heritage Strategy* may be applicable to any work that impacts terrestrial species and habitat. In addition, relevant legislation (e.g. *Migratory Bird Convention Act*, *Species at Risk Act*) should be applied. |

File 1650 10564/37

**Murray, Gordon**

**From:** Farhad Shahla <Farhad.Shahla@mississauga.ca>
**Sent:** Tuesday, January 21, 2014 8:51 AM
**To:** Porter, Bryan (MTO)
**Cc:** Boone, Jonathan (MTO); Lai, Joseph (MTO); mike.marinelli@ontario.ca; Murray, Gordon
**Subject:** RE: Municipal Class EA Study For Courtneypark Drive East (Highway 410)

Thanks Bryan for your email.

Please note that we have been consulting MTO through the Highway 410 widening project manager, Mike Marinelli, prior to the subject project commencement and onward.

This email will ensure including your contact information on all project communications and the agency contact list.

Please let me know if you have any questions.

Regards -

**Farhad Shahla, M.Eng., P.Eng.**, Transportation Project Engineer | Transportation and Infrastructure Planning | Transportation & Works
( 905-615-3200 ext. 3377 | ( 905-615-3173 | www.mississauga.ca


Please consider the environment before printing this email.

---

**From:** Porter, Bryan (MTO) [mailto:Bryan.Porter@ontario.ca]
**Sent:** 2014/01/21 8:34 AM
**To:** 'gordon.murray@stantec.com'
**Cc:** Farhad Shahla; Boone, Jonathan (MTO); Lai, Joseph (MTO)
**Subject:** Municipal Class EA Study For Courtneypark Drive East (Highway 410)

Gordon:
This e-mail is in response to the "Notice of Commencement" for the EA noted above. As the proposed study area affects the Highway 410/Courttneypark Drive East interchange please continue to circulate MTO regarding this study.

Bryan Porter
Senior Project Manager (Acting)
(416) 235-5559

Corridor Management Section
Ministry of Transportation
7th Floor, Bldg "D"
1201 Wilson Ave
Downsview, ON
M3M 1J8

Ontario
Infrastructure Ontario

One Dundas Street West, Suite 2000, Toronto, ON M5G 2L5
1, rue Dundas Ouest, bureau 2000, Toronto, ON M5G 2L5

May 8, 2014

Thank you for circulating Infrastructure Ontario (formerly the Ontario Realty Corporation) on your Notice. Infrastructure Ontario (IO) is the strategic manager of the provincial government's real estate property with a mandate of maintaining and optimizing value of the portfolio, while ensuring real estate decisions reflect public policy objectives of the government.

As you may be aware, *IO is responsible for managing real estate property that is owned by Her Majesty the Queen in Right of Ontario as represented by the Minister of Infrastructure (MOI).* There is a potential that IO manages lands that fall within your study area. As a result, your proposal may impact IO managed properties and/or the activities of tenants present on IO-managed lands. In order to determine if IO property is within your study area, IO requires that the proponent of the project conduct a title search by reviewing parcel register(s) for adjoining lands, to determine the extent of ownership by MOI or it's predecessors (listed below) ownership. Please contact IO if any ownership of provincial government lands are known to occur within your study area and are proposed to be impacted. IO is obligated to complete due diligence for any realty activity on IO managed lands and this should be incorporated into all project timelines. IO managed lands can ***include within the title but is not limited to*** variations of the following: Her Majesty the Queen/King, OLC, ORC, Public Works, Hydro One, PIR, MGS, MBS, MOI, MTO, MNR and MEI*. Please ensure that a copy of your notice is also sent to the ministry/agency on title. As an example, if the study area includes a Provincial Park, then MNR is to also to be circulated notices related to your project.

**Potential Negative Impacts to IO Tenants and Lands**

**General Impacts**
Negative environmental impacts associated with the project design and construction, such as the potential for dewatering, dust, noise and vibration impacts, and impacts to natural heritage features/habitat and functions, should be avoided and/or appropriately mitigated in accordance with applicable regulations best practices and Ministry of Natural Resources (MNR) and Ministry of the Environment (MOE) standards. Avoidance and mitigation options that characterize baseline conditions and quantify the potential impacts should be present as part of the EA project file. Details of appropriate mitigation, contingency plans and triggers for implementing contingency plans should also be present.

**Impacts to Land holdings**
Negative impacts to land holdings, such as the taking of developable parcels of IO managed land or fragmentation of utility or transportation corridors, should be avoided. If the potential for such impacts is present as part of this undertaking, you should contact the undersigned to discuss these issues at the earliest possible stage of your study.

If takings are suggested as part of any alternative these should be appropriately mapped and quantified within EA report documentation. In addition, details of appropriate mitigation and or next steps related to compensation for any required takings should be present. IO requests circulation of the draft EA report prior to finalization if potential impacts to IO-managed lands are present as part of this study.

416.327.3937 416.327.1906 info@infrastructureontario.ca www.infrastructureontario.ca

**Heritage Management Process & Class Environmental Assessment (EA) Process**

Should the proposed activities impact cultural heritage features on IO managed lands, a request to examine cultural heritage issues which can include the cultural landscape, archaeology and places of sacred and secular value could be required. The IO (formerly Ontario Realty Corporation) Heritage Management Process should be used for identifying and conserving heritage properties in the provincial portfolio (this document can be downloaded from the Heritage section of our website: http://www.ontariorealty.ca/What-We-Do/Heritage.htm). Through this process, IO identifies, communicates and conserves the values of its heritage places. In addition, the Class EA ensures that IO considers the potential effects of proposed undertakings on the environment, including cultural heritage.

**Potential Triggers Related to MOI's Class EA**

*IO is required to follow the MOI Public Work Class Environmental Assessment Process for (PW Class EA). The PW Class EA applies to a wide range of realty and planning activities including leasing or letting, planning approvals, dispostion, granting of easements, demolition and property maintenance/repair. For details on the PW Class EA please visit the Environment and Heritage page of our website found at http://www.infrastructureontario.ca/What-We-Do/Buildings/Realty-Services/Environmental-Management/Class-EAs/*

*Please note that completion of any EA process does not provide an approval for MOI's Class EA obligations. Class EA processes are developed and in place to assess undertakings associated with different types of projects. For example, assessing the impacts of disposing of land from the public portfolio is significantly different then assessing the best location for a proposed road.*

IO is providing this information so that adequate timelines and project budgets should consider MOI's regulatory requirements associated with a proposed realty activity in support of a project. Some due diligences processes and studies can be streamlined. For example, prior to any disposition of land, a Stage I Archaeological Assessment is required. If MOI lands are likely to be impacted by the proposed project, then at the time of studies completion, the incorporation of these lands should be undertaken. In addition to *archaeological and heritage reports, a Phase I Environmental Site Assessment (ESA),* on IO lands should also be undertaken. Deficiencies in any of these requirements could result in substantial project delays and increased project costs.

In summary, the purchase of MOI-owned/IO-managed lands or disposal of rights and responsibilities (e.g. easement) for IO-managed lands triggers the application of the MOI Class EA. If any of these realty activities affecting IO-managed lands are being proposed as part of any alternative, please contact the Sales and Marketing Group through IO's main line (Phone: 416-327-3937, Toll Free: 1-877-863-9672), and contact the undersigned at your earliest convenience to discuss next steps.

**Specific Comments**

Please remove IO from your circulation list, with respect to this project, if MOI owned lands are not anticipated to be impacted. In addition, in the future, please send only **electronic copies of notices** for any projects impacting IO managed lands to:
Keith.Noronha@infrastructureontario.ca

Thank you for the opportunity to provide initial comments on this undertaking. If you have any questions on the above I can be reached at the contacts below.

Sincerely,

**Lisa Myslicki**
Environmental Advisor, Environmental Management
Infrastructure Ontario
1 Dundas Street West,
Suite 2000, Toronto, Ontario
M5G 2L5
(416) 212-3768
lisa.myslicki@infrastructureontario.ca

* Below are the acronyms for agencies/ministries listed in the above letter
OLC: Ontario Lands Corporation
ORC: Ontario Realty Corporation
PIR: Public Infrastructure and Renewal
MGS: Ministry of Government Services
MBS: Management Board and Secretariat
MOI: Ministry of Infrastructure
MTO: Ministry of Transportation
MNR: Ministry of Natural Resources
MEI: Ministry of Energy and Infrastructure

**Stantec Consulting Ltd.**
300 - 675 Cochrane Drive West Tower, Markham ON L3R 0B8

June 11, 2014
File: 165010564

Dear Sir/Madam:

**Reference: Invitation to Public Information Centre (PIC) #1**
**Courtneypark Drive East, from Kennedy Road to Dixie Road**
**Municipal Class Environmental Assessment Study & Preliminary Design**

Stantec Consulting, on behalf of the City of Mississauga, has initiated a Class Environmental (Class EA) Study, including Preliminary Design, for the section of Courtneypark Drive East, from Kennedy Road to Dixie Road (Figure 1). In light of current roadway conditions, the intent of this study is to address network demand challenges, identify/address safety concerns, accommodate active transportation measures, and rehabilitate the roadway surface. The overall impact of such improvements on the social, cultural, and natural environments will also be analyzed.

This study was initiated in November 2013 and is being undertaken in accordance with the planning and design process for Schedule 'C' projects, as outlined in the *Municipal Class Environmental Assessment* document (October 2000, amended in 2011), which is approved under the Ontario *Environmental Assessment Act*. The Class EA process includes public and agency consultation, an evaluation of alternative solutions and alternative design concepts, an assessment of potential impacts associated with the proposed improvements, and the development of mitigation measures. As a key component of the study, the first PIC has been scheduled to present the project and review the study scope, as well as discuss project issues such as alternative solutions, evaluation criteria, the preferred alternative solution, and environmental impacts/mitigation measures. A notice of the PIC has also been advertised in the Mississauga News.

The first PIC will be held as follows:

**Thursday, June 26, 2014, 2:30pm to 5:00pm**
**Frank McKechnie Community Centre, Auditorium 1 & 2**
**310 Bristol Rd. E., Mississauga, ON, L4Z 3V5 (Figure 2)**

If you have any questions or require additional information, please contact the undersigned by phone at (905) 944-7786 or by email to gordon.murray@stantec.com.

Regards,

**STANTEC CONSULTING LTD.**

Gord Murray, P.Eng.
Consultant Project Manager

Attachment: Notice of Public Information Centre #1

cc. Farhad Shahla, Project Manager, City of Mississauga

**Reference: Invitation to Public Information Centre (PIC) #1**
**Courtneypark Drive East, from Kennedy Road to Dixie Road**
**Municipal Class Environmental Assessment Study & Preliminary Design**

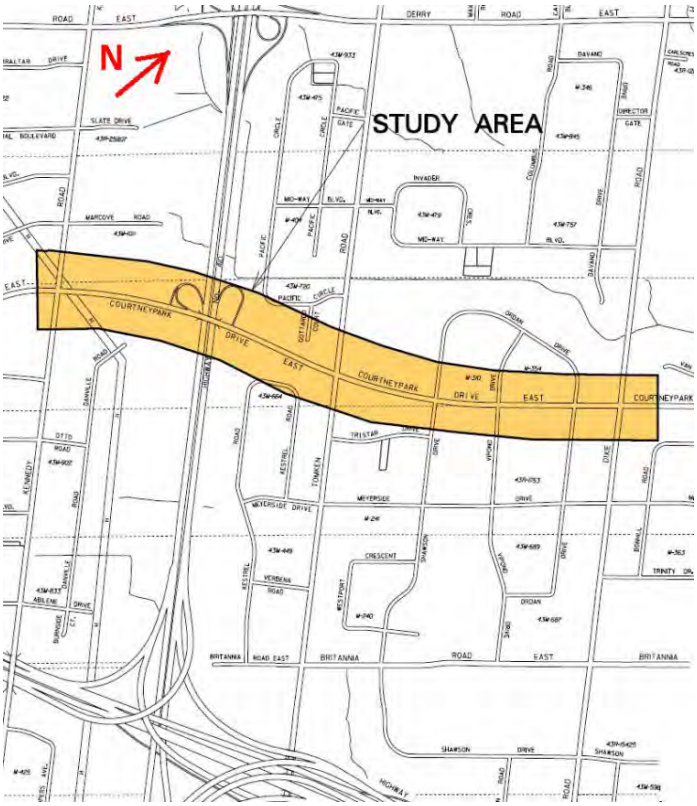



**Figure 1: Study Area**

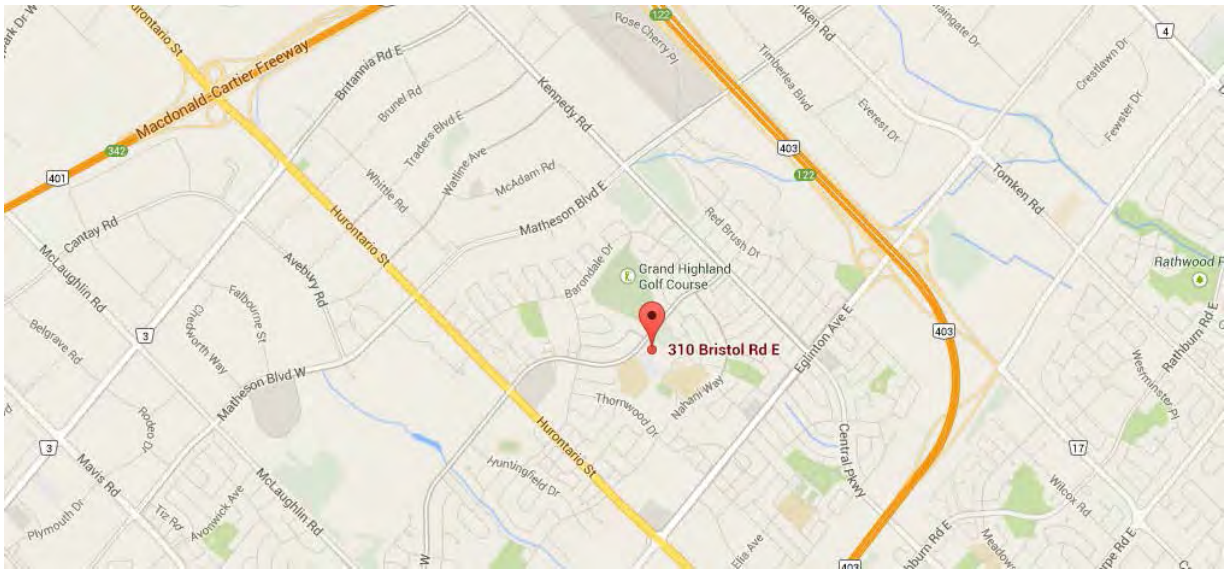



**Figure 2: PIC#1 Location (image via google.com)**

# CITY OF MISSISSAUGA
# NOTICE OF PUBLIC INFORMATION CENTRE #1
## Municipal Class Environmental Assessment Study for Courtneypark Drive East

**THE STUDY:**
The City of Mississauga has initiated a Class Environmental Assessment (Class EA) Study, including Preliminary Design, for the section of Courtneypark Drive East, from Kennedy Road to Dixie Road (see map). In light of current roadway conditions, the intent of this study is to address network demand challenges, identify/address safety concerns, accommodate active transportation measures, and rehabilitate the roadway surface. The overall impact of such improvements on the social, cultural, and natural environments will also be analyzed.


**THE PROCESS:**
The study is being undertaken in accordance with the planning and design process for Schedule 'C' projects, as outlined in the "*Municipal Class Environmental Assessment*" document (October 2000, amended in 2011), which is approved under the Ontario *Environmental Assessment Act*. The Class EA process includes public and agency consultation, an evaluation of alternative solutions and alternative design concepts, an assessment of potential impacts associated with the proposed improvements, and development of measures to mitigate. The alternative solutions may include (but are not limited to) the potential widening of Courtneypark Drive East, the examination of the transportation benefits of a full movement interchange at Highway 410 (per the MTO's approved 2010 TESR), as well as various improvements to traffic operations, transit, and/or active transportation. Upon completion of the study, an Environmental Study Report (ESR) will be prepared and made available for public review and comment.

**PUBLIC CONSULTATION:**
Public consultation is a vital component of this study. Public Information Centre (PIC) #1 is being held to receive your input, comments and concerns on the Class EA, existing and future traffic conditions, environmental constraints, improvement needs and opportunities, and the alternative solutions being considered. At this PIC, the City of Mississauga will display information in an open house format on these and other subjects being addressed in the Class EA, including the preliminary preferred planning alternatives. Representatives from the City and the consulting team will be present to answer questions and discuss next steps. A second PIC is tentatively scheduled for the fall of 2014.

The PIC will be held as follows:

**Date/Time: Thursday, June 26, 2014, 2:30pm to 5:00pm**
**Location: Frank McKechnie Community Centre, Auditorium 1 & 2**
**310 Bristol Rd. E., Mississauga, ON, L4Z 3V5**

If you have any questions or comments regarding the study, or wish to be added to the study mailing list, please contact either of the following team members:

**Project Manager**
**Farhad Shahla, M.Eng., P.Eng**
City of Mississauga
201 City Centre Dr, Suite 800
Mississauga, ON L5B 2T4
(905) 615-3200, ext. 3377
farhad.shahla@mississauga.ca

**Consultant Project Manager**
**Gord Murray, P. Eng.**
Stantec Consulting Ltd.
300 – 675 Cochrane Dr, West Tower
Markham, ON L3R 0B8
(905) 944-7786
gordon.murray@stantec.com

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

This notice was first posted: June 11, 2014.

MISSISSAUGA

# CITY OF MISSISSAUGA

## NOTICE OF PUBLIC INFORMATION CENTRE #1

### Municipal Class Environmental Assessment Study for Courtneypark Drive East

**THE STUDY:**

The City of Mississauga has initiated a Class Environmental Assessment (Class EA) Study, including Preliminary Design, for the section of Courtneypark Drive East, from Kennedy Road to Dixie Road (see map). In light of current roadway conditions, the intent of this study is to address network demand challenges, identify/address safety concerns, accommodate active transportation measures, and rehabilitate the roadway surface. The overall impact of such improvements on the social, cultural, and natural environments will also be analyzed.


**THE PROCESS:**

The study is being undertaken in accordance with the planning and design process for Schedule 'C' projects, as outlined in the *"Municipal Class Environmental Assessment"* document (October 2000, amended in 2011), which is approved under the *Ontario Environmental Assessment Act.* The Class EA process includes public and agency consultation, an evaluation of alternative solutions and alternative design concepts, an assessment of potential impacts associated with the proposed improvements, and development of measures to mitigate. The alternative solutions may include (but are not limited to) the potential widening of Courtneypark Drive East, the examination of the transportation benefits of a full movement interchange at Highway 410 (per the MTO's approved 2010 TESR), as well as various improvements to traffic operations, transit, and/or active transportation. Upon completion of the study, an Environmental Study Report (ESR) will be prepared and made available for public review and comment.

**PUBLIC CONSULTATION:**

Public consultation is a vital component of this study. Public Information Centre (PIC) #1 is being held to receive your input, comments and concerns on the Class EA, existing and future traffic conditions, environmental constraints, improvement needs and opportunities, and the alternative solutions being considered. At this PIC, the City of Mississauga will display information in an open house format on these and other subjects being addressed in the Class EA, including the preliminary preferred planning alternatives. Representatives from the City and the consulting team will be present to answer questions and discuss next steps. A second PIC is tentatively scheduled for the fall of 2014.

**Date/Time:** **Thursday, June 26, 2014, 2:30pm to 5:00pm**
**Location:** **Frank McKechnie Community Centre, Auditorium 1 & 2**
**310 Bristol Rd. E., Mississauga, ON, L4Z 3V5**

If you have any questions or comments regarding the study, or wish to be added to the study mailing list, please contact either of the following team members:

**Project Manager**
**Farhad Shahla, M.Eng., P.Eng**
City of Mississauga
201 City Centre Dr, Suite 800
Mississauga, ON L5B 2T4
(905) 615-3200, ext. 3377
farhad.shahla@mississauga.ca

**Consultant Project Manager**
**Gord Murray, P. Eng.**
Stantec Consulting Ltd.
300 – 675 Cochrane Dr, West Tower
Markham, ON L3R 0B8
(905) 944-7786
gordon.murray@stantec.com

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

This notice was first posted: June 11, 2014.

# CITY OF MISSISSAUGA

## NOTICE OF PUBLIC INFORMATION CENTRE #1

### Municipal Class Environmental Assessment Study for Courtneypark Drive East

**THE STUDY:**

The City of Mississauga has initiated a Class Environmental Assessment (Class EA) Study, including Preliminary Design, for the section of Courtneypark Drive East, from Kennedy Road to Dixie Road (see map). In light of current roadway conditions, the intent of this study is to address network demand challenges, identify/address safety concerns, accommodate active transportation measures, and rehabilitate the roadway surface. The overall impact of such improvements on the social, cultural, and natural environments will also be analyzed.


**THE PROCESS:**

The study is being undertaken in accordance with the planning and design process for Schedule 'C' projects, as outlined in the *"Municipal Class Environmental Assessment"* document (October 2000, amended in 2011), which is approved under the *Ontario Environmental Assessment Act.* The Class EA process includes public and agency consultation, an evaluation of alternative solutions and alternative design concepts, an assessment of potential impacts associated with the proposed improvements, and development of measures to mitigate. The alternative solutions may include (but are not limited to) the potential widening of Courtneypark Drive East, the examination of the transportation benefits of a full movement interchange at Highway 410 (per the MTO's approved 2010 TESR), as well as various improvements to traffic operations, transit, and/or active transportation. Upon completion of the study, an Environmental Study Report (ESR) will be prepared and made available for public review and comment.

**PUBLIC CONSULTATION:**

Public consultation is a vital component of this study. Public Information Centre (PIC) #1 is being held to receive your input, comments and concerns on the Class EA, existing and future traffic conditions, environmental constraints, improvement needs and opportunities, and the alternative solutions being considered. At this PIC, the City of Mississauga will display information in an open house format on these and other subjects being addressed in the Class EA, including the preliminary preferred planning alternatives. Representatives from the City and the consulting team will be present to answer questions and discuss next steps. A second PIC is tentatively scheduled for the fall of 2014.

**Date/Time:** **Thursday, June 26, 2014, 2:30pm to 5:00pm**
**Location:** **Frank McKechnie Community Centre, Auditorium 1 & 2**
**310 Bristol Rd. E., Mississauga, ON, L4Z 3V5**

If you have any questions or comments regarding the study, or wish to be added to the study mailing list, please contact either of the following team members:

**Project Manager**
**Farhad Shahla, M.Eng., P.Eng**
City of Mississauga
201 City Centre Dr, Suite 800
Mississauga, ON L5B 2T4
(905) 615-3200, ext. 3377
farhad.shahla@mississauga.ca

**Consultant Project Manager**
**Gord Murray, P. Eng.**
Stantec Consulting Ltd.
300 – 675 Cochrane Dr, West Tower
Markham, ON L3R 0B8
(905) 944-7786
gordon.murray@stantec.com

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

This notice was first posted: June 11, 2014.

**HIAWATHA FIRST NATION**
**123 Paudash Street**
**Hiawatha On. K9J 0E6**





June 16, 2014

Stantec Consulting
300-675 Cochrane Drive West Tower
Markham On. L3R 0B8

Dear Mr. Murray:

Thank you for the information you sent to Hiawatha First Nation regarding "P.I.C. for Courtneypark Drive East" which is being proposed within Hiawatha First Nations' Traditional and Treaty Territories. Hiawatha First Nation appreciates the fact that your company recognizes the importance of First Nations Consultation and that your office is conforming to the requirements within the Duty to Consult Process. The correspondence we have received is not considered to be meaningful consultation but rather information sharing.

However, as per the Hiawatha First Nation Consultation Protocol, your proposed project is deemed, having minimal potential to impact Hiawatha First Nations' rights at this time , but would like to be kept apprised of any updates, archaeological findings, and/ or of any environmental impacts, should any occur, please. We reserve the right to comment later, if something further along in the process is deemed to be a potential impact.

Although we may not always have representation at all stakeholders meeting, it is our wish to be kept apprised throughout all phases of the project.

We can be contacted at the mailing address above or electronically via email, at the email address below.

In good faith and respect,

Diane Sheridan

Diane Sheridan
Land Resource Consultation Worker
Hiawatha First Nation

dsheridan@hiawathafn.ca
Tele: (705) 295 4421
Fax: (705) 295-4424

Chippewas of RAMA First Nation

A Proud Progressive First Nation Community

5884 Rama Road, Suite 200
Rama, Ontario L3V 6H6
T 705.325.3611 F 705.325.0879

OFFICE OF THE CHIEF

June 27, 2014



Stantec Consulting Ltd.
300-675 Cochrane Drive West Tower
Markham, ON L3R 0B8

Attention: Gord Murray, P.Eng., Consultant Project Manager

**Re: Invitation to Public Information Centre (PIC) #1**
**Courtneypark Drive East, from Kennedy Road to Dixie Road**
**Municipal Class Environmental Assessment Study & Preliminary Design**

Dear Mr. Murray:

As a member of the Williams Treaties First Nations, Rama First Nation acknowledges receipt of your letter of June 12, 2014, which was received on June 16, 2014.

A copy of your letter has been forwarded to Karry Sandy-McKenzie, Barrister & Solicitor, Coordinator for Williams Treaties First Nations for further review and response directly to you. Please direct all future correspondence and inquires, with a copy to Rama First Nation, to Ms. Sandy-McKenzie at 8 Creswick Court, Barrie, ON L4M 2J7 or her email address at k.a.sandy-mckenzie@rogers.com. Her telephone number is (705) 792-5087.

We appreciate your taking the time to share this important information with us.

Sincerely,

Chief Sharon Stinson Henry

c: Council, Rama First Nation
Jeff Hewitt, General Counsel
Karry Sandy-McKenzie, Coordinator for Williams Treaties First Nations
Chief Roland Monague, Portfolio Chief for Williams Treaties First Nations

peel District School Board

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



July 18, 2014

Mr. Gord Murray, P. Eng.
Consultant Project Manager
Stantec Consulting Ltd.
300-675 Cochrane Dr, West Tower
Markham, ON L3R 0B8

Dear Mr. Murray:

RE: **Notice of Public Information Centre #1 (PIC #1)**
**Class Environmental Assessment Study for Courtneypark Drive East**
**From Kennedy Road to Dixie Road**
**City of Mississauga**

---

Thank you for your letter to the Board dated June 12, 2014 informing the Board of the PIC #1 that was held on June 26, 2014 for the above noted study. The Board has no concerns at this time. Please keep us informed of the status of this project and provide us with any information you have available so that we may monitor its progress and provide comments as necessary.

If you require any further information please contact me at 905-890-1010, ext. 2724.

Yours truly,

Branko Vidovic
Intermediate Planning Officer
Planning and Accommodation Department

c. D. Dundas, Peel District School Board
F. Shahla, City of Mississauga

Courtney Park Drive East PIC #1.doc

1650108 64/38.

**ALDERVILLE FIRST NATION**
**11696 Second Line**
**P.O. Box 46**
**Roseneath, Ontario K0K 2X0**
**Phone: (905) 352-2011**
**Fax: (905) 352-3242**



June 30, 2014

Stantec Consulting Ltd.
300-675 Cochrane Drive West Tower
Markham, ON L3R 0B8

Att: Gord Murray, Consultant Project Manager

**Re: Invitation to Public Information Centre (PIC) #1**
**Courtneypark Drive East, from Kennedy Road to Dixie Road**
**Municipal Class Environmental Assessment Study & Preliminary Design**

Dear Gord Murray,

Thank you for your consultation request to Alderville First Nation regarding the above noted project which is being proposed within our Traditional and Treaty Territory. We appreciate the fact that Stantec Consulting Ltd. recognizes the importance of First Nations Consultation and that your office is conforming to the requirements within the Duty to Consult Process.

As per the Alderville First Nation Consultation Protocol, your proposed project is deemed a level 3, having minimal potential to impact our First Nations' rights, therefore, please keep Alderville apprised of any changes to your project. I can be contacted at the mailing address above or electronically via email, at the email address below.

In good faith and respect,

Dave Simpson
Lands and Resources
Communications Officer
Alderville First Nation

dsimpson@aldervillefirstnation.ca

Tele: (905) 352-2662
Fax: (905) 352-3242

**Stantec Consulting Ltd.**
300 - 675 Cochrane Drive West Tower, Markham ON L3R 0B8

[Agency Contact Name & Address]

September 12, 2014
File: 165010564/38

Dear [Agency Contact Name],

**Reference: Invitation to Public Information Sessions**
**Courtneypark Drive East, from Kennedy Road to Dixie Road**
**Municipal Class Environmental Assessment Study & Preliminary Design**

Stantec Consulting, on behalf of the City of Mississauga, has initiated a Class Environmental (Class EA) Study, including Preliminary Design, for the section of Courtneypark Drive East, from Kennedy Road to Dixie Road (see Figure 1 and the attached notice). The intent of this study is to address network demand challenges, identify/address safety concerns, accommodate active transportation measures, and rehabilitate the roadway surface. The overall impact of such improvements on the social, cultural, and natural environments will also be analyzed, **including potential impacts to adjacent properties along the road**.

Public consultation is a vital component of this study. A public information centre (PIC) was held on June 26, 2014. That PIC presented existing conditions, needs and opportunities, and alternative solutions. The City has since developed the preferred design solution to a further level of detail, and will be presenting alternative design concepts to agencies, the public, and other stakeholders who express interest in this project. In addition to the proposed Highway 410 full interchange construction and the widening of Courtneypark Drive to six through lanes, the alternative designs examine the widening of the existing bridge over Highway 410 to accommodate as many as eight lanes, and the possible staging of these works over the next 20 years. **Preliminary information will be also available regarding potential impacts to some of the adjacent properties.**

If you wish to examine the alternative design concepts, evaluation criteria/matrix, or provide comments on the environmental impacts and mitigation measures, you are invited to call 905-615-3200, Ext. 3377 or e-mail: farhad.shahla@mississauga.ca at the City **no later than September 26, 2014** to set up an appointment for viewing the various materials and documents connected with this study. Appointments will be scheduled at 201 City Centre Drive, 8th Floor, Mississauga **between September 29 and October 3, 2014** for all interested agency/utility representatives. A copy of all of the materials and documents can als0 be accessed through http://www.mississauga.ca/portal/residents/courtneyparkdriveeastassessment.

If you have any questions or require additional information, please contact the undersigned by phone at (905) 944-7786 or by email to gordon.murray@stantec.com.

**Reference: Invitation to Public Information Sessions**
**Courtneypark Drive East, from Kennedy Road to Dixie Road**
**Municipal Class Environmental Assessment Study & Preliminary Design**

**STANTEC CONSULTING LTD.**

**Gord Murray, P.Eng., PTOE**
**Senior Project Manager**

Attachment: Notice of Public Information Sessions
cc. Farhad Shahla, City of Mississauga

**Reference: Invitation to Public Information Sessions**
**Courtneypark Drive East, from Kennedy Road to Dixie Road**
**Municipal Class Environmental Assessment Study & Preliminary Design**

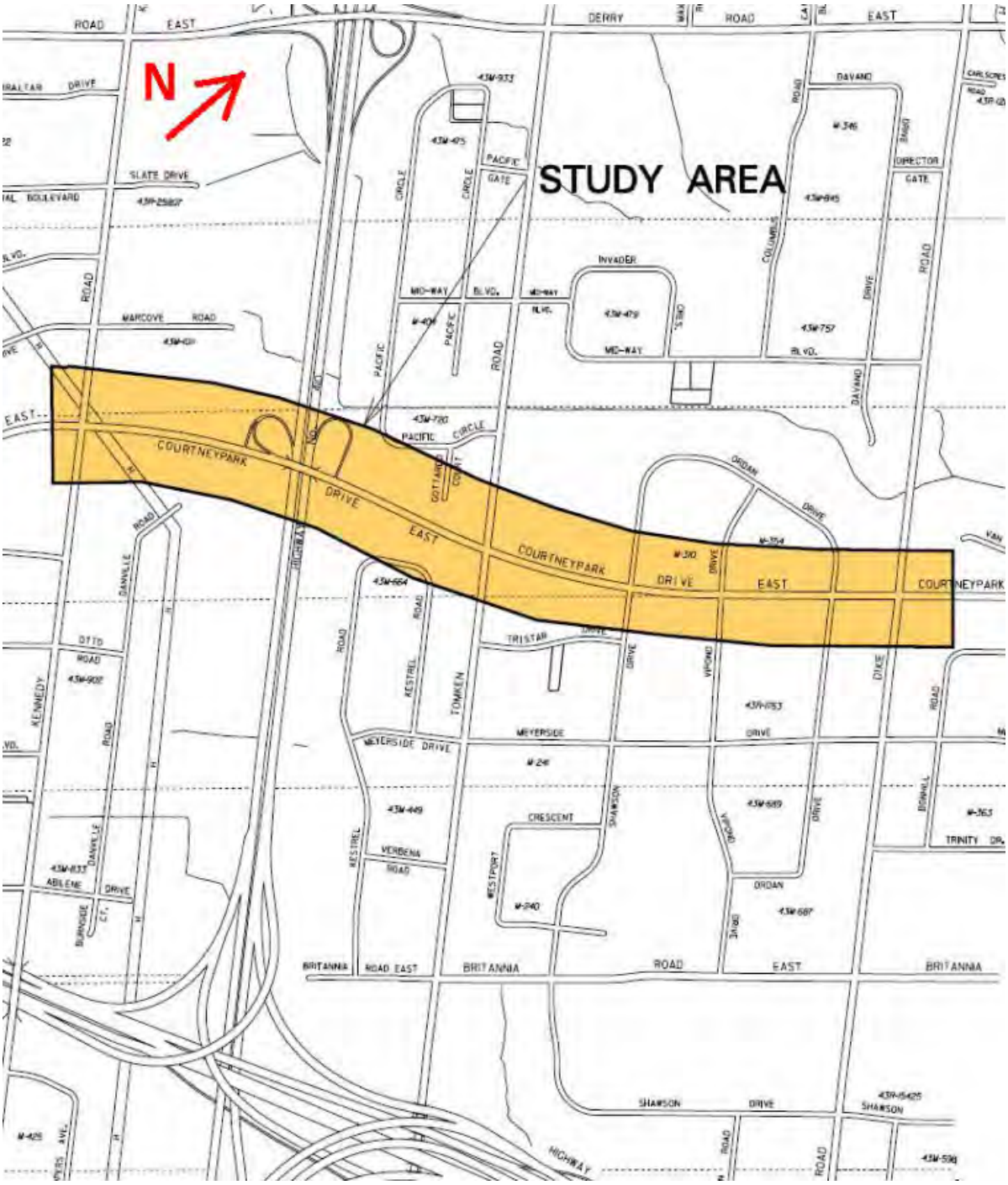
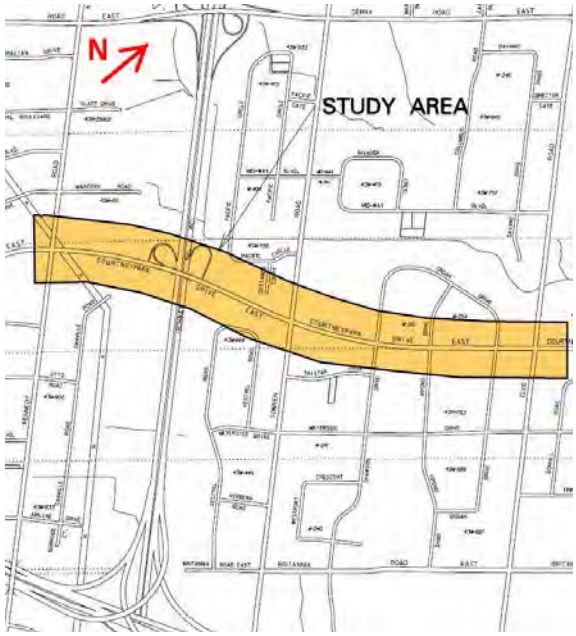



**Figure 1: Study Area**

# CITY OF MISSISSAUGA
# NOTICE OF PUBLIC INFORMATION SESSIONS
## Municipal Class Environmental Assessment Study for Courtneypark Drive East

**THE STUDY:**
The City of Mississauga has initiated a Class Environmental Assessment (Class EA) Study, including Preliminary Design, for the section of Courtneypark Drive East, from Kennedy Road to Dixie Road (see map). In light of current roadway conditions, the intent of this study is to address network demand challenges, identify/address safety concerns, accommodate active transportation measures, and rehabilitate the roadway surface. The overall impact of such improvements on the social, cultural, and natural environments will also be analyzed, **including potential impacts to adjacent properties along the road**.




**THE PROCESS:**
The study is being undertaken in accordance with the planning and design process for Schedule 'C' projects, as outlined in the "*Municipal Class Environmental Assessment*" document (October 2000, amended in 2011), which is approved under the Ontario *Environmental Assessment Act*. The Class EA process includes public and agency consultation, an evaluation of alternative solutions and alternative design concepts, an assessment of potential impacts associated with the proposed improvements, and development of measures to mitigate. The alternative design concepts include the widening of Courtneypark Drive East to three through lanes in each direction, the examination of a full movement interchange at Highway 410 (per the MTO's approved 2010 TESR), as well as various improvements to traffic operations, transit, and/or active transportation. Upon completion of the study, an Environmental Study Report (ESR) will be prepared and made available for public review and comment.

**PUBLIC CONSULTATION:**
Public consultation is a vital component of this study. A public information centre (PIC) was held on June 26, 2014. That PIC presented existing conditions, needs and opportunities, and alternative solutions. The City has since developed the preferred design solution to a further level of detail, and will be presenting alternative design concepts to members of the public and other stakeholders who express interest in this project. In addition to the proposed Hwy 410 full interchange construction and the widening of Courtneypark Drive to six through lanes, the alternative designs examine the widening of the existing bridge over Highway 410 to accommodate as many as eight lanes, and the possible staging of these works over the next 20 years. **High level information will be also available regarding potential impacts to some of the adjacent properties.**

**COMMENTS INVITED:**
If you wish to examine the alternative design concepts, evaluation criteria/matrix, or provide comments on the environmental impacts and mitigation measures, you are invited to call 905-615-3200, Ext. 3377 or e-mail: farhad.shahla@mississauga.ca at the City **no later than September 26, 2014** to set up a personal appointment for viewing of the various materials and documents connected with this study. Appointments will be scheduled at 201 City Centre Drive, 8th Floor, Mississauga **between September 29 and October 3, 2014** for all interested members of the public. A copy of all the material and documents can be accessed through http://www.mississauga.ca/portal/residents/courtneyparkdriveeastassessment.

For further information, or to be placed on the contact list, please contact one of the following:

**Project Manager**
**Farhad Shahla, M.Eng., P.Eng**
City of Mississauga
201 City Centre Dr, Suite 800
Mississauga, ON L5B 2T4
(905) 615-3200, ext. 3377
farhad.shahla@mississauga.ca

**Consultant Project Manager**
**Gord Murray, P. Eng.**
Stantec Consulting Ltd.
300 – 675 Cochrane Dr, West Tower
Markham, ON L3R 0B8
(905) 944-7786
gordon.murray@stantec.com

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

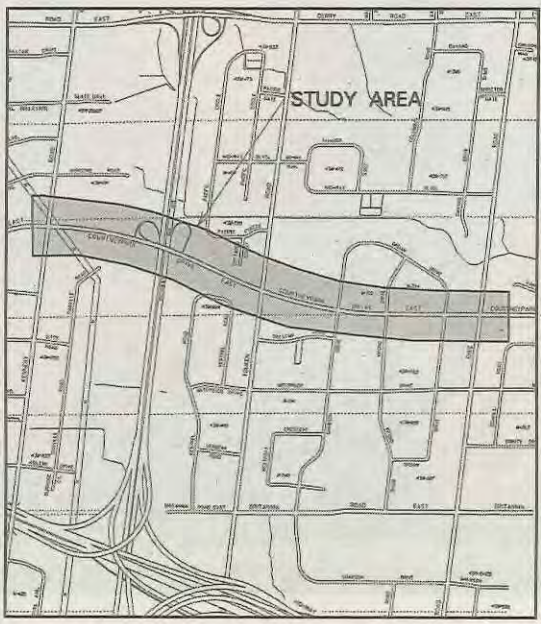
This notice was first posted: September 11, 2014.

MISSISSAUGA

# CITY OF MISSISSAUGA
# NOTICE OF PUBLIC INFORMATION SESSIONS
## Municipal Class Environmental Assessment Study for Courtneypark Drive East

**THE STUDY:**

The City of Mississauga has initiated a Class Environmental Assessment (Class EA) Study, including Preliminary Design, for the section of Courtneypark Drive East, from Kennedy Road to Dixie Road (see map). In light of current roadway conditions, the intent of this study is to address network demand challenges, identify/address safety concerns, accommodate active transportation measures, and rehabilitate the roadway surface. The overall impact of such improvements on the social, cultural, and natural environments will also be analyzed, **including potential impacts to adjacent properties along the road.**




**THE PROCESS:**

The study is being undertaken in accordance with the planning and design process for Schedule 'C' projects, as outlined in the *"Municipal Class Environmental Assessment"* document (October 2000, amended in 2011), which is approved under the Ontario *Environmental Assessment Act.* The Class EA process includes public and agency consultation, an evaluation of alternative solutions and alternative design concepts, an assessment of potential impacts associated with the proposed improvements, and development of measures to mitigate. The alternative design concepts include the widening of Courtneypark Drive East to three through lanes in each direction, the examination of a full movement interchange at Highway 410 (per the MTO's approved 2010 TESR), as well as various improvements to traffic operations, transit, and/or active transportation. Upon completion of the study, an Environmental Study Report (ESR) will be prepared and made available for public review and comment.

**PUBLIC CONSULTATION:**

Public consultation is a vital component of this study. A public information centre (PIC) was held on June 26, 2014. That PIC presented existing conditions, needs and opportunities, and alternative solutions. The City has since developed the preferred design solution to a further level of detail, and will be presenting alternative design concepts to members of the public and other stakeholders who express interest in this project. In addition to the proposed Hwy 410 full interchange construction and the widening of Courtneypark Drive to six through lanes, the alternative designs examine the widening of the existing bridge over Highway 410 to accommodate as many as eight lanes, and the possible staging of these works over the next 20 years. **Preliminary information will be also available regarding potential impacts to some of the adjacent properties.**

**COMMENTS INVITED:**

If you wish to examine the alternative design concepts, evaluation criteria/matrix, or provide comments on the environmental impacts and mitigation measures, you are invited to call 905-615-3200, Ext. 3377 or e-mail: **farhad.shahla@mississauga.ca** at the City **no later than September 26, 2014** to set up a personal appointment for viewing of the various materials and documents connected with this study. Appointments will be scheduled at 201 City Centre Drive, 8th Floor, Mississauga **between September 29 and October 3, 2014** for all interested members of the public. A copy of all the material and documents can be accessed through **http://www.mississauga.ca/portal/residents/courtneyparkdriveeastassessment.**

For further information, or to be placed on the contact list, please contact one of the following:

**Project Manager**
**Farhad Shahla, M.Eng., P.Eng**
City of Mississauga
201 City Centre Dr, Suite 800
Mississauga, ON L5B 2T4
(905) 615-3200, ext. 3377
farhad.shahla@mississauga.ca

**Consultant Project Manager**
**Gord Murray, P. Eng.**
**Stantec Consulting Ltd.**
300 – 675 Cochrane Dr, West Tower
Markham, ON L3R 0B8
(905) 944-7786
gordon.murray@stantec.com

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

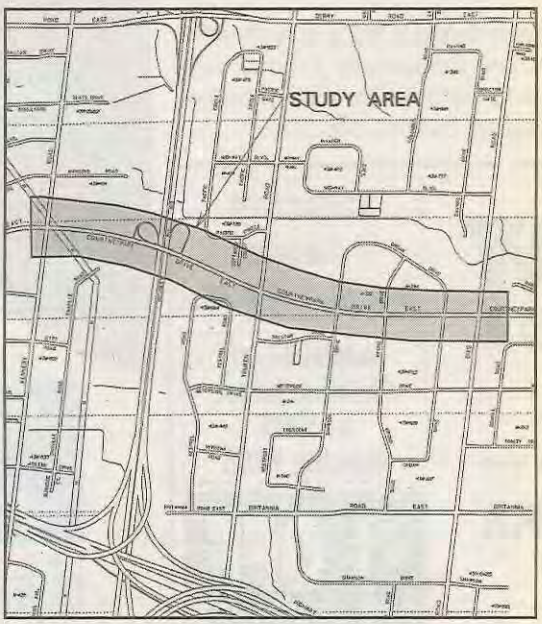
This notice was first posted: September 11, 2014.

MISSISSAUGA

# CITY OF MISSISSAUGA
# NOTICE OF PUBLIC INFORMATION SESSIONS
## Municipal Class Environmental Assessment Study for Courtneypark Drive East

**THE STUDY:**

The City of Mississauga has initiated a Class Environmental Assessment (Class EA) Study, including Preliminary Design, for the section of Courtneypark Drive East, from Kennedy Road to Dixie Road (see map). In light of current roadway conditions, the intent of this study is to address network demand challenges, identify/address safety concerns, accommodate active transportation measures, and rehabilitate the roadway surface. The overall impact of such improvements on the social, cultural, and natural environments will also be analyzed, **including potential impacts to adjacent properties along the road.**




**THE PROCESS:**

The study is being undertaken in accordance with the planning and design process for Schedule 'C' projects, as outlined in the *"Municipal Class Environmental Assessment"* document (October 2000, amended in 2011), which is approved under the Ontario *Environmental Assessment Act*. The Class EA process includes public and agency consultation, an evaluation of alternative solutions and alternative design concepts, an assessment of potential impacts associated with the proposed improvements, and development of measures to mitigate. The alternative design concepts include the widening of Courtneypark Drive East to three through lanes in each direction, the examination of a full movement interchange at Highway 410 (per the MTO's approved 2010 TESR), as well as various improvements to traffic operations, transit, and/or active transportation. Upon completion of the study, an Environmental Study Report (ESR) will be prepared and made available for public review and comment.

**PUBLIC CONSULTATION:**

Public consultation is a vital component of this study. A public information centre (PIC) was held on June 26, 2014. That PIC presented existing conditions, needs and opportunities, and alternative solutions. The City has since developed the preferred design solution to a further level of detail, and will be presenting alternative design concepts to members of the public and other stakeholders who express interest in this project. In addition to the proposed Hwy 410 full interchange construction and the widening of Courtneypark Drive to six through lanes, the alternative designs examine the widening of the existing bridge over Highway 410 to accommodate as many as eight lanes, and the possible staging of these works over the next 20 years. **Preliminary information will be also available regarding potential impacts to some of the adjacent properties.**

**COMMENTS INVITED:**

If you wish to examine the alternative design concepts, evaluation criteria/matrix, or provide comments on the environmental impacts and mitigation measures, you are invited to call 905-615-3200, Ext. 3377 or e-mail: **farhad.shahla@mississauga.ca** at the City **no later than September 26, 2014** to set up a personal appointment for viewing of the various materials and documents connected with this study. Appointments will be scheduled at 201 City Centre Drive, 8th Floor, Mississauga **between September 29 and October 3, 2014** for all interested members of the public. A copy of all the material and documents can be accessed through **http://www.mississauga.ca/portal/residents/courtneyparkdriveeastassessment.**

For further information, or to be placed on the contact list, please contact one of the following:

**Project Manager**
**Farhad Shahla, M.Eng., P.Eng**
City of Mississauga
201 City Centre Dr, Suite 800
Mississauga, ON L5B 2T4
(905) 615-3200, ext. 3377
farhad.shahla@mississauga.ca

**Consultant Project Manager**
**Gord Murray, P. Eng.**
**Stantec Consulting Ltd.**
300 – 675 Cochrane Dr, West Tower
Markham, ON L3R 0B8
(905) 944-7786
gordon.murray@stantec.com

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

This notice was first posted: September 11, 2014.

| | |
|---|---|
| **From:** | Murray, Gordon |
| **To:** | Bradley, Michael |
| **Cc:** | Crossan, Jessica |
| **Subject:** | FW: Courtneypark Road Rehabilitation |
| **Date:** | Wednesday, September 17, 2014 11:00:45 AM |

Please file 165010564/37 (38?)
Gord

**From:** Banke, Dana [mailto:Dana.Banke@peelregion.ca]
**Sent:** Wednesday, September 17, 2014 10:41 AM
**To:** 'farhad.shahla@mississauga.ca'; Murray, Gordon
**Subject:** Courtneypark Road Rehabilitation

To Whom It May Concern:

Please be advised that our interest in the study and any subsequent construction or development is limited to being kept aware of any closures, detours or hazards that would limit or impede access to the area or those areas of the community which would require our response to traverse through the study/construction area.

Please ensure that we are advised well in advance so that we can disseminate the information on alternate routes or anticipated delays.

Regards

D. R. Banke

***Dana Ralph Banke*** MEmergMgt BHSc(Pre-Hospital Care)
Supervisor, Risk and Audit
Peel Regional Paramedic Services
5299 Maingate Drive
Mississauga, ON L4W 1G6
Tel: 905-791-7800 ext 3931
Fax: 905-206-9738
Cell: 416-678-9546
dana.banke@peelregion ca
www.peelregion.ca
REGION OF PEEL **working for you**

| | |
|---|---|
| **From:** | Farhad Shahla |
| **To:** | Murray, Gordon |
| **Cc:** | Bradley, Michael |
| **Subject:** | FW: Confirmation of Notice - Courtneypark Drive East PIC |
| **Date:** | Tuesday, September 23, 2014 4:40:13 PM |
| **Attachments:** | IO EA Notice Letter.pdf<br>Courtneypark Drive East_City of Mississauga_Notice of Public Information Sessions.pdf |

FYI –

Farhad.

**From:** Pereira, Alex (IO) [mailto:Alex.Pereira@infrastructureontario.ca]
**Sent:** 2014/09/23 3:07 PM
**To:** Farhad Shahla
**Subject:** Confirmation of Notice - Courtneypark Drive East PIC

To whom it may concern,

On behalf of Lisa Myslicki, please refer to attached PDF that highlights next steps only if your project impacts lands owned by Infrastructure Ontario. If your project does not impact any lands owned by IO, please remove IO from the mailing list.

Thank you,

**Alex Pereira**
Associate - Environmental Management
Infrastructure Ontario
1 Dundas Street W. 22nd Floor
416-327-6921
Alex.Pereira@infrastructureontario.ca

Ontario
Infrastructure Ontario

One Dundas Street West, Suite 2000, Toronto, ON M5G 2L5
1, rue Dundas Ouest, bureau 2000, Toronto, ON M5G 2L5

**9/23/2014**

To whom it may concern,

Thank you for circulating Infrastructure Ontario (IO) on your Notice. Infrastructure Ontario is the strategic manager of the provincial government's real estate with a mandate of maintaining and optimizing value of the portfolio while ensuring real estate decisions reflect public policy objectives of the government.

As you may be aware, *IO is responsible for managing property that is owned by Her Majesty the Queen in Right of Ontario as represented by the Minister of Infrastructure (MOI).* There is a potential that IO manages lands fall within your study area. As a result, your proposal may impact IO managed properties and/or the activities of tenants present on IO-managed properties. In order to determine if IO property is within your study area, IO requires that the proponent of the project conduct a title search by reviewing parcel register(s) for adjoining lands, to determine the extent of ownership by MOI or its predecessor's ownership (listed below). Please contact IO if any ownership of provincial government lands are known to occur within your study area and are proposed to be impacted. IO managed land can ***include within the title but is not limited to*** variations of the following: Her Majesty the Queen/King, OLC, ORC, Public Works, Hydro One, PIR, MGS, MBS, MOI, MTO, MNR and MEI*. Please ensure that a copy of your notice is also sent to the ministry/agency on title. As an example, if the study area includes a Provincial Park, then MNR is to also to be circulated notices related to your project.

*IO obligates proponents to complete all due diligence for any realty activity on IO managed lands and this should be incorporated into all project timelines.*

**Potential Negative Impacts to IO Tenants and Lands**

*General Impacts*
Negative environmental impacts associated with the project design and construction, such as the potential for dewatering, dust, noise and vibration impacts, impacts to natural heritage features/habitat and functions, etc should be avoided and/or appropriately mitigated in accordance with applicable regulations best practices as well as Ministry of Natural Resources (MNR) and Ministry of the Environment (MOE) standards. Avoidance and mitigation options that characterize baseline conditions and quantify the potential impacts should be present as part of the EA project file. Details of appropriate mitigation, contingency plans and triggers for implementing contingency plans should also be present.

*Impacts to Land holdings*
Negative impacts to land holdings, such as the taking of developable parcels of IO managed land or fragmentation of utility or transportation corridors, should be avoided. If the potential for such impacts is present as part of this undertaking, you should contact the undersigned to discuss these issues at the earliest possible stage of your study.

If takings are suggested as part of any alternative, these should be appropriately mapped and quantified within the EA report documentation. In addition, details of appropriate mitigation and or next steps related to compensation for any required takings should be present. IO requests circulation of the draft EA report prior to finalization if potential impacts to IO-managed lands are present as part of this study.

416.327.3937 416.327.1906 info@infrastructureontario.ca www.infrastructureontario.ca

*Impacts to Cultural Heritage*
Should the proposed activities impact cultural heritage features on IO managed lands, a request to examine cultural heritage features, which can include cultural landscapes, built heritage, and archaeological potential and/or sites, could be required. If the potential for such impacts is present as part of this undertaking, you should contact the undersigned to discuss these issues at the earliest possible stage of your study.

**Potential Triggers Related to MOI's Class EA**
*IO is required to follow the MOI Public Work Class Environmental Assessment Process for (PW Class EA). The PW Class EA applies to a wide range of realty and planning activities including leasing or letting, planning approvals, dispostion, granting of easements, demolition and property maintenance/repair. For details on the PW Class EA please visit the Environment and Heritage page of our website found at*

*http://www.infrastructureontario.ca/Templates/Buildings.aspx?id=2147490336&langtype=1033*

*Please note that completion of any EA process does not provide an approval for MOI's Class EA obligations. Class EA processes are developed and in place to assess undertakings associated with different types of projects. For example, assessing the impacts of disposing of land from the public portfolio is significantly different then assessing the best location for a proposed road.*

IO is providing this information so that adequate timelines and project budgets can consider MOI's regulatory requirements associated with a proposed realty activity in support of a project. Some due diligences processes and studies can be streamlined. For example, prior to any disposition of land, at minimum a Phase I Environmental Site Assessment and a Stage I Archaeological Assessment and the MOI Category B Environmental Assessment should be undertaken.. Deficiencies in any of these requirements could result in substantial project delays and increased project costs.

In summary, the purchase of MOI-owned/IO-managed lands or disposal of rights and responsibilities (e.g. easement) for IO-managed lands triggers the application of the MOI Class EA. If any of these realty activities affecting IO-managed lands are being proposed as part of any alternative, please contact the Sales, Easements and Acquisitions Group through IO's main line (Phone: 416-327-3937, Toll Free: 1-877-863-9672), and also contact the undersigned at your earliest convenience to discuss next steps.

**Specific Comments**

Please remove IO from your circulation list, with respect to this project, if MOI owned lands are not anticipated to be impacted. In addition, in the future, please send only **electronic copies of notices** for any projects impacting IO managed lands to:
Keith.Noronha@infrastructureontario.ca

Thank you for the opportunity to provide initial comments on this undertaking. If you have any questions I can be reached at the contacts below.

Sincerely,

**Lisa Myslicki**
Environmental Advisor, Environmental Management
Infrastructure Ontario
1 Dundas Street West,
Suite 2000, Toronto, Ontario
M5G 2L5
(416) 212-3768
lisa.myslicki@infrastructureontario.ca

* Below are the acronyms for agencies/ministries listed in the above letter

| | |
|---|---|
| OLC | Ontario Lands Corporation |
| ORC | Ontario Realty Corporation |
| PIR | Public Infrastructure and Renewal |
| MGS | Ministry of Government Services |
| MBS | Management Board and Secretariat |
| MOI | Ministry of Infrastructure |
| MTO | Ministry of Transportation |
| MNR | Ministry of Natural Resources |
| MEI | Ministry of Energy and Infrastructure |

| | |
|---|---|
| **From:** | Myslicki, Lisa (IO) |
| **To:** | Bradley, Michael |
| **Cc:** | Iannetta, Matthew (IO); Kelly, Rita (IO) |
| **Subject:** | Relaince on Courtney Park EA |
| **Date:** | Thursday, September 17, 2015 1:52:15 PM |
| **Attachments:** | MEA Checklist_Mississauga_Courtneypark Drive East EA_V1 0__2015-09-16_.pdf |

Good afternoon,

Please find the attached for your information in response to the Courtney Park EA.

Please ensure that the proponent contacts Rita Kelly ASAP to begin property right transfers. She is cc'd on this email.

Let me know if you have any questions.

Lisa Myslicki
Environmental Specialist
Infrastructure Ontario
(416) 212-3768

Ontario
Infrastructure Ontario

# Memorandum

Re: **IO Project Number City of Mississauga Courtneypark Drive East: Land Sale Disposition**

---

The Courtneypark Drive East project is being undertaken to address transportation network demand challenges for the immediate study area and beyond, identify/address roadway safety concerns, accommodate enhanced active transportation measures, and rehabilitate the roadway surface, while accounting for existing land use conditions and any future considerations. In support of this undertaking, the land sale disposition of lands owned by MEDEI managed by IO is required. MEDEI/IO will rely on (or not rely on) the Municipal Environmental Assessment (MEA) to inform the environmental due diligence.

The following MEA project fulfills (or does not fulfill) the **MEDEI** Class EA requirements:

**Environmental Study Report (DRAFT). Courtneypark Drive East Class Environmental Assessment & Preliminary Design. August 5, 2015.**

The following criteria assessment confirms how the MEA incorporates the MOI Class EA requirements:

| Criteria Evaluated | Section in MEA that Addresses Concern |
|---|---|
| Completed Declaration Order Form? | No |
| Articulation of IO (formerly ORC) Undertaking: | -ESR Section 8.6.1 Page 8.67<br>- Implementation of the Preferred Alternative Design will require property acquisition from the Hydro One transmission corridor (the property in question is located on the west side of Kennedy Road, just north of Courtneypark Drive East).<br>-Undertaking not correctly |

| | |
|---|---|
| | articulated. Undertaking should have been as follows: "MEDEI will be required to dispose and sever of lands". |
| Consultation with required Stakeholders: | Appendix A<br>Undertaking: Appendix A Page 7<br>This Class EA is being undertaken to address transportation network demand challenges for the immediate study area and beyond, identify/address roadway safety concerns, accommodate enhanced active transportation measures, and rehabilitate the roadway surface, while accounting for existing land use conditions and any future considerations.<br>MNR: Appendix A Page 27<br>TRCA: Appendix A Page 37<br>Municipality (Peel Region)?: |
| Public Consultation: | Appendix B<br>Draft ESR under review. EA will be posted for 30 days after completion |
| Completion of 7 point Analysis: | |
| Existing Land Use Status: | ESR Section 8.6.1 Page 8.68; Section 1.3.4 Page 1.11 |
| Environmental Condition of the Property (Phase I ESA) | -Limited Phase 1 ESA:<br>ESR Section 5.4.4 Page 5.31;<br>Appendix K<br>-Phase 1 ESA will be performed outside of MEA on specific lands in question prior to disposition by IO. IO requests full reliance of Phase 1 ESA reports. |
| Environmentally Significant Areas: | ESR Section 8.6.1 Page 8.68; |

| | |
|---|---|
| | Section 5.3.1 Page 5.29;<br>Appendix G |
| Distinctive Environmental Features: | ESR Section 8.6.1 Page 8.69;<br>Section 5.3.1 Page 5.29;<br>Appendix G |
| Servicing Capacity: | ESR Section 8.6.1 Page 8.69;<br>Section 4.1 Page 4.10;<br>Section 5.1 Page 5.17;<br>Section 5.2.2 Page 5.28;<br>Appendix C and E |
| Cultural Heritage Resources (Archaeological Assessments)? | ESR Section 8.6.1 Page 8.69;<br>Section 5.4.2 Page 5.31;<br>Section 5.4.3 Page 5.31;<br>Appendix I and J |
| Social and Economic Effects: | ESR Section 8.6.1 Page 8.69;<br>Section 5.4.1 Page 5.30;<br>Section 5.4.5 Page 5.32;<br>Section 8.6 Page 8.66;<br>Appendix L |
| Duty to Consult: | First Nations Consultation: Appendix A<br>Duty to consult clearance must be attained before any posting of EAs |

Ontario
Infrastructure Ontario

**Concluding Statement**

It is recommended that IO/MEDEI May NOT on this MEA for IO/MEDEI EA requirements.

-The undertaking was incorrectly articulated

-Consultation with the Region of Peel is missing

The MEDEI Class EA will be required to be undertaken for the disposition, severance and any other related realty activity required to support the project.

Please let me know if you have any questions.

Regards,

L. Myslicki

Lisa Myslicki, Environmental Specialist, Infrastructure Ontario

| | |
|---|---|
| **From:** | Bradley, Michael |
| **To:** | "Myslicki, Lisa (IO)" |
| **Cc:** | Iannetta, Matthew (IO); Kelly, Rita (IO); Dana Glofcheskie (Dana.Glofcheskie@mississauga.ca); Murray, Gordon (gordon.murray@stantec.com) |
| **Subject:** | RE: Relaince on Courtney Park EA |
| **Date:** | Friday, September 18, 2015 5:22:00 PM |

Hi Lisa,

Thanks again for providing your comments on the Courtneypark Drive East Class EA. Further to our phone conversation earlier this afternoon, please see Stantec's responses below:

- **IO comment:** "The undertaking was incorrectly articulated"
- **Stantec response**: Section 8.6.1 of the ESR will be revised to indicate that "MEDEI will be required to dispose and sever of lands."

- **IO comment:** "Consultation with the Region of Peel is missing"
- **Stantec response:** Section 1.1 of the draft ESR (page 14 of the PDF, paragraph 3) notes that the Region of Peel is a co-proponent of the Courtneypark Drive East Class EA, while Section 2.4.1 (page 24 of the PDF) identifies the Region staff who provided direction and control throughout the study process. Accordingly, consultation with the Region occurred as part of the study; however, it followed a different format than with other agencies. As discussed, documentation from the Region verifying that they have no objection to the proposed undertaking will be included in Appendix A (Agency Contact Lists & Correspondence) of the revised ESR.

Following these revisions, Stantec intends to resubmit the ESR to IO for confirmation of whether MEDEI/IO will rely on the MEA for the IO/MEDEI EA requirements.

We'll follow up with you early next week regarding your request for documentation for Duty to Consult clearance from MEDEI.

Please let me know if you have any questions in the meantime.

Have a good weekend,
- Mike

**Mike Bradley, BSc, EIT**
Engineering Intern
Transportation
Stantec
Phone: (905) 944-7763
mike.bradley@stantec.com



**From:** Myslicki, Lisa (IO) [mailto:Lisa.Myslicki@infrastructureontario.ca]
**Sent:** Thursday, September 17, 2015 1:52 PM
**To:** Bradley, Michael
**Cc:** Iannetta, Matthew (IO); Kelly, Rita (IO)
**Subject:** Relaince on Courtney Park EA

Good afternoon,

Please find the attached for your information in response to the Courtney Park EA.

Please ensure that the proponent contacts Rita Kelly ASAP to begin property right transfers. She is cc'd on this email.

Let me know if you have any questions.

Lisa Myslicki
Environmental Specialist
Infrastructure Ontario
(416) 212-3768

**From:** Dela Cruz, Gino
**To:** "Dana Glofcheskie"
**Cc:** Bradley, Michael
**Subject:** RE: Courtneypark Dr Class EA - Documentation for IO
**Date:** Monday, November 16, 2015 9:58:40 AM
**Attachments:** image002.png
image003.png

---

Hi Dana –

Further to the email below regarding the MOI Class EA requirements, the Region of Peel notes the following for your consideration.

The City of Mississauga is proposing to acquire a section of property on the northwest corner of Courtneypark Drive East and Kennedy Road (per Figure 8-4 of the draft ESR). The subject property is required for the proposed improvements to the intersection of Courtneypark Drive East and Kennedy Road. Based on our review the subject property does not contain any areas of interest to the Region, and we note that the roadway adjacent to the subject property is not under the jurisdiction of the Region. Based on this the Region has no objections to the proposed undertaking.

If you have any questions, please contact myself.

**P. Gino Dela Cruz, P.Eng.**
Project Manager, Infrastructure Programming & Studies
Transportation Division, Public Works, Region of Peel
10 Peel Centre Dr., Suite B 4th Floor, Brampton, ON L6T 4B9
Tel: (905)791-7800, ext. 7805 Fax: (905)791-1442

---

**From:** Dana Glofcheskie [mailto:Dana.Glofcheskie@mississauga.ca]
**Sent:** November 16, 2015 8:44 AM
**To:** Dela Cruz, Gino
**Cc:** Bradley, Michael
**Subject:** FW: Courtneypark Dr Class EA - Documentation for IO

Morning Gino,

Can you please provide a response as requested below, for our records.

Thanks,

**Dana Glofcheskie, P.Eng.**
Transportation Project Engineer
T 905-615-3200 ext.8243
dana.glofcheskie@mississauga.ca

City of Mississauga | Transportation & Works Department,
Transportation & Infrastructure Planning Division



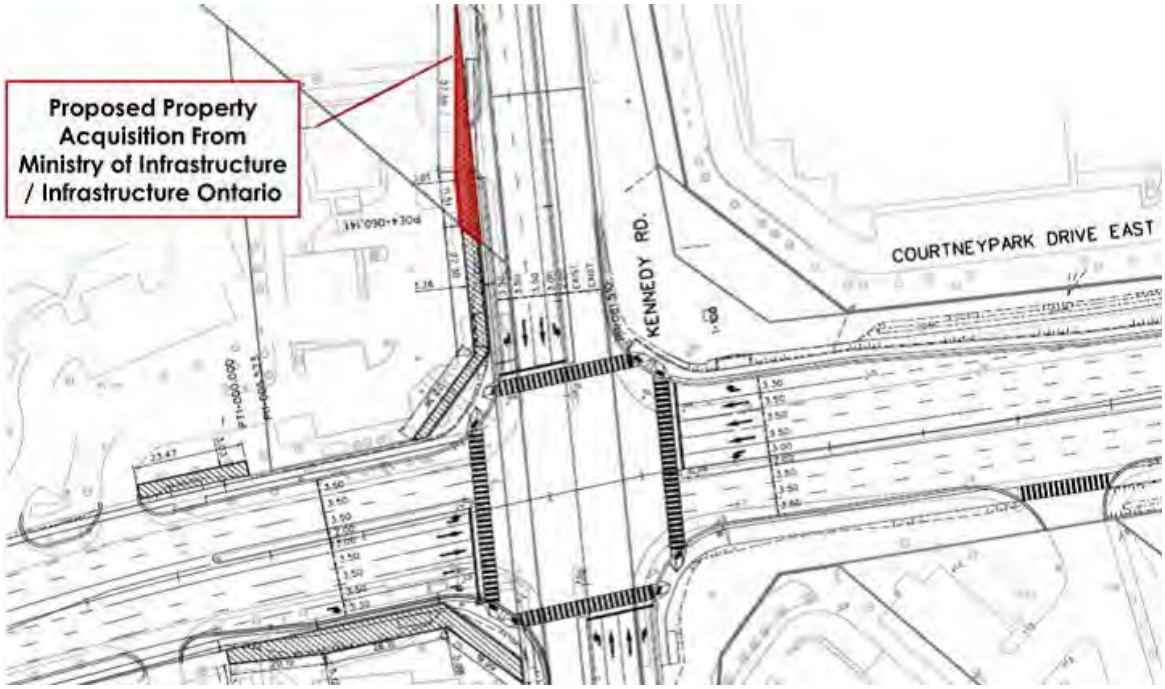
---

**From:** Bradley, Michael
**Sent:** Monday, September 21, 2015 10:38 AM
**To:** 'Dela Cruz, Gino'
**Cc:** Dana Glofcheskie (Dana.Glofcheskie@mississauga.ca); Leslie Green (Leslie.Green@mississauga.ca); Murray, Gordon (gordon.murray@stantec.com)
**Subject:** Courtneypark Dr Class EA - Documentation for IO

Hi Gino,

Further to Section 8.6.1 of the draft ESR (Ministry of Infrastructure Class EA Requirements), IO has requested that the report document that the Region of Peel agrees with the City of Mississauga's proposed acquisition of a section of the Hydro One transmission corridor near the northwest corner of the Courtneypark Drive East & Kennedy Road intersection to accommodate the proposed design. Accordingly, would you be able to provide either a letter or an e-mail addressed

to Dana Glofcheskie, referencing the property acquisition depicted in Figure 8-4 of the draft ESR (shown below) and noting that “the Region of Peel has no objections to the proposed undertaking”?




Let me know if you have any questions or if you’d like me to clarify anything above.

Thanks,
- Mike

**Mike Bradley, BSc, EIT**
Engineering Intern
Transportation
Stantec
Phone: (905) 944-7763
mike.bradley@stantec.com

**Ministry of the Environment and Climate Change**

Central Region
Technical Support Section

5775 Yonge Street, 8th Floor
North York, Ontario M2M 4J1

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

**Ministère de l'Environnment et de l'Action en matière de changement climatique**

Région du Centre
Section d'appui technique

5775, rue Yonge, 8ième étage
North York, Ontario M2M 4J1

Tél. : (416) 326-6700
Téléc. : (416) 325-6347

August 28, 2015 File: EA 01-06-05

Farhad Shahla, M.Eng., P.Eng.
City of Mississauga
201 City Centre Dri., Suite 800
Mississauga, ON
L5B 2T4

**RE: Courtneypark Drive East**
**City of Mississauga**
**Municipal Class Environmental Assessment – Schedule C**
**Response to Draft Environmental Study Report, August 5, 2015**
**Technical Support Comments**

---

We have received the draft Environmental Study Report (ESR) for the above noted environmental assessment. Our understanding is that the preferred alternative is Alternative 5, which involves both the widening of Courtneypark Drive East between Kennedy Road and Dixie Road and the construction of a full interchange at Highway 410. We provide the following comments below for your consideration.

## General Comments

1. Please include in the ESR the dates of publication for all notices advertised in Mississauga News and clarify if each notice was published twice. Please also include a copy of the newspaper publication in Appendix A – Agency Contact Lists and Correspondence.

2. Public Information Centres are often held in the evenings to accommodate typical work schedules. The timing of this PIC could have contributed to why only five people were in attendance. Please clarify why the first PIC was held from 2:30pm to 5:00pm.

3. Please confirm if the Ministry of Aboriginal Affairs was contacted during this study.

| | |
|---|---|
| **From:** | Murray, Gordon |
| **To:** | Bradley, Michael |
| **Subject:** | FW: Courtneypark Drive East Draft ESR |
| **Date:** | Friday, August 28, 2015 10:49:35 AM |
| **Attachments:** | TSS_comments_Courtneypark Drive East Draft ESR.pdf |

FYI

**From:** Farhad Shahla [mailto:Farhad.Shahla@mississauga.ca]
**Sent:** Friday, August 28, 2015 10:46 AM
**To:** Leslie Green; Dana Glofcheskie
**Cc:** Murray, Gordon
**Subject:** FW: Courtneypark Drive East Draft ESR

FYI and review please – Farhad.

**Farhad Shahla, M.Eng., P.Eng., PTOE, PMP**
Capital Project Manager, Transitway Construction
T 905-615-3200 ext.3377

**From:** Graham, Amanda (MOECC) [mailto:Amanda.Graham@ontario.ca]
**Sent:** 2015/08/28 10:42 AM
**To:** Farhad Shahla; gordon.murray@stantec.com
**Cc:** Martin, Paul (MOECC); Dufresne, Tina (MOECC)
**Subject:** Courtneypark Drive East Draft ESR

Hello,

The ministry has received the draft Environmental Study Report for the Courtneypark Drive East Schedule 'C' Class Environmental Assessment. The attached comments are provided for your consideration.

Please feel free to contact me with any questions or concerns.

Thanks,

**Amanda Graham**
Environmental Resource Planner and
Environmental Assessment Coordinator
Central Region, Technical Support
Ministry of the Environment and Climate Change
Tel: 416-326-5745

**Air Quality Review Comments**

1. Though Appendix L – Noise Assessment Letter of Opinion indicated that a preliminary screening was conducted to determine if a noise assessment was required, the ESR did not include a similar screening for air quality impacts. Considering that the preferred alternative for this project includes both road widening and the construction of a new interchange at Highway 410, justification as to why an Air Quality Assessment was not conducted should be included. In addition, a discussion of the existing air quality in the area and the potential air quality impacts that could arise from this project should also be included.

2. Though Appendix L indicates that there is a general lack of sensitive receptors in the area, a discussion surrounding potential air quality impacts to any potential security or caretakers residing in the sleeping quarters of commercial businesses and to the hotel at the intersection of Kennedy Road and Courtneypark Drive East should be included in the ESR.

3. Please include in Table 9-1: Summary of Identified Concerns and Commitments mitigation measures for air quality impacts.

4. During construction, please apply best management practices to mitigate any air quality impacts caused by construction dust. Please note that the ministry recommends that non-chloride dust suppressants be applied.

   For a comprehensive list of fugitive dust prevention and control measures, please refer to *Cheminfo Services Inc. Best Practices for the Reduction of Air Emissions from Construction and Demolition Activities.* Report prepared for Environment Canada. March 2005.

   http://www.bieapfremp.org/Toolbox%20pdfs/EC%20-%20Final%20Code%20of%20Practice%20-%20Construction%20%20Demolition.pdf

**Surface Water Review Comments**

1. We encourage the proponent to explore opportunities for providing stormwater quality and quantity control for existing impervious areas, rather than just the new impervious areas resulting from the road widening. The proposed project presents an opportunity to enhance existing uncontrolled conditions and this should be explored, considered and discussed in the ESR.

2. With respect to stormwater water quality control, we support the 80% TSS removal target (Enhanced Level) established in the ESR. However, we do not agree with the statement that Enhanced Level treatment can be achieved with the use of grassed swales alone. While we agree that some of the catchment areas may be too small for a SWM pond, alternative controls should be considered. As recommend in the Stormwater Management Planning and Design Manuel (MOE, 2003), in areas where a SWM pond is not practicable (≤2ha), consideration for stormwater treatment facilities could include oil and grit

separators (OGS) in combination with the enhanced grassed swales as part of a treatment train, with the goal of meeting Enhanced Level Protection. The SWM Strategy should consider use of stormwater management controls as part of a multi-component approach to ensure Enhanced Level protection is achieved.

3. A detailed review of the proposed SWM facilities to ensure the proposed level of protection can be achieved based on design specifications would be conducted by the ministry's Environmental Approvals Branch at the ECA stage. Please ensure that you consult with the MOECC Environmental Approvals Branch prior to detailed design to confirm approval requirements for the proposed works.

4. With respect to the use of OGS, MOE Stormwater Management Planning and Design Manual (2003) recommends that they be used for small drainage areas (<2 ha). A key factor in assessing the performance of OGS is the level at which by-pass conditions occur. Under conditions of high stormwater flows, the overall solids removal efficiency of OGS usually decreases since the stormwater which is by-passed receives no treatment (Stormwater Management Planning and Design Manual, MOE 2003). OGS sizing requirements would need to be considered in order to capture and treat at least 90% of the runoff volume that occurs at a site to achieve a long-term average basis for water quality objectives of Enhanced Protection. We emphasize that sizing of the oil/grit separators will be critical in achieving the desired Enhanced Level of treatment. This should be confirmed in the detailed design stage.

5. With regards to proposed quality control for catchment 209, a commitment should be made at the Class EA stage regarding the type of SWM control that would be provided. We support the use of a sediment basin (SWM pond) designed to meet 80% TSS removal. Grassed swales as a standalone feature, which is the other alternative provided, would not be considered to provide this level of treatment.

6. Please discuss the rationale for not proposing quantity control for catchments 205, 206 and 207.

7. Please clarify why the total new paved area is assumed to be 3.78 ha for determining erosion and sediment control requirements (page 4.10 of Append E).

8. A construction phase sediment and erosion control plan should be developed and measures such as temporary settling/filtration facilities and silt fencing should be installed wherever necessary during the construction period. These temporary facilities, as well as the erosion/sedimentation control plan, should be prepared and finalized well in advance of the construction phase. The proponent should refer to MOECC's Guideline B-6 – Guidelines for Evaluating Construction Activities Impacting on Water Resources when developing erosion and sediment control plans. Sediment and erosion control measures should be maintained until site restoration has occurred and soils are stabilized.

9. With respect to PTTW requirements, please be advised that a Permit to Take Water would be required for any water takings above the allowable limit of

50,000 L/day including groundwater or surface water extraction, and the active diversion of surface water flows by pumping in exceedance of 50,000 LPD. In addition, specific requirements regarding the discharge of pumped water to surface water would also be assessed at the PTTW stage. The report to be prepared in support of the water taking application should include details on the management of the discharge water, including targets for pollutant concentrations (typically Total Suspended Solids), how these targets will be achieved, quantity controls, and monitoring requirements.

**Groundwater Review Comments**

1. Although the executive summary indicates that residents in the study area are generally provided with municipal piped water, if any wells are discovered to be used domestically, please ensure that any affected well owners will continue to have water supplies of appropriate quality and in adequate quantities during construction. Please also ensure that any work done on affected wells or any replacement wells is done pursuant to O. Reg. 903, Wells (pursuant to the Ontario Water Resources Act).

**Contaminated Soil Comments**

1. To section 2.11, please add a statement indicating that if soil removed during construction is determined to be contaminated, the disposal of contaminated soil will be consistent with Part XV.1 of the Environmental Protection Act and Ontario Regulation 153/04, Records of Site Condition, which details the new requirements related to site assessment and clean up.

Thank you for the opportunity to comment on this project. Should you or any members of your project team have any questions, please feel free to contact me at 416-326-5745.

Thanks,

Amanda Graham

Amanda Graham
Environmental Resource Planner and EA Coordinator
Air, Pesticides and Environmental Planning

Cc: Paul Martin, Technical Support Section Supervisor
Tina Dufresne, Manager, Halton Peel District

October 16, 2015
File: 165010564

**Attention: Amanda Graham, Environmental Resource Planner and EA Coordinator**
**Air, Pesticides and Environmental Planning**
Ministry of the Environment and Climate Change
Central Region, Technical Support Section
5775 Yonge St, 8th floor
Toronto, ON M2M 4J1

Dear Ms. Graham,

**Reference: MOECC File 01-06-05**
**Courtneypark Drive East**
**City of Mississauga**
**Municipal Class Environmental Assessment – Schedule C**
**Response to Technical Support Comments on Draft Environmental Study Report**

Thank you for your comments of August 28, 2015 on the draft Environmental Study Report (ESR) for the above-noted project. Please see Stantec's responses below:

| # | MOECC COMMENT | STANTEC RESPONSE |
|---|---|---|
| **General Comments** | | |
| 1 | Please include in the ESR the dates of publication for all notices advertised in Mississauga News and clarify if each notice was published twice. Please also include a copy of the newspaper publication in Appendix A – Agency Contact Lists and Correspondence. | Dates of publication for all notices are as follows:<br>• Notice of Commencement<br>  ○ November 13, 2013 – Mississauga News<br>  ○ November 14, 2013 – Mississauga This Week<br>• Public Information Centre #1<br>  ○ June 11, 2014 – Mississauga News<br>  ○ June 12, 2014 – Mississauga This Week<br>  ○ June 18, 2014 – Mississauga News<br>  ○ June 19, 2014 – Mississauga This Week<br>• Public Information Centre #2<br>  ○ September 11, 2014 – Mississauga News<br>  ○ September 18, 2014 – Mississauga News<br>These dates will be included in Section 3.2 of the revised ESR, while a copy of each newspaper publication will be included in Appendix A. |

**Reference: MOECC File 01-06-05**
**Courtneypark Drive East**
**City of Mississauga**
**Municipal Class Environmental Assessment – Schedule C**
**Response to Technical Support Comments on Draft Environmental Study Report**

| | | |
|---|---|---|
| 2 | Public Information Centres are often held in the evenings to accommodate typical work schedules. The timing of this PIC could have contributed to why only five people were in attendance. Please clarify why the first PIC was held from 2:30pm to 5:00pm. | As noted in Section 1.3.4 of the ESR, the study area falls within the Gateway and Northeast Employment Areas defined by the City of Mississauga's 2011 Official Plan (OP), which are "stable areas with diverse industrial and business employment operations." Additionally, the stakeholder mailing list for the project indicates that most stakeholders are private businesses. Accordingly, PIC #1 was scheduled to take place during the business day (i.e. from 2-5pm), as the study team believed that many potential attendees would represent businesses and would attend as part of their regular work day. Conversely, the study team also believed that a PIC held in the evening would result in decreased attendance, as potential attendees may be less likely to remain within the study area following their regular work day. |
| 3 | Please confirm if the Ministry of Aboriginal Affairs was contacted during this study. | The Ministry of Aboriginal Affairs (MAA) was not consulted as part of this study. However, Stantec has recently contacted MAA to provide both an update on the status of the study and an opportunity to address their questions and/or comments. MAA will also be included in the mailing list for the forthcoming Notice of Completion. |
| **Air Quality Review Comments** | | |
| 1 | Though Appendix L – Noise Assessment Letter of Opinion indicated that a preliminary screening was conducted to determine if a noise assessment was required, the ESR did not include a similar screening for air quality impacts. Considering that the preferred alternative for this project includes both road widening and the construction of a new interchange at Highway 410, justification as to why an Air Quality Assessment was not conducted should be included. In addition, a discussion of the existing air quality in the area and the potential air quality impacts that could arise from this project should also be included. | The ESR did not include a preliminary screening for air quality impacts, as the potential decrease in air quality from implementation of the preferred alternative is offset by the opportunity to improve air quality (within both the study area and northwest Mississauga) by decreasing traffic congestion and improving active transportation facilities. Further, as part of the City of Mississauga's Official Plan, the City has committed to various measures intended to improve air quality throughout Mississauga. As per Part 2, Section 6.5.1 these measures are as follows:<br>• promote the use of alternative modes of transportation such as transit, cycling and walking;<br>• give preference to compact, mixed use and transit oriented development that reduces car dependency;<br>• direct growth to Intensification Areas;<br>• encourage a balance of housing and jobs that provide opportunities for shorter commutes and active transportation modes; and,<br>• protect, enhance, restore and expand the Natural Heritage System. |
| 2 | Though Appendix L indicates that there is a general lack of sensitive receptors in the area, a discussion surrounding potential air quality impacts to any potential security or caretakers residing in the sleeping quarters of commercial businesses and to the hotel at the intersection of Kennedy Road and Courtneypark Drive East should be included in the ESR. | |
| 3 | Please include in Table 9-1: Summary of Identified Concerns and Commitments mitigation measures for air quality impacts. | |

**Reference: MOECC File 01-06-05**
**Courtneypark Drive East**
**City of Mississauga**
**Municipal Class Environmental Assessment – Schedule C**
**Response to Technical Support Comments on Draft Environmental Study Report**

| | | |
|---|---|---|
| 4 | During construction, please apply best management practices to mitigate any air quality impacts caused by construction dust. Please note that the ministry recommends that non-chloride dust suppressants be applied.<br><br>For a comprehensive list of fugitive dust prevention and control measures, please refer to Cheminfo Services Inc. Best Practices for the Reduction of Air Emissions from Construction and Demolition Activities. Report prepared for Environment Canada. March 2005.<br><br>http://www.bieapfremp.org/Toolbox%20pdfs/EC%20-%20Final%20Code%20of%20Practice%20-%20Construction%20%20Demolition.pdf | Commitments satisfying these requirements will be added to the "Construction Disruptions" section of Table 9-1 – Summary of Identified Concerns and Commitments of the revised ESR. Specifically, commitment 6.5 will be revised to indicate the recommendation of non-chloride dust suppressants. |
| **Surface Water Review Comments** | | |
| 1 | We encourage the proponent to explore opportunities for providing stormwater quality and quantity control for existing impervious areas, rather than just the new impervious areas resulting from the road widening. The proposed project presents an opportunity to enhance existing uncontrolled conditions and this should be explored, considered and discussed in the ESR. | At the detailed design stage the City will endeavour to review the possibility for treating existing impervious area as well as new impervious areas. |
| 2 | With respect to stormwater water quality control, we support the 80% TSS removal target (Enhanced Level) established in the ESR. However, we do not agree with the statement that Enhanced Level treatment can be achieved with the use of grassed swales alone. While we agree that some of the catchment areas may be too small for a SWM pond, alternative controls should be considered. As recommend in the Stormwater Management Planning and Design Manuel (MOE, 2003), in areas where a SWM pond is not practicable (≤2ha), consideration for stormwater treatment facilities could include oil and grit separators (OGS) in combination with the enhanced grassed swales as part of a treatment train, with the goal of meeting Enhanced Level Protection. The SWM Strategy should consider use of stormwater management controls as part of a multi-component approach to ensure Enhanced Level protection is achieved. | The City acknowledges MOECC's feedback regarding the treatment train approach and the future involvement of the Approvals Branch. Recognizing that there has been research which documents the removal capability of enhanced grassed swales to the required level and on the understanding that MOECC is currently reviewing revisions to their policies for the acceptability of low impact development measures, the City can further this dialogue with the Approvals Branch at the detailed design stage to confirm the most appropriate measures. It is possible that updated guidance from MOECC may be in place at the time the City is pursuing the ECA approvals and so both agencies would be better informed for a proper dialogue on the matter. |
| 3 | A detailed review of the proposed SWM facilities to ensure the proposed level of protection can be achieved based on design specifications would be conducted by the ministry's Environmental Approvals Branch at the ECA stage. Please ensure that you consult with the MOECC Environmental Approvals Branch prior to detailed design to confirm approval requirements for the proposed works. | |

**Reference: MOECC File 01-06-05**
**Courtneypark Drive East**
**City of Mississauga**
**Municipal Class Environmental Assessment – Schedule C**
**Response to Technical Support Comments on Draft Environmental Study Report**

| | | |
|---|---|---|
| 4 | With respect to the use of OGS, MOE Stormwater Management Planning and Design Manual (2003) recommends that they be used for small drainage areas (<2 ha). A key factor in assessing the performance of OGS is the level at which by-pass conditions occur. Under conditions of high stormwater flows, the overall solids removal efficiency of OGS usually decreases since the stormwater which is by-passed receives no treatment (Stormwater Management Planning and Design Manual, MOE 2003). OGS sizing requirements would need to be considered in order to capture and treat at least 90% of the runoff volume that occurs at a site to achieve a long-term average basis for water quality objectives of Enhanced Protection. We emphasize that sizing of the oil/grit separators will be critical in achieving the desired Enhanced Level of treatment. This should be confirmed in the detailed design stage. | Please see response to Surface Water Review Comments #2 and #3 above. |
| 5 | With regards to proposed quality control for catchment 209, a commitment should be made at the Class EA stage regarding the type of SWM control that would be provided. We support the use of a sediment basin (SWM pond) designed to meet 80% TSS removal. Grassed swales as a standalone feature, which is the other alternative provided, would not be considered to provide this level of treatment. | Section 8.22 and Appendix E of the ESR will be revised to indicate this commitment. It should be noted that design of the proposed full interchange at Highway 410 and Courtneypark Drive East, including the proposed quality control facilities for catchment 209, will be completed during detailed design. |
| 6 | Please discuss the rationale for not proposing quantity control for catchments 205, 206 and 207. | The stormwater management criteria for this study require controlling post-development peak flows to pre-development peak flows for the 2 to 100 year design storms (per the Stormwater Design Requirements section of the City's Development Requirements Manual, 2009).<br><br>Stormwater drainage for catchment areas 205, 206, and 207 is accomplished via storm sewers that discharge to Tributary 3 of Etobicoke Creek. As the lands adjacent to these catchments are fully developed, there are limited opportunities to provide quantity control and, therefore, it is proposed that no quantity control measures will be applied to the flow from catchments 205, 206, and 207. However, as all catchment areas ultimately discharge to Tributary 3 of Etobicoke Creek, Stantec has proposed over-controlling the discharge from the remaining catchments (i.e. 201, 202, 203, 204, 208, and 209) to ensure the same net effect on the receiving watercourse. |
| 7 | Please clarify why the total new paved area is assumed to be 3.78 ha for determining erosion and sediment control requirements (page 4.10 of Append E). | This value will be updated to 5.66ha (i.e. consistent with Table 2 on page 4.6 of Appendix E) in the revised ESR. |

**Reference: MOECC File 01-06-05**
**Courtneypark Drive East**
**City of Mississauga**
**Municipal Class Environmental Assessment – Schedule C**
**Response to Technical Support Comments on Draft Environmental Study Report**

| | | |
|---|---|---|
| 8 | A construction phase sediment and erosion control plan should be developed and measures such as temporary settling/filtration facilities and silt fencing should be installed wherever necessary during the construction period. These temporary facilities, as well as the erosion/sedimentation control plan, should be prepared and finalized well in advance of the construction phase. The proponent should refer to MOECC's Guideline B-6 – Guidelines for Evaluating Construction Activities Impacting on Water Resources when developing erosion and sediment control plans. Sediment and erosion control measures should be maintained until site restoration has occurred and soils are stabilized. | Commitments to develop an erosion/sedimentation control plan according to MOECC's Guideline B-6, as well as ensure that applicable sediment and control measures will be maintained until site restoration has occurred and soils are stabilized, will be added to the "Sediment and Erosion Control" section of Table 9-1 – Summary of Identified Concerns and Commitments of the revised ESR. |
| 9 | With respect to PTTW requirements, please be advised that a Permit to Take Water would be required for any water takings above the allowable limit of 50,000 L/day including groundwater or surface water extraction, and the active diversion of surface water flows by pumping in exceedance of 50,000 LPD. In addition, specific requirements regarding the discharge of pumped water to surface water would also be assessed at the PTTW stage. The report to be prepared in support of the water taking application should include details on the management of the discharge water, including targets for pollutant concentrations (typically Total Suspended Solids), how these targets will be achieved, quantity controls, and monitoring requirements. | Commitments satisfying these requirements will be added to Table 9-1 – Summary of Identified Concerns and Commitments of the revised ESR. |
| **Groundwater Review Comments** | | |
| 1 | Although the executive summary indicates that residents in the study area are generally provided with municipal piped water, if any wells are discovered to be used domestically, please ensure that any affected well owners will continue to have water supplies of appropriate quality and in adequate quantities during construction. Please also ensure that any work done on affected wells or any replacement wells is done pursuant to O. Reg. 903, Wells (pursuant to the Ontario Water Resources Act). | Commitments satisfying these requirements will be added to Table 9-1 – Summary of Identified Concerns and Commitments of the revised ESR. |
| **Contaminated Soil Comments** | | |
| 1 | To section 2.11, please add a statement indicating that if soil removed during construction is determined to be contaminated, the disposal of contaminated soil will be consistent with Part XV.1 of the Environmental Protection Act and Ontario Regulation 153/04, Records of Site Condition, which details the new requirements related to site assessment and clean up. | The text in Section 2.1.1 will be revised and commitments satisfying these requirements will be added to Table 9-1 – Summary of Identified Concerns and Commitments of the revised ESR. |

**Reference: MOECC File 01-06-05**
**Courtneypark Drive East**
**City of Mississauga**
**Municipal Class Environmental Assessment – Schedule C**
**Response to Technical Support Comments on Draft Environmental Study Report**

Please contact the undersigned if you have any further questions or comments.

Regards,

**STANTEC CONSULTING LTD.**

Gordon Murray, P.Eng.
Senior Associate, Transportation
Phone: (905) 944-7786
gordon.murray@stantec.com

c. Dana Glofcheskie, City of Mississauga
Leslie Green, City of Mississauga
Mike Bradley, Stantec Consulting Ltd.

mjb v:\01650\active\165010564 - courtneypark drive east class ea\correspondence\agencies\moecc\let_10564_draftesr_moecc_comment_response_20151016.docx

| | |
|---|---|
| **From:** | Annette Maher |
| **To:** | farhad.shahla@mississauga.ca |
| **Cc:** | Dana.Glofcheskie@mississauga.ca; Murray, Gordon; Bradley, Michael; Sharon Lingertat |
| **Subject:** | 50250 - Courneypark Drive East Improvements Draft ESR Comments |
| **Date:** | Tuesday, September 15, 2015 1:07:00 PM |
| **Attachments:** | 50250 - Courtneypark Drive Widening Draft ESR Response - Sep 15, 2015.pdf |

Hello Farhad,

TRCA staff received the draft ESR the Courtneypark Drive East Improvements Class EA located in the City of Mississauga.

Please see attached for TRCA response. Should you have any questions, please do not hesitate to contact me.

Thank you,
Annette

**Annette Maher, M.A.Sc.**
Acting Planner II
Environmental Assessment Planning
Planning and Development
Toronto and Region Conservation Authority
☎416.661.6600 x5798 | ✉amaher@trca.on.ca

Office Location & Courier Address: 101 Exchange Avenue | Concord ON L4K 5R6
Mailing Address: 5 Shoreham Drive | Toronto ON M3N 1S4

September 15, 2015 CFN 50250

**BY E-MAIL ONLY** (farhad.shahla@mississauga.ca)

Farhad Shahla
City of Mississauga
201 City Centre Drive, Suite 800
Mississauga, Ontario
L5B 2T4

Dear Farhad Shahla:

**Re: Response to Draft Environmental Study Report (ESR)**
**Courtneypark Drive East Improvements, Kennedy Road to Dixie Road**
**Municipal Class Environmental Assessment – Schedule C**
**Etobicoke Creek Watershed; City of Mississauga; Regional Municipality of Peel**

Toronto and Region Conservation Authority (TRCA) staff received the draft ESR (dated August 05, 2015) for the above noted project on August 07, 2015.

Staff understands that the draft ESR investigated the potential to increase roadway capacity and to improve facilities along Courtneypark Drive East between Kennedy Road and Dixie Road, in the City of Mississauga. It is further understood that the preferred alternative involves the widening of Courtneypark Drive East and construction of a full interchange with Highway 410.

While staff has no objection in principle to the preferred alternative, please ensure that the following is addressed in the final EA document.

1. Although TRCA staff have previously confirmed that there are no concerns with the wetland located northwest of the intersection of Courtneypark Drive East and Highway 410, please ensure that drainage is maintained through this area.

   Staff have no concerns with the stormwater quantity and quality control strategies proposed within the draft ESR. However, TRCA staff does require on-site retention of a minimum of 5 mm of runoff for the impervious areas of the property in order to maintain downstream erosion rates. In other words, the area of impervious surfaces created as a result of the proposed works, multiplied by 5 mm of runoff, will result in the volume of runoff that must be retained on-site. Please ensure that this volume of runoff is captured during smaller, more frequent rainfall events. For further guidance please refer to TRCA's *Stormwater Management Criteria* (dated 2012), available at http://sustainabletechnologies.ca/wp/wp-content/uploads/2013/01/SWM-Criteria-2012.pdf. In addition, please reference TRCA and CVC's *Low Impact Development Stormwater Management Planning and Design Guide* (dated 2010), when selecting design alternatives to meet this 5 mm retention target, available at

http://sustainabletechnologies.ca/wp/wp-content/uploads/2013/01/LID-SWM-Guide-v1.0_2010_1_no-appendices.pdf.

Please ensure that TRCA receives a copy of the Notice of Study Completion, as well as one (1) hard copy and one (1) digital copy of the final ESR. The final EA document should be accompanied by a covering letter that identifies how the above comment has been addressed. Digital materials must be submitted in PDF format, with drawings pre-scaled to print on 11"x17" pages. Materials may be submitted on discs, via e-mail (if less than 2.5 MB), or through file transfer protocol (FTP) sites (if posted for a minimum of two weeks).

Should you have any questions please contact me at extension 5798 or at amaher@trca.on.ca.

Yours truly,

Annette Maher
Acting Planner II, Environmental Assessment Planning
Planning and Development

AM/sl

**BY E-MAIL**

cc: Mississauga: Dana Glofcheskie, Project Manager
Stantec: Gordon Murray, Senior Project Manager
Michael Bradley, Engineering Intern
TRCA: Sharon Lingertat, Senior Planner, Environmental Assessment Planning

October 16, 2015
File: 165010564

**Attention: Annette Maher, Acting Planner II, Environmental Assessment Planning, Planning and Development**
5 Shoreham Dr
Toronto, ON M3N 1S4

Dear Ms. Maher,

**Reference: Response to Comments on Draft Environmental Study Report**
**Courtneypark Drive East Improvements, Kennedy Road to Dixie Road**
**Municipal Class Environmental Assessment – Schedule C**
**Etobicoke Creek Watershed; City of Mississauga; Regional Municipality of Peel**

Thanks you for your comments of September 15, 2015 on the draft Environmental Study Report (ESR) for the above-noted project. Please see Stantec's responses below:

| # | TRCA COMMENT | STANTEC RESPONSE |
|---|---|---|
| 1 | Although TRCA staff have previously confirmed that there are no concerns with the wetland located northwest of the intersection of Courtneypark Drive East and Highway 410, please ensure that drainage is maintained through this area.<br><br>Staff have no concerns with the stormwater quantity and quality control strategies proposed within the draft ESR. However, TRCA staff does require on-site retention of a minimum of 5 mm of runoff for the impervious areas of the property in order to maintain downstream erosion rates. In other words, the area of impervious surfaces created as a result of the proposed works, multiplied by 5 mm of runoff, will result in the volume of runoff that must be retained onsite. Please ensure that this volume of runoff is captured during smaller, more frequent rainfall events. For further guidance please refer to TRCA's Stormwater Management Criteria (dated 2012), available at http://sustainabletechnologies.ca/wp/wp-content/uploads/2013/01/SWMCriteria-2012.pdf. In addition, please reference TRCA and CVC's Low Impact Development Stormwater Management Planning and Design Guide (dated 2010), when selecting design alternatives to meet this 5 mm retention target, available at http://sustainabletechnologies.ca/wp/wp-content/uploads/2013/01/LID-SWM-Guidev1.0_2010_1_no-appendices.pdf. | Stantec's proposed strategy to address TRCA's requirement for on-site retention of a minimum of 5mm of runoff involves the implementation of infiltration trenches for Catchment Areas 201-204 (i.e. between Kennedy Road and Tomken Road) and 209 (i.e. proposed off-ramp from southbound Highway 410), where open ditches and sedimentation basins are used to convey stormwater flows. For Catchment areas 205-207 (i.e. between Tomken Road to Dixie Road), storm sewers are used to convey stormwater and, consequently, it will not be possible to implement infiltration trenches. However, to address the TRCA's requirement, the proposed infiltration trenches for Catchment Areas 201-204 will be sized such that they retain enough runoff to account for the 5mm requirement across the entire study area. In Stantec's opinion, this method is supported by the fact that Catchment Areas 201-204 and Catchment Areas 205-207 are in close geographic proximity.<br><br>Stantec will revise both Section 8.2.2. and Appendix E – Drainage and Stormwater Management Report of the ESR to include general details on the proposed method of retention described above. Calculations, studies, and further details to support the infiltration trenches will be provided during detailed design, for which a supporting commitment will also be added to Table 9-1 – Summary of Identified Concerns and Commitments of the revised ESR. |

**Reference: Response to Comments on Draft Environmental Study Report**
**Courtneypark Drive East Improvements, Kennedy Road to Dixie Road**
**Municipal Class Environmental Assessment – Schedule C**
**Etobicoke Creek Watershed; City of Mississauga; Regional Municipality of Peel**

Please contact the undersigned if you have any further questions or comments.

Regards,

**STANTEC CONSULTING LTD.**

Gordon Murray
Senior Associate, Transportation
Phone: (905) 944-7786
gordon.murray@stantec.com

c. Dana Glofcheskie, City of Mississauga
Leslie Green, City of Mississauga
Mike Bradley, Stantec Consulting Ltd.

mjb v:\01650\active\165010564 - courtneypark drive east class ea\correspondence\agencies\trca\let_10564_draftesr_trca_comment_response_20151016.docx

| | |
|---|---|
| **From:** | Annette Maher |
| **To:** | Murray, Gordon |
| **Cc:** | Dana.Glofcheskie@mississauga.ca; Bradley, Michael; Sharon Lingertat |
| **Subject:** | CFN 50250 - Courtneypark Drive East Improvements Draft ESR - TRCA Response |
| **Date:** | Thursday, November 05, 2015 10:45:13 AM |

Hello Gordon,

TRCA staff received your response to our comment on the draft Environmental Study Report (ESR) on October 26, 2015. Staff have no further comments to offer. Please provide staff with one hard copy, as well as a digital copy, of the final ESR.

Thank you and please let me know if you have any questions,

**Annette Maher, M.A.Sc.**
Acting Planner II
Environmental Assessment Planning
Planning and Development
Toronto and Region Conservation Authority
☎416.661.6600 x5798 | ✉amaher@trca.on.ca

Office Location & Courier Address: 101 Exchange Avenue | Concord ON L4K 5R6
Mailing Address: 5 Shoreham Drive | Toronto ON M3N 1S4

MISSISSAUGA
Leading today for tomorrow

***Invitees***
10 September 2014
10:00 am to 11:30 am
300 City Centre Drive, 8th Floor, Room 201,
Mississauga,ON
Transportation and Works
Meeting #: 6

# Meeting Minutes

**Meeting Purpose: Obtain Comments from MTO on two alternative design concepts for the Courtneypark Drive/Highway 410 interchange, and the staged implementation of the works.**

**Chairperson: Farhad Shahla**

**Agenda items, minutes and actions taken:**

| 1 | Introduction |
|---|---|
| • | FS provided a brief summary of the status of the Class Environmental Assessment. After the finalization of the alternative designs and the evaluation to arrive at a preferred design, the alternatives will be presented to stakeholders and the public in late September and early October, through a series of information sessions. Mailouts and newspaper advertisements for this second round of consultation will be going out later this week. |

| 2 | Alternative designs |
|---|---|
| • | FS/GM summarized the alternative designs, including both alternatives 2A (i.e. 8-lane bridge across Highway 410) and 2B (i.e. 6-lane bridge across Highway 410), as well as the interim design. GM advised that the interim design proposes to maintain the existing 5-lane bridge across Highway 410 until 2021, or until warranted by traffic volumes. |
| • | MM reported that the Highway 410 widening program will likely occur over a 5 year period (design is being completed now), with the Courtneypark Drive partial interchange construction probably scheduled for Year 3/4 of the program. Thus, there is an opportunity to include an upgrading to a full interchange (per the TESR) through a change order to the widening contract, provided funding can be agreed between City, Region and MTO. Detailed design for the full interchange would need to start upon completion and filing of the Courtneypark Drive Class EA (later this year). |
| • | PK advised that Arthur Tai (MTO SAFO) has reviewed the macro-simulation results and is generally satisfied with the analysis, results, and responses to MTO's questions. PK requested that Stantec submit model files (VISSIM) for MTO's records. |
| • | PK requested that the Highway 410 volumes be shown on the 2031 forecast diagrams. Throughput and suppressed demand should also be shown for Derry Road and Courtneypark Drive in 2031. PK also requested that Stantec provide the Highway 410 off-ramp queue lengths from VISSIM. |
| • | The alternatives being considered for the ultimate (2031) conditions require either a 6 lane bridge (Alt. 2B - with no WB or EB deceleration lanes; i.e. slip-off configuration); or an 8 lane bridge (Alt. 2A - with deceleration lanes). Both alternatives necessitate a widening of the existing structure over Highway 410. It is assumed that all widening would be done on the south side of the structure, and would include a sidewalk and multi-use pathway. While MTO would favour Alt. 2A from an operational perspective, Alt. 2B would also be acceptable if level-of-service on the interchange ramps was |

acceptable.

- Stantec and City suggested that an interim solution be constructed now, which would include a full interchange (per TESR), but leave the existing bridge at its current width (3 lanes WB and 2 lanes EB), provided an acceptable level-of-service could be maintained until 2021. At some point after 2021, the decision of 6-lane vs. 8-lane bridge could be re-visited and the preferred design implemented. In the meantime, the full interchange would be designed to accommodate a future 8-lane bridge (Alt. 2A). The only bridge infrastructure needed now as part of the full interchange construction would be the widening of the median pier cap, to avoid future disruption to Highway 410 and extensive demolition costs.
- KH asked that Stantec submit Synchro files for the interchange. Stantec is now finalizing the models for the various scenarios (Alt. 2A, Alt. 2B, and proposed interim construction), and will provide to City, Region and MTO shortly.
- MTO is concerned with the large left turning volumes for the N-W and E-N volumes, and whether there is sufficient left turn storage and green time dedicated to these movements. Stantec will examine these questions as part of the finalization of the Synchro models for both ramp terminal intersections, and ensure that there is sufficient provision made for these turning volumes to avoid long queues under both the 2031 and interim conditions.
- Given the large volume of E-N left turns, possible confusion to motorists at the east ramp terminal intersection, and the short merge length for the E-N and W-N movements, KH asked whether a direct ramp for E-N movements in the NE quadrant would be preferable. All agreed that this would be preferable; however, it is believed that this ramp was not included in the TESR design because of the insufficient weaving length between the Courtneypark Drive and Derry Road interchanges.

| | |
|---|---|
| **Action Item:** | VISSIM model files |
| **Action Required:** Stantec | **Action:** submit VISSIM model files for MTO records |
| **PMR:** | **Due Date:** As soon as possible |
| **Action Item:** | Revised 2031 forecast diagrams |
| **Action Required:** Stantec | **Action:** 2031 forecast diagrams to show Highway 410 volumes, submit figures detailing throughput/suppressed demand on both Derry Road and Courtneypark Drive in 2031, submit figures showing Highway 410 off-ramp queue lengths in 2031 |
| **PMR:** | **Due Date:** As soon as possible |
| **Action Item:** | Synchro Files for Interchange |
| **Action Required:** Stantec | **Action:** provide MTO, City, and Region with Synchro model files for the various scenarios (Alt. 2A, Alt. 2B, and proposed interim construction) |
| **PMR:** | **Due Date:** As soon as possible |

| 6 | **Other** |
|---|---|

- Stantec is now completing the evaluation matrix for the 2 alternative designs and will provide to City and Region shortly for review.

| | |
|---|---|
| **Action Item:** | Draft evaluation matrix |
| **Action Required:** Stantec | **Action:** provide draft evaluation matrix to City and Region |
| **PMR:** | **Due Date:** as soon as possible |

**Meeting Attendees:**

| Community Services Department | Planning & Building Department | Transportation & Works Department | Other |
|---|---|---|---|
| | | Steve Barrett (SB)<br>Farhad Shahla (FS) | **Region of Peel**<br>Gino Dela Cruz (GDC) |
| | | | **MTO**<br>Mike Marinelli (MTO P&D)<br>Pramod KC (MTO Traffic)<br>Kashif Hussain (MTO Traffic) |
| | | | **Stantec Consulting Ltd.**<br>Gord Murray (GM)<br>Steven Kwan (SK) |

---

**Next Meeting Date: to be determined**

**Requested Agenda items for future meetings: to be determined**

| | |
|---|---|
| **From:** | KC, Pramod Kumar (MTO) |
| **To:** | Farhad Shahla |
| **Cc:** | Steve Barrett; Leslie Green; Bradley, Michael; Dela Cruz, Gino (Gino.DelaCruz@peelregion.ca); Bradley, Michael; Hussain, Kashif (MTO); Marinelli, Mike (MTO); Nikolic, Goran (MTO) |
| **Subject:** | RE: Discrepancy at Hwy 410/Derry Road. |
| **Date:** | Monday, October 06, 2014 11:44:59 AM |
| **Attachments:** | image001.png<br>Future Model Comments.docx |

---

Hi Farhad,
Please find attached some more comments. I'll provide my final comments after submission of updated model/memo. If you have any question please let me know.
Thanks,
Pramod

---

**From:** Farhad Shahla [mailto:Farhad.Shahla@mississauga.ca]
**Sent:** October-03-14 9:54 AM
**To:** KC, Pramod Kumar (MTO)
**Cc:** Steve Barrett; Leslie Green; Bradley, Michael (Mike.Bradley@stantec.com); Dela Cruz, Gino (Gino.DelaCruz@peelregion.ca); Bradley, Michael (Mike.Bradley@stantec.com)
**Subject:** Discrepancy at Hwy 410/Derry Road.

Good morning Pramod – Thanks once again for sharing your concern.

I have confirmation that there is geometric coding discrepancy at Highway 410 and Derry Road between MTO's proposal and what has been modeled as part of the Courtneypark Drive E Class EA study. We have access to the correct MTO proposal for this node and are currently investigating how to best take corrective measures.

May I suggest that you continue with your review and share all your comments including the one discussed above at your earliest convenience. We will review and address all comments and provide MTO further opportunity to review, ensuring all components have been accounted for.

Please let me know if you have any questions and thanks.

Farhad.

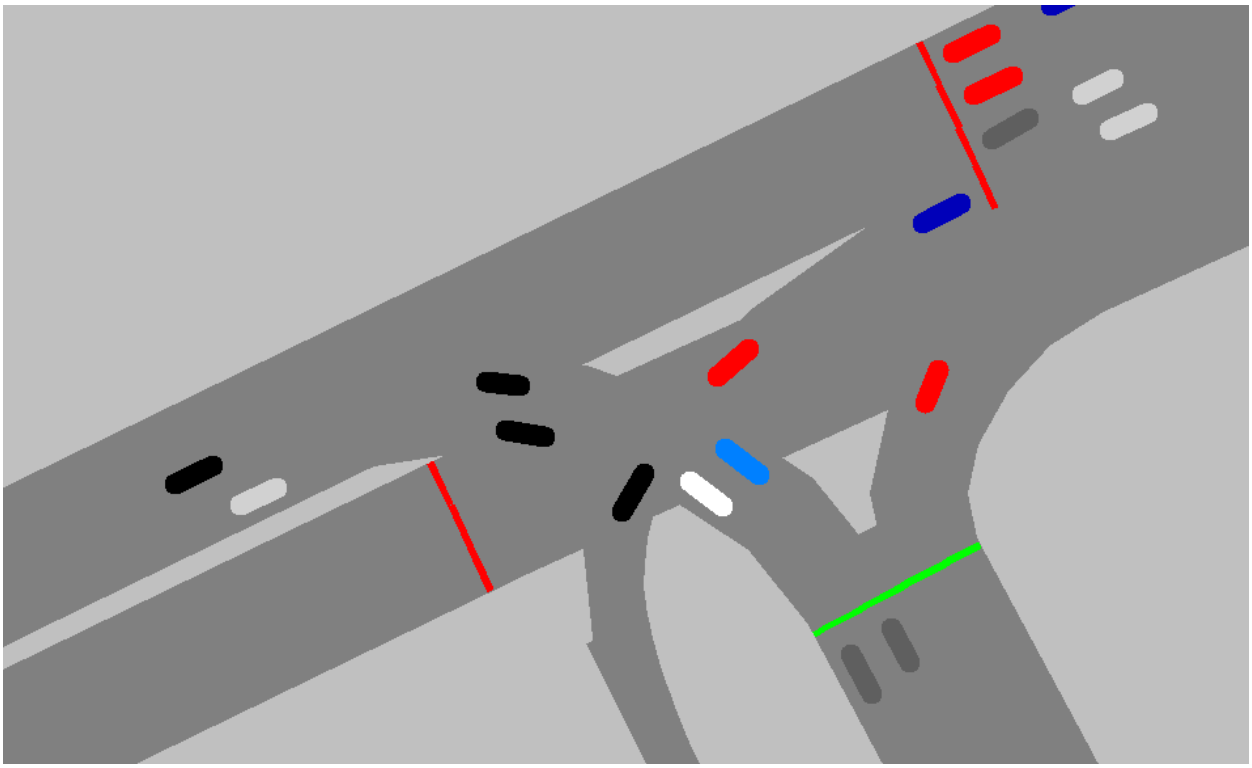
MISSISSAUGA

**Farhad Shahla, M.Eng., P.Eng., PTOE**
Capital Project Manager, Transitway Construction
T 905-615-3200 ext.3377

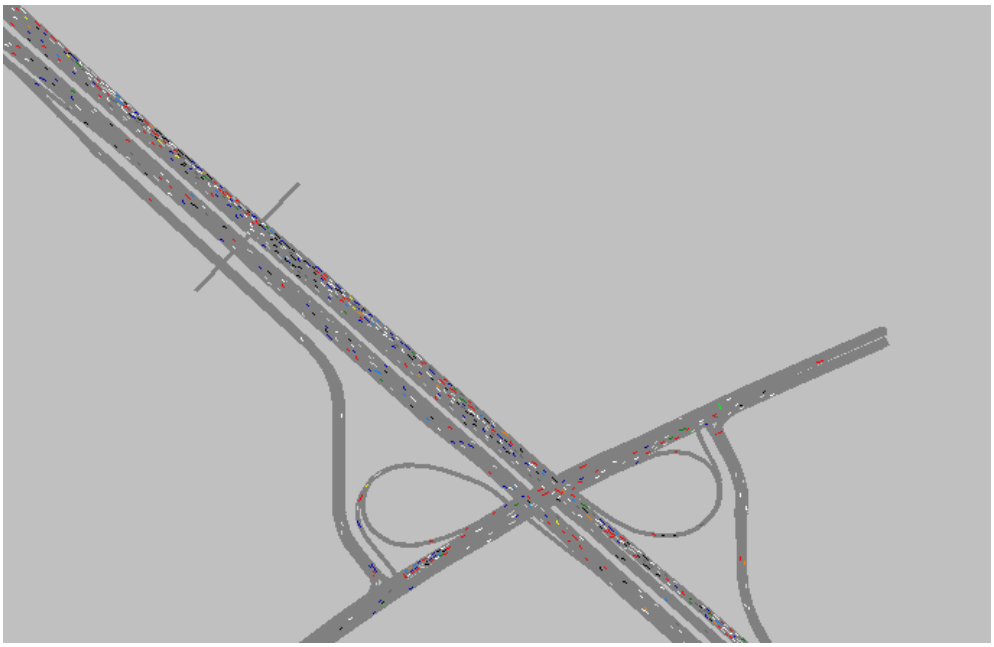
City of Mississauga | Transportation and Works Department,
Engineering and Construction Division

**Courtneypark Drive EA 2031 vissim model comments**:

1. There is coding error in east ramp terminal at Courtney Park Drive which can be seen in the figure below. Westbound vehicles are making left turn during red. All other signalized intersections should be checked for this kind of issues.



2. Turning speed of 40 km/hr is too high.
3. During AM peak hour, on HWY 410 northbound off ramp at Derry Road queue builds up and extends to mainline. Ultimately queue extends beyond the study limit. It is shown in the figure below. This issue has not been identified in the report and mitigation measures have not been proposed.



One of the causes of problem is not coding ramp terminals at Derry Road according to MTO’s proposed improvements.

| | |
|---|---|
| **From:** | Hussain, Kashif (MTO) |
| **To:** | Farhad Shahla |
| **Cc:** | Steve Barrett; Bradley, Michael; Dela Cruz, Gino (Gino.DelaCruz@peelregion.ca); Marinelli, Mike (MTO); KC, Pramod Kumar (MTO) |
| **Subject:** | Countneypark drive Class EA - off-ramps operational concerns |
| **Date:** | Tuesday, October 07, 2014 9:07:22 AM |
| **Attachments:** | Comments.docx |

Hi Farhad,

Attached are some comments regarding traffic operations of highway 410 off-ramp terminals at Courtneypark Drive due to proposed interchange designs. Please provide us recommendations how to mitigate problems identified in the attached file and forward us revised files for review.

Thanks

**Kashif Hussain**
Traffic Specialist, Peel-Halton Section
Ministry of Transportation, Central Region Traffic Office
1201 Wilson Avenue, 6th Floor, Downsview
T: (416) 235-5591

**Comments;**

**COURTNEYPARK INTERCHANGE**

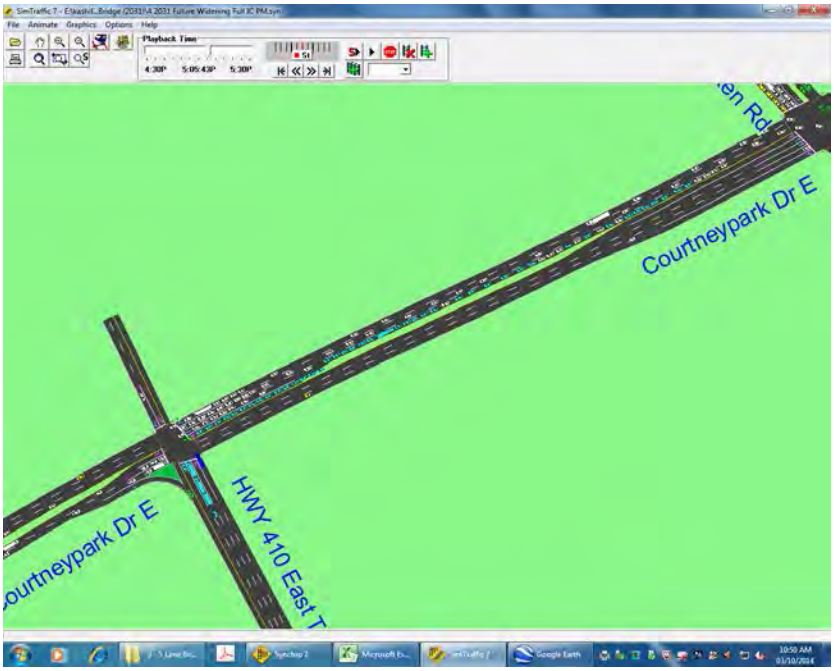
**WITH PARTIAL INTERCHANGE DESIGN**

- MTO is currently installing a traffic control signal at the 410 SB off ramp terminal on Courtney park drive. Please include it within the analysis for the year 2031 for all scenarios.

**FULL INTERCHANGE DESIGN**

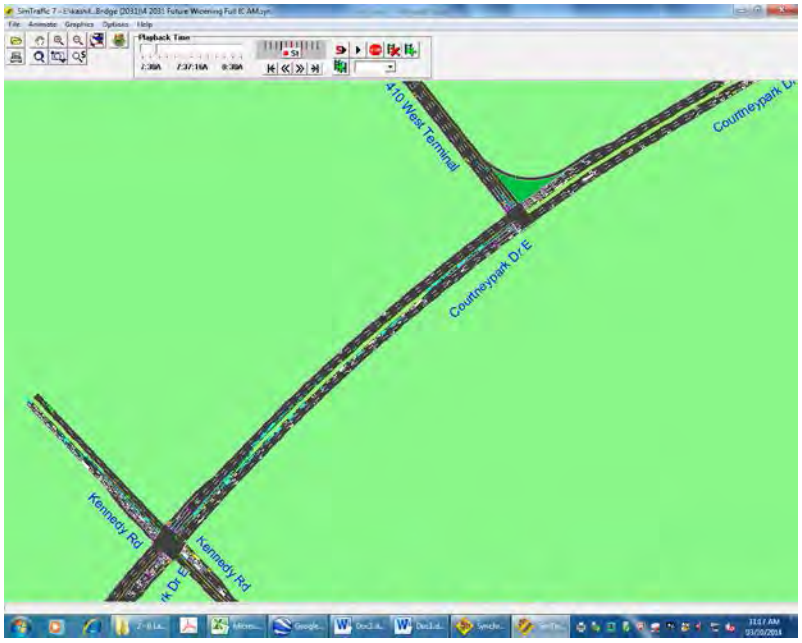
- 2031 AM analysis shows that at 410 NB off- ramp terminal (for all options), most of the moves will be operating above MTO threshold v/c ratio of 0.75 for off-ramp and 0.85 for other moves. Please recommend improvements to keep the v/c within our threshold limits.

- For the 2031 PM, 685 vehicles will be taking WBL to enter in into the 410NB loop ramp through signalized intersection. The v/c ratio for the move is 0.95 and will be creating long queues (approx. 480m as per Sim Traffic analysis) reaching up to the adjacent intersection in the east. Please suggest improvements to reduce the queuing. Following screen shoot gives a clear picture of the queuing.

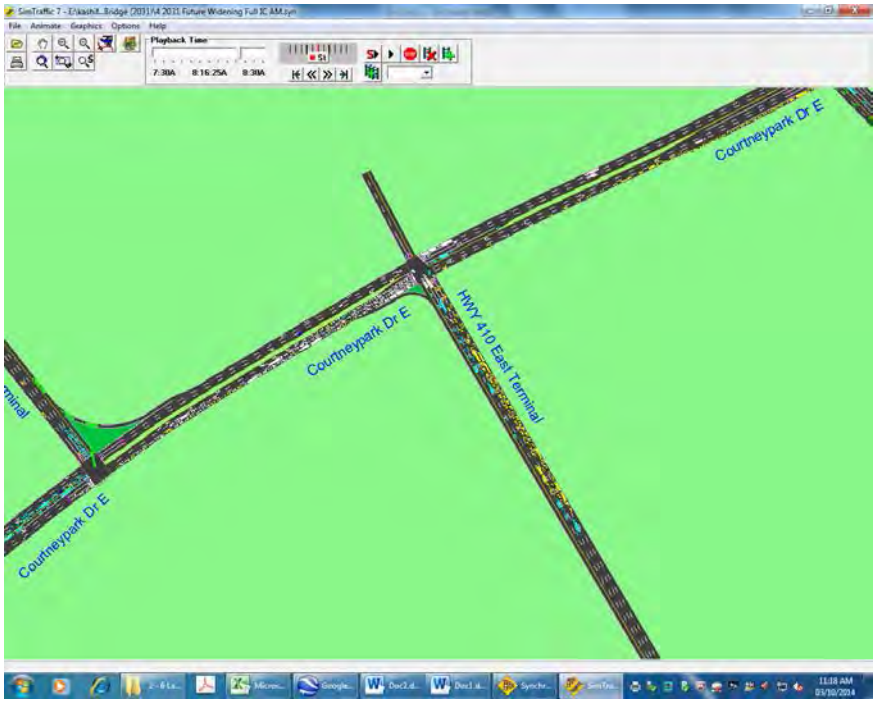



- The proposed 75m storage length for WBL turning at 410 NB off-ramp terminal will not accommodate significant queue to be generated by 685 vehicles, and will block the through traffic lane. Please increase the storage length.

- Similarly for 410 SB off- ramp terminal, for the 2031 PM, 358 vehicles will be taking EBL to enter in into the 401 SB loop ramp through signalized intersection. The v/c ratio for the move is 0.95 and will be creating long queues (approx. 560m as per sim traffic analysis) reaching up to the adjacent intersection in the west. Please suggest improvements to reduce the queuing. Following screen shoot gives a clear picture of the queuing.




- For 2031 AM peak hour, with the 6 lane scenario, significant queues are observe at the 410 NB off-ramp as well as queue on East bound direction reaching up to the 410 SB off ramp terminal (by using Sim Traffic). Please suggest improvements required to reduce the queues. Please see the following screen shoot;




- For 410 SB ramp terminal, with the 6 and 8 lanes scenarios, the recommended storage length for EBL will not accommodate the queues, please increase the storage length.

- Please calculate queue lengths of all the moves for 410 SB & NB ramp terminals from the VISSIM model and submit us results for review.

**DERRY ROAD INTERCHANGE**

- MTO, through highway 410 widening project, is widening Derry Road interchange NB and SB ramps from 3 to 4 lanes. Please correct the Synchro as well as VISSIM models accordingly and submit us the revised analysis results for review.

- Please justify how the operations at Derry road interchange / ramp terminals will be improved by recommended full interchange at Courtney park drive. In both cases i.e with partial interchange or with full interchange, the v/c ratios of 410 NB off-ramps in AM peak hour will remain above 1, and for 410 SB off-ramps v/c ratios will slightly improve.

| | |
|---|---|
| **From:** | Bradley, Michael |
| **To:** | "Farhad Shahla" |
| **Cc:** | Murray, Gordon (gordon.murray@stantec.com) |
| **Subject:** | RE: Courtneypark Dr Class EA - Revised traffic report, models |
| **Date:** | Monday, October 20, 2014 12:04:00 PM |
| **Attachments:** | com_10564_sk_mto_pkc_rsp_20141020.pdf<br>com_10564_sk_mto_khussain_rsp_20141020.pdf |

Hi Farhad,

See attached responses to MTO's comments – please let me know if you have any questions.

Thanks,
- Mike

---

**From:** Farhad Shahla [mailto:Farhad.Shahla@mississauga.ca]
**Sent:** Monday, October 20, 2014 11:58 AM
**To:** Bradley, Michael
**Subject:** RE: Courtneypark Dr Class EA - Revised traffic report, models

Thanks for the updates Mike – I look forward to the response letter to accompany the revised model.

Best – Farhad.

---

**From:** Bradley, Michael [mailto:Mike.Bradley@stantec.com]
**Sent:** 2014/10/17 5:03 PM
**To:** Farhad Shahla
**Cc:** Murray, Gordon
**Subject:** Courtneypark Dr Class EA - Revised traffic report, models

Hi Farhad,

The Traffic & Transportation Analysis Report, Synchro model, and VISSIM model have been revised to address MTO's comments and uploaded to the FTP site below:

## Automatic Login

**FTP site link:** ftp://s1031081633:2943998@ftptmp.stantec.com
By clicking on the link above (or pasting the link into Windows Explorer) you will be automatically logged into your FTP site.

## Manual Login

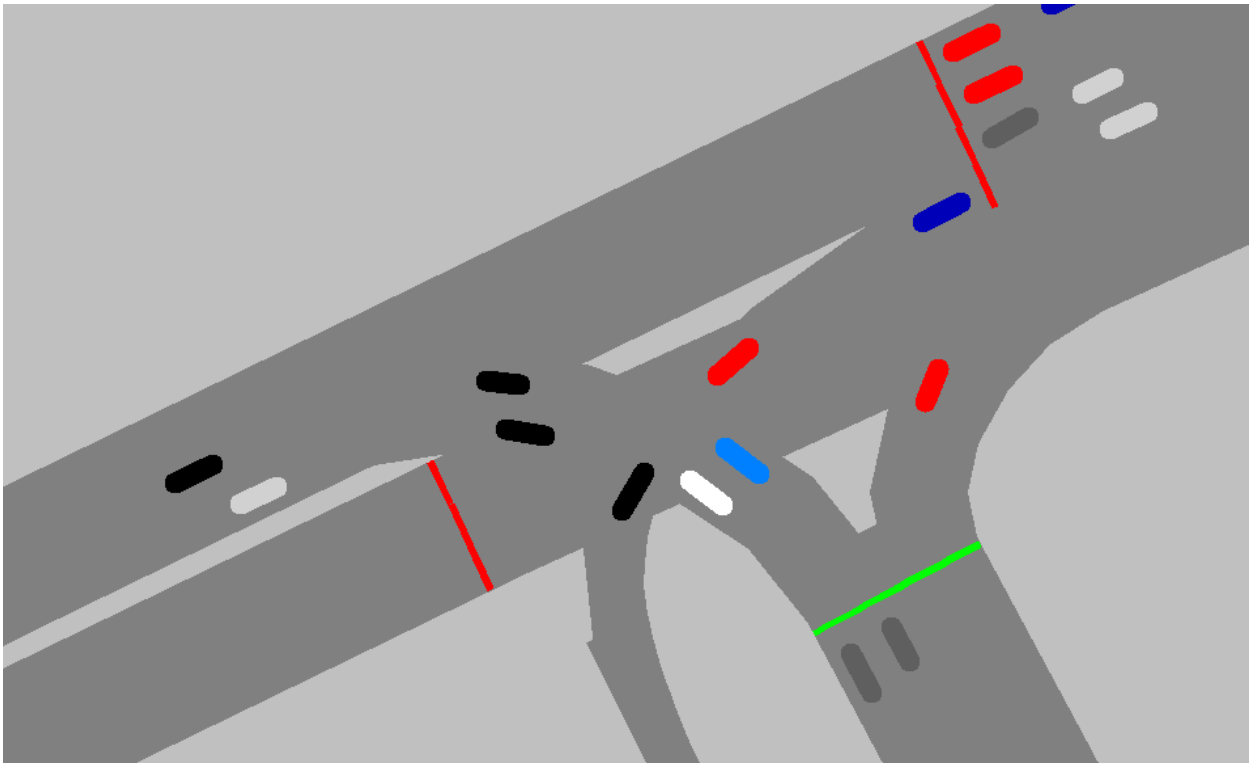
**FTP link:** ftp://ftptmp.stantec.com
**Login name:** s1031081633
**Password:** 2943998
**Disk Quota:** 2GB
**Expiry Date: 10/31/2014**

Written responses to MTO's comments, confirming those that we addressed and providing justification for those that we were unable to fully address, will follow on Monday. Please let me know if you have any questions.

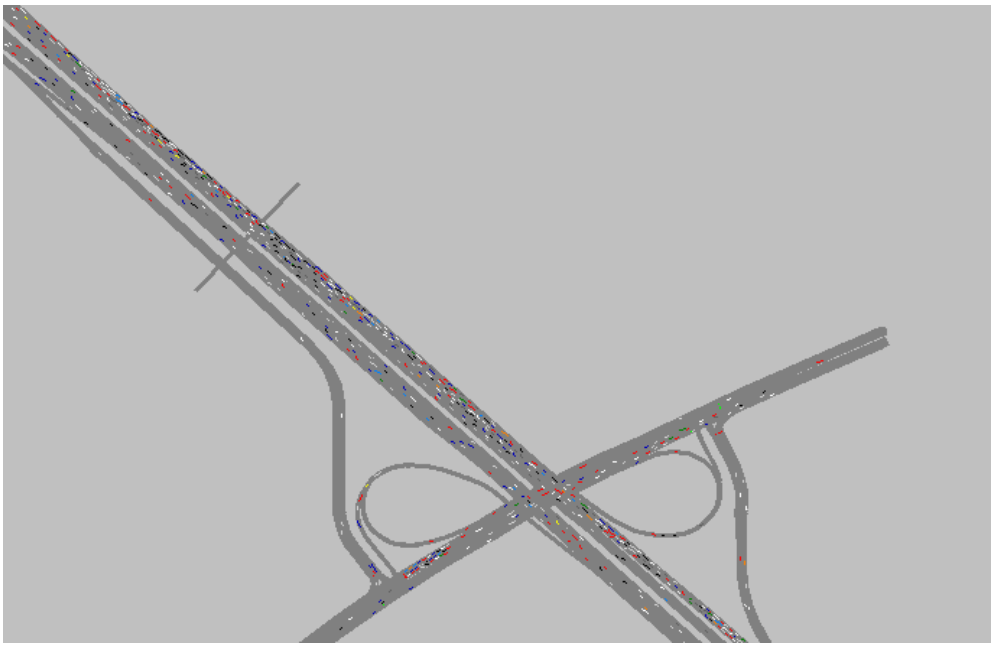
Have a great weekend,
- Mike

**Courtneypark Drive EA 2031 vissim model comments**:

1. There is coding error in east ramp terminal at Courtney Park Drive which can be seen in the figure below. Westbound vehicles are making left turn during red. All other signalized intersections should be checked for this kind of issues. ***[This error has been corrected.]***



2. Turning speed of 40 km/hr is too high. ***[The turning speed has been reduced to be consistent with turning speeds at other intersections.]***
3. During AM peak hour, on HWY 410 northbound off ramp at Derry Road queue builds up and extends to mainline. Ultimately queue extends beyond the study limit. It is shown in the figure below. This issue has not been identified in the report and mitigation measures have not been proposed.



One of the causes of problem is not coding ramp terminals at Derry Road according to MTO's proposed improvements. ***[The coding for the Derry Road ramp terminal has been updated and as a result, the queuing issue has been resolved.]***

**Comments;**

**COURTNEYPARK INTERCHANGE**

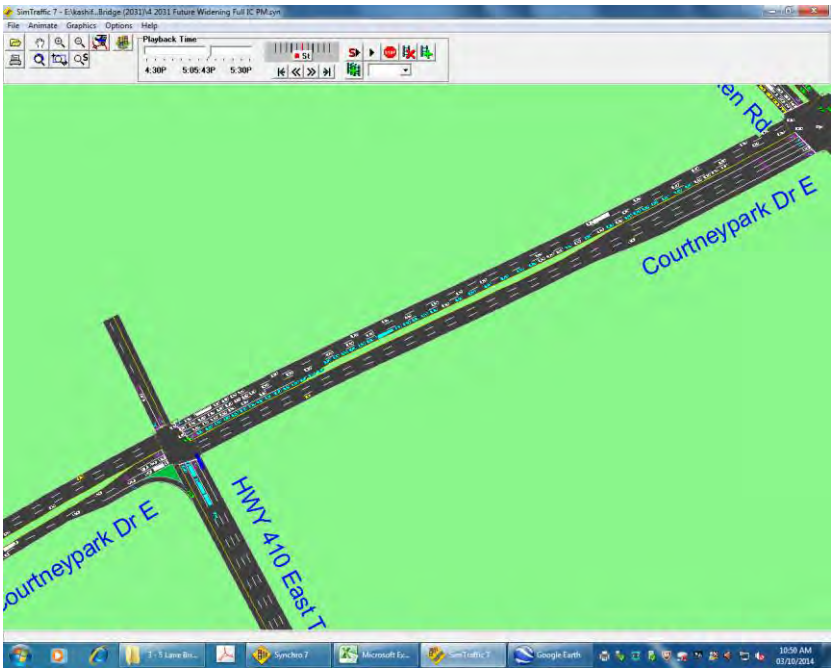
**WITH PARTIAL INTERCHANGE DESIGN**

- MTO is currently installing a traffic control signal at the 410 SB off ramp terminal on Courtney park drive. Please include it within the analysis for the year 2031 for all scenarios. ***[Updated in the analysis.]***

**FULL INTERCHANGE DESIGN**

- 2031 AM analysis shows that at 410 NB off- ramp terminal (for all options), most of the moves will be operating above MTO threshold v/c ratio of 0.75 for off-ramp and 0.85 for other moves. Please recommend improvements to keep the v/c within our threshold limits. ***[At this intersection, signal timings have been optimized and all reasonable improvements have been considered (i.e. auxiliary turn lanes). No other reasonable improvements could be implemented to reduce the v/c ratios to these levels.]***

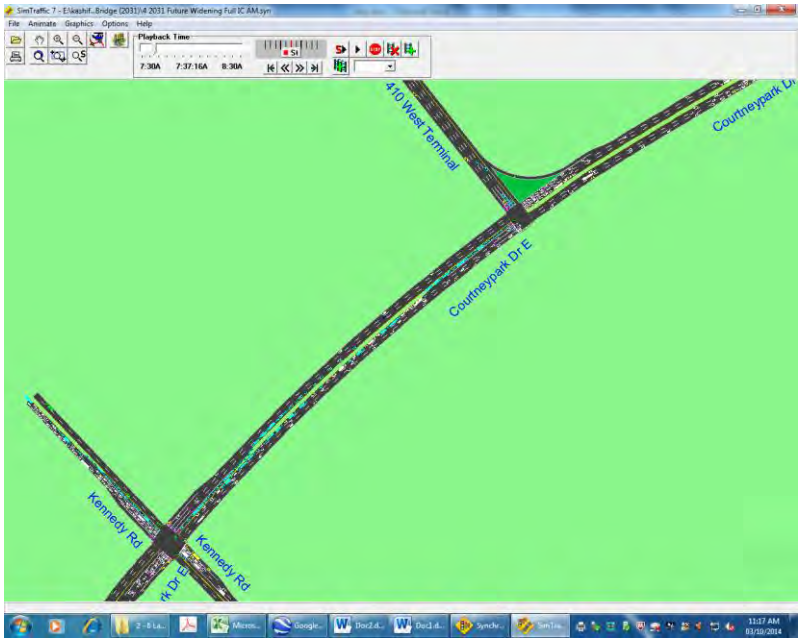
- For the 2031 PM, 685 vehicles will be taking WBL to enter in into the 410NB loop ramp through signalized intersection. The v/c ratio for the move is 0.95 and will be creating long queues (approx. 480m as per Sim Traffic analysis) reaching up to the adjacent intersection in the east. Please suggest improvements to reduce the queuing. Following screen shoot gives a clear picture of the queuing. ***[This screenshot appears to be for the 5-lane interim bridge solution. As noted in the report, these intersections operate at or above capacity by the 2031 horizon year. In both 2031 alternatives (6-lane and 8-lane bridge), there is an additional eastbound through lane proposed at this intersection which results in a shorter westbound left-turn queue.]***



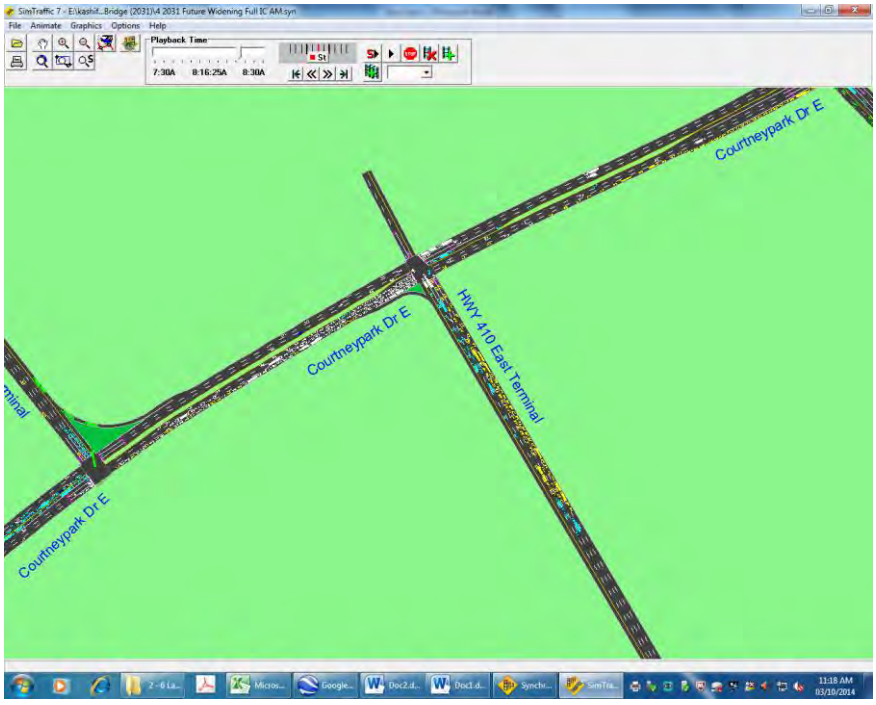

- The proposed 75m storage length for WBL turning at 410 NB off-ramp terminal will not accommodate significant queue to be generated by 685 vehicles, and will block the through traffic lane. Please increase the storage length. ***[Increased storage length has been provided in the alternative design concepts, and updated in the Synchro analysis]***

- Similarly for 410 SB off- ramp terminal, for the 2031 PM, 358 vehicles will be taking EBL to enter in into the 401 SB loop ramp through signalized intersection. The v/c ratio for the move is 0.95 and will be creating long queues

(approx. 560m as per sim traffic analysis) reaching up to the adjacent intersection in the west. Please suggest improvements to reduce the queuing. Following screen shoot gives a clear picture of the queuing. ***[At this intersection, signal timings have been optimized and all reasonable improvements have been considered (i.e. auxiliary turn lanes). No other reasonable improvements could be implemented to reduce the v/c ratios to these levels.]***




- For 2031 AM peak hour, with the 6 lane scenario, significant queues are observe at the 410 NB off-ramp as well as queue on East bound direction reaching up to the 410 SB off ramp terminal (by using Sim Traffic). Please suggest improvements required to reduce the queues. Please see the following screen shoot; ***[At this intersection, signal timings have been optimized and all reasonable improvements have been considered (i.e. auxiliary turn lanes). No other reasonable improvements could be implemented to reduce the v/c ratios to these levels.]***



- For 410 SB ramp terminal, with the 6 and 8 lanes scenarios, the recommended storage length for EBL will not accommodate the queues, please increase the storage length. ***[Increased storage length has been provided in the alternative design concepts, and updated in the Synchro analysis]***

- Please calculate queue lengths of all the moves for 410 SB & NB ramp terminals from the VISSIM model and submit us results for review. ***[These results have been compiled and submitted.]***

**DERRY ROAD INTERCHANGE**

- MTO, through highway 410 widening project, is widening Derry Road interchange NB and SB ramps from 3 to 4 lanes. Please correct the Synchro as well as VISSIM models accordingly and submit us the revised analysis results for review. ***[The 4 lane off-ramp has been updated in the Synchro and VISSIM models and updated in the revised report accordingly.]***

- Please justify how the operations at Derry road interchange / ramp terminals will be improved by recommended full interchange at Courtney park drive. In both cases i.e with partial interchange or with full interchange, the v/c ratios of 410 NB off-ramps in AM peak hour will remain above 1, and for 410 SB off-ramps v/c ratios will slightly improve. ***[At the Derry Road ramp terminals, there are reductions in delay, queues, and v/c ratios. While on a per car basis these may seem relatively small, given the substantial volume of vehicles travelling through these intersections, the overall net performance of the road network is improved. The improved operational performance also allows the Derry Road ramp terminals to accommodate additional traffic growth and to better accommodate temporary increases in traffic which may result due to construction or vehicle collisions in the area. Additionally, the full intersection provides benefits with respect to improved goods movement and emergency access which have been documented more thoroughly in the report.]***

| | |
|---|---|
| **From:** | Farhad Shahla |
| **To:** | Bradley, Michael |
| **Cc:** | Murray, Gordon |
| **Subject:** | FW: Courtneypark Dr Class EA - Revised traffic report, models |
| **Date:** | Wednesday, November 12, 2014 1:15:24 PM |
| **Attachments:** | image001.png |

Mike – Could I leave these additional comments with you to be responded?

Farhad.

**Farhad Shahla, M.Eng., P.Eng., PTOE**
Capital Project Manager, Transitway Construction
T 905-615-3200 ext.3377

City of Mississauga | Transportation and Works Department,
Engineering and Construction Division



**From:** Hussain, Kashif (MTO) [mailto:Kashif.Hussain@ontario.ca]
**Sent:** 2014/11/12 12:45 PM
**To:** Farhad Shahla
**Cc:** Marinelli, Mike (MTO); KC, Pramod Kumar (MTO)
**Subject:** RE: Courtneypark Dr Class EA - Revised traffic report, models

Hi Farhad,

Please see following comments on the revised traffic report;

1. V/C ratios given in the report are different than in the Synchro files. Please provide us correct Synchro files.
2. In the Derry Road interchange model, for east ramp terminal, Ideal Saturation Flow rate for NBR is taken as 2400 and NBL as 2200. Please justify use of these numbers, otherwise please correct the model.
3. In the Derry Road interchange model, for west ramp terminal, Ideal Saturation Flow rate for SBR is taken as 2275 and SBL as 2275. Please justify use of these numbers, otherwise please correct the model.
4. There is an error in Synchro model for EBL turning traffic at Courtney Park west ramp terminal. When running in Sim Traffic, EBL traffic is not turning left during the protected left turn phase, causing long queues for EBL. Please correct the model.
5. By adding ramps at Courtney part drive interchange, please explain what type of benefits ministry will receive. Please show in report % reduction in delays on mainline as well as on Ramp Terminals separately (not as the whole freeway system). As per the lane speed diagrams and contours provided in the report, impacts are visible on the mainline of highway 410 due to the provision of the full interchange. Please separate delays on mainline, ramps and ramp terminals in the report for the partial as well as for full interchange design.
6. Please provide queue lengths of all moves at the ramp terminals from Vissim model (EB,WB,NB,SB, EBL, WBL etc.)
7. Due to the new ramps, will there be any weaving issue on the mainline.
8. As per the response to our last comments regarding v/c ratio. The consultant mentioned that “no other reasonable improvements could be implemented to reduce the v/c to these levels”. Please clarify “reasonable improvements” and recommend any geometric improvement to reduce the values to keep

it within MTO threshold limits.

9. In the 2031 PM scenarios, 685 WBL volume at the east ramp terminal on Courtney park will produce operational concerns (v/c=0.95 and long queue). Please suggest any other design alternative that can accommodate this extent of left turning volume.

Please contact me if you have any question.

Thanks

**Kashif Hussain**
Traffic Specialist, Peel-Halton Section
Ministry of Transportation, Central Region Traffic Office
1201 Wilson Avenue, 6th Floor, Downsview
T: (416) 235-5591

---

**From:** KC, Pramod Kumar (MTO)
**Sent:** November 10, 2014 9:02 AM
**To:** Farhad.Shahla@mississauga.ca
**Cc:** Nikolic, Goran (MTO); Marinelli, Mike (MTO); Hussain, Kashif (MTO)
**Subject:** RE: Courtneypark Dr Class EA - Revised traffic report, models

Farhad,
I have following comments:

- Turning speeds used in vissim are still higher. What is the rationale for using different turning speed in vissim and Synchro/SimTraffic? Turning speeds used are shown in table below.

| | Left turning Speed km/hr | Right turning Speed km/hr |
|---|---|---|
| Vissim | Car 30 , Truck 25 | Car 30, Truck 25 |
| Synchro/SimTraffic | 24 | 14 |

- Section 8.2 Freeway Comparison: instead of System delay, provide HWY 410 mainline delay or travel time savings.
- Identify and quantify any other benefits to demonstrate improvement in HWY 410 mainline operation as a result of full interchange at Courtneypark Drive
- Traffic modelling has been submitted for Alternative 1 and Alternative 2, are these the only alternatives under considerations?

If you have any question please let me know.
Thank you,
Pramod

---

**From:** Farhad Shahla [mailto:Farhad.Shahla@mississauga.ca]
**Sent:** October-20-14 12:20 PM
**To:** KC, Pramod Kumar (MTO); Hussain, Kashif (MTO)
**Cc:** Dela Cruz, Gino (Gino.DelaCruz@peelregion.ca); Leslie Green; Marinelli, Mike (MTO)
**Subject:** FW: Courtneypark Dr Class EA - Revised traffic report, models

Pramod and Kashif – Following my earlier email today, attached are responses to your comments.

Please review and let me know if you have any questions.

Thanks – Farhad.

| | |
|---|---|
| **From:** | Bradley, Michael |
| **To:** | Mike.Marinelli@ontario.ca |
| **Cc:** | Dana Glofcheskie (Dana.Glofcheskie@mississauga.ca); Murray, Gordon (gordon.murray@stantec.com); Kwan, Steven |
| **Subject:** | RE: Highway 410 / Courtneypark Dr Interchange Meeting and Revised Traffic Analysis Report |
| **Date:** | Thursday, March 05, 2015 12:02:00 PM |
| **Attachments:** | image001.png |

Hi Mike,

As per your request below, the VISSIM and Synchro model files in support of the most recent Traffic & Transportation Analysis Report for the Courtneypark Dr E Class EA project have been uploaded to the FTP site below:

## Automatic Login

**FTP site link:** ftp://s0319095432:8213727@ftptmp.stantec.com
By clicking on the link above (or pasting the link into Windows Explorer) you will be automatically logged into your FTP site.

## Manual Login

**FTP link:** ftp://ftptmp.stantec.com
**Login name:** s0319095432
**Password:** 8213727
**Disk Quota:** 2GB
**Expiry Date: 3/19/2015**

Please let me know if you have any questions.

Thanks,
- Mike

**Mike Bradley, BSc, EIT**
Engineering Intern
Transportation
Stantec
Phone: (905) 944-7763
mike.bradley@stantec.com



---

**From:** Marinelli, Mike (MTO) [mailto:Mike.Marinelli@ontario.ca]
**Sent:** March 5, 2015 11:46 AM
**To:** Dana Glofcheskie
**Subject:** RE: Highway 410 / Courtneypark Dr Interchange Meeting and Revised Traffic Analysis Report

Hi Dana,

Could you also provide the Vissim and Synchro files?

Thanks

Mike

**Mike Marinelli | Project Manager**
**Ministry of Transportation | Central Region**
Planning and Design – Peel & Halton Section | 4th Floor, Bldg.D
1201 Wilson Avenue | Downsview | ON | M3M 1J8
T: 416-235-4639 | F: 416-235-3576

---

**From:** Dana Glofcheskie [mailto:Dana.Glofcheskie@mississauga.ca]
**Sent:** February 26, 2015 11:43 AM
**To:** Lai, Joseph (MTO); Marinelli, Mike (MTO)
**Cc:** Leslie Green; KC, Pramod Kumar (MTO); Hussain, Kashif (MTO); Dela Cruz, Gino
**Subject:** Highway 410 / Courtneypark Dr Interchange Meeting and Revised Traffic Analysis Report

Hi Joe and Mike,

Further to Leslie's email below, please advise on who we should coordinate the meeting with and who would be in attendance from MTO. We would like to schedule this meeting in the next couple of weeks (depending on availability).

Additionally, please find attached the revised Traffic Analysis Report and a memo outlining our responses to MTO's comments.

Thanks,

**Dana Glofcheskie, P.Eng.**
Transportation Project Engineer
T 905-615-3200 ext.8243
dana.glofcheskie@mississauga.ca

City of Mississauga | Transportation & Works Department,
Transportation & Infrastructure Planning Division



---

**From:** Leslie Green
**Sent:** February 9, 2015 2:54 PM
**To:** 'Lai, Joseph (MTO)' (Joseph.Lai@ontario.ca)
**Cc:** Dana Glofcheskie
**Subject:** RE: MTO Liaison Meeting Jan 23, 15 - Meeting Notes

Hi Joe,

Further to our liaison meeting, we would like to arrange the meeting with MTO Senior Management to discuss the potential of a full Courtneypark Drive Interchange. Who should we coordinate this meeting with and who would this include from MTO?

Thank you,

Leslie

---

**From:** Dana Glofcheskie
**Sent:** 2015/02/06 9:36 AM
**To:** Steve Barrett; Martin Powell; Geoff Wright; Andy Harvey; Helen Noehammer; Leslie Green; Abdul Shaikh; Joe Perrotta; joseph.lai@ontario.ca; jason.white@ontario.ca; bob.stephenson@ontario.ca
**Subject:** MTO Liaison Meeting Jan 23, 15 - Meeting Notes

All,

Please find attached the meeting notes from the January 23, 2015 Liaison Meeting for your records.

Thanks,
Dana

MISSISSAUGA

**Dana Glofcheskie, P.Eng.**
Transportation Project Engineer
T 905-615-3200 ext.8243
dana.glofcheskie@mississauga.ca

City of Mississauga | Transportation & Works Department,
Transportation & Infrastructure Planning Division

**From:** Dana Glofcheskie
**To:** Bradley, Michael; Murray, Gordon
**Cc:** Leslie Green
**Subject:** FW: Courtneypark Dr Class EA - Revised traffic report, models
**Date:** Tuesday, April 07, 2015 10:10:35 AM
**Attachments:** image001.png

---

Mike and Gord,

See below MTO's comments on the traffic report.

Please provide your availability this week for a teleconference to discuss. Additionally please provide your availability next week for a meeting with MTO.

Thanks,

**Dana Glofcheskie, P.Eng.**
Transportation Project Engineer
T 905-615-3200 ext.8243
dana.glofcheskie@mississauga.ca

City of Mississauga | Transportation & Works Department,
Transportation & Infrastructure Planning Division



---

**From:** Marinelli, Mike (MTO) [mailto:Mike.Marinelli@ontario.ca]
**Sent:** April 2, 2015 8:36 AM
**To:** Dana Glofcheskie
**Cc:** Hussain, Kashif (MTO); KC, Pramod Kumar (MTO); Zivkovic, Branko (MTO)
**Subject:** FW: Courtneypark Dr Class EA - Revised traffic report, models

Dana,

MTO Traffic have reviewed your submission and as you can see from the e-mail below they still have numerous concerns with the models. At this point I believe that a technical meeting with the City, your consultant and MTO is necessary. Please provide possible dates for MTO to attend.

Thanks

Mike

**Mike Marinelli | Project Manager**
**Ministry of Transportation | Central Region**
Planning and Design – Peel & Halton Section | 4th Floor, Bldg.D
1201 Wilson Avenue | Downsview | ON | M3M 1J8
T: 416-235-4639 | F: 416-235-3576

**From:** Hussain, Kashif (MTO)
**Sent:** April 1, 2015 10:45 AM
**To:** Marinelli, Mike (MTO)
**Cc:** KC, Pramod Kumar (MTO); Zivkovic, Branko (MTO)
**Subject:** FW: Courtneypark Dr Class EA - Revised traffic report, models

Hi Mike,
Please see our comments in red on the revised traffic report. It is better if we have a technical meeting with the city's consultant to discuss these comments in details.
Thanks
Kashif

Kashif Hussain's comments:

1. *V/C ratios given in the report are different than in the Synchro files. Please provide us correct Synchro files.*

- Table 17 (2031 Full IC) in the body of the report and the Synchro output sheets in the report appendix have been updated. (OK)

2. *In the Derry Road interchange model, for east ramp terminal, Ideal Saturation Flow rate for NBR is taken as 2400 and NBL as 2200. Please justify use of these numbers, otherwise please correct the model.*

- See section 2.6.1 and Appendix B.

Under the existing conditions analysis, the initial Synchro results for these movements yielded a v/c greater than 1.00. As validated by field observations, the intersection was adequately processing traffic volumes and those movements were not observed to exceed the available capacity. To reflect working operational conditions, the saturation flow rates for those turning movements were increased from the default value of 1,900 vehicles per hour per lane (vphpl) until the v/c value was less than or equal to 1.00. These saturation flow adjustments were carried forward for the subsequent analysis of future conditions/scenarios

- It is practically impossible to achieve Ideal Saturation Flow rate of 2400 for right and left turning traffic. As per CCG, 1950 is observed as maximum SFR for through move in Toronto urban area and for right/left turn move it should be lesser. Therefore, please carry out saturation flow rate study for those moves and calibrate

the models accordingly. Please submit the SFR study and results of calibrated model for our review

3. *In the Derry Road interchange model, for west ramp terminal, Ideal Saturation Flow rate for SBR is taken as 2275 and SBL as 2275. Please justify use of these numbers, otherwise please correct the model.*

- See section 2.6.1 and Appendix B.

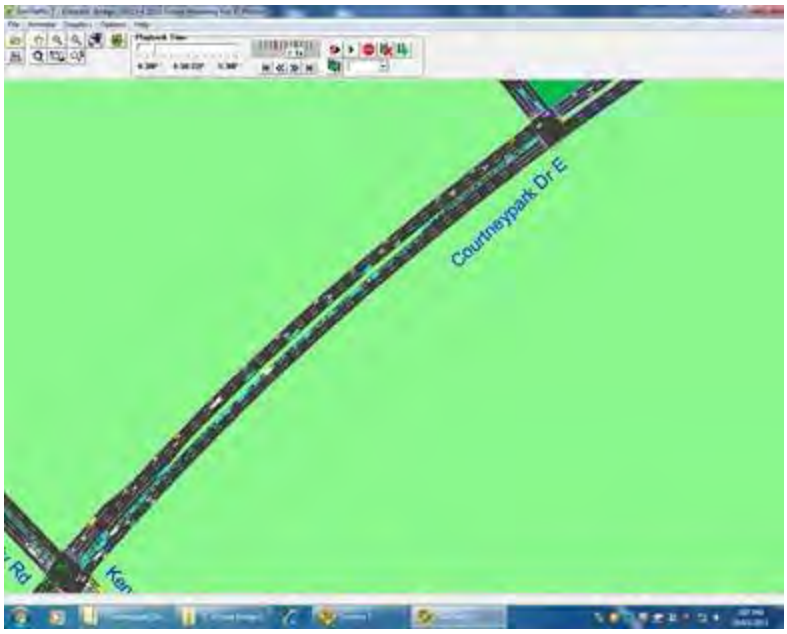
- Under the existing conditions analysis, the initial Synchro results for these movements yielded a v/c greater than 1.00. As validated by field observations, the intersection was adequately processing traffic volumes and those movements were not observed to exceed the available capacity. To reflect working operational conditions, the saturation flow rates for those turning movements were increased from the default value of 1,900 vehicles per hour per lane (vphpl) until the v/c value was less than or equal to 1.00. These saturation flow adjustments were carried forward for the subsequent analysis of future conditions/scenarios;

    - (Same comment as is for question 2)

4. *There is an error in Synchro model for EBL turning traffic at Courtney Park west ramp terminal. When running in Sim Traffic, EBL traffic is not turning left during the protected left turn phase, causing long queues for EBL. Please correct the model.*

- We did not observe this error during our review of the Synchro models. If the scenario and peak hour during which the error was observed could be provided, we will investigate further.

    - Recent Synchro files of full Interchange scenarios are still showing long queues for EBL at West ramp terminal of Courtney Park when running in Sim Traffic. The queues are reaching up to the Kennedy road intersection. Please correct the models. Following is a snap shot from the Sim traffic




5. *By adding ramps at Courtney part drive interchange, please explain what type of benefits ministry will receive. Please show in report % reduction in delays on mainline as well as on Ramp Terminals separately (not as the whole freeway system). As per the lane speed diagrams and contours provided in the report, impacts are visible on the mainline of highway 410 due to the provision of the full interchange. Please separate delays on mainline, ramps and ramp terminals in the report for the partial as well as for full interchange design.*

- See sections 8.1, 8.2, and 8.3.
    - As per the results present in the report, due to the full interchange, there will be negative impact in the operations of the mainline (operating speeds will reduced significantly and there will be no improvement in the operations of the Derry road off-ramp during the AM peak hours. The off-ramp queuing which is currently reaching up to the mainline and will remain same in future,

6. *Please provide queue lengths of all moves at the ramp terminals from Vissim model (EB,WB,NB,SB, EBL, WBL etc.)*

- Queue lengths for all moves at the ramp terminals from VISSIM were provided in a summary table within Appendix D of the report;
    - Recommended improvements will not improve operations of the 410NB off ramp at Derry. The queuing will remain same for both

scenarios (510m reaching up to mainline).

7. *Due to the new ramps, will there be any weaving issue on the mainline.*

- See section 8.2.1.

  - Weaving analysis has not been carried out or presented in the report. Please carryout weaving analysis either by using HCM 2010 or other and submit the results for our review. There will be approx. 650m distance between the on-ramp and off-ramp in the NB direction and approx. 500m in SB direction, which are not sufficient and can cause major weaving / safety concerns.

8. *As per the response to our last comments regarding v/c ratio. The consultant mentioned that "no other reasonable improvements could be implemented to reduce the v/c to these levels". Please clarify "reasonable improvements" and recommend any geometric improvement to reduce the values to keep it within MTO threshold limits.*

- See section 8.5.2.

9. *In the 2031 PM scenarios, 685 WBL volume at the east ramp terminal on Courtney park will produce operational concerns (v/c=0.95 and long queue). Please suggest any other design alternative that can accommodate this extent of left turning volume.*

- See section 8.5.2.

Additional comments

1. Please show SB off-ramp at Courtney park in Fig-18
2. Please explain how the numbers in the Table 20 & 23 are calculated.
3. Please correct in Table 21 LOS for Alt 1 in AM peak hour for NB HOV and SB Collector.
4. In table 24, in the list of improvement, also add EBL and WBL at the Courtney park ramp terminals.

5. Please correct the location of new off-ramp at the East ramp terminal of Courtney park in fig-23 and the Synchro models.

6. In the conclusions tab g & h, it is mentioned that the full interchange would improve the traffic operations on Highway 410 corridor and will reduce delays on the freeway. However, as per the analysis presented in the report following are observed;

a) The full interchange at Courtney Park will impact the mainline operations of 410 (reduce operating speed on the mainline, increase travel time, deteriorate LOS, and increase delay) and will possibly produce weaving/safety issues in between Courtney park and Derry road interchanges (approx. 650m distance in NB direction and approx. 500m in SB direction).

b) The operations of the ramp terminals at the Courtney park will deteriorated. The WBL at the East ramp terminal will operate above MTO threshold values and produce long queues of traffic to enter into the 410NB onramp (approx. 700 vehicles will make left during the PM peak hour).

c) Diversion of traffic from Derry to Courtney park will only improve operations of the municipal road network and has min to almost no benefit at the ramp terminals (NB off-ramp queue at Derry during am peak will remain same 510m with and without full i/c) and will produce negative impact at Courtney park ramp terminals

## Pramod Kumar KC's comments:

1. *Turning speeds used in vissim are still higher. What is the rationale for using different turning speed in vissim and Synchro/SimTraffic? Turning speeds used are shown in table below.*

   - SimTraffic speeds are default program values and do not impact the Synchro analysis results. VISSIM turning speeds are based on previous project experience. Furthermore, as these speeds are consistent between both alternatives, we would expect minimal differences in the analysis results both individually and relative to each other if these speeds were to be reduced.

   Please provide evidence/data/research paper if any to support the assumed turning speed. Otherwise, standard turning speeds should be used in the model and results should be updated accordingly.

2. *Section 8.2 Freeway Comparison: instead of System delay, provide HWY 410 mainline delay or travel time savings.*

   - We will provide a comparison of travel times.

3. *Identify and quantify any other benefits to demonstrate improvement in HWY 410 mainline operation as a result of full interchange at Courtneypark Drive.*

   - We will review new ways to present the data in the Transportation & Traffic

Analysis Report.

4. *Traffic modelling has been submitted for Alternative 1 and Alternative 2, are these the only alternatives under considerations?*

   - Yes, Alternative 1 (widening of Courtneypark Drive, with partial interchange) and Alternative 2 (widening of Courtneypark Dr, with full interchange) are the only Alternative Solutions under consideration.

| | |
|---|---|
| **From:** | Bradley, Michael |
| **To:** | kashif.hussain@ontario.ca |
| **Cc:** | PramodKumar.KC@ontario.ca; Mike.Marinelli@ontario.ca; Kwan, Steven; Murray, Gordon (gordon.murray@stantec.com) |
| **Subject:** | RE: Courtneypark Dr Class EA - Revised traffic report, models |
| **Date:** | Tuesday, April 14, 2015 7:23:00 PM |

Hi Kashif,

Further to my voicemail today, we were also hoping to clarify one additional comment (highlighted below):

- Comment 7:

  *Weaving analysis has not been carried out or presented in the report. Please carryout weaving analysis either by using HCM 2010 or other and submit the results for our review. There will be approx. 650m distance between the on-ramp and off-ramp in the NB direction and approx. 500m in SB direction, which are not sufficient and can cause major weaving / safety concerns.*

  We have been unable to verify the distances between adjacent on- and off-ramps noted in your comment above. Would you be able to provide a quick sketch indicating the start and end points for these measurements for both the northbound and southbound directions of Highway 410?

Let me know if you have any questions or if you'd like me to clarify anything above.

Thanks,
- Mike

**Mike Bradley, BSc, EIT**
Engineering Intern
Transportation
Stantec
Phone: (905) 944-7763
mike.bradley@stantec.com



---

**From:** Bradley, Michael
**Sent:** Monday, April 13, 2015 5:20 PM
**To:** kashif.hussain@ontario.ca
**Cc:** PramodKumar.KC@ontario.ca; Mike.Marinelli@ontario.ca; Kwan, Steven; Murray, Gordon (gordon.murray@stantec.com)
**Subject:** RE: Courtneypark Dr Class EA - Revised traffic report, models

Hi Kashif,

The City has provided us with your comments on traffic analysis for the Courtneypark Drive Class EA. There are a few items that we were hoping to clarify in advance of our meeting this Thursday – please see below (I've also highlighted the comments in the original e-mail):

- Comments 2 & 3:

  *It is practically impossible to achieve Ideal Saturation Flow rate of 2400 for right*

*and left turning traffic. As per CCG, 1950 is observed as maximum SFR for through move in Toronto urban area and for right/left turn move it should be lesser. Therefore, please carry out saturation flow rate study for those moves and calibrate the models accordingly. Please submit the SFR study and results of calibrated model for our review.*

The saturation flow rates documented in the CCG are **observed** saturation flow rates in the field and not **ideal** saturation flow rates. The ideal saturation flow rates used in Synchro are adjusted downwards through a number of factors by the software to calculate the actual saturated flow rate, which is in fact comparable to the observed saturation flow rates in CCG – please see the calculations below. Accordingly, we're proposing to continue to use these actual saturation flow rates in the analysis. Would this be acceptable to MTO?

Derry Road/Highway 410 East Terminal (AM Peak Hour):

Ideal Saturated Flow Rate
NBL=2200
NBR=2400

Actual Saturated Flow Rate (calculated by Synchro)
NBL=**1855**
NBR=**1805**

Derry Road/Highway 410 West Terminal (AM Peak Hour):

Ideal Saturated Flow Rate
SBL=2275
SBR=2275

Actual Saturated Flow Rate (calculated by Synchro)
SBL=**2026**
SBR=**1727**

- Comment 4:

  *Recent Synchro files of full Interchange scenarios are still showing long queues for EBL at West ramp terminal of Courtney Park when running in Sim Traffic. The queues are reaching up to the Kennedy road intersection. Please correct the models.*

  Could you please advise which scenario and peak hour these queues were observed? We were not able to reproduce these queues in running the SimTraffic model.

- Comment A3:

  *Please correct in Table 21 LOS for Alt 1 in AM peak hour for NB HOV and SB Collector.*

  The values in Table 21 are consistent with the values in Table 15, so it is unclear as to what needs to be corrected. Would you be able to advise further?

I'll give you a call to follow up tomorrow. Please let me know if you have any questions in the meantime.

Thanks,
- Mike

**Mike Bradley, BSc, EIT**
Engineering Intern
Transportation
Stantec
Phone: (905) 944-7763
mike.bradley@stantec.com



---

**From:** Marinelli, Mike (MTO) [mailto:Mike.Marinelli@ontario.ca]
**Sent:** April 2, 2015 8:36 AM
**To:** Dana Glofcheskie
**Cc:** Hussain, Kashif (MTO); KC, Pramod Kumar (MTO); Zivkovic, Branko (MTO)
**Subject:** FW: Courtneypark Dr Class EA - Revised traffic report, models

Dana,

MTO Traffic have reviewed your submission and as you can see from the e-mail below they still have numerous concerns with the models. At this point I believe that a technical meeting with the City, your consultant and MTO is necessary. Please provide possible dates for MTO to attend.

Thanks

Mike

**Mike Marinelli | Project Manager**
**Ministry of Transportation | Central Region**
Planning and Design – Peel & Halton Section | 4th Floor, Bldg.D
1201 Wilson Avenue | Downsview | ON | M3M 1J8
T: 416-235-4639 | F: 416-235-3576

---

**From:** Hussain, Kashif (MTO)
**Sent:** April 1, 2015 10:45 AM
**To:** Marinelli, Mike (MTO)
**Cc:** KC, Pramod Kumar (MTO); Zivkovic, Branko (MTO)
**Subject:** FW: Courtneypark Dr Class EA - Revised traffic report, models

Hi Mike,
Please see our comments in red on the revised traffic report. It is better if we have a technical meeting with the city's consultant to discuss these comments in details.
Thanks
Kashif

Kashif Hussain's comments:

1. *V/C ratios given in the report are different than in the Synchro files. Please provide us correct Synchro files.*

- Table 17 (2031 Full IC) in the body of the report and the Synchro output sheets in the report appendix have been updated. (OK)

2. *In the Derry Road interchange model, for east ramp terminal, Ideal Saturation Flow rate for NBR is taken as 2400 and NBL as 2200. Please justify use of these numbers, otherwise please correct the model.*

- See section 2.6.1 and Appendix B.

Under the existing conditions analysis, the initial Synchro results for these movements yielded a v/c greater than 1.00. As validated by field observations, the intersection was adequately processing traffic volumes and those movements were not observed to exceed the available capacity. To reflect working operational conditions, the saturation flow rates for those turning movements were increased from the default value of 1,900 vehicles per hour per lane (vphpl) until the v/c value was less than or equal to 1.00. These saturation flow adjustments were carried forward for the subsequent analysis of future conditions/scenarios

- It is practically impossible to achieve Ideal Saturation Flow rate of 2400 for right and left turning traffic. As per CCG, 1950 is observed as maximum SFR for through move in Toronto urban area and for right/left turn move it should be lesser. Therefore, please carry out saturation flow rate study for those moves and calibrate the models accordingly. Please submit the SFR study and results of calibrated model for our review

3. *In the Derry Road interchange model, for west ramp terminal, Ideal Saturation Flow rate for SBR is taken as 2275 and SBL as 2275. Please justify use of these numbers, otherwise please correct the model.*

- See section 2.6.1 and Appendix B.

- Under the existing conditions analysis, the initial Synchro results for these movements yielded a v/c greater than 1.00. As validated by field observations, the intersection was adequately processing traffic volumes and those movements were not observed to exceed the available capacity. To reflect working operational

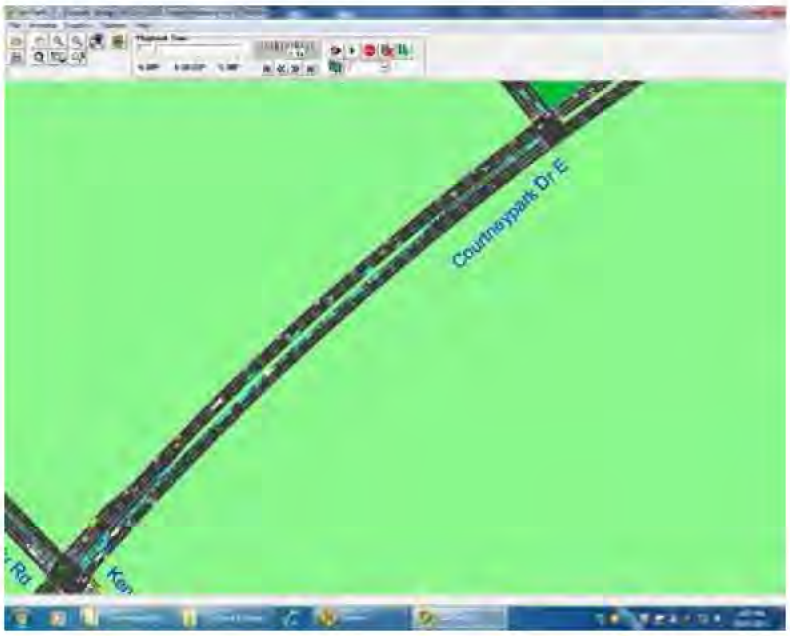
conditions, the saturation flow rates for those turning movements were increased from the default value of 1,900 vehicles per hour per lane (vphpl) until the v/c value was less than or equal to 1.00. These saturation flow adjustments were carried forward for the subsequent analysis of future conditions/scenarios;

- (Same comment as is for question 2)

4. *There is an error in Synchro model for EBL turning traffic at Courtney Park west ramp terminal. When running in Sim Traffic, EBL traffic is not turning left during the protected left turn phase, causing long queues for EBL. Please correct the model.*

- We did not observe this error during our review of the Synchro models. If the scenario and peak hour during which the error was observed could be provided, we will investigate further.

- Recent Synchro files of full Interchange scenarios are still showing long queues for EBL at West ramp terminal of Courtney Park when running in Sim Traffic. The queues are reaching up to the Kennedy road intersection. Please correct the models. Following is a snap shot from the Sim traffic




5. *By adding ramps at Courtney part drive interchange, please explain what type of*

*benefits ministry will receive. Please show in report % reduction in delays on mainline as well as on Ramp Terminals separately (not as the whole freeway system). As per the lane speed diagrams and contours provided in the report, impacts are visible on the mainline of highway 410 due to the provision of the full interchange. Please separate delays on mainline, ramps and ramp terminals in the report for the partial as well as for full interchange design.*

- See sections 8.1, 8.2, and 8.3.
    - As per the results present in the report, due to the full interchange, there will be negative impact in the operations of the mainline (operating speeds will reduced significantly and there will be no improvement in the operations of the Derry road off-ramp during the AM peak hours. The off-ramp queuing which is currently reaching up to the mainline and will remain same in future,

6. *Please provide queue lengths of all moves at the ramp terminals from Vissim model (EB,WB,NB,SB, EBL, WBL etc.)*

- Queue lengths for all moves at the ramp terminals from VISSIM were provided in a summary table within Appendix D of the report;
    - Recommended improvements will not improve operations of the 410NB off ramp at Derry. The queuing will remain same for both scenarios (510m reaching up to mainline).

7. *Due to the new ramps, will there be any weaving issue on the mainline.*

- See section 8.2.1.
    - Weaving analysis has not been carried out or presented in the report. Please carryout weaving analysis either by using HCM 2010 or other and submit the results for our review. There will be approx. 650m distance between the on-ramp and off-ramp in the NB direction and approx. 500m in SB direction, which are not sufficient and can cause major weaving / safety concerns.

8. *As per the response to our last comments regarding v/c ratio. The consultant mentioned that "no other reasonable improvements could be implemented to reduce the v/c to*

*these levels". Please clarify "reasonable improvements" and recommend any geometric improvement to reduce the values to keep it within MTO threshold limits.*

- See section 8.5.2.

9. *In the 2031 PM scenarios, 685 WBL volume at the east ramp terminal on Courtney park will produce operational concerns (v/c=0.95 and long queue). Please suggest any other design alternative that can accommodate this extent of left turning volume.*

- See section 8.5.2.

Additional comments

1. Please show SB off-ramp at Courtney park in Fig-18

2. Please explain how the numbers in the Table 20 & 23 are calculated.

3. Please correct in Table 21 LOS for Alt 1 in AM peak hour for NB HOV and SB Collector.

4. In table 24, in the list of improvement, also add EBL and WBL at the Courtney park ramp terminals.

5. Please correct the location of new off-ramp at the East ramp terminal of Courtney park in fig-23 and the Synchro models.

6. In the conclusions tab g & h, it is mentioned that the full interchange would improve the traffic operations on Highway 410 corridor and will reduce delays on the freeway. However, as per the analysis presented in the report following are observed;

   a) The full interchange at Courtney Park will impact the mainline operations of 410 (reduce operating speed on the mainline, increase travel time, deteriorate LOS, and increase delay) and will possibly produce weaving/safety issues in between Courtney park and Derry road interchanges (approx. 650m distance in NB direction and approx. 500m in SB direction).

   b) The operations of the ramp terminals at the Courtney park will deteriorated. The WBL at the East ramp terminal will operate above MTO threshold values and produce long queues of traffic to enter into the 410NB onramp (approx. 700 vehicles will make left during the PM peak hour).

c) Diversion of traffic from Derry to Courtney park will only improve operations of the municipal road network and has min to almost no benefit at the ramp terminals (NB off-ramp queue at Derry during am peak will remain same 510m with and without full i/c) and will produce negative impact at Courtney park ramp terminals

## Pramod Kumar KC's comments:

1. *Turning speeds used in vissim are still higher. What is the rationale for using different turning speed in vissim and Synchro/SimTraffic? Turning speeds used are shown in table below.*

   - SimTraffic speeds are default program values and do not impact the Synchro analysis results. VISSIM turning speeds are based on previous project experience. Furthermore, as these speeds are consistent between both alternatives, we would expect minimal differences in the analysis results both individually and relative to each other if these speeds were to be reduced.

   Please provide evidence/data/research paper if any to support the assumed turning speed. Otherwise, standard turning speeds should be used in the model and results should be updated accordingly.

2. *Section 8.2 Freeway Comparison: instead of System delay, provide HWY 410 mainline delay or travel time savings.*

   - We will provide a comparison of travel times.

3. *Identify and quantify any other benefits to demonstrate improvement in HWY 410 mainline operation as a result of full interchange at Courtneypark Drive.*

   - We will review new ways to present the data in the Transportation & Traffic Analysis Report.

4. *Traffic modelling has been submitted for Alternative 1 and Alternative 2, are these the only alternatives under considerations?*

   - Yes, Alternative 1 (widening of Courtneypark Drive, with partial interchange) and Alternative 2 (widening of Courtneypark Dr, with full interchange) are the only Alternative Solutions under consideration.

| | |
|---|---|
| **From:** | Bradley, Michael |
| **To:** | Mike.Marinelli@ontario.ca; kashif.hussain@ontario.ca; PramodKumar.KC@ontario.ca; "branko.zivkovic@ontario.ca" |
| **Cc:** | Dana Glofcheskie (Dana.Glofcheskie@mississauga.ca); Leslie Green (Leslie.Green@mississauga.ca); Murray, Gordon (gordon.murray@stantec.com); Kwan, Steven |
| **Subject:** | RE: Courtneypark Dr Class EA - Revised traffic report, models |
| **Date:** | Wednesday, April 15, 2015 6:40:00 PM |
| **Attachments:** | mem_10564_comment_resp_20150415.pdf |

Hi Mike, Kashif, Pramod, and Branko,

Please find attached Stantec's responses to MTO's most-recent comments on the Transportation & Traffic Analysis Report for the Courtneypark Dr E Class EA, to be discussed further at tomorrow's meeting.

Thanks,
- Mike

**Mike Bradley, BSc, EIT**
Engineering Intern
Transportation
Stantec
Phone: (905) 944-7763
mike.bradley@stantec.com



---

**From:** Marinelli, Mike (MTO) [mailto:Mike.Marinelli@ontario.ca]
**Sent:** April 2, 2015 8:36 AM
**To:** Dana Glofcheskie
**Cc:** Hussain, Kashif (MTO); KC, Pramod Kumar (MTO); Zivkovic, Branko (MTO)
**Subject:** FW: Courtneypark Dr Class EA - Revised traffic report, models

Dana,

MTO Traffic have reviewed your submission and as you can see from the e-mail below they still have numerous concerns with the models. At this point I believe that a technical meeting with the City, your consultant and MTO is necessary. Please provide possible dates for MTO to attend.

Thanks

Mike

**Mike Marinelli | Project Manager**
**Ministry of Transportation | Central Region**
Planning and Design – Peel & Halton Section | 4th Floor, Bldg.D
1201 Wilson Avenue | Downsview | ON | M3M 1J8
T: 416-235-4639 | F: 416-235-3576

---

**From:** Hussain, Kashif (MTO)

Stantec

# Memo

| | | | |
|---|---|---|---|
| To: | Dana Glofcheskie<br>Mississauga, ON | From: | Steven Kwan<br>Markham, ON |
| File: | 165010564 | Date: | April 15, 2015 |

**Reference: Courtneypark Drive Class EA – Comments from MTO**

Comments were received from MTO, forwarded to the City of Mississauga, and provided to Stantec on Tuesday, April 7, 2015.

| No. | Comment | Response |
|---|---|---|
| 2/3 | It is practically impossible to achieve Ideal Saturation Flow rate of 2400 for right and left turning traffic. As per CCG, 1950 is observed as maximum SFR for through move in Toronto urban area and for right/left turn move it should be lesser. Therefore, please carry out saturation flow rate study for those moves and calibrate the models accordingly. Please submit the SFR study and results of calibrated model for our review | The saturation flow rates documented in the CCG are ***observed*** saturation flow rates in the field and not ***ideal*** saturation flow rates.<br><br>The ideal saturation flow rates used in Synchro are adjusted downwards by the software through the application of a number of factors in order to calculate the actual saturated flow rates, which are comparable to the observed saturation flow rates in CCG.<br><br><u>Derry Road/Highway 410 East Terminal (AM Peak Hour):</u><br>Ideal Saturated Flow Rate<br>NBL=2200<br>NBR=2400<br><br>Actual Saturated Flow Rate<br>NBL=1855<br>NBR=1805<br><br><u>Derry Road/Highway 410 West Terminal (AM Peak Hour)</u>:<br>Ideal Saturated Flow Rate<br>SBL=2275<br>SBR=2275<br><br>Actual Saturated Flow Rate<br>SBL=2026<br>SBR=1727 |
| 4 | Recent Synchro files of full Interchange scenarios are still showing long queues for EBL at West ramp terminal of Courtney Park when running in Sim Traffic. The queues are reaching up to the Kennedy road intersection. Please | To be reviewed further. |

**Reference: Courtneypark Drive Class EA – Comments from MTO**

| | | |
|---|---|---|
| | correct the models. Following is a snap shot from the Sim traffic | |
| 5 | As per the results present in the report, due to the full interchange, there will be negative impact in the operations of the mainline (operating speeds will reduced significantly and there will be no improvement in the operations of the Derry road off-ramp during the AM peak hours. The off-ramp queuing which is currently reaching up to the mainline and will remain same in future, | We agree that there are increases in travel time for some mainline sections and corresponding decreases in speeds (see attached Table 1), but we would characterize these as modest rather than significant. Furthermore, this should not be unexpected given that merge/diverge conditions have been introduced where previously there was none before. We agree that operations at the Highway 410 Derry Road east ramp terminal are effectively unchanged between the two scenarios, but the west ramp terminal off-ramp experiences substantial benefit (reduction of 750 vph and 340 vph in the a.m. and p.m. peak hours, respectively). |
| 6 | Recommended improvements will not improve operations of the 410NB off ramp at Derry. The queuing will remain same for both scenarios (510m reaching up to mainline). | Agreed. Volumes at the Highway 410 NB Derry Road off-ramp have not changed between the partial and full interchange scenarios, and therefore we would not expect any changes in the queuing. |
| 7 | Weaving analysis has not been carried out or presented in the report. Please carryout weaving analysis either by using HCM 2010 or other and submit the results for our review. There will be approx. 650m distance between the on-ramp and off-ramp in the NB direction and approx. 500m in SB direction, which are not sufficient and can cause major weaving/safety concerns. | A review of the weaving operations had been conducted through use of the VISSIM model and no weaving issues were identified nor was there any substantial interaction between the northbound queue at the Derry Road off-ramp and the Courtneypark Drive on-ramp traffic.<br><br>Further clarification required for the southbound weaving section of concern, to be discussed further. |
| A1 | Please show SB off-ramp at Courtney park in Fig-18 | Figure to be updated. |
| A2 | Please explain how the numbers in the Table 20 & 23 are calculated. | Additional explanation will be provided. |
| A3 | Please correct in Table 21 LOS for Alt 1 in AM peak hour for NB HOV and SB Collector. | Values will be corrected. |
| A4 | In table 24, in the list of improvement, also add EBL and WBL at the Courtney park ramp terminals. | This information will be included. |
| A5 | Please correct the location of new off-ramp at | Figure to be updated. The most recent |

**Reference: Courtneypark Drive Class EA – Comments from MTO**

| | | |
|---|---|---|
| | the East ramp terminal of Courtney park in fig-23 and the Synchro models. | Synchro files sent to MTO incorporate this change. |
| A6 | In the conclusions tab g & h, it is mentioned that the full interchange would improve the traffic operations on Highway 410 corridor and will reduce delays on the freeway. However, as per the analysis presented in the report following are observed;<br><br>a) The full interchange at Courtney Park will impact the mainline operations of 410 (reduce operating speed on the mainline, increase travel time, deteriorate LOS, and increase delay) and will possibly produce weaving/safety issues in between Courtney park and Derry road interchanges (approx. 650m distance in NB direction and approx. 500m in SB direction).<br><br>b) The operations of the ramp terminals at the Courtney park will deteriorated. The WBL at the East ramp terminal will operate above MTO threshold values and produce long queues of traffic to enter into the 410NB onramp (approx. 700 vehicles will make left during the PM peak hour).<br><br>c) Diversion of traffic from Derry to Courtney park will only improve operations of the municipal road network and has min to almost no benefit at the ramp terminals (NB off-ramp queue at Derry during am peak will remain same 510m with and without full i/c) and will produce negative impact at Courtney park | Generally agree, to be discussed in further detail. |

**Reference: Courtneypark Drive Class EA – Comments from MTO**

| | | |
|---|---|---|
| | ramp terminals | |
| B1 | Please provide evidence/data/research paper if any to support the assumed turning speed. Otherwise, standard turning speeds should be used in the model and results should be updated accordingly. | 30 km/h turning speeds for left and right turns were used in the VISSIM model.<br><br>In the "Protocol for VISSIM Simulation – Oregon Department of Transportation, June 2011" suggested speeds of 15 mph (25 km/h) for left turns and between 9-15 mph (15-25 km/h) for right turns.<br><br>During the site visit and traffic observations, typical vehicle turning speeds of 30 km/h were observed which does not represent a substantial deviation from recommended speed ranges and are also reasonable given the generous roadway geometry and high traffic volumes. |

| Table 1<br>Partial versus Full Interchange Comparison<br>Peak Hour Speed Comparison (km/h) | | | | | |
|---|---|---|---|---|---|
| **Highway 410 Road Section** | | **AM Peak Hour** | | **PM Peak Hour** | |
| | | **Alt 1** | **Alt 2** | **Alt 1** | **Alt 2** |
| **NB Direction** | | | | | |
| Highway 401/403 I/C – Courtneypark Drive I/C | Collector | 101 | 91 | 101 | 97 |
| | | - 10 (-10%) | | -4 (-4%) | |
| Courtneypark Drive I/C – Derry Road I/C | Collector | 99 | 83 | 97 | 97 |
| | | -16 (-16%) | | 0 (0%) | |
| **SB Direction** | | | | | |
| Courtneypark Drive I/C – Derry Road I/C | Collector | 91 | 75 | 102 | 102 |
| | | -16 (-18%) | | 0 | |
| Highway 401/403 I/C – Courtneypark Drive I/C | Collector | 103 | 103 | 103 | 103 |
| | | 0 | | 0 | |

| | |
|---|---|
| **From:** | Dana Glofcheskie |
| **To:** | Marinelli, Mike (MTO) |
| **Cc:** | Hussain, Kashif (MTO); KC, Pramod Kumar (MTO); Zivkovic, Branko (MTO); Leslie Green; Murray, Gordon; Bradley, Michael; Kwan, Steven |
| **Subject:** | RE: Courtneypark Dr Class EA - Proposed Sat Flow Rate Study and Turning Speed Study |
| **Date:** | Thursday, May 14, 2015 10:55:14 AM |
| **Attachments:** | image001.png<br>mem_10564_mto_resp_method_20150514_revised.pdf |

Hi Mike,

Attached is a memo describing our proposed methodology for addressing MTO's comments on the Transportation & Traffic Analysis Report. As requested by MTO, we are proposing to complete a Saturation Flow Rate Study at the off-ramp from northbound Highway 410 to Derry Road and a Turning Speed Study for right turns from the northbound Highway 410 off-ramp to Derry Road.

Please review and provide confirmation that MTO agrees with the proposed approach by the end of the week. We are scheduled to start the field review next week.

Thanks,

MISSISSAUGA

**Dana Glofcheskie, P.Eng.**
Transportation Project Engineer
T 905-615-3200 ext.8243
dana.glofcheskie@mississauga.ca

City of Mississauga | Transportation & Works Department,
Transportation & Infrastructure Planning Division



---

**From:** Marinelli, Mike (MTO) [mailto:Mike.Marinelli@ontario.ca]
**Sent:** April 2, 2015 8:36 AM
**To:** Dana Glofcheskie
**Cc:** Hussain, Kashif (MTO); KC, Pramod Kumar (MTO); Zivkovic, Branko (MTO)
**Subject:** FW: Courtneypark Dr Class EA - Revised traffic report, models

Dana,

MTO Traffic have reviewed your submission and as you can see from the e-mail below they still have numerous concerns with the models. At this point I believe that a technical meeting with the City, your consultant and MTO is necessary. Please provide possible dates for MTO to attend.

Thanks

Mike

Stantec

# Memo

| | | | |
|---|---|---|---|
| To: | Leslie Green/Dana Glofcheskie<br>City of Mississauga | From: | Steven Kwan/Gord Murray<br>Stantec |
| File: | 165010564 | Date: | May 14, 2015 |

**Reference: Courtneypark Drive East Class EA**
**Transportation & Traffic Analysis Report**
**Proposed Methodology to Respond to MTO Comments**

## 1.0 Introduction

This memo has been prepared to detail the proposed methodology to respond to the comments provided by MTO regarding the Courtneypark Drive Class EA Traffic & Transportation Analysis report which require additional data collection.

## 2.0 Comments

### *2.1 Saturation Flow*

Stantec will undertake a saturation flow rate study at the off-ramp from northbound Highway 410 to Derry Road consistent with the Institute of Transportation Engineers (ITE) *Manual of Transportation Engineering Studies, 2nd Edition* (see attached excerpt). This will involve an observer measuring the time between vehicles after the first three vehicles, for queues longer than eight vehicles.

If the observed saturation flow rates are in the order of 1,800 vehicles per hour or greater, the saturation flow rates in the Synchro model will not be adjusted as they will be consistent with the actual saturation flow rates, i.e. ideal saturation flow rates of 2,200-2,400 vehicles per hour.

### *2.2 Turning Speed*

In order to assess vehicle turning speeds, test vehicles using the floating car method, equipped with a GPS which tracks location in one second intervals, will be used. Drivers will drive at a speed consistent with the flow of traffic for right turns from the northbound Highway 410 off-ramp to Derry Road. This will provide a more accurate measurement of speed than attempting to use a radar or laser measuring device for a turning vehicle. An example of this speed output is shown in the image below:

Travel time survey - Bathurst Street from Centre Street/North Promenade to Highway 7/Off-On Ramp, Jan 23, 2014, 6:30a.m.-9:30a.m.

| latitude | longitude | actual time | meters per sec | speed (km/h) | distance (m) | time interval |
|---|---|---|---|---|---|---|
| 43.822620 | 79.452777 | 6:39:50 | 0.00 | | 0.00 | 0:00:00 |
| 43.822762 | 79.452810 | 6:39:51 | 15.99 | 57.56 | 15.99 | 0:00:01 |
| 43.822903 | 79.452843 | 6:39:52 | 15.98 | 57.52 | 31.97 | 0:00:02 |
| 43.823045 | 79.452878 | 6:39:53 | 16.00 | 57.60 | 47.97 | 0:00:03 |
| 43.823188 | 79.452913 | 6:39:54 | 16.20 | 58.30 | 64.16 | 0:00:04 |
| 43.823330 | 79.452948 | 6:39:55 | 16.00 | 57.61 | 80.17 | 0:00:05 |
| 43.823468 | 79.452982 | 6:39:56 | 15.62 | 56.24 | 95.79 | 0:00:06 |

**Reference: Courtneypark Drive East Class EA**
**Transportation & Traffic Analysis Report**
**Proposed Methodology to Respond to MTO Comments**

With this information, average vehicle speed turning profiles will be developed for the right turn movement. These will be compared to the speeds of turning vehicles using speed measurement points in VISSIM for the 30 km/h desired speed zone. If the observed speed profiles are consistent or are faster than output from VISSIM, no changes will be made to the desired speed zone. If the observed speed profiles are slower, the desired speed zone speed will be adjusted such that the resulting vehicles speed are consistent with the observed speed profile.

Field investigations are the best method for determining the actual queue lengths at an approach. Macroscopic models are used frequently for signal timing and can often be used to determine a queue's percentile (e.g. 50th, 90th, etc.). However, macroscopic models are equation-based and therefore do not take into account the actual storage bay lengths. Instead, they assume an infinite length for each lane group; therefore, simulation is usually employed to determine if a storage bay is long enough or if a proposed driveway would be blocked for a significant amount of time. Further information on simulation studies can be found in Chapter 11.

## 4.0 SATURATION FLOW AND LOST TIME

Saturation flow and lost time are two of the basic building blocks of traffic engineering. Analysts use these measures to time signals and estimate intersection capacity. *Saturation flow* is the number of vehicles that can pass a given point on a highway in a given period of time with no interruptions. In studies of intersections, analysts focus on the flow past the stop bar in a lane in an hour of uninterrupted green signal (also termed the "ideal" saturation flow).

*Lost time* is the unused portion of the signal cycle. There are two significant components to lost time for each signal phase:

- *Startup lost time* occurs between the time the green signal begins and the queue begins moving efficiently.
- *Clearance lost time* occurs between the time the last vehicle crosses the stop bar and the next signal phase begins.

Many agencies use standard constant values for saturation flow and lost time in analyses. However, saturation flow and lost time vary significantly between intersections and between different times of day. To avoid errors caused by inappropriate use of a standard value, some agencies measure saturation flow and lost time directly before performing other analyses. More often, agencies sample saturation flow and lost time periodically at several sites in an area and calibrate their equations based on those samples. The procedures for measuring saturation flow and lost time are described in this section. The procedures are relatively simple and one can use a variety of equipment to perform them.

### 4.1 Equipment Needs

Saturation flow rate and lost time studies are usually conducted with a stopwatch, count board, or computer software with code written to utilize key strokes and the internal clock. Methods other than a stopwatch have several advantages, including greater accuracy, instant creation of a computer file (for the laptop) and creation of a permanent record that is available for other studies (using audio and video). For nonresearch studies, analysts can rarely justify the extra time and expense of these other methods, however. The laptop and video methods require special computer programs to be written or acquired, such as the one provided in Appendix E-2.

The laptop method requires observers to press certain keys when the fourth vehicle crosses the stop bar and other keys when the seventh, eighth, ninth, or 10th vehicle crosses. The program records the times those keys are pressed and performs the calculations. The audiotape method requires an observer at the intersection to speak into a tape recorder when the vehicles of interest cross the stop bar (Shanteau, 1988). Back at the office, a data collector plays the tape at the same speed while pressing the appropriate computer key for each audio cue. A program similar to that on the laptop is needed to record the times and perform calculations.

The video method requires a clear vantage point and good light conditions. In the office, a technician must stop the video and record the time on the on-screen clock as the vehicles of interest cross the stop bar.

### 4.2 Personnel Training Requirements

Personnel conducting saturation flow rate and lost time studies will need to have good vantage points near the stop bars of the approach being studied, but also need to view approximately 200 ft. (60 m) upstream. Since data is collected near the roadway, a reflective vest is a must. If a stopwatch is used, the person collecting the necessary data should

have good reflexes and understand the exact data collection methodology prior to going in the field. Any errors, even small errors, could have a significant effect on the values (especially lost time).

The hardest part about conducting one of these two studies is trying to be inconspicuous. Rarely is the analyst able to obtain a good field of view without being out of a vehicle and in full view of approaching vehicles.

## 4.3 Field Procedures and Analysis

### *4.3.1 Saturation Flow Rate*

Exhibit 6-4 shows a form that is useful for collecting saturation flow observations. Appendix E contains a blank form (Exhibit E-12) suitable for copying. The observer starts the watch when the rear axle of the fourth vehicle, in a queue that had been stationary while waiting for the green signal, crosses the stop bar. This is the point where an average queue of vehicles begins to keep consistent headways. The observer stops the watch when the rear axle of the seventh, eighth, ninth, or 10th vehicle in the queue (whichever was the last vehicle in the stopped queue at the instant the signal turned green) crosses the stop bar. For example, suppose that the stopped queue is eight vehicles long at the instant the signal turns green. The observer would start the watch for vehicle four, stop the watch for vehicle eight, and enter the elapsed time in the "eighth vehicle" column of the form in Exhibit 6-4. The observer cannot record a measurement if the queue is less than seven vehicles long when the signal turns green because short queues provide unstable data. If the queue is more than 10 vehicles long, the observer stops the watch at the 10th vehicle. Ten vehicles is a convenient maximum that decreases the chance of error due to the effects of spillback or to vehicles stopping for the red signal. Observers must ignore vehicles joining the queue after the green signal appears. One observer records saturation flow data for one lane at a time. Saturation flow rates estimated for a lane usually apply to adjacent lanes of the same type on the same approach. One observer with a clear view of adjacent approaches can alternately record data from a lane on each if the approaches use different parts of the signal cycle.

## Exhibit 6-4. Saturation Flow Data Collection Form

FIELD SHEET - SATURATION FLOW STUDY

Location: Sagamore Parkway at Yeager Road
West Bound Traffic Lane: Right Through
Date: 4/2/92 Thurs Time: 4:00pm-6:00pm City: West Lafayette
Observers: MH Weather: Cloudy 50°
Grade: 1 % Lane Width: 12ft Area: Suburban Other:

| Obs No. | Time (seconds) between 4th vehicle and ... | | | |
|---|---|---|---|---|
| | 7th veh. | 8th veh. | 9th veh. | 10th veh. |
| 1 | | 8.2 | | |
| 2 | 4.8 | | | |
| 3 | | | | 11.4 |
| 4 | | | | 11.2 |
| 5 | | | 10.1 | |
| 6 | 6.3 | | | |
| 7 | | 6.3 | | |
| 8 | | | 9.1 | |
| 9 | 5.3 | | | |
| 10 | | | | 10.6 |
| 11 | | 7.9 | | |
| 12 | 6.1 | | | |
| 13 | | | | 10.5 |
| 14 | | 7.4 | | |
| 15 | | | | 11.3 |
| 16 | | | | 11.4 |
| 17 | | 7.0 | | |
| 18 | 6.0 | | | |
| 19 | | | 9.2 | |
| 20 | 5.8 | | | |

| Obs No. | Time (seconds) between 4th vehicle and ... | | | |
|---|---|---|---|---|
| | 7th veh. | 8th veh. | 9th veh. | 10th veh. |
| 21 | | | | 11.5 |
| 22 | | | | 11.1 |
| 23 | 5.2 | | | |
| 24 | | 8.3 | | |
| 25 | 5.4 | | | |
| 26 | | | 9.6 | |
| 27 | | | 9.0 | |
| 28 | | | | 10.6 |
| 29 | 5.8 | | | |
| 30 | | | | 10.2 |
| 31 | 12.3 | | | |
| 32 | | | | |
| 33 | | | | |
| 34 | | | | |
| 35 | | | | |
| 36 | | | | |
| 37 | | | | |
| 38 | | | | |
| 39 | | | | |
| 40 | | | | |
| Column Sums: | 57.0 (a) | 45.1 (b) | 47.0 (c) | 109.8 (d) |

$$\text{Mean Saturation Flow (vph)} = \frac{3600 * \text{Total Number of Observations}}{\frac{(a)}{3} + \frac{(b)}{4} + \frac{(c)}{5} + \frac{(d)}{6}}$$

The factors that affect saturation flow rates are grade, lane width, intersection location (CBD versus other), type of lane and presence of adjacent parking lanes (TRB, 2000). Therefore, the analyst must carefully select approaches to measure saturation flow to ensure an unbiased result. Do not use a saturation flow estimate from a steep approach to analyze a flat approach, for instance. Heavy vehicles also affect saturation flow rates, so observers should not record data if a heavy vehicle is in one of the first seven positions in the queue. If a heavy vehicle is in position 8, the observer can record the time between the fourth and seventh vehicles, and so on. Also, do not record data during a signal phase in which traffic flow is interrupted by buses, by left-turning traffic waiting for opposing traffic to clear, or by right-turning traffic waiting for pedestrians to clear. Analysts can calculate interrupted saturation flow from ideal saturation flow by the methods of the HCM (2000). The procedure for studying saturation flow in an exclusive left-turn or right-turn lane with a protected signal phase is the same as the basic procedure for a through lane.

For agencies that have difficulty finding sites unaffected by the factors mentioned above, Roess, Prassas and McShane (2004) suggest a procedure for estimating ideal saturation flow from measurements at nonideal sites. The analyst can solve the saturation flow equation in the HCM for the ideal saturation flow given the measured nonideal saturation flow and the standard adjustment factors for the nonideal conditions. Time of day, weather, and events that affect driver populations or behavior also affect saturation flow. Measure ideal saturation flows during peak hours, in dry weather, and during times when no special events are affecting drivers. It may be difficult to collect saturation flow data during nonpeak hours in any case, due to small queues.

One can calculate desirable sample sizes for a saturation flow study from a standard sample size equation. Usually, analysts have some knowledge of the precision of the saturation flow estimate they desire. For instance, an analyst may not want the mean estimated saturation flow rate to differ from the true saturation flow rate by more than $d$ vehicles per hour. The analyst can find the necessary sample size $n$ by Equation 6-7.

$$n = \left( Z * \frac{s}{d} \right)^2$$ Equation 6-7

where

$n$ = required sample size

$Z$ = constant from the standard normal distribution corresponding to a certain confidence level (see Exhibit 6-5)

$s$ = estimate of the standard deviation of the population of saturation flow rates

A typical value for $s$ is 140 vehicles per hour (ITE Technical Committee 5P-5, 1991). If the analyst is willing to use this typical standard deviation and wants an estimated mean saturation flow rate within 50 vehicles per hour of the true rate with 95 percent confidence, the analyst would have to observe $n = [1.96(140/50)]^2 = 30$ valid queues. A peak period at a moderately busy intersection usually produces at least 30 valid queues.

**Exhibit 6-5. Values of Z for Equation 6-7**

| Percent Confidence | Z |
|---|---|
| 90 | 1.64 |
| 95 | 1.96 |
| 99 | 2.58 |
| 99.5 | 2.81 |

Once the data have been collected on the form in Exhibit 6-4, one can calculate the mean saturation flow rate using the equation on the bottom of that form. Basically, a mean saturation flow rate is estimated by calculating an average number of seconds consumed per vehicle (headway) and converting that into a number of vehicles per hour. For the sample data shown in Exhibit 6-4, mean saturation flow in vehicles per hour, SF in Equation 6-8, is estimated from the equation on the bottom of the form as shown in Equation 6-8.

$$SF = \frac{3600n}{\frac{a}{3} + \frac{b}{4} + \frac{c}{5} + \frac{d}{6} +}$$ Equation 6-8

$$SF = \frac{3600 * 31}{\frac{57.0}{3} + \frac{45.1}{4} + \frac{47.0}{5} + \frac{109.8}{6}}$$

SF = 1,925 veh/hr

In Equation 6-8, $n$ is the total number of observations, and $a$, $b$, $c$ and $d$ are the times in seconds between the fourth vehicle and 7th, 8th, 9th and 10th vehicles, respectively.

### *4.3.2 Lost Time*

Lost time is more difficult to study than saturation flow for several reasons. First, lost times are short, so accurate measurements require quick reflexes. Second, observers can measure clearance lost time only during completely saturated green phases. Finally, many of the variables that affect saturation flow affect lost time, plus others, including signal head position and lens size. The analyst must be careful when applying a lost-time estimate from one lane to other lanes, approaches, or intersections. Observers record lost-time data with a stopwatch, laptop computer, audiotape and

| | |
|---|---|
| **From:** | Leslie Green |
| **To:** | Bradley, Michael; Murray, Gordon; Kwan, Steven |
| **Cc:** | Dana Glofcheskie |
| **Subject:** | FW: Courtneypark Dr Class EA - Proposed Sat Flow Rate Study and Turning Speed Study |
| **Date:** | Friday, May 15, 2015 2:17:34 PM |
| **Attachments:** | image001.png |

Good afternoon,

Please see MTO's comments on the proposed methodology. Please see their comments on the turning speed and prepare a response. We would like to get back to them on this by Tuesday.

Have a great land weekend.

Thanks,
Leslie

---

**From:** Marinelli, Mike (MTO) [mailto:Mike.Marinelli@ontario.ca]
**Sent:** 2015/05/15 2:11 PM
**To:** Leslie Green
**Cc:** Dana Glofcheskie
**Subject:** FW: Courtneypark Dr Class EA - Proposed Sat Flow Rate Study and Turning Speed Study

Leslie,

I see that Dana is out of the office so I am also sending you our comments.

Please see comments from MTO Traffic.

Mike

**Mike Marinelli | Project Manager**
**Ministry of Transportation | Central Region**
Planning and Design – Peel & Halton Section | 4th Floor, Bldg.D
1201 Wilson Avenue | Downsview | ON | M3M 1J8
T: 416-235-4639 | F: 416-235-3576

---

**From:** Nikolic, Goran (MTO)
**Sent:** May 15, 2015 1:35 PM
**To:** Saccon, Fabio (MTO); Zivkovic, Branko (MTO); Hussain, Kashif (MTO); KC, Pramod Kumar (MTO); Marinelli, Mike (MTO); Lau, Johnson (MTO)
**Subject:** FW: Courtneypark Dr Class EA - Proposed Sat Flow Rate Study and Turning Speed Study

Branko,

This is our short opinion and advice for you relevant to sat. flow. Can you please make sure all relevant receive instructions from you

Hope this is helpful….see below Johnson work

Goran

---

**From:** Lau, Johnson (MTO)
**Sent:** May-15-15 1:09 PM
**To:** Nikolic, Goran (MTO)
**Subject:** RE: Courtneypark Dr Class EA - Proposed Sat Flow Rate Study and Turning Speed Study

Goran,
Here are my comments regarding the Sat Flow & Turning Speed study, just let me know what you think.

Saturation Flow

- We generally agree with using the methodology from the ITE Manual.
- The saturation flow rates used in the model should be adjusted accordingly based on the survey results (whether it's over 1,800 vehicles or not).

Turning Speed

- How many survey runs will be conducted?
- Using GPS data with one second intervals will likely lead to significant margin of error for short travelling segments (in this case, completing a right turn at an intersection). We are not sure this method will have more accurate measurements than laser measuring devices.

---

**From:** Zivkovic, Branko (MTO)
**Sent:** May 15, 2015 11:24 AM
**To:** Lau, Johnson (MTO); Nikolic, Goran (MTO); Marinelli, Mike (MTO); Dana.Glofcheskie@mississauga.ca
**Cc:** Zivkovic, Branko (MTO); KC, Pramod Kumar (MTO); Hussain, Kashif (MTO)
**Subject:** FW: Courtneypark Dr Class EA - Proposed Sat Flow Rate Study and Turning Speed Study

Hi Johnson:

Thank you for agreeing to review the attached methodology in the absence of Pramod and Kashif. Please send your comments to Mike Marinelli (P&D) and Dana Glofcheskie at the City of Mississauga.

**Branko Zivkovic**
**Traffic Supervisor** (Peel & Halton)

Ministry of Transportation, Ontario
Central Region, Traffic Office

6th Floor, Building D
1201 Wilson Avenue
Downsview, Ontario

M3M 1J8

Tel. 416-235-5598
Fax. 416-235-4097
E-mail: Branko.Zivkovic@ontario.ca

---

**From:** Dana Glofcheskie [mailto:Dana.Glofcheskie@mississauga.ca]
**Sent:** May 14, 2015 10:55 AM
**To:** Marinelli, Mike (MTO)
**Cc:** Hussain, Kashif (MTO); KC, Pramod Kumar (MTO); Zivkovic, Branko (MTO); Leslie Green; Murray, Gordon; Bradley, Michael; Kwan, Steven
**Subject:** RE: Courtneypark Dr Class EA - Proposed Sat Flow Rate Study and Turning Speed Study

Hi Mike,

Attached is a memo describing our proposed methodology for addressing MTO's comments on the Transportation & Traffic Analysis Report. As requested by MTO, we are proposing to complete a Saturation Flow Rate Study at the off-ramp from northbound Highway 410 to Derry Road and a Turning Speed Study for right turns from the northbound Highway 410 off-ramp to Derry Road.

Please review and provide confirmation that MTO agrees with the proposed approach by the end of the week. We are scheduled to start the field review next week.

Thanks,


**Dana Glofcheskie, P.Eng.**
Transportation Project Engineer
T 905-615-3200 ext.8243
dana.glofcheskie@mississauga.ca

City of Mississauga | Transportation & Works Department,
Transportation & Infrastructure Planning Division



---

**From:** Marinelli, Mike (MTO) [mailto:Mike.Marinelli@ontario.ca]
**Sent:** April 2, 2015 8:36 AM
**To:** Dana Glofcheskie
**Cc:** Hussain, Kashif (MTO); KC, Pramod Kumar (MTO); Zivkovic, Branko (MTO)
**Subject:** FW: Courtneypark Dr Class EA - Revised traffic report, models

Dana,

MTO Traffic have reviewed your submission and as you can see from the e-mail below they still have

| | |
|---|---|
| **From:** | Dana Glofcheskie |
| **To:** | Murray, Gordon; Kwan, Steven |
| **Cc:** | Bradley, Michael; Leslie Green |
| **Subject:** | FW: Courtneypark Dr Class EA - Proposed Sat Flow Rate Study and Turning Speed Study |
| **Date:** | Tuesday, May 19, 2015 3:16:14 PM |
| **Attachments:** | image001.png |

Hi Gord,

See below from MTO.

Thanks,

**Dana Glofcheskie, P.Eng.**
Transportation Project Engineer
T 905-615-3200 ext.8243
dana.glofcheskie@mississauga.ca

City of Mississauga | Transportation & Works Department,
Transportation & Infrastructure Planning Division



---

**From:** Marinelli, Mike (MTO) [mailto:Mike.Marinelli@ontario.ca]
**Sent:** May 19, 2015 3:05 PM
**To:** Dana Glofcheskie; Leslie Green
**Cc:** KC, Pramod Kumar (MTO); Nikolic, Goran (MTO); Hussain, Kashif (MTO); Zivkovic, Branko (MTO)
**Subject:** FW: Courtneypark Dr Class EA - Proposed Sat Flow Rate Study and Turning Speed Study

Dana/Leslie,

Please see reply from or Traffic Planning Office with respect to the proposed method of determining turning speed.

Thanks

Mike

**Mike Marinelli | Project Manager**
**Ministry of Transportation | Central Region**
Planning and Design – Peel & Halton Section | 4th Floor, Bldg.D
1201 Wilson Avenue | Downsview | ON | M3M 1J8
T: 416-235-4639 | F: 416-235-3576

---

**From:** KC, Pramod Kumar (MTO)
**Sent:** May 19, 2015 2:55 PM
**To:** Marinelli, Mike (MTO); Zivkovic, Branko (MTO); Nikolic, Goran (MTO); Hussain, Kashif (MTO)
**Subject:** RE: Courtneypark Dr Class EA - Proposed Sat Flow Rate Study and Turning Speed Study

Mike,
We don't recommend this method. We would like to know the turning speed of the drivers on the road not the test drivers. We prefer measuring turning speed by laser measuring device.
Thanks,
Pramod

---

**From:** Marinelli, Mike (MTO)
**Sent:** May-19-15 2:24 PM
**To:** Zivkovic, Branko (MTO); Nikolic, Goran (MTO); KC, Pramod Kumar (MTO); Hussain, Kashif (MTO)
**Subject:** FW: Courtneypark Dr Class EA - Proposed Sat Flow Rate Study and Turning Speed Study

All,

Please see response from City of Mississauga.

Thanks

Mike

**Mike Marinelli | Project Manager**
**Ministry of Transportation | Central Region**
Planning and Design – Peel & Halton Section | 4th Floor, Bldg.D
1201 Wilson Avenue | Downsview | ON | M3M 1J8
T: 416-235-4639 | F: 416-235-3576

---

**From:** Dana Glofcheskie [mailto:Dana.Glofcheskie@mississauga.ca]
**Sent:** May 19, 2015 2:21 PM
**To:** Marinelli, Mike (MTO)
**Cc:** Leslie Green
**Subject:** RE: Courtneypark Dr Class EA - Proposed Sat Flow Rate Study and Turning Speed Study

Hi Mike,

Thanks for your comments.

Regarding the Turning Speed, we are looking to complete at least 10 survey runs using two drivers. Based on Stantec's previous experience, this will capture 2 to 3 speed points for a turning movement and we will have multiple runs for comparison. This will allow for a better understanding as to vehicle turning speeds without the presence of someone in the field who could potentially impact vehicle speeds. The GPS will also allow for the capture of vehicle speed and the vehicle location in the turn, simultaneously as the speed varies throughout the movement.

I trust that this response is satisfactory and we will proceed with the field surveys as outlined in the memo provided last week.

Thanks,

**Dana Glofcheskie, P.Eng.**
Transportation Project Engineer
T 905-615-3200 ext.8243
dana.glofcheskie@mississauga.ca

City of Mississauga | Transportation & Works Department,
Transportation & Infrastructure Planning Division



---

**From:** Marinelli, Mike (MTO) [mailto:Mike.Marinelli@ontario.ca]
**Sent:** May 15, 2015 2:09 PM
**To:** Dana Glofcheskie
**Subject:** FW: Courtneypark Dr Class EA - Proposed Sat Flow Rate Study and Turning Speed Study

Dana,

Please see comments from MTO Traffic.

Mike

**Mike Marinelli | Project Manager**
**Ministry of Transportation | Central Region**
Planning and Design – Peel & Halton Section | 4th Floor, Bldg.D
1201 Wilson Avenue | Downsview | ON | M3M 1J8
T: 416-235-4639 | F: 416-235-3576

---

**From:** Nikolic, Goran (MTO)
**Sent:** May 15, 2015 1:35 PM
**To:** Saccon, Fabio (MTO); Zivkovic, Branko (MTO); Hussain, Kashif (MTO); KC, Pramod Kumar (MTO); Marinelli, Mike (MTO); Lau, Johnson (MTO)
**Subject:** FW: Courtneypark Dr Class EA - Proposed Sat Flow Rate Study and Turning Speed Study

Branko,

This is our short opinion and advice for you relevant to sat. flow. Can you please make sure all relevant receive instructions from you

Hope this is helpful….see below Johnson work

Goran

---

**From:** Lau, Johnson (MTO)
**Sent:** May-15-15 1:09 PM
**To:** Nikolic, Goran (MTO)
**Subject:** RE: Courtneypark Dr Class EA - Proposed Sat Flow Rate Study and Turning Speed Study

Goran,

Here are my comments regarding the Sat Flow & Turning Speed study, just let me know what you think.

Saturation Flow

- We generally agree with using the methodology from the ITE Manual.
- The saturation flow rates used in the model should be adjusted accordingly based on the survey results (whether it's over 1,800 vehicles or not).

Turning Speed

- How many survey runs will be conducted?
- Using GPS data with one second intervals will likely lead to significant margin of error for short travelling segments (in this case, completing a right turn at an intersection). We are not sure this method will have more accurate measurements than laser measuring devices.

---

**From:** Zivkovic, Branko (MTO)
**Sent:** May 15, 2015 11:24 AM
**To:** Lau, Johnson (MTO); Nikolic, Goran (MTO); Marinelli, Mike (MTO); Dana.Glofcheskie@mississauga.ca
**Cc:** Zivkovic, Branko (MTO); KC, Pramod Kumar (MTO); Hussain, Kashif (MTO)
**Subject:** FW: Courtneypark Dr Class EA - Proposed Sat Flow Rate Study and Turning Speed Study

Hi Johnson:

Thank you for agreeing to review the attached methodology in the absence of Pramod and Kashif. Please send your comments to Mike Marinelli (P&D) and Dana Glofcheskie at the City of Mississauga.

**Branko Zivkovic**
**Traffic Supervisor** (Peel & Halton)

Ministry of Transportation, Ontario
Central Region, Traffic Office

6th Floor, Building D
1201 Wilson Avenue
Downsview, Ontario
M3M 1J8

Tel. 416-235-5598
Fax. 416-235-4097
E-mail: Branko.Zivkovic@ontario.ca

---

**From:** Dana Glofcheskie [mailto:Dana.Glofcheskie@mississauga.ca]
**Sent:** May 14, 2015 10:55 AM

**To:** Marinelli, Mike (MTO)
**Cc:** Hussain, Kashif (MTO); KC, Pramod Kumar (MTO); Zivkovic, Branko (MTO); Leslie Green; Murray, Gordon; Bradley, Michael; Kwan, Steven
**Subject:** RE: Courtneypark Dr Class EA - Proposed Sat Flow Rate Study and Turning Speed Study

Hi Mike,

Attached is a memo describing our proposed methodology for addressing MTO's comments on the Transportation & Traffic Analysis Report. As requested by MTO, we are proposing to complete a Saturation Flow Rate Study at the off-ramp from northbound Highway 410 to Derry Road and a Turning Speed Study for right turns from the northbound Highway 410 off-ramp to Derry Road.

Please review and provide confirmation that MTO agrees with the proposed approach by the end of the week. We are scheduled to start the field review next week.

Thanks,

**Dana Glofcheskie, P.Eng.**
Transportation Project Engineer
T 905-615-3200 ext.8243
dana.glofcheskie@mississauga.ca

City of Mississauga | Transportation & Works Department,
Transportation & Infrastructure Planning Division



---

**From:** Marinelli, Mike (MTO) [mailto:Mike.Marinelli@ontario.ca]
**Sent:** April 2, 2015 8:36 AM
**To:** Dana Glofcheskie
**Cc:** Hussain, Kashif (MTO); KC, Pramod Kumar (MTO); Zivkovic, Branko (MTO)
**Subject:** FW: Courtneypark Dr Class EA - Revised traffic report, models

Dana,

MTO Traffic have reviewed your submission and as you can see from the e-mail below they still have numerous concerns with the models. At this point I believe that a technical meeting with the City, your consultant and MTO is necessary. Please provide possible dates for MTO to attend.

Thanks

Mike

**Mike Marinelli | Project Manager**
**Ministry of Transportation | Central Region**
Planning and Design – Peel & Halton Section | 4th Floor, Bldg.D

| | |
|---|---|
| **From:** | Kwan, Steven |
| **To:** | pramodkumar.kc@ontario.ca |
| **Cc:** | Bradley, Michael; Murray, Gordon; Soo, Adrian; Pappin, Garry; Dana Glofcheskie (Dana.Glofcheskie@mississauga.ca); Leslie Green (Leslie.Green@mississauga.ca) |
| **Subject:** | CPD Turning Speed Teleconference |
| **Date:** | Monday, May 25, 2015 12:09:03 AM |
| **Attachments:** | ite_excerpt.pdf |

---

Pramod,

Please find attached an excerpt from the ITE Manual of Transportation Engineering Studies, 2nd Edition regarding the cosine angle error, as well as a website link with additional information: http://copradar.com/preview/chapt2/ch2d1.html

As I mentioned on Friday, our contractor has advised that the GPS tracking interval can be shortened to 0.5 seconds from 1 second for an increased number of data points over the turning movement, and can provide video demonstrating that their drivers will be following the flow of traffic.

Let me know what time/number to call.

Regards,

**Steven Kwan, P.Eng.**
Transportation Engineer
Stantec
Phone: (905) 944-7788
Fax: (905) 474-9889
steven.kwan@stantec.com

| | |
|---|---|
| **From:** | KC, Pramod Kumar (MTO) |
| **To:** | Kwan, Steven |
| **Cc:** | Bradley, Michael; Murray, Gordon; Soo, Adrian; Pappin, Garry; Dana Glofcheskie (Dana.Glofcheskie@mississauga.ca); Leslie Green (Leslie.Green@mississauga.ca) |
| **Subject:** | RE: CPD Turning Speed Teleconference |
| **Date:** | Monday, May 25, 2015 9:10:31 AM |

Steven,
We looked at the document you have sent. Now, you can measure the turning speed using the methodology you have proposed. Please send us the result of survey for our review.
Thanks,
Pramod

---

**From:** Kwan, Steven [mailto:Steven.Kwan@stantec.com]
**Sent:** May-25-15 12:09 AM
**To:** KC, Pramod Kumar (MTO)
**Cc:** Bradley, Michael; Murray, Gordon; Soo, Adrian; Pappin, Garry; Dana Glofcheskie (Dana.Glofcheskie@mississauga.ca); Leslie Green (Leslie.Green@mississauga.ca)
**Subject:** CPD Turning Speed Teleconference

Pramod,

Please find attached an excerpt from the ITE Manual of Transportation Engineering Studies, 2nd Edition regarding the cosine angle error, as well as a website link with additional information: http://copradar.com/preview/chapt2/ch2d1.html

As I mentioned on Friday, our contractor has advised that the GPS tracking interval can be shortened to 0.5 seconds from 1 second for an increased number of data points over the turning movement, and can provide video demonstrating that their drivers will be following the flow of traffic.

Let me know what time/number to call.

Regards,

**Steven Kwan, P.Eng.**
Transportation Engineer
Stantec
Phone: (905) 944-7788
Fax: (905) 474-9889
steven.kwan@stantec.com

| | |
|---|---|
| **From:** | Bradley, Michael |
| **To:** | PramodKumar.KC@ontario.ca; kashif.hussain@ontario.ca; Mike.Marinelli@ontario.ca |
| **Cc:** | Dana Glofcheskie (Dana.Glofcheskie@mississauga.ca); Leslie Green (Leslie.Green@mississauga.ca); Kwan, Steven; Murray, Gordon (gordon.murray@stantec.com) |
| **Subject:** | RE: Courtneypark Dr Class EA - Supplementary data collection results |
| **Date:** | Monday, June 22, 2015 11:33:00 AM |

Further to my previous e-mail, we would also request that you confirm as soon as possible whether MTO is agreement with the proposed approach, so that we may begin the revisions to the Transportation & Traffic Analysis Report.

Thanks,
- Mike

**Mike Bradley, BSc, EIT**
Engineering Intern
Transportation
Stantec
Phone: (905) 944-7763
mike.bradley@stantec.com



---

**From:** Bradley, Michael
**Sent:** Monday, June 22, 2015 11:19 AM
**To:** PramodKumar.KC@ontario.ca; kashif.hussain@ontario.ca; Mike.Marinelli@ontario.ca
**Cc:** Dana Glofcheskie (Dana.Glofcheskie@mississauga.ca); Leslie Green (Leslie.Green@mississauga.ca); Kwan, Steven; Murray, Gordon (gordon.murray@stantec.com)
**Subject:** Courtneypark Dr Class EA - Supplementary data collection results

Hi Pramod, Kashif, and Mike,

Please see attached memo and accompanying spreadsheet documenting the supplementary data collection, analysis, and our recommendations for the revisions to the Traffic & Transportation Analysis report in response to your comments, for your review. Note, as detailed in Section 3.0 of the memo, we are proposing the following revisions:

- in the Synchro analysis, reduce the ideal saturation flow rate for left-turn movements at the Highway 410 & Derry Road interchange such that the adjusted saturation flow rate is approximately 1,750 vehicles/hour
- in the VISSIM analysis, reduce the right-turn speed at all ramp terminal intersections to 25 km/h

Please let me know if you have any questions or if you'd like me to clarify anything.

Thanks,
- Mike

**Mike Bradley, BSc, EIT**
Engineering Intern
Transportation
Stantec
Phone: (905) 944-7763
mike.bradley@stantec.com

---

**From:** KC, Pramod Kumar (MTO) [mailto:PramodKumar.KC@ontario.ca]
**Sent:** Monday, May 25, 2015 9:10 AM
**To:** Kwan, Steven
**Cc:** Bradley, Michael; Murray, Gordon; Soo, Adrian; Pappin, Garry; Dana Glofcheskie (Dana.Glofcheskie@mississauga.ca); Leslie Green (Leslie.Green@mississauga.ca)
**Subject:** RE: CPD Turning Speed Teleconference

Steven,
We looked at the document you have sent. Now, you can measure the turning speed using the methodology you have proposed. Please send us the result of survey for our review.
Thanks,
Pramod

---

**From:** Kwan, Steven [mailto:Steven.Kwan@stantec.com]
**Sent:** May-25-15 12:09 AM
**To:** KC, Pramod Kumar (MTO)
**Cc:** Bradley, Michael; Murray, Gordon; Soo, Adrian; Pappin, Garry; Dana Glofcheskie (Dana.Glofcheskie@mississauga.ca); Leslie Green (Leslie.Green@mississauga.ca)
**Subject:** CPD Turning Speed Teleconference

Pramod,

Please find attached an excerpt from the ITE Manual of Transportation Engineering Studies, 2nd Edition regarding the cosine angle error, as well as a website link with additional information: http://copradar.com/preview/chapt2/ch2d1.html

As I mentioned on Friday, our contractor has advised that the GPS tracking interval can be shortened to 0.5 seconds from 1 second for an increased number of data points over the turning movement, and can provide video demonstrating that their drivers will be following the flow of traffic.

Let me know what time/number to call.

Regards,

**Steven Kwan, P.Eng.**
Transportation Engineer
Stantec
Phone: (905) 944-7788
Fax: (905) 474-9889
steven.kwan@stantec.com

The content of this email is the confidential property of Stantec and should not be copied modified retransmitted or used for any purpose except with Stantec's written authorization. If you are not the intended recipient please delete all copies and notify us immediately.

Please consider the environment before printing this email.

Stantec

# Memo

| | | | |
|---|---|---|---|
| To: | Dana Glofcheskie | From: | Steven Kwan<br>Mark Crockford |
| | Mississauga, ON | | Markham, ON |
| File: | 165010564 | Date: | June 18, 2015 |

**Reference: Courtneypark Drive Class EA**
**Supplementary Data Collection for Model Calibration**

## 1.0 Introduction

As part of the Courtneypark Drive Class EA Study, a Transportation and Traffic Analysis Report (March 18, 2015) was completed. Comments from MTO included concerns regarding the following two items:

1. Saturation flow rates used in the Synchro analysis; and
2. Turning speeds used in the VISSIM analysis.

After discussion with MTO staff, it was agreed that further data collection in the field would be undertaken to confirm the values used in the Synchro and VISSIM traffic analyses.

## 2.0 Saturation Flow Study

The saturation flow study was conducted for the northbound left turn (inside lane) and right turn (curb lane) movements at the Highway 410 northbound off-ramp to Derry Road in the a.m. peak hour on Tuesday May 26th, 2015 and Tuesday June 2nd, 2015, respectively. The data was collected in accordance with the procedures outlined in the Institute of Transportation Engineers' (ITE) Manual of Transportation Engineering Studies, 2nd Edition using a spreadsheet macro for greater precision.

Based on the results of the data collection, the northbound left turn movement in the a.m. peak hour was calculated to have a saturation flow rate of ***1,743 vehicles per hour***. The northbound right turn movement in the a.m. peak hour was calculated to have a saturation flow rate of ***1,786 vehicles per hour***. The spreadsheets and the saturation flow calculations are included for reference in **Appendix A**.

A comparison of these values to the ideal and actual saturation flow rates used in the Synchro analysis are summarized in **Table 1**.

**Reference: Courtneypark Drive Class EA**
**Supplementary Data Collection for Model Calibration**

**Table 1**
**Saturation Flow Rate Comparison**

| Intersection | Movement | Synchro Ideal Sat Flow | Synchro Adjusted Sat Flow | Observed Sat Flow | Difference | % Difference |
|---|---|---|---|---|---|---|
| Highway 410 Northbound Off-Ramp at Derry Road (AM Peak Hour) | NBL | 2,200 vph | 1,855 vph | 1,743 vph | 112 vph | 6% |
| | NBR | 2,400 vph | 1,805 vph | 1,786 vph | 19 vph | 1% |
| Highway 410 Southbound Off-Ramp at Derry Road (AM Peak Hour) | SBL | 2,275 vph | 2,026 vph | 1,743 vph | 283 vph | 16% |
| | SBR | 2,275 vph | 1,727 vph | 1,786 vph | -59 vph | -3% |

At the Highway 410 off-ramps at Derry Road, the adjusted saturation flow rates used in Synchro for the right turn movements are consistent with the measured saturation flow rates. For the left turn movements, the Synchro model saturation flow rates are higher than those measured in the field.

## 3.0 Turning Speed Study

In order to measure vehicle turning speeds, travel time and delay surveys were conducted using the test vehicle method applying the average-car technique. This involves the use of a vehicle equipped with a GPS tracking unit recording time and position ten times a second. From this time and position data, vehicle speed and distance travelled can be calculated. Thirteen survey runs were completed beginning at the Highway 410 northbound off-ramp making a right-turn onto Derry Road in the curb lane and ending at a point approximately 100 metres east of the off-ramp intersection on Derry Road. This info was truncated and charted in **Figure 1** to show vehicle speed over a 50 m section of roadway – 20 m before the stop bar, and 30 m after the stop bar. The raw data has been included in an accompanying electronic spreadsheet file due to the volume of data.

**Reference: Courtneypark Drive Class EA**
**Supplementary Data Collection for Model Calibration**

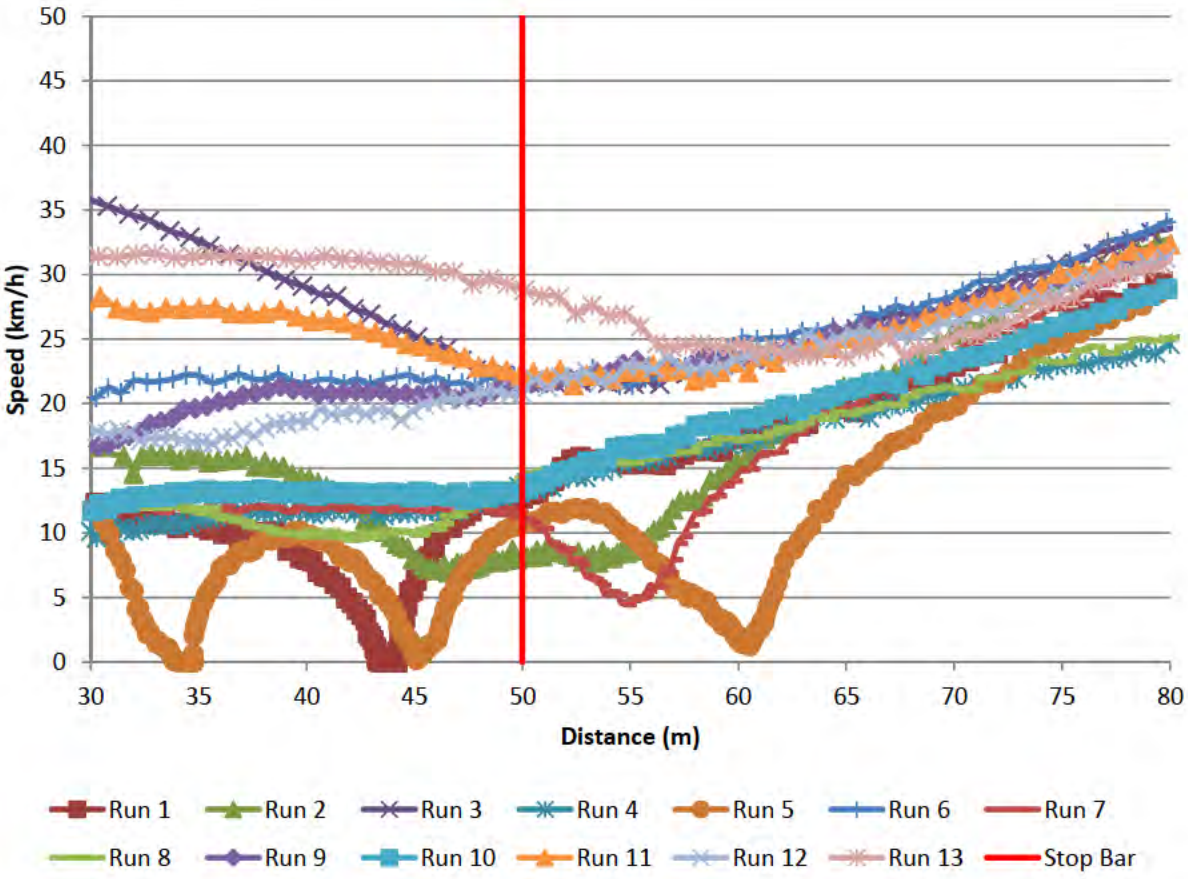



**Figure 1 – Right Turning Vehicle Speed**

An average speed profile was calculated from this speed data with the exception of Runs 2, 5, and 7. These were excluded on the basis that they showed deceleration after the turn which indicated that due to vehicle queueing on Derry Road; they were unable to accelerate to their desired speed.

In order to generate a comparable profile from the VISSIM model, speed data collection points were placed at 5 m intervals for the 50 m of roadway before the stop bar, and then at 2.5 m intervals along the connector for the right turn movement. Speed profiles were generated for the existing model setting of 30 km/h for the reduced speed zone as well as for when the speed was reduced to 25 km/h, 20 km/h and 15 km/h. These are charted in **Figure 2** along with the stop bar location and the limits of the reduced speed zone for reference. The chart data is included for reference in **Appendix B**.

**Reference: Courtneypark Drive Class EA**
**Supplementary Data Collection for Model Calibration**

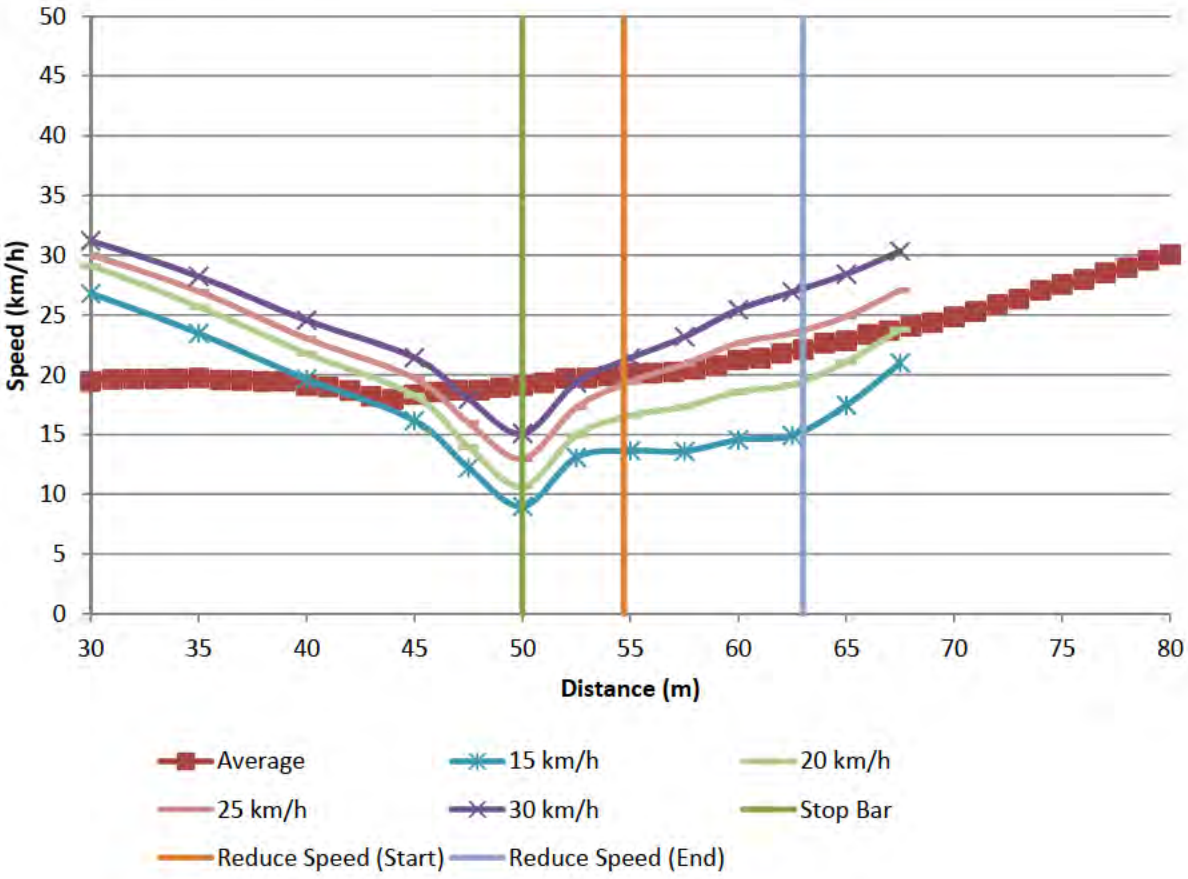



**Figure 2 – Speed Profile Comparison**

A comparison of vehicle speed at the end of the reduced speed zone is summarized in **Table 2**.

**Table 2**
**Speed Comparison at End of Reduced Speed Zone**

| Zone | Speed | Difference | % Difference |
|---|---|---|---|
| Observed | 21.8 km/h | - | - |
| 30 km/h | 26.9 km/h | 5.1 km/h | 23% |
| 25 km/h | 23.5 km/h | 1.7 km/h | 8% |
| 20 km/h | 19.6 km/h | -2.2 km/h | -10% |
| 15 km/h | 14.9 km/h | -6.9 km/h | -32% |

Based on these comparisons, the reduced speed zone value of 25 km/h best matches the speed profile generated by the surveys.

## 3.0 Next Steps

Based on the analysis results of the collected data, the following recommendations are made to revise the traffic analyses:

a) In the Synchro analysis for the Highway 410 off-ramps to Derry Road intersections, for the left-turn movements, the ideal saturated flow rates will be reduced such that the value of the adjusted saturated flow rate is approximately 1,750 vehicles per hour.

b) In the VISSIM analysis, the speed in the reduced speed zones for right turn movements will be reduced to 25 km/h at the ramp terminal intersections.

# APPENDIX A

Saturation Flow Worksheets

| | |
|---|---|
| **Study:** | Courtneypark Drive Class EA |
| **Site:** | NB Left Turn (Inside Lane) Highway 410 Off-Ramp At Derry Road |
| **Date:** | Tuesday May 26, 2015 |
| **Time:** | 7:17 AM |
| **Analyst:** | Mark Crockford |

Clear skies
Normal traffic Conditions

| Number | Event | q | z | x | c | v | Time | # of Cars | |
|---|---|---|---|---|---|---|---|---|---|
| | | Car 4 | Car 7 | Car 8 | Car 9 | Car 10 | | | |
| 1 | Q | 07:23:42.9 | | | | | | | |
| | c | | | | 07:23:53.8 | | 00:00:10.9 | 9 | |
| 2 | Q | 07:26:04.5 | | | | | | | |
| | v | | | | | 07:26:16.5 | 00:00:12.0 | 10 | |
| 3 | Q | 07:28:23.2 | | | | | | | |
| | z | | 07:28:28.6 | | | | 00:00:05.3 | 7 | |
| 4 | Q | 07:33:04.0 | | | | | | | |
| | z | | 07:33:11.3 | | | | 00:00:07.3 | 7 | |
| 5 | Q | 07:35:23.4 | | | | | | | |
| | c | | | | 07:35:35.1 | | 00:00:11.7 | 9 | |
| 6 | Q | 07:36:31.7 | | | | | | | |
| | Q | 07:36:34.4 | | | | | #NAME? | #NAME? | Discard, mistimed entry |
| 7 | Q | 07:40:04.9 | | | | | | | |
| | v | | | | | 07:40:18.0 | 00:00:13.1 | 10 | |
| 8 | Q | 07:44:44.9 | | | | | | | |
| | z | | 07:44:50.9 | | | | 00:00:05.9 | 7 | Discard, mistimed entry |
| 9 | Q | 07:51:42.2 | | | | | | | |
| | v | | | | | 07:51:54.0 | 00:00:11.8 | 10 | |
| 10 | Q | 07:54:03.5 | | | | | | | |
| | v | | | | | 07:54:14.6 | 00:00:11.1 | 10 | |
| 11 | Q | 07:56:23.0 | | | | | | | |
| | x | | | 07:56:30.6 | | | 00:00:07.6 | 8 | |
| 12 | Q | 07:58:43.7 | | | | | | | |
| | z | | 07:58:51.2 | | | | 00:00:07.5 | 7 | |
| 13 | Q | 08:01:02.8 | | | | | | | |
| | v | | | | | 08:01:14.7 | 00:00:11.9 | 10 | |
| 14 | Q | 08:03:23.9 | | | | | | | |
| | z | | 08:03:29.8 | | | | 00:00:05.9 | 7 | |
| 15 | Q | 08:05:43.9 | | | | | | | |
| | v | | | | | 08:05:57.1 | 00:00:13.1 | 10 | |
| 16 | Q | 08:08:05.8 | | | | | | | |
| | v | | | | | 08:08:17.9 | 00:00:12.1 | 10 | |
| 17 | Q | 08:10:23.2 | | | | | | | |
| | v | | | | | 08:10:36.3 | 00:00:13.1 | 10 | |
| 18 | Q | 08:15:04.6 | | | | | | | |
| | v | | | | | 08:15:16.8 | 00:00:12.1 | 10 | |
| 19 | Q | 08:22:03.8 | | | | | | | |
| | c | | | | 08:22:14.5 | | 00:00:10.6 | 9 | |
| 20 | Q | 08:24:22.4 | | | | | | | |
| | v | | | | | 08:24:33.9 | 00:00:11.5 | 10 | |
| 21 | Q | 08:26:43.0 | | | | | | | |
| | v | | | | | 08:26:54.7 | 00:00:11.7 | 10 | |
| 22 | Q | 08:29:03.8 | | | | | | | |
| | x | | | 08:29:12.7 | | | 00:00:08.9 | 8 | |
| 23 | Q | 08:31:23.6 | | | | | | | |
| | v | | | | | 08:31:36.4 | 00:00:12.8 | 10 | |
| 24 | Q | 08:33:44.5 | | | | | | | |
| | v | | | | | 08:33:57.5 | 00:00:13.0 | 10 | |
| 25 | Q | 08:36:04.2 | | | | | | | |
| | c | | | | 08:36:13.8 | | 00:00:09.6 | 9 | |
| 26 | Q | 08:38:26.4 | | | | | | | |
| | v | | | | | 08:38:37.2 | 00:00:10.8 | 10 | |
| 27 | Q | 08:40:42.9 | | | | | | | |
| | v | | | | | 08:40:54.5 | 00:00:11.6 | 10 | |

**Saturation Flow Calculations**
**Northbound Left Turn (Inside Lane) Highway 410 Off-Ramp at Derry Road**
**Tuesday May 26, 2015**
**AM Peak Hour**

| Obs. No. | 7 | 8 | 9 | 10 |
|---|---|---|---|---|
| 1 | | | 10.9 | |
| 2 | | | | 12 |
| 3 | 5.3 | | | |
| 4 | 7.3 | | | |
| 5 | | | 11.7 | |
| 7 | | | | 13.1 |
| 9 | | | | 11.8 |
| 10 | | | | 11.1 |
| 11 | | 7.6 | | |
| 12 | 7.5 | | | |
| 13 | | | | 11.9 |
| 14 | 5.9 | | | |
| 15 | | | | 13.1 |
| 16 | | | | 12.1 |
| 17 | | | | 13.1 |
| 18 | | | | 12.1 |
| 19 | | | 10.6 | |
| 20 | | | | 11.5 |
| 21 | | | | 11.7 |
| 22 | | 8.9 | | |
| 23 | | | | 12.8 |
| 24 | | | | 13 |
| 25 | | | 9.6 | |
| 26 | | | | 10.8 |
| 27 | | | | 11.6 |
| | 26 | 16.5 | 42.8 | 181.7 |
| | a | b | c | d |

**Sat. Flow 1743 vph**

| | |
|---|---|
| **Study:** | Courtneypark Drive Class EA |
| **Site:** | NB Right Turn (Curb Lane) Highway 410 Off-Ramp At Derry Road |
| **Date:** | Tuesday June 2, 2015 |
| **Time:** | 6:57 a.m. |
| **Analyst:** | Mark Crockford |

Clear skies
Normal Traffic Conditions

| Number | Event | q | z | x | c | v | Time | # of Cars |
|---|---|---|---|---|---|---|---|---|
| | | Car 4 | Car 7 | Car 8 | Car 9 | Car 10 | | |
| 1 | Q | 12:06:12.3 | | | | | | |
| | v | | | | | 12:06:25.8 | 00:00:13.5 | 10 |
| 2 | Q | 12:07:55.1 | | | | | | |
| | v | | | | | 12:08:07.7 | 00:00:12.6 | 10 |
| 3 | Q | 12:09:26.4 | | | | | | |
| | v | | | | | 12:09:37.2 | 00:00:10.8 | 10 |
| 4 | Q | 12:10:21.6 | | | | | | |
| | v | | | | | 12:10:32.9 | 00:00:11.2 | 10 |
| 5 | Q | 12:14:15.0 | | | | | | |
| | v | | | | | 12:14:28.9 | 00:00:13.9 | 10 |
| 6 | Q | 12:18:06.2 | | | | | | |
| | c | | | | 12:18:17.8 | | 00:00:11.6 | 9 |
| 7 | Q | 12:20:53.4 | | | | | | |
| | c | | | 12:21:01.6 | | | 00:00:08.2 | 8 |
| 8 | Q | 12:22:45.5 | | | | | | |
| | v | | | | | 12:22:58.6 | 00:00:13.1 | 10 |
| 9 | Q | 12:25:26.9 | | | | | | |
| | v | | | | | 12:25:39.4 | 00:00:12.6 | 10 |
| 10 | Q | 12:27:17.4 | | | | | | |
| | z | | 12:27:23.6 | | | | 00:00:06.2 | 7 |
| 11 | Q | 12:28:35.6 | | | | | | |
| | v | | | | | 12:28:47.7 | 00:00:12.0 | 10 |
| 12 | Q | 12:29:38.9 | | | | | | |
| | v | | | | | 12:29:52.8 | 00:00:13.9 | 10 |
| 13 | Q | 12:32:40.9 | | | | | | |
| | v | | | | | 12:32:53.5 | 00:00:12.6 | 10 |
| 14 | Q | 12:37:14.0 | | | | | | |
| | v | | | | | 12:37:24.4 | 00:00:10.4 | 10 |
| 15 | Q | 12:39:10.0 | | | | | | |
| | c | | | | 12:39:20.1 | | 00:00:10.1 | 9 |
| 16 | Q | 12:41:39.6 | | | | | | |
| | x | | | 12:41:48.4 | | | 00:00:08.8 | 8 |
| 17 | Q | 12:43:13.7 | | | | | | |
| | v | | | | | 12:43:26.5 | 00:00:12.8 | 10 |
| 18 | Q | 12:44:42.7 | | | | | | |
| | v | | | | | 12:44:54.4 | 00:00:11.7 | 10 |
| 19 | Q | 12:47:54.7 | | | | | | |
| | c | | | | 12:48:05.5 | | 00:00:10.9 | 9 |
| 20 | Q | 12:49:56.8 | | | | | | |
| | v | | | | | 12:50:10.2 | 00:00:13.4 | 10 |
| 21 | Q | 12:51:44.7 | | | | | | |
| | v | | | | | 12:51:57.6 | 00:00:12.9 | 10 |
| 22 | Q | 12:53:21.2 | | | | | | |
| | v | | | | | 12:53:35.6 | 00:00:14.4 | 10 |
| 23 | Q | 12:55:44.1 | | | | | | |
| | z | | 12:55:50.3 | | | | 00:00:06.2 | 7 |
| 24 | Q | 12:56:37.4 | | | | | | |
| | v | | | | | 12:56:48.6 | 00:00:11.2 | 10 |
| 25 | Q | 12:57:36.1 | | | | | | |
| | v | | | | | 12:57:48.0 | 00:00:11.9 | 10 |

Note: Timestamps differ due to data recording being completed in the office from video.

**Saturation Flow Calculations**
**Northbound Right Turn (Curb Lane) Highway 410 Off-Ramp at Derry Road**
**Tuesday June 2, 2015**
**AM Peak Hour**

| Obs. No. | 7 | 8 | 9 | 10 |
|---|---|---|---|---|
| 1 | | | | 13.5 |
| 2 | | | | 12.6 |
| 3 | | | | 10.8 |
| 4 | | | | 11.2 |
| 5 | | | | 13.9 |
| 6 | | | 11.6 | |
| 7 | | 8.2 | | |
| 8 | | | | 13.1 |
| 9 | | | | 12.6 |
| 10 | 6.2 | | | |
| 11 | | | | 12 |
| 12 | | | | 13.9 |
| 13 | | | | 12.6 |
| 14 | | | | 10.4 |
| 15 | | | 10.1 | |
| 16 | | 8.8 | | |
| 17 | | | | 12.8 |
| 18 | | | | 11.7 |
| 19 | | | 10.9 | |
| 20 | | | | 13.4 |
| 21 | | | | 12.9 |
| 22 | | | | 14.4 |
| 23 | 6.2 | | | |
| 24 | | | | 11.2 |
| 25 | | | | |
| | 12.4 | 17 | 32.6 | 213 |
| | a | b | c | d |

**Sat. Flow 1786 vph**

# APPENDIX B

Turning Speed Data

| Cumulative Distance | Run 1 Speed | Run 3 Speed | Run 4 Speed | Run 6 Speed | Run 8 Speed | Run 9 Speed | Run 10 Speed | Run 11 Speed | Run 12 Speed | Run 13 Speed | Average Speed |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 17 | 17.9 | 42.7 | 8.4 | 9.7 | 5.1 | 5.0 | 17.1 | 23.6 | 3.4 | 26.7 | **16.0** |
| 18 | 17.6 | 42.3 | 8.9 | 10.8 | 2.6 | 3.8 | 14.9 | 24.1 | 5.9 | 27.6 | **15.8** |
| 19 | 16.9 | 41.8 | 9.2 | 12.1 | 2.3 | 3.4 | 13.6 | 24.5 | 8.3 | 27.9 | **16.0** |
| 20 | 16.5 | 41.2 | 9.5 | 13.5 | 1.2 | 3.2 | 11.3 | 24.4 | 9.7 | 28.3 | **15.9** |
| 21 | 16.0 | 40.8 | 9.3 | 14.0 | 0.0 | 3.7 | 9.1 | 24.7 | 11.0 | 28.8 | **15.7** |
| 22 | 15.7 | 40.8 | 9.9 | 15.1 | 4.2 | 5.9 | 8.0 | 25.0 | 12.2 | 29.3 | **16.6** |
| 23 | 14.6 | 40.2 | 9.7 | 15.6 | 7.3 | 8.1 | 6.4 | 25.6 | 13.4 | 29.8 | **17.1** |
| 24 | 14.7 | 39.8 | 10.1 | 16.4 | 8.8 | 9.5 | 2.6 | 25.6 | 14.3 | 30.1 | **17.2** |
| 25 | 13.5 | 38.9 | 9.6 | 17.4 | 10.0 | 11.4 | 0.2 | 26.2 | 15.5 | 30.4 | **17.3** |
| 26 | 13.8 | 38.7 | 9.4 | 17.8 | 10.7 | 12.5 | 0.0 | 26.5 | 15.7 | 30.8 | **17.6** |
| 27 | 12.8 | 37.8 | 10.1 | 18.9 | 11.4 | 13.5 | 6.3 | 26.6 | 16.8 | 31.1 | **18.5** |
| 28 | 12.2 | 37.2 | 9.8 | 19.2 | 11.6 | 14.4 | 8.3 | 26.6 | 17.3 | 31.0 | **18.8** |
| 29 | 12.4 | 37.0 | 10.2 | 19.9 | 12.3 | 15.3 | 10.2 | 26.6 | 17.5 | 31.1 | **19.2** |
| 30 | 11.8 | 35.9 | 10.2 | 20.4 | 12.3 | 16.3 | 11.5 | 27.0 | 17.9 | 31.3 | **19.5** |
| 31 | 11.3 | 35.3 | 10.3 | 21.2 | 12.2 | 16.8 | 11.9 | 28.3 | 17.7 | 31.4 | **19.6** |
| 32 | 11.5 | 34.7 | 10.1 | 21.8 | 12.4 | 17.5 | 12.4 | 27.3 | 17.8 | 31.4 | **19.7** |
| 33 | 10.8 | 34.2 | 10.7 | 21.7 | 12.0 | 18.4 | 12.8 | 27.1 | 17.3 | 31.6 | **19.7** |
| 34 | 10.8 | 33.4 | 10.6 | 21.9 | 12.1 | 18.9 | 13.1 | 27.4 | 17.4 | 31.3 | **19.7** |
| 35 | 10.8 | 32.9 | 11.1 | 22.2 | 11.9 | 19.6 | 13.2 | 27.4 | 17.0 | 31.4 | **19.8** |
| 36 | 10.3 | 32.2 | 11.2 | 21.6 | 11.4 | 20.1 | 13.1 | 27.4 | 16.9 | 31.5 | **19.6** |
| 37 | 9.5 | 31.5 | 11.6 | 22.3 | 11.0 | 20.3 | 13.2 | 27.0 | 17.3 | 31.4 | **19.5** |
| 38 | 9.6 | 31.0 | 11.6 | 21.9 | 10.4 | 20.8 | 13.4 | 27.0 | 17.5 | 31.4 | **19.5** |
| 39 | 9.7 | 29.6 | 11.7 | 22.3 | 10.0 | 21.3 | 13.1 | 27.3 | 18.5 | 31.4 | **19.5** |
| 40 | 8.1 | 29.1 | 11.7 | 21.6 | 9.9 | 21.1 | 13.1 | 26.8 | 18.7 | 31.1 | **19.1** |
| 41 | 6.7 | 28.5 | 11.6 | 21.8 | 9.9 | 20.7 | 13.3 | 26.4 | 19.6 | 31.4 | **19.0** |
| 42 | 4.9 | 28.3 | 11.8 | 21.6 | 9.7 | 20.8 | 13.1 | 26.3 | 19.2 | 31.2 | **18.7** |
| 43 | 2.0 | 26.9 | 11.9 | 21.5 | 10.0 | 20.8 | 13.0 | 25.8 | 19.2 | 31.1 | **18.2** |
| 44 | 0.2 | 26.2 | 11.6 | 21.9 | 10.0 | 21.0 | 13.1 | 25.1 | 19.4 | 30.9 | **17.9** |
| 45 | 5.6 | 25.7 | 11.5 | 22.2 | 10.0 | 20.8 | 12.8 | 24.7 | 19.5 | 30.8 | **18.4** |
| 46 | 8.8 | 24.5 | 11.8 | 22.0 | 10.4 | 20.8 | 12.9 | 24.1 | 20.1 | 30.2 | **18.6** |
| 47 | 10.4 | 24.3 | 11.7 | 21.6 | 11.3 | 20.4 | 13.1 | 23.8 | 20.4 | 30.2 | **18.7** |
| 48 | 12.7 | 22.6 | 12.4 | 21.4 | 12.1 | 20.7 | 12.7 | 22.9 | 20.7 | 29.3 | **18.7** |
| 49 | 12.0 | 22.2 | 12.6 | 22.0 | 13.0 | 20.9 | 13.2 | 22.9 | 21.0 | 29.6 | **18.9** |
| 50 | 12.5 | 21.8 | 13.6 | 22.2 | 13.7 | 21.7 | 13.2 | 22.2 | 20.8 | 29.3 | **19.1** |
| 51 | 13.1 | 21.7 | 13.7 | 21.8 | 14.8 | 21.6 | 14.1 | 22.4 | 21.9 | 28.4 | **19.3** |
| 52 | 15.1 | 21.6 | 14.2 | 21.9 | 15.0 | 21.8 | 14.7 | 22.6 | 22.1 | 28.3 | **19.7** |
| 53 | 15.9 | 21.6 | 14.3 | 22.0 | 14.7 | 22.0 | 15.1 | 22.2 | 22.5 | 27.0 | **19.7** |
| 54 | 15.5 | 21.6 | 14.8 | 22.1 | 16.1 | 22.5 | 15.8 | 22.2 | 21.7 | 26.8 | **19.9** |
| 55 | 15.3 | 21.7 | 15.4 | 21.4 | 15.4 | 23.0 | 16.7 | 22.5 | 23.0 | 26.9 | **20.1** |
| 56 | 15.3 | 21.8 | 15.5 | 21.9 | 15.7 | 22.8 | 16.9 | 22.5 | 22.9 | 26.0 | **20.1** |
| 57 | 15.3 | 22.4 | 15.9 | 22.6 | 16.2 | 22.8 | 16.9 | 22.5 | 23.6 | 24.3 | **20.3** |
| 58 | 16.4 | 22.3 | 16.9 | 22.9 | 16.3 | 23.0 | 17.6 | 21.8 | 22.9 | 24.5 | **20.5** |
| 59 | 16.5 | 22.9 | 16.4 | 23.7 | 16.9 | 23.8 | 18.4 | 22.1 | 22.8 | 24.4 | **20.8** |
| 60 | 17.3 | 23.3 | 17.2 | 24.4 | 17.3 | 23.6 | 18.4 | 23.2 | 23.4 | 24.4 | **21.2** |
| 61 | 17.7 | 23.6 | 17.2 | 25.0 | 17.4 | 23.9 | 18.8 | 22.4 | 23.7 | 24.1 | **21.4** |
| 62 | 18.4 | 23.8 | 17.9 | 25.1 | 17.8 | 23.9 | 19.6 | 23.2 | 24.0 | 24.3 | **21.8** |
| 63 | 19.3 | 24.3 | 18.2 | 25.7 | 18.1 | 24.4 | 19.5 | 24.0 | 24.2 | 23.8 | **22.1** |
| 64 | 19.4 | 24.7 | 19.1 | 25.6 | 19.1 | 24.9 | 20.5 | 24.9 | 24.6 | 23.7 | **22.7** |
| 65 | 19.6 | 25.1 | 19.4 | 25.9 | 19.3 | 25.6 | 20.7 | 24.4 | 25.0 | 23.6 | **22.9** |
| 66 | 20.3 | 25.8 | 19.3 | 26.9 | 19.5 | 26.1 | 21.3 | 25.2 | 25.4 | 24.1 | **23.4** |
| 67 | 20.5 | 26.8 | 19.6 | 26.9 | 20.0 | 25.7 | 21.8 | 25.6 | 25.2 | 25.1 | **23.7** |
| 68 | 21.8 | 27.0 | 20.0 | 27.6 | 20.6 | 26.2 | 22.8 | 25.9 | 25.3 | 23.7 | **24.1** |
| 69 | 22.0 | 27.0 | 20.6 | 27.9 | 21.0 | 26.6 | 22.3 | 26.6 | 25.8 | 24.2 | **24.4** |
| 70 | 22.0 | 27.6 | 21.0 | 28.1 | 21.3 | 27.2 | 23.3 | 27.1 | 26.2 | 24.8 | **24.9** |
| 71 | 23.3 | 28.2 | 21.2 | 28.8 | 21.1 | 27.4 | 23.6 | 27.7 | 26.4 | 25.4 | **25.3** |
| 72 | 23.9 | 28.9 | 21.6 | 29.5 | 22.0 | 28.3 | 24.0 | 28.2 | 27.1 | 25.8 | **25.9** |
| 73 | 24.8 | 29.0 | 21.9 | 30.4 | 22.4 | 28.6 | 24.6 | 28.6 | 27.3 | 26.2 | **26.4** |
| 74 | 25.4 | 30.1 | 22.7 | 30.5 | 23.4 | 28.9 | 25.4 | 28.5 | 28.1 | 27.7 | **27.1** |
| 75 | 25.9 | 30.8 | 22.9 | 30.7 | 23.2 | 29.5 | 25.9 | 30.1 | 28.6 | 28.0 | **27.6** |
| 76 | 26.6 | 30.9 | 23.1 | 31.1 | 24.1 | 29.8 | 26.3 | 30.3 | 29.5 | 28.3 | **28.0** |
| 77 | 28.0 | 31.6 | 23.3 | 31.6 | 24.4 | 30.2 | 27.0 | 30.5 | 29.7 | 29.3 | **28.6** |
| 78 | 27.8 | 32.0 | 23.6 | 32.5 | 24.4 | 30.8 | 27.4 | 31.0 | 30.1 | 30.2 | **29.0** |
| 79 | 28.5 | 32.6 | 24.0 | 33.3 | 25.0 | 31.3 | 28.2 | 31.8 | 30.9 | 30.4 | **29.6** |
| 80 | 29.4 | 33.2 | 24.6 | 34.1 | 25.1 | 31.3 | 28.9 | 32.3 | 31.3 | 30.8 | **30.1** |
| 81 | 30.6 | 34.0 | 24.5 | 34.3 | 25.8 | 31.3 | 29.3 | 32.8 | 31.7 | 31.7 | **30.6** |
| 82 | 31.7 | 34.1 | 25.1 | 34.8 | 25.9 | 32.3 | 29.6 | 33.1 | 32.1 | 32.2 | **31.1** |
| 83 | 32.0 | 34.6 | 25.2 | 35.6 | 27.3 | 33.0 | 30.2 | 34.0 | 32.7 | 32.8 | **31.7** |
| 84 | 32.7 | 35.5 | 25.5 | 35.9 | 27.1 | 33.8 | 31.0 | 34.5 | 33.0 | 33.1 | **32.2** |
| 85 | 33.5 | 35.8 | 26.2 | 36.3 | 27.2 | 34.2 | 31.4 | 35.0 | 33.5 | 33.7 | **32.7** |
| 86 | 33.8 | 36.6 | 26.4 | 36.8 | 28.3 | 34.5 | 31.9 | 35.9 | 33.8 | 35.0 | **33.3** |
| 87 | 34.4 | 36.8 | 26.7 | 37.3 | 28.2 | 35.0 | 32.3 | 36.2 | 34.2 | 35.1 | **33.6** |
| 88 | 35.3 | 37.5 | 27.2 | 37.7 | 28.5 | 35.5 | 32.8 | 36.2 | 35.1 | 35.8 | **34.2** |
| 89 | 36.2 | 37.6 | 27.8 | 38.4 | 28.7 | 35.8 | 33.3 | 36.9 | 35.2 | 36.7 | **34.7** |
| 90 | 36.7 | 38.5 | 27.8 | 39.0 | 29.5 | 36.4 | 33.8 | 37.0 | 35.8 | 37.1 | **35.2** |
| 91 | 37.1 | 38.4 | 28.4 | 39.4 | 29.5 | 36.5 | 34.1 | 37.8 | 36.2 | 37.5 | **35.5** |
| 92 | 38.0 | 38.4 | 28.7 | 39.4 | 29.6 | 37.2 | 34.6 | 38.1 | 36.5 | 37.5 | **35.8** |
| 93 | 38.3 | 39.2 | 28.8 | 39.6 | 29.7 | 37.7 | 34.8 | 38.6 | 37.1 | 38.1 | **36.2** |
| 94 | 39.1 | 39.7 | 29.3 | 40.2 | 30.0 | 37.9 | 35.6 | 38.9 | 37.6 | 38.6 | **36.7** |
| 95 | 39.8 | 40.3 | 30.0 | 40.8 | 29.8 | 38.5 | 35.7 | 39.1 | 37.9 | 39.0 | **37.1** |
| 96 | 40.4 | 40.4 | 30.2 | 41.1 | 29.8 | 38.8 | 36.3 | 39.1 | 38.2 | 39.7 | **37.4** |
| 97 | 40.8 | 41.1 | 30.2 | 41.5 | 30.1 | 39.3 | 36.7 | 39.8 | 38.7 | 40.2 | **37.8** |
| 98 | 41.6 | 41.4 | 30.4 | 42.2 | 29.9 | 39.7 | 37.1 | 40.4 | 39.3 | 40.9 | **38.3** |
| 99 | 41.6 | 42.0 | 30.9 | 42.4 | 30.0 | 40.2 | 37.5 | 40.8 | 39.5 | 41.2 | **38.6** |
| 100 | 42.1 | 42.5 | 31.2 | 42.4 | 29.4 | 40.2 | 37.9 | 41.0 | 40.1 | 41.7 | **38.8** |
| 101 | 43.0 | 42.5 | 31.4 | 42.8 | 29.6 | 40.5 | 38.2 | 41.7 | 40.3 | 42.4 | **39.2** |
| 102 | 43.7 | 42.9 | 31.7 | 43.2 | 28.8 | 40.9 | 39.0 | 41.6 | 40.7 | 42.4 | **39.5** |
| 103 | 44.0 | 43.1 | 32.0 | 43.9 | 28.0 | 41.2 | 39.0 | 42.4 | 40.7 | 42.8 | **39.7** |
| 104 | 44.7 | 43.8 | 32.1 | 44.2 | 28.0 | 41.8 | 39.5 | 42.4 | 40.7 | 43.5 | **40.1** |
| 105 | 44.7 | 44.2 | 32.5 | 44.5 | 28.0 | 41.8 | 39.5 | 42.4 | 40.7 | 44.0 | **40.2** |
| 106 | 45.0 | 44.9 | 32.7 | 44.5 | 28.0 | 41.8 | 39.5 | 42.4 | 40.7 | 44.5 | **40.4** |
| 107 | 46.3 | 44.9 | 32.7 | 45.3 | 28.0 | 41.8 | 39.5 | 42.4 | 40.7 | 45.1 | **40.7** |
| 108 | 46.4 | 44.9 | 32.7 | 45.3 | 28.0 | 41.8 | 39.5 | 42.4 | 40.7 | 45.1 | **40.7** |

15 km/h Reduced Speed Zone

| Measur. | from | to | Speed Mean all veh. | Speed Mean typ | Speed Mean all veh. | Speed Mean typ | Speed Mean all veh. | Avg. | VISSIM Data Collection Pts | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 3600 | 7200 | 39.1 | 36.4 | 38.7 | 40.7 | 41.8 | 39.34 | 710 | NB 50 m Before Stop Bar | Data Pts Every 5 m |
| 2 | 3600 | 7200 | 37.5 | 34.7 | 37.1 | 38.9 | 40.3 | 37.7 | 711 | | |
| 3 | 3600 | 7200 | 36.1 | 33.1 | 35.1 | 37 | 38.8 | 36.02 | 712 | | |
| 4 | 3600 | 7200 | 34.3 | 31 | 32.9 | 34.7 | 36.9 | 33.96 | 713 | | |
| 5 | 3600 | 7200 | 32.2 | 29.1 | 30.9 | 32.6 | 34.8 | 31.92 | 714 | | |
| 6 | 3600 | 7200 | 29.8 | 26.7 | 28.7 | 30.2 | 32.3 | 29.54 | 715 | | |
| 7 | 3600 | 7200 | 26.8 | 24.4 | 25.9 | 27.4 | 29.5 | 26.8 | 716 | | |
| 8 | 3600 | 7200 | 23.5 | 21.5 | 22.5 | 24.3 | 25.5 | 23.46 | 717 | | |
| 9 | 3600 | 7200 | 19.9 | 18 | 18.8 | 20.5 | 21 | 19.64 | 718 | | |
| 10 | 3600 | 7200 | 16.4 | 15.2 | 16 | 16.8 | 16.4 | 16.16 | 719 | | |
| 11 | 3600 | 7200 | 12.3 | 11.9 | 12.3 | 12.6 | 12 | 12.22 | 720 | | |
| 12 | 3600 | 7200 | 9.3 | 8.7 | 9.3 | 9.2 | 8.4 | **8.98** | **721** | **NBR Turn** | **Stop Bar** |
| 13 | 3600 | 7200 | 13.3 | 12.9 | 13.1 | 13.2 | 12.9 | **13.08** | **722** | | **Data Pts Every 2.5 m** |
| 14 | 3600 | 7200 | 14.1 | 13.6 | 13.6 | 13.6 | 13.3 | **13.64** | **723** | | |
| 15 | 3600 | 7200 | 14.3 | 13.5 | 13.6 | 13.4 | 13.2 | **13.6** | **724** | | |
| 16 | 3600 | 7200 | 14.8 | 14.4 | 14.4 | 14.6 | 14.6 | **14.56** | **725** | | |
| 17 | 3600 | 7200 | 15.1 | 14.7 | 14.8 | 15 | 15 | **14.92** | **726** | | |
| 18 | 3600 | 7200 | 17.6 | 17.3 | 17.4 | 17.4 | 17.5 | **17.44** | **727** | | |
| 19 | 3600 | 7200 | 21.2 | 20.8 | 21 | 20.9 | 21 | **20.98** | **728** | | |
| 20 | 3600 | 7200 | 40.3 | 39.2 | 40.1 | 39.8 | 43.6 | 40.6 | 729 | EBT Derry | |

20 km/h Reduced Speed Zone

| Measur. | from | to | Speed Mean all veh. | Speed Mean typ | Speed Mean all veh. | Speed Mean typ | Speed Mean all veh. | Avg. | VISSIM Data Collection Pts | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 3600 | 7200 | 41.4 | 42.1 | 41.1 | 42.3 | 42 | 41.78 | 710 | | |
| 2 | 3600 | 7200 | 40 | 40.3 | 39.6 | 40.6 | 40.4 | 40.18 | 711 | | |
| 3 | 3600 | 7200 | 38.4 | 38.4 | 38 | 39 | 38.9 | 38.54 | 712 | | |
| 4 | 3600 | 7200 | 36.6 | 36.1 | 35.6 | 37 | 37.1 | 36.48 | 713 | | |
| 5 | 3600 | 7200 | 34.4 | 33.5 | 33.5 | 34.6 | 35 | 34.2 | 714 | NB 50 m Before Stop Bar | Data Pts Every 5 m |
| 6 | 3600 | 7200 | 32.3 | 31.3 | 31.1 | 31.9 | 32.6 | 31.84 | 715 | | |
| 7 | 3600 | 7200 | 29.7 | 28.6 | 28.1 | 29.3 | 29.8 | 29.1 | 716 | | |
| 8 | 3600 | 7200 | 26.3 | 25.2 | 24.9 | 25.6 | 26.5 | 25.7 | 717 | | |
| 9 | 3600 | 7200 | 22.6 | 21.3 | 20.9 | 21.7 | 22.4 | 21.78 | 718 | | |
| 10 | 3600 | 7200 | 19.1 | 17.9 | 17.6 | 18.1 | 18.6 | 18.26 | 719 | | |
| 11 | 3600 | 7200 | 14.3 | 13.7 | 14.1 | 13.9 | 13.9 | 13.98 | 720 | | |
| 12 | 3600 | 7200 | 11 | 10.3 | 11 | 10.4 | 10.6 | **10.66** | **721** | | **Stop Bar** |
| 13 | 3600 | 7200 | 15.2 | 14.8 | 15.1 | 14.8 | 14.9 | **14.96** | **722** | | |
| 14 | 3600 | 7200 | 17 | 16.4 | 16.7 | 16.4 | 16.4 | **16.58** | **723** | | |
| 15 | 3600 | 7200 | 17.8 | 17.3 | 17.3 | 17.1 | 17.1 | **17.32** | **724** | **NBR Turn** | **Data Pts Every 2.5 m** |
| 16 | 3600 | 7200 | 18.7 | 18.7 | 18.6 | 18.5 | 18.4 | **18.58** | **725** | | |
| 17 | 3600 | 7200 | 19.3 | 19.3 | 19.1 | 19.1 | 19 | **19.16** | **726** | | |
| 18 | 3600 | 7200 | 21.2 | 21.1 | 21 | 21 | 21.1 | **21.08** | **727** | | |
| 19 | 3600 | 7200 | 24 | 23.7 | 23.7 | 23.8 | 23.8 | **23.8** | **728** | | |
| 20 | 3600 | 7200 | 42.4 | 40.3 | 41.5 | 41.6 | 41.9 | 41.54 | 729 | EBT Derry | |

25 km/h Reduced Speed Zone

| Measur. | from | to | Speed Mean all veh. | Speed Mean typ | Speed Mean all veh. | Speed Mean typ | Speed Mean all veh. | Avg. | VISSIM Data Collection Pts | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 3600 | 7200 | 42.6 | 41.8 | 39.6 | 42.4 | 44.1 | 42.1 | 710 | NB 50 m Before Stop Bar | Data Pts Every 5 m |
| 2 | 3600 | 7200 | 40.9 | 40.3 | 38 | 40.8 | 42.5 | 40.5 | 711 | | |
| 3 | 3600 | 7200 | 39.3 | 38.7 | 36.5 | 39.4 | 40.9 | 38.96 | 712 | | |
| 4 | 3600 | 7200 | 37.4 | 36.7 | 34.5 | 37.6 | 39.2 | 37.08 | 713 | | |
| 5 | 3600 | 7200 | 35.4 | 34.5 | 32.3 | 35.4 | 36.5 | 34.82 | 714 | | |
| 6 | 3600 | 7200 | 33.3 | 32.3 | 30.1 | 32.9 | 34.2 | 32.56 | 715 | | |
| 7 | 3600 | 7200 | 30.9 | 29.7 | 27.6 | 30.5 | 31.4 | 30.02 | 716 | | |
| 8 | 3600 | 7200 | 27.7 | 26.8 | 24.8 | 27.3 | 28.3 | 26.98 | 717 | | |
| 9 | 3600 | 7200 | 23.5 | 22.8 | 21.2 | 23.5 | 24.2 | 23.04 | 718 | | |
| 10 | 3600 | 7200 | 20.1 | 19.6 | 18.6 | 19.7 | 20.5 | 19.7 | 719 | | |
| 11 | 3600 | 7200 | 16 | 15.8 | 15.5 | 16.2 | 16.5 | 16 | 720 | | |
| 12 | 3600 | 7200 | 12.8 | 12.9 | 12.5 | 13.2 | 13.5 | **12.98** | **721** | **NBR Turn** | **Stop Bar** |
| 13 | 3600 | 7200 | 17.2 | 17.4 | 16.9 | 17.4 | 17.5 | **17.28** | **722** | | **Data Pts Every 2.5 m** |
| 14 | 3600 | 7200 | 19.5 | 19.7 | 19 | 19.5 | 19.4 | **19.42** | **723** | | |
| 15 | 3600 | 7200 | 21 | 21.1 | 20.5 | 20.9 | 20.9 | **20.88** | **724** | | |
| 16 | 3600 | 7200 | 22.9 | 22.8 | 22.4 | 22.7 | 22.5 | **22.66** | **725** | | |
| 17 | 3600 | 7200 | 23.8 | 23.5 | 23.3 | 23.5 | 23.3 | **23.48** | **726** | | |
| 18 | 3600 | 7200 | 25.2 | 25 | 24.7 | 24.8 | 24.7 | **24.88** | **727** | | |
| 19 | 3600 | 7200 | 27.5 | 27.2 | 26.9 | 27 | 26.8 | **27.08** | **728** | | |
| 20 | 3600 | 7200 | 43.8 | 42 | 41.2 | 42.6 | 43.2 | 42.56 | 729 | EBT Derry | |

30 km/h Reduced Speed Zone

| Measur. | from | to | Speed Mean all veh. | Speed Mean typ | Speed Mean all veh. | Speed Mean typ | Speed Mean all veh. | Avg. | VISSIM Data Collection Pts | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 3600 | 7200 | 43.4 | 42.2 | 40.8 | 43.4 | 44 | 42.76 | 710 | NB 50 m Before Stop Bar | Data Pts Every 5 m |
| 2 | 3600 | 7200 | 41.8 | 40.6 | 39.2 | 42.2 | 42.3 | 41.22 | 711 | | |
| 3 | 3600 | 7200 | 40.4 | 38.8 | 37.6 | 40.9 | 40.8 | 39.7 | 712 | | |
| 4 | 3600 | 7200 | 38.8 | 37.1 | 35.7 | 39.3 | 39.1 | 38 | 713 | | |
| 5 | 3600 | 7200 | 36.7 | 34.6 | 33.5 | 37.4 | 37.1 | 35.86 | 714 | | |
| 6 | 3600 | 7200 | 34.5 | 32.2 | 31.2 | 35.5 | 34.8 | 33.64 | 715 | | |
| 7 | 3600 | 7200 | 32 | 29.8 | 28.7 | 33.1 | 32.4 | 31.2 | 716 | | |
| 8 | 3600 | 7200 | 28.8 | 26.9 | 26.1 | 30.1 | 29.2 | 28.22 | 717 | | |
| 9 | 3600 | 7200 | 25 | 23.4 | 22.9 | 26.2 | 25.3 | 24.56 | 718 | | |
| 10 | 3600 | 7200 | 21.5 | 20.5 | 20.7 | 22.3 | 22.1 | 21.42 | 719 | | |
| 11 | 3600 | 7200 | 18 | 17.4 | 17.7 | 18.4 | 18.4 | 17.98 | 720 | | |
| 12 | 3600 | 7200 | 14.9 | 14.6 | 15 | 15.4 | 15.5 | **15.08** | **721** | **NBR Turn** | **Stop Bar** |
| 13 | 3600 | 7200 | 19.4 | 19 | 19.2 | 19.6 | 19.5 | **19.34** | **722** | | **Data Pts Every 2.5 m** |
| 14 | 3600 | 7200 | 21.6 | 21.1 | 21.2 | 21.7 | 21.4 | **21.4** | **723** | | |
| 15 | 3600 | 7200 | 23.4 | 22.8 | 23 | 23.5 | 23.1 | **23.16** | **724** | | |
| 16 | 3600 | 7200 | 25.7 | 25.2 | 25.3 | 25.7 | 25.4 | **25.46** | **725** | | |
| 17 | 3600 | 7200 | 27.3 | 26.6 | 26.7 | 27.1 | 26.9 | **26.92** | **726** | | |
| 18 | 3600 | 7200 | 28.8 | 28.1 | 28.2 | 28.7 | 28.3 | **28.42** | **727** | | |
| 19 | 3600 | 7200 | 30.7 | 30 | 30.1 | 30.6 | 30.2 | **30.32** | **728** | | |
| 20 | 3600 | 7200 | 44.7 | 43.8 | 43.1 | 45 | 44.7 | 44.26 | 729 | EBT Derry | |

| | |
|---|---|
| **From:** | Dana Glofcheskie |
| **To:** | Kwan, Steven; Bradley, Michael |
| **Cc:** | Murray, Gordon; Leslie Green |
| **Subject:** | FW: Courtneypark Dr Class EA - Supplementary data collection results |
| **Date:** | Wednesday, June 24, 2015 1:07:41 PM |
| **Attachments:** | image001.png |

Hi Steven and Mike,

See below from MTO and please send a response today or tomorrow.

Thanks,

**Dana Glofcheskie, P.Eng.**
Transportation Project Engineer
T 905-615-3200 ext.8243
dana.glofcheskie@mississauga.ca

City of Mississauga | Transportation & Works Department,
Transportation & Infrastructure Planning Division



---

**From:** Marinelli, Mike (MTO) [mailto:Mike.Marinelli@ontario.ca]
**Sent:** June 24, 2015 12:27 PM
**To:** Dana Glofcheskie
**Subject:** FW: Courtneypark Dr Class EA - Supplementary data collection results

Hi Dana,

Please see comments from our traffic section and respond.

Thanks

Mike

**Mike Marinelli | Project Manager**
**Ministry of Transportation | Central Region**
Planning and Design – Peel & Halton Section | 4th Floor, Bldg.D
1201 Wilson Avenue | Downsview | ON | M3M 1J8
T: 416-235-4639 | F: 416-235-3576

---

**From:** Hussain, Kashif (MTO)
**Sent:** June 24, 2015 12:25 PM
**To:** Marinelli, Mike (MTO)
**Cc:** KC, Pramod Kumar (MTO)

**Subject:** RE: Courtneypark Dr Class EA - Supplementary data collection results

Hi Mike,

Please see following comments from traffic office regarding Courtneypark drive Class EA – supplementary data collection results.

Saturation Flow rate study:

- As per the report, Synchro software is used to calculate the adjusted Saturation flow rate values. Please also calculate the values manually using HCM formula by considering all the applicable factors and submit the results for both NBL and NBR. Please also submit the digital Synchro files used for calculation of adjusted sat flow rates.

Speed Study:

1. What is the rationale of discarding Run 2?
2. Provide details how the average speed of21.8 km/h has been calculated and show in Figure 1.

Please forward these comments to the consultant. If you have any question, please let us know.

Thanks
Kashif

---

**From:** Bradley, Michael [mailto:Mike.Bradley@stantec.com]
**Sent:** June 22, 2015 11:34 AM
**To:** KC, Pramod Kumar (MTO); Hussain, Kashif (MTO); Marinelli, Mike (MTO)
**Cc:** Dana Glofcheskie (Dana.Glofcheskie@mississauga.ca); Leslie Green (Leslie.Green@mississauga.ca); Kwan, Steven; Murray, Gordon
**Subject:** RE: Courtneypark Dr Class EA - Supplementary data collection results

Further to my previous e-mail, we would also request that you confirm as soon as possible whether MTO is agreement with the proposed approach, so that we may begin the revisions to the Transportation & Traffic Analysis Report.

Thanks,
- Mike

**Mike Bradley, BSc, EIT**
Engineering Intern
Transportation
Stantec
Phone: (905) 944-7763
mike.bradley@stantec.com



---

**From:** Bradley, Michael

| | |
|---|---|
| **From:** | Bradley, Michael |
| **To:** | kashif.hussain@ontario ca |
| **Cc:** | PramodKumar KC@ontario.ca; Mike Marinelli@ontario.ca; Dana Glofcheskie (Dana.Glofcheskie@mississauga ca); Leslie Green (Leslie.Green@mississauga.ca); Kwan, Steven; Murray, Gordon (gordon.murray@stantec.com) |
| **Subject:** | RE: Courtneypark Dr Class EA - Supplementary data collection results |
| **Date:** | Thursday, June 25, 2015 6:18:00 PM |
| **Attachments:** | image001.png<br>image004.png<br>picture1_sat_calc.png<br>synchro_output.pdf<br>1 Existing AM.SYN<br>image005.png |

---

Hi Kashif

Stantec's traffic engineer for this project Steven Kwan has reviewed the MTO traffic office's comments and offers the following responses:

**Saturation Flow**

Synchro calculates the saturation flow rates using the HCM methodology (as shown in the attached picture 1) so the purpose of the manual HCM saturation flow calculations is unclear. The only difference between the two formulas in the attached picture is that the HCM example is calculating individual lane saturation flow while the Synchro example is calculating the lane group saturation flow rate hence the additional N term representing the number of lanes.

It should also be noted that the use of Synchro as an analysis tool was approved in the original *Courtneypark Drive E Class EA – Transportation Methodology (December 2, 2013)* memo which did not require that traffic analysis be undertaken manually through the direct use of HCM formulas.

The saturation flow rate values measured are consistent with those shown in Table 3.6B of the CCG (shown below). The electronic Synchro analysis file and PDFs of the Synchro HCM output reports for the Highway 410 off-ramp terminals at Derry Road are attached for reference and are consistent with those provided with the most recent *Transportation and Traffic Analysis Report (March 2015)*.

B: Left Turn Movement[1]

| Approach environment | Victoria BC | Edmonton AB | Calgary AB | Windsor ON | Waterloo ON | Ottawa ON | Toronto ON | Montreal QC |
|---|---|---|---|---|---|---|---|---|
| Low Activity (suburban) | 1631 | 1850 | 1875 | 1525 | 1725 | 1642 | 1850 (FAG)[2]<br>1740 (LTGA)[3] | 1975 |
| High Activity (downtown) | 1565 | 1650 | | 1685 | 1775 | 1749 | 1600 (FAG)<br>1270 (LTGA) | |

1. The above values represent typical measured saturation flows, not necessarily those used by the administrations of individual cities in specific analytical, design or planning applications.
2. FAG: Flashing Advanced Green
3. LTGA: Left Turn Green Arrow

**Turning Speeds**

Based on the curvature of the Run 2 data there is some acceleration and then deceleration (53-54 m mark) which is likely the result of a vehicle queue on Derry Road which does not allow the vehicle to achieve the desired acceleration rate. As we are attempting to identify the free-flow speed of vehicles the speed of this run appears to be constrained (i.e. not free-flow) and therefore has not been included in the overall average.

We have plotted the average line from Figure 2 on Figure 1 as shown below. As noted in the previously-submitted memo this calculated average does not include Runs 2 5 and 7.

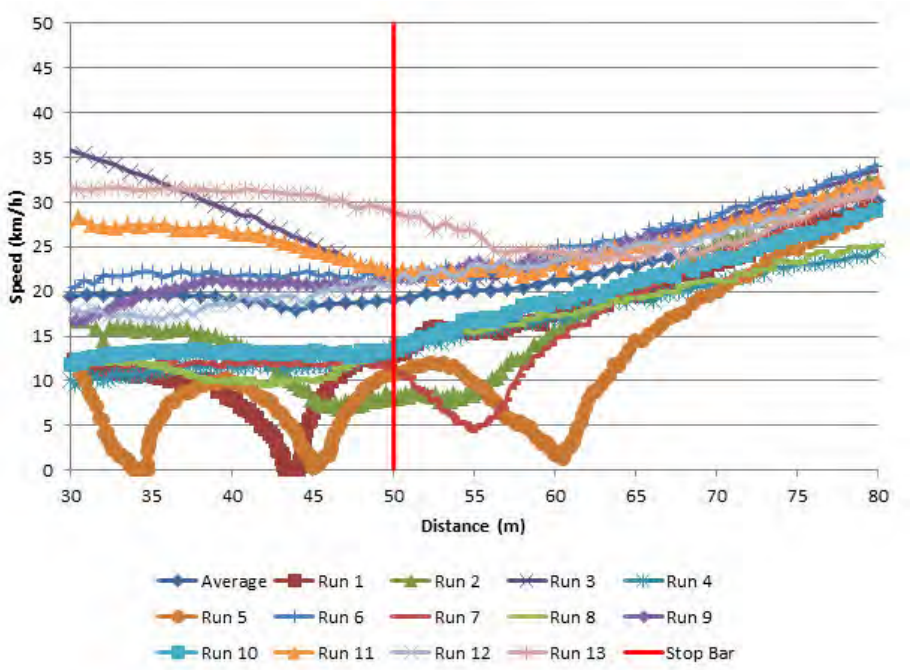



**Figure 1 – Right Turning Vehicle Speed**

Due to the volume of data points for each run a table was set up at 1 m increments. Using the Excel lookup function the individual speed at each location for each run closest to the 1 m interval was obtained. This creates a smoother line with fewer data points but as can be seen from the average line still closely matches the general curvature. Additionally it allows the speed runs can be properly averaged together. This table is shown in the first page of Appendix B (pg. 12 of the May 14 2015 memo PDF) where the average value of 21.8 km/h can be seen at the distance of 62 m the interval closest to the end of the reduced speed zone.

We believe that the next steps identified in our May 14th memo represent reasonable modifications to the analysis parameters given the results of the supplementary data collection. As detailed in Section 3.0 of that memo we are proposing the following revisions:

- in the Synchro analysis reduce the ideal saturation flow rate for left-turn movements at the Highway 410 & Derry Road interchange such that the adjusted saturation flow rate is approximately 1 750 vehicles/hour
- in the VISSIM analysis reduce the right-turn speed at all ramp terminal intersections to 25 km/h

We request MTO's approval of this approach such that we can begin revisions to the traffic analysis as soon as possible.

Please let me know if you have any questions or if you'd like me to clarify anything above.

Thanks
- Mike

**Mike Bradley, BSc, EIT**
Engineering Intern
Transportation
Stantec
Phone: (905) 944-7763
mike.bradley@stantec.com



---

**From:** Dana Glofcheskie [mailto:Dana.Glofcheskie@mississauga.ca]
**Sent:** Wednesday, June 24, 2015 1:07 PM
**To:** Kwan, Steven; Bradley, Michael
**Cc:** Murray, Gordon; Leslie Green
**Subject:** FW: Courtneypark Dr Class EA - Supplementary data collection results

Hi Steven and Mike,

See below from MTO and please send a response today or tomorrow.

Thanks,

### Step 4: Determine Adjusted Saturation Flow Rate

The adjusted saturation flow rate for each lane of each lane group is computed in this step. The base saturation flow rate provided as an input variable is used in this computation.

The computed saturation flow rate is referred to as the "adjusted" saturation flow rate because it reflects the application of various factors that adjust the base saturation flow rate to the specific conditions present on the subject intersection approach.

The procedure described in this step applies to lane groups that consist of an exclusive lane (or lanes) operating in a pretimed protected mode and without pedestrian or bicycle interaction. When these conditions do not hold, the supplemental procedures described in Chapter 31 should be combined with those in this step to compute the adjusted saturation flow rate.

Equation 18-5 is used to compute the adjusted saturation flow rate per lane for the subject lane group:

$$s = s_o \, f_w \, f_{HV} \, f_g \, f_p \, f_{bb} \, f_a \, f_{LU} \, f_{LT} \, f_{RT} \, f_{Lpb} \, f_{Rpb} \qquad \text{Equation 18-5}$$

where

- $s$ = adjusted saturation flow rate (veh/h/ln),
- $s_o$ = base saturation flow rate (pc/h/ln),
- $f_w$ = adjustment factor for lane width,
- $f_{HV}$ = adjustment factor for heavy vehicles in traffic stream,
- $f_g$ = adjustment factor for approach grade,



## Saturated Flow Rates

The **Saturated Flow Rates** are the actual maximum flow rate for this lane group after adjusting for all of the interference factors. The Saturated Flow Rates represent the number of lanes multiplied by the Ideal Saturated Flow Rate and interference factors due to heavy vehicles, buses, parking maneuvers, lane widths, area type, grade, and turning movements.

NOTE

There is a permitted and a protected Saturated Flow Rate. For left and through lane groups the permitted Saturated Flow Rate is used when left turns are permitted and the protected Saturated Flow Rate is used when left turns are protected. For right turn lane groups, the permitted flow rate is used with permitted and free right turn phases. The protected flow rate is used with protected signal indication that overlap with a non-conflicting protected left-turn phase.

The Saturated Flow Rates are used in capacity and delay calculations, and for optimization calculations. The Saturated Flow Rates are not used for simulation modeling in SimTraffic or CORSIM.

These fields are calculated but can be overridden.

The saturation flow rate is based on:

S = So * N * Fw * Fn * Fhv * Fg * Fp * Fbb * Fa * Flu * Flt * Frt * FLpb * FRpb

where:

S = saturation flow rate for the subject lane group, expressed as a total for all lanes in the lane group, veh/h`

So = base saturation flow rate per lane, pc/h/In.

N = number of lanes in the lane group.

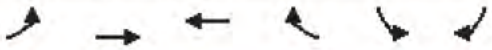
Fw = adjustment factor for the lane width,

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 2428 | 0 | 0 | 1053 | 447 | 1091 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 2200 | 2400 |
| Total Lost time (s) | 7.0 | | | 7.0 | 7.0 | 7.0 |
| Lane Util. Factor | 0.91 | | | 0.91 | 0.97 | 0.91 |
| Frt | 1.00 | | | 1.00 | 0.92 | 0.85 |
| Flt Protected | 1.00 | | | 1.00 | 0.98 | 1.00 |
| Satd. Flow (prot) | 5043 | | | 4299 | 3707 | 1805 |
| Flt Permitted | 1.00 | | | 1.00 | 0.98 | 1.00 |
| Satd. Flow (perm) | 5043 | | | 4299 | 3707 | 1805 |
| Peak-hour factor, PHF | 0.94 | 0.92 | 0.92 | 0.94 | 0.94 | 0.94 |
| Adj. Flow (vph) | 2583 | 0 | 0 | 1120 | 476 | 1161 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 1 | 1 |
| Lane Group Flow (vph) | 2583 | 0 | 0 | 1120 | 1056 | 579 |
| Heavy Vehicles (%) | 4% | 2% | 2% | 22% | 5% | 4% |
| Turn Type | NA | | | NA | Prot | Perm |
| Protected Phases | 2 | | | 6 | 8 | |
| Permitted Phases | | | | | | 8 |
| Actuated Green, G (s) | 81.2 | | | 81.2 | 44.8 | 44.8 |
| Effective Green, g (s) | 81.2 | | | 81.2 | 44.8 | 44.8 |
| Actuated g/C Ratio | 0.58 | | | 0.58 | 0.32 | 0.32 |
| Clearance Time (s) | 7.0 | | | 7.0 | 7.0 | 7.0 |
| Vehicle Extension (s) | 3.0 | | | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 2924 | | | 2493 | 1186 | 577 |
| v/s Ratio Prot | c0.51 | | | 0.26 | 0.28 | |
| v/s Ratio Perm | | | | | | c0.32 |
| v/c Ratio | 0.88 | | | 0.45 | 1.00dr | 1.00 |
| Uniform Delay, d1 | 25.3 | | | 16.7 | 45.3 | 47.6 |
| Progression Factor | 0.63 | | | 0.40 | 1.00 | 1.00 |
| Incremental Delay, d2 | 2.7 | | | 0.5 | 10.2 | 38.2 |
| Delay (s) | 18.5 | | | 7.2 | 55.4 | 85.8 |
| Level of Service | B | | | A | E | F |
| Approach Delay (s) | 18.5 | | | 7.2 | 66.2 | |
| Approach LOS | B | | | A | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 30.8 | HCM 2000 Level of Service | C |
| HCM 2000 Volume to Capacity ratio | 0.93 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 14.0 |
| Intersection Capacity Utilization | 94.2% | ICU Level of Service | F |
| Analysis Period (min) | 15 | | |

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

c Critical Lane Group



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | ↑↑↑ | ↑↑↑ | | ↰↰ | ↱ |
| Volume (vph) | 0 | 1853 | 1144 | 0 | 841 | 770 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 2275 | 2275 |
| Total Lost time (s) | | 7.0 | 7.0 | | 7.0 | 7.0 |
| Lane Util. Factor | | 0.91 | 0.91 | | 0.97 | 0.91 |
| Frt | | 1.00 | 1.00 | | 0.96 | 0.85 |
| Flt Protected | | 1.00 | 1.00 | | 0.96 | 1.00 |
| Satd. Flow (prot) | | 4902 | 4725 | | 4055 | 1727 |
| Flt Permitted | | 1.00 | 1.00 | | 0.96 | 1.00 |
| Satd. Flow (perm) | | 4902 | 4725 | | 4055 | 1727 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 2014 | 1243 | 0 | 914 | 837 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 22 | 51 |
| Lane Group Flow (vph) | 0 | 2014 | 1243 | 0 | 1177 | 501 |
| Heavy Vehicles (%) | 2% | 7% | 11% | 2% | 2% | 3% |
| Turn Type | | NA | NA | | Prot | Perm |
| Protected Phases | | 2 | 6 | | 4 | |
| Permitted Phases | | | | | | 4 |
| Actuated Green, G (s) | | 85.4 | 85.4 | | 40.6 | 40.6 |
| Effective Green, g (s) | | 85.4 | 85.4 | | 40.6 | 40.6 |
| Actuated g/C Ratio | | 0.61 | 0.61 | | 0.29 | 0.29 |
| Clearance Time (s) | | 7.0 | 7.0 | | 7.0 | 7.0 |
| Vehicle Extension (s) | | 3.0 | 3.0 | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | | 2990 | 2882 | | 1175 | 500 |
| v/s Ratio Prot | | c0.41 | 0.26 | | c0.29 | |
| v/s Ratio Perm | | | | | | 0.29 |
| v/c Ratio | | 0.67 | 0.43 | | 1.00 | 1.00 |
| Uniform Delay, d1 | | 18.1 | 14.4 | | 49.7 | 49.7 |
| Progression Factor | | 0.44 | 2.05 | | 1.00 | 1.00 |
| Incremental Delay, d2 | | 0.7 | 0.4 | | 26.7 | 40.7 |
| Delay (s) | | 8.6 | 30.0 | | 76.4 | 90.4 |
| Level of Service | | A | C | | E | F |
| Approach Delay (s) | | 8.6 | 30.0 | | 80.8 | |
| Approach LOS | | A | C | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 39.1 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 0.78 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 14.0 |
| Intersection Capacity Utilization | 94.2% | ICU Level of Service | F |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| | |
|---|---|
| **From:** | Dana Glofcheskie |
| **To:** | Bradley_Michael; Kwan_Steven |
| **Cc:** | Murray_Gordon; Leslie Green |
| **Subject:** | FW: Courtneypark Dr Class EA - Supplementary data collection results |
| **Date:** | Monday, July 06, 2015 8:44:54 AM |
| **Attachments:** | image001.png<br>image004.png<br>image005.png<br>picture1_sat_calc.png<br>synchro_output.pdf<br>1 Existing AM.SYN |

Morning Mike and Steven,

See below comments from MTO. Please call to discuss and advise of timing to complete the revised traffic model.

Thanks,

**Dana Glofcheskie, P.Eng.**
Transportation Project Engineer
T 905-615-3200 ext.8243
dana.glofcheskie@mississauga.ca

City of Mississauga | Transportation & Works Department,
Transportation & Infrastructure Planning Division



---

**From:** Marinelli, Mike (MTO) [mailto:Mike.Marinelli@ontario.ca]
**Sent:** July 6, 2015 8:38 AM
**To:** Dana Glofcheskie
**Subject:** FW: Courtneypark Dr Class EA - Supplementary data collection results

Dana,

Please see comments from Traffic.

Mike

**Mike Marinelli | Project Manager**
**Ministry of Transportation | Central Region**
Planning and Design – Peel & Halton Section | 4th Floor, Bldg.D
1201 Wilson Avenue | Downsview | ON | M3M 1J8
T: 416-235-4639 | F: 416-235-3576

---

**From:** Hussain, Kashif (MTO)
**Sent:** July 3, 2015 11:36 AM
**To:** Marinelli, Mike (MTO)
**Cc:** KC, Pramod Kumar (MTO)
**Subject:** FW: Courtneypark Dr Class EA - Supplementary data collection results

Hi Mike,
Please forward the following Traffic office comments to the consultant and the city;

Saturation Flow rate:

- Please clarify how the heavy traffic is considered during the study. Due to the industrial area surrounding Derry road, volume of heavy truck traffic is on higher side. Trucks on the off-ramps are also taking curb lane to make a right at these ramp terminals. As per the study, the average headway is coming out as 2.1sec which is too low if heavy truck traffic is also making a right turn along with the small vehicles.
- As per our observed readings at the ramp terminal, the average headway for the small vehicles making right (if heavy traffic values are discarded) is coming out to be 2.5sec. which is 0.4sec more than the average reading of 2.1sec in the study. 2.5sec headway gives observed saturation flow rate value of 1450veh/hr (ideal flow rate value of approx. 1900), which is 336veh/hr less than the calculate SFR value in the report (1786veh/hr). Please explain what could the main reason for this major difference in values.

- We recommends to use ideal saturation flow rate value of 1900veh/hr for all moves at both of the ramp terminals.

Speed study:

- Regarding right turning speed, run 2 should be included in average speed calculation and average speed should be used as right turning speed in Vissim model.

If you have any question please let me know.

Thanks
Kashif

---

**From:** Bradley, Michael [mailto:Mike.Bradley@stantec.com]
**Sent:** June 25, 2015 6:18 PM
**To:** Hussain, Kashif (MTO)
**Cc:** KC, Pramod Kumar (MTO); Marinelli, Mike (MTO); Dana Glofcheskie (Dana.Glofcheskie@mississauga.ca); Leslie Green (Leslie.Green@mississauga.ca); Kwan, Steven; Murray, Gordon
**Subject:** RE: Courtneypark Dr Class EA - Supplementary data collection results

Hi Kashif

Stantec's traffic engineer for this project Steven Kwan has reviewed the MTO traffic office's comments and offers the following responses:

**Saturation Flow**

Synchro calculates the saturation flow rates using the HCM methodology (as shown in the attached picture 1) so the purpose of the manual HCM saturation flow calculations is unclear. The only difference between the two formulas in the attached picture is that the HCM example is calculating individual lane saturation flow while the Synchro example is calculating the lane group saturation flow rate hence the additional N term representing the number of lanes.

It should also be noted that the use of Synchro as an analysis tool was approved in the original *Courtneypark Drive E Class EA – Transportation Methodology (December 2, 2013)* memo which did not require that traffic analysis be undertaken manually through the direct use of HCM formulas.

The saturation flow rate values measured are consistent with those shown in Table 3.6B of the CCG (shown below). The electronic Synchro analysis file and PDFs of the Synchro HCM output reports for the Highway 410 off-ramp terminals at Derry Road are attached for reference and are consistent with those provided with the most recent *Transportation and Traffic Analysis Report (March 2015)*.

B: Left Turn Movement[1]

| Approach environment | Victoria BC | Edmonton AB | Calgary AB | Windsor ON | Waterloo ON | Ottawa ON | Toronto ON | Montreal QC |
|---|---|---|---|---|---|---|---|---|
| Low Activity (suburban) | 1631 | 1850 | 1875 | 1525 | 1725 | 1642 | 1850 (FAG)[2]<br>1740 (LTGA)[3] | 1975 |
| High Activity (downtown) | 1565 | 1650 | | 1685 | 1775 | 1749 | 1600 (FAG)<br>1270 (LTGA) | |

1. The above values represent typical measured saturation flows, not necessarily those used by the administrations of individual cities in specific analytical, design or planning applications.
2. FAG: Flashing Advanced Green
3. LTGA: Left Turn Green Arrow

**Turning Speeds**

Based on the curvature of the Run 2 data there is some acceleration and then deceleration (53-54 m mark) which is likely the result of a vehicle queue on Derry Road which does not allow the vehicle to achieve the desired acceleration rate. As we are attempting to identify the free-flow speed of vehicles the speed of this run appears to be constrained (i.e. not free-flow) and therefore has not been included in the overall average.

We have plotted the average line from Figure 2 on Figure 1 as shown below. As noted in the previously-submitted memo this calculated average does not include Runs 2 5 and 7.

| | |
|---|---|
| **From:** | Dana Glofcheskie |
| **To:** | Marinelli, Mike (MTO); Hussain, Kashif (MTO); KC, Pramod Kumar (MTO) |
| **Cc:** | Bradley, Michael; Kwan, Steven; Murray, Gordon; Leslie Green |
| **Subject:** | RE: Courtneypark Dr Class EA - Supplementary data collection results |
| **Date:** | Thursday, July 09, 2015 8:08:13 AM |
| **Attachments:** | image002.png<br>image003.png<br>image005.png<br>image006.png |

---

Morning Mike, Kashif and Pramod,

We've reviewed your comments and offer the following responses:

**Saturation Flow**

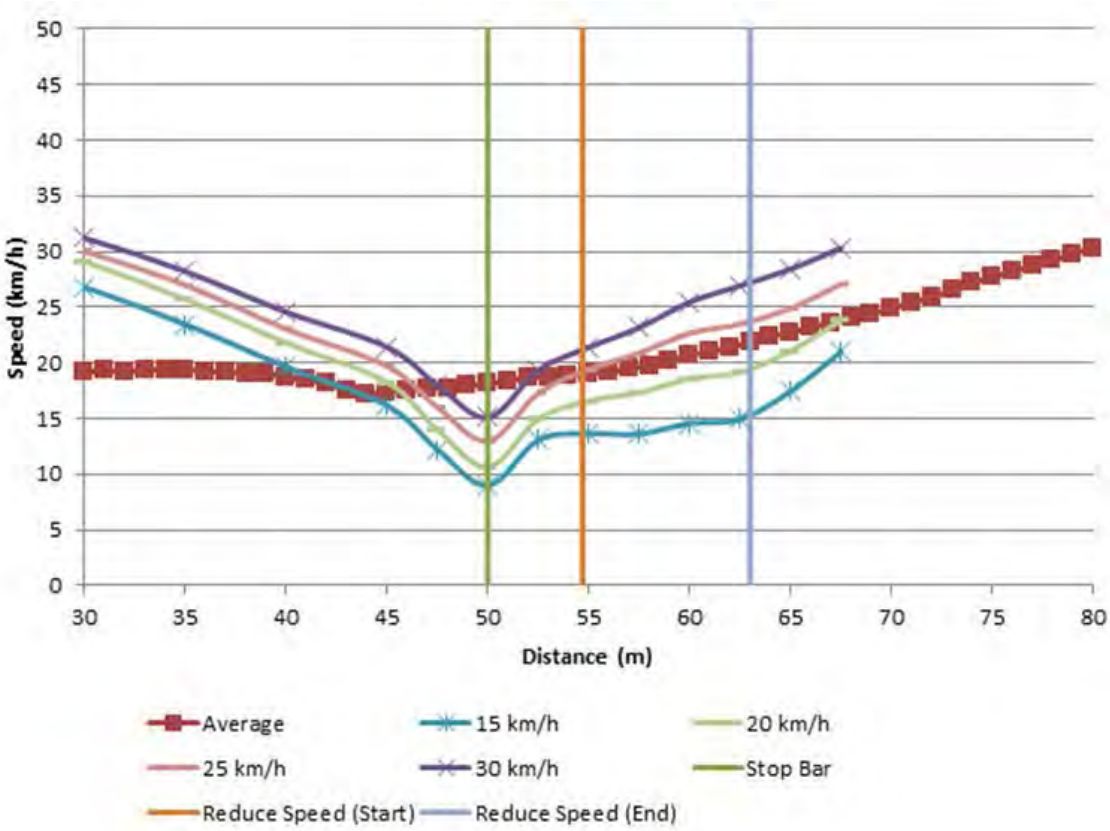
Consistent with the previously agreed upon ITE methodology, heavy vehicles were not recorded as part of the saturation flow rate measurements. Based on the adjustment applied by Synchro and the HCM methodology for heavy vehicles, the saturation flow rate for the right turn movement of 1,750 vph would be reduced to 1,681 vph (corresponding to an ideal saturation flow rate of 2,235 vph) based on the observed percentage of heavy vehicles at the Highway 410 northbound off-ramp to Derry Road. This value is greater than MTO's proposed saturation flow rate of 1,450 vph. Without further information as to how the headway value of 2.5 seconds has been calculated (e.g. number of cycles recorded, what vehicle positions in the queue were recorded, recording methodology, etc.), we cannot speculate as to what may cause the difference in headway time.

In the interest of completing the traffic analysis for this study in a timely manner, we will revise the ideal saturation flow rates for all movements at the ramp terminal intersections to 1,900 vph (the Synchro default value), as requested by MTO.

However, as previously noted, we would advise that this revision will result in v/c ratios substantially greater than 1.00 under existing conditions, which is theoretically impossible. The turning movement counts reflect vehicles processed by the intersection (i.e. vehicles are counted after their movement is completed), and given the existing signal timings, the only remaining variable to be adjusted is the saturation flow rate. Furthermore, the use of the Synchro default value (i.e. 1,900 vph) creates analysis outputs which are inconsistent with traffic observations, effectively resulting in an uncalibrated model operating in a range where output values are the least reliable.

**Turning Speed**

The revised Figure 2 including Run 2 in the average speed calculation is shown below:




Through the reduced speed area, the 25 km/h speed profile continues to be the closest match to the average speed although it falls roughly halfway between the 25 km/h and 20 km/h speed profiles at the end of the reduced speed area. Therefore we will create a new 22.5 km/h speed class to set as the value for the reduced speed zone.

As stated above, Stantec intends to make the following revisions to the traffic analysis in response to MTO's comments:

- in the Synchro analysis, set the ideal saturation flow rate for all movements at the Highway 410 & Derry Road interchange ramp terminal intersections to 1,900 vehicles/hour during the AM peak period under all analysis scenarios;
- in the VISSIM analysis, reduce the right-turn speed at all ramp terminal intersections to 22.5 km/h.

Please respond by **Friday, July 10** if MTO is in disagreement, otherwise Stantec intends to update the traffic analysis using these agreed-upon parameters and revise both the Traffic & Transportation Analysis Report and ESR accordingly. Following these revisions, the City of Mississauga will consider the ESR to be a final draft and it will be circulated to the various reviewing agencies for this study, including MTO. That review will offer MTO an opportunity to comment on the conclusions (not the methodology or parameters used in the traffic analysis) of both the Traffic & Transportation Analysis Report and the overall ESR.

Leslie and I will be at the MTO office this morning for another meeting and we will try to come by to discuss.

Thank you,

MISSISSAUGA

**Dana Glofcheskie, P.Eng.**
Transportation Project Engineer
T 905-615-3200 ext.8243
dana.glofcheskie@mississauga.ca

City of Mississauga | Transportation & Works Department,
Transportation & Infrastructure Planning Division

**From:** Marinelli, Mike (MTO) [mailto:Mike.Marinelli@ontario.ca]
**Sent:** July 6, 2015 8:38 AM
**To:** Dana Glofcheskie
**Subject:** FW: Courtneypark Dr Class EA - Supplementary data collection results

Dana,

Please see comments from Traffic.

Mike

**Mike Marinelli | Project Manager**
**Ministry of Transportation | Central Region**
Planning and Design – Peel & Halton Section | 4th Floor, Bldg.D
1201 Wilson Avenue | Downsview | ON | M3M 1J8
T: 416-235-4639 | F: 416-235-3576

---

**From:** Hussain, Kashif (MTO)
**Sent:** July 3, 2015 11:36 AM
**To:** Marinelli, Mike (MTO)
**Cc:** KC, Pramod Kumar (MTO)
**Subject:** FW: Courtneypark Dr Class EA - Supplementary data collection results

Hi Mike,
Please forward the following Traffic office comments to the consultant and the city;

Saturation Flow rate:

- Please clarify how the heavy traffic is considered during the study. Due to the industrial area surrounding Derry road, volume of heavy truck traffic is on higher side. Trucks on the off-ramps are also taking curb lane to make a right at these ramp terminals. As per the study, the average headway is coming out as 2.1sec which is too low if heavy truck traffic is also making a right turn along with the small vehicles.
- As per our observed readings at the ramp terminal, the average headway for the small vehicles making right (if heavy traffic values are discarded) is coming out to be 2.5sec. which is 0.4sec more than the average reading of 2.1sec in the study. 2.5sec headway gives observed saturation flow rate value of 1450veh/hr (ideal flow rate value of approx. 1900), which is 336veh/hr less than the calculate SFR value in the report (1786veh/hr). Please explain what could the main reason for this major difference in values.
- We recommends to use ideal saturation flow rate value of 1900veh/hr for all moves at both of the ramp terminals.

Speed study:

- Regarding right turning speed, run 2 should be included in average speed calculation and average speed should be used as right turning speed in Vissim model.

If you have any question please let me know.

Thanks
Kashif

---

**From:** Bradley, Michael [mailto:Mike.Bradley@stantec.com]
**Sent:** June 25, 2015 6:18 PM
**To:** Hussain, Kashif (MTO)
**Cc:** KC, Pramod Kumar (MTO); Marinelli, Mike (MTO); Dana Glofcheskie (Dana.Glofcheskie@mississauga.ca); Leslie Green (Leslie.Green@mississauga.ca); Kwan, Steven; Murray, Gordon
**Subject:** RE: Courtneypark Dr Class EA - Supplementary data collection results

Hi Kashif

Stantec's traffic engineer for this project Steven Kwan has reviewed the MTO traffic office's comments and offers the following responses:

**Saturation Flow**

Synchro calculates the saturation flow rates using the HCM methodology (as shown in the attached picture 1) so the purpose of the manual HCM saturation flow calculations is unclear. The only difference between the two formulas in the attached picture is that the HCM example is calculating individual lane saturation flow while the Synchro example is calculating the lane group saturation flow rate hence the additional N term representing the number of lanes.

It should also be noted that the use of Synchro as an analysis tool was approved in the original *Courtneypark Drive E Class*

| | |
|---|---|
| **From:** | Dana Glofcheskie |
| **To:** | Bradley, Michael; Kwan, Steven |
| **Cc:** | Murray, Gordon; Leslie Green |
| **Subject:** | FW: Courtneypark Dr Class EA - Supplementary data collection results |
| **Date:** | Thursday, July 09, 2015 11:47:05 AM |
| **Attachments:** | image002.png<br>image003.png<br>image005.png<br>image006.png |

Hi Mike and Steven,

See below from MTO. We will go forward with the 1900 veh/h and we will take the average speed at the stop bar location (between 18-19km/h). Please confirm what the exact speed will be and we will send an email to MTO.

Thanks,

MISSISSAUGA

**Dana Glofcheskie, P.Eng.**
Transportation Project Engineer
T 905-615-3200 ext.8243
dana.glofcheskie@mississauga.ca

City of Mississauga | Transportation & Works Department,
Transportation & Infrastructure Planning Division



---

**From:** Marinelli, Mike (MTO) [mailto:Mike.Marinelli@ontario.ca]
**Sent:** July 9, 2015 9:21 AM
**To:** Dana Glofcheskie
**Subject:** FW: Courtneypark Dr Class EA - Supplementary data collection results

Dana,

Please see comments from Kashif and KC below.

Mike

**Mike Marinelli | Project Manager**
**Ministry of Transportation | Central Region**
Planning and Design – Peel & Halton Section | 4th Floor, Bldg.D
1201 Wilson Avenue | Downsview | ON | M3M 1J8
T: 416-235-4639 | F: 416-235-3576

---

**From:** Hussain, Kashif (MTO)
**Sent:** July 9, 2015 9:10 AM
**To:** Marinelli, Mike (MTO)
**Cc:** KC, Pramod Kumar (MTO)
**Subject:** FW: Courtneypark Dr Class EA - Supplementary data collection results

Hi Mike,
We are ok with the use of Saturation flow rate value of 1900 within the study. Regarding turning speed, we have some comments.
Please see following email from KC.
Thanks
Kashif

---

**From:** KC, Pramod Kumar (MTO)
**Sent:** July 9, 2015 8:56 AM
**To:** Hussain, Kashif (MTO)
**Cc:** Nikolic, Goran (MTO)
**Subject:** FW: Courtneypark Dr Class EA - Supplementary data collection results

Hi Kashif,
We don't agree on the speed of 22.5 km/h. We have recommended using average speed at the stop bar. From the figure it is approximately 18km/h to 19 km/h. Exact number to be calculated which is still going to be higher than

standard value of 15km/h.
Pramod

---

**From:** Dana Glofcheskie [mailto:Dana.Glofcheskie@mississauga.ca]
**Sent:** July-09-15 8:08 AM
**To:** Marinelli, Mike (MTO); Hussain, Kashif (MTO); KC, Pramod Kumar (MTO)
**Cc:** Bradley, Michael; Kwan, Steven; Murray, Gordon; Leslie Green
**Subject:** RE: Courtneypark Dr Class EA - Supplementary data collection results

Morning Mike, Kashif and Pramod,

We've reviewed your comments and offer the following responses:

**Saturation Flow**

Consistent with the previously agreed upon ITE methodology, heavy vehicles were not recorded as part of the saturation flow rate measurements. Based on the adjustment applied by Synchro and the HCM methodology for heavy vehicles, the saturation flow rate for the right turn movement of 1,750 vph would be reduced to 1,681 vph (corresponding to an ideal saturation flow rate of 2,235 vph) based on the observed percentage of heavy vehicles at the Highway 410 northbound off-ramp to Derry Road. This value is greater than MTO's proposed saturation flow rate of 1,450 vph. Without further information as to how the headway value of 2.5 seconds has been calculated (e.g. number of cycles recorded, what vehicle positions in the queue were recorded, recording methodology, etc.), we cannot speculate as to what may cause the difference in headway time.

In the interest of completing the traffic analysis for this study in a timely manner, we will revise the ideal saturation flow rates for all movements at the ramp terminal intersections to 1,900 vph (the Synchro default value), as requested by MTO.

However, as previously noted, we would advise that this revision will result in v/c ratios substantially greater than 1.00 under existing conditions, which is theoretically impossible. The turning movement counts reflect vehicles processed by the intersection (i.e. vehicles are counted after their movement is completed), and given the existing signal timings, the only remaining variable to be adjusted is the saturation flow rate. Furthermore, the use of the Synchro default value (i.e. 1,900 vph) creates analysis outputs which are inconsistent with traffic observations, effectively resulting in an uncalibrated model operating in a range where output values are the least reliable.

**Turning Speed**

The revised Figure 2 including Run 2 in the average speed calculation is shown below:

| | |
|---|---|
| **From:** | Bradley, Michael |
| **To:** | Mike.Marinelli@ontario ca; PramodKumar.KC@ontario.ca; kashif hussain@ontario.ca |
| **Cc:** | Dana Glofcheskie (Dana.Glofcheskie@mississauga.ca); Leslie Green (Leslie.Green@mississauga.ca); Murray Gordon (gordon.murray@stantec.com); Kwan Steven |
| **Subject:** | RE: Courtneypark Dr Class EA - Supplementary data collection results |
| **Date:** | Thursday, July 09, 2015 4:32:00 PM |
| **Attachments:** | image001.png<br>image002.png<br>image003.png<br>image004.png |

Hi Mike Pramod and Kashif

Thanks for your additional comments.

We've calculated the exact average speed measured at the stop bar during our supplementary data collection efforts to be 18.1km/h. Accordingly Stantec intends to update the traffic analysis using the parameters below and revise both the Traffic & Transportation Analysis Report and ESR:

- in the Synchro analysis set the ideal saturation flow rate for all movements at the Highway 410 & Derry Road interchange ramp terminal intersections to **1,900 vehicles/hour** during the AM peak period under all analysis scenarios and
- in the VISSIM analysis reduce the right-turn speed at all ramp terminal intersections to **18km/h** by creating a custom speed class for the reduced speed area.

Please respond by **tomorrow** (i.e. Friday July 10) if MTO is in disagreement.

Following these revisions the City of Mississauga will consider the ESR to be a final draft and it will be circulated to the various reviewing agencies for this study including MTO. That review will offer MTO an opportunity to comment on the conclusions (not the methodology or parameters used in the traffic analysis) of both the Traffic & Transportation Analysis Report and the overall ESR.

Let me know if you have any questions.

- Mike

**Mike Bradley, BSc, EIT**
Engineering Intern
Transportation
Stantec
Phone: (905) 944-7763
mike.bradley@stantec.com



---

**From:** Marinelli, Mike (MTO) [mailto:Mike.Marinelli@ontario.ca]
**Sent:** July 9, 2015 9:21 AM
**To:** Dana Glofcheskie
**Subject:** FW: Courtneypark Dr Class EA - Supplementary data collection results

Dana,

Please see comments from Kashif and KC below.

Mike

**Mike Marinelli | Project Manager**
**Ministry of Transportation | Central Region**
Planning and Design – Peel & Halton Section | 4th Floor, Bldg.D
1201 Wilson Avenue | Downsview | ON | M3M 1J8
T: 416-235-4639 | F: 416-235-3576

---

**From:** Hussain, Kashif (MTO)
**Sent:** July 9, 2015 9:10 AM
**To:** Marinelli, Mike (MTO)
**Cc:** KC, Pramod Kumar (MTO)
**Subject:** FW: Courtneypark Dr Class EA - Supplementary data collection results

Hi Mike,
We are ok with the use of Saturation flow rate value of 1900 within the study. Regarding turning speed, we have some comments.
Please see following email from KC.
Thanks

| | |
|---|---|
| **From:** | Marinelli, Mike (MTO) |
| **To:** | Dana Glofcheskie (Dana.Glofcheskie@mississauga.ca); Bradley, Michael |
| **Subject:** | FW: Courtneypark Dr Class EA - Supplementary data collection results |
| **Date:** | Friday, July 10, 2015 8:23:34 AM |
| **Attachments:** | image001.png<br>image002.png<br>image003.png<br>image004.png |

Dana/Mike

Please see below for Traffic comments.

Have a great weekend.

Mike

**Mike Marinelli | Project Manager**
**Ministry of Transportation | Central Region**
Planning and Design – Peel & Halton Section | 4th Floor, Bldg.D
1201 Wilson Avenue | Downsview | ON | M3M 1J8
T: 416-235-4639 | F: 416-235-3576

---

**From:** Hussain, Kashif (MTO)
**Sent:** July 10, 2015 8:08 AM
**To:** Marinelli, Mike (MTO)
**Cc:** KC, Pramod Kumar (MTO)
**Subject:** FW: Courtneypark Dr Class EA - Supplementary data collection results

Hi Mike,
We are ok with the ideal saturation flow rate of 1900veh/hour and turning speed of 18km/hr.
Thanks
Kashif

---

**From:** KC, Pramod Kumar (MTO)
**Sent:** July 10, 2015 8:05 AM
**To:** Hussain, Kashif (MTO)
**Subject:** FW: Courtneypark Dr Class EA - Supplementary data collection results

I am ok with the turning speed of 18km/h.
Thanks,
Pramod

---

**From:** Bradley, Michael [mailto:Mike.Bradley@stantec.com]
**Sent:** July-09-15 4:32 PM
**To:** Marinelli, Mike (MTO); KC, Pramod Kumar (MTO); Hussain, Kashif (MTO)
**Cc:** Dana Glofcheskie (Dana.Glofcheskie@mississauga.ca); Leslie Green (Leslie.Green@mississauga.ca); Murray, Gordon; Kwan, Steven
**Subject:** RE: Courtneypark Dr Class EA - Supplementary data collection results

Hi Mike Pramod and Kashif

Thanks for your additional comments.

We've calculated the exact average speed measured at the stop bar during our supplementary data collection efforts to be 18.1km/h. Accordingly Stantec intends to update the traffic analysis using the parameters below and revise both the Traffic & Transportation Analysis Report and ESR:

- in the Synchro analysis set the ideal saturation flow rate for all movements at the Highway 410 & Derry Road interchange ramp terminal intersections to **1,900 vehicles/hour** during the AM peak period under all analysis scenarios and
- in the VISSIM analysis reduce the right-turn speed at all ramp terminal intersections to **18km/h** by creating a custom speed class for the reduced speed area.

Please respond by **tomorrow** (i.e. Friday July 10) if MTO is in disagreement.

Following these revisions the City of Mississauga will consider the ESR to be a final draft and it will be circulated to the various reviewing agencies for this study including MTO. That review will offer MTO an opportunity to comment on the conclusions (not the methodology or parameters used in the traffic analysis) of both the Traffic & Transportation Analysis Report and the overall ESR.

Let me know if you have any questions.

**From:** Bradley, Michael
**To:** "Marinelli, Mike (MTO)"
**Cc:** Dana Glofcheskie (Dana.Glofcheskie@mississauga.ca); Murray, Gordon (gordon.murray@stantec.com)
**Subject:** RE: City of Mississauga, Courtneypark Drive Class EA & Preliminary Design - Draft ESR submission
**Date:** Tuesday, August 11, 2015 12:28:00 PM
**Attachments:** image001.png

---

Hi Mike

The Synchro and VISSIM model files have been uploaded to the FTP site below for your review:

## Automatic Login

**FTP site link:** ftp://s0825101047:9530164@ftptmp.stantec.com
By clicking on the link above (or pasting the link into Windows Explorer) you will be automatically logged into your FTP site.

## Manual Login

**FTP link:** ftp://ftptmp.stantec.com
**Login name:** s0825101047
**Password:** 9530164
**Disk Quota:** 2GB
**Expiry Date: 8/25/2015**

Additionally in response to the following comment from MTO videos of our SimTraffic model output have been included with the Synchro files – as stated in our original response below (and as shown in the videos) we have been unable to reproduce the queues observed by MTO.

| | | |
|---|---|---|
| 4 | Recent Synchro files of full Interchange scenarios are still showing long queues for EBL at West ramp terminal of Courtney Park when running in Sim Traffic. The queues are reaching up to the Kennedy road intersection. Please correct the models. Following is a snap shot from the Sim traffic | Please advise as to which scenario and peak hour these queues were observed as we were not able to reproduce these queues in running the SimTraffic model. |

(excerpt from Stantec's April 15 2015 memo)

Please let me know if you have any questions or comments.

Thanks
- Mike

**Mike Bradley, BSc, EIT**
Engineering Intern
Transportation
Stantec
Phone: (905) 944-7763
mike.bradley@stantec.com



---

**From:** Marinelli, Mike (MTO) [mailto:Mike.Marinelli@ontario.ca]
**Sent:** Monday, August 10, 2015 3:33 PM
**To:** Bradley, Michael
**Subject:** RE: City of Mississauga, Courtneypark Drive Class EA & Preliminary Design - Draft ESR submission

Michael,

Thank you for the files. Could you please forward the traffic modelling files for our review.

Thanks

Mike

**Mike Marinelli | Project Manager**
**Ministry of Transportation | Central Region**
Planning and Design – Peel & Halton Section | 4th Floor, Bldg.D
1201 Wilson Avenue | Downsview | ON | M3M 1J8
T: 416-235-4639 | F: 416-235-3576

---

**From:** Bradley, Michael [mailto:Mike.Bradley@stantec.com]
**Sent:** August 10, 2015 2:46 PM
**To:** Marinelli, Mike (MTO)
**Cc:** Murray, Gordon

**Subject:** City of Mississauga, Courtneypark Drive Class EA & Preliminary Design - Draft ESR submission

Hi Mike

Further to the hard copy of the draft ESR for the Courtneypark Drive East Class EA that you received last week an electronic copy has been uploaded to the FTP site below as discussed:

## Automatic Login

**FTP site link:** ftp://s0820034256:2576093@ftptmp.stantec.com
By clicking on the link above (or pasting the link into Windows Explorer) you will be automatically logged into your FTP site.

## Manual Login

**FTP link:** ftp://ftptmp.stantec.com
**Login name:** s0820034256
**Password:** 2576093
**Disk Quota:** 2GB
**Expiry Date: 8/20/2015**

Please let me know if you have any questions or concerns.

Thanks
- Mike

**Mike Bradley, BSc, EIT**
Engineering Intern
Transportation
Stantec
Phone: (905) 944-7763
mike.bradley@stantec.com

| | |
|---|---|
| **From:** | Marinelli, Mike (MTO) |
| **To:** | Dana Glofcheskie (Dana.Glofcheskie@mississauga.ca); Bradley, Michael |
| **Subject:** | FW: Hwy. 410/Courtneypark Dr Traffic study |
| **Date:** | Thursday, September 17, 2015 8:18:04 AM |

Dana/Michael,

Please see comments from MTO Traffic.

Mike

**Mike Marinelli | Project Manager**
**Ministry of Transportation | Central Region**
Planning and Design – Peel & Halton Section | 4th Floor, Bldg.D
1201 Wilson Avenue | Downsview | ON | M3M 1J8
T: 416-235-4639 | F: 416-235-3576

---

**From:** Hussain, Kashif (MTO)
**Sent:** September 16, 2015 1:54 PM
**To:** Marinelli, Mike (MTO)
**Cc:** KC, Pramod Kumar (MTO); Zivkovic, Branko (MTO)
**Subject:** FW: Hwy. 410/Courtneypark Dr Traffic study

Hi Mike,

Traffic office (Planning and Operations) reviewed the 410/Courtneypark EA and traffic study submitted by the City of Mississauga and have following comments ;

## Traffic Operations Comments

EA Report:

- In the evaluation of alternatives matrix within transportation/technical tab, impacts to the capacity, operations and safety on mainline 410 and ramps are not considered as major factor. Alternative 5 is given as preferred option based on the traffic improvement on Courtney Park road and Derry road; however, as per the analysis results, alternative 5 will produce safety as well as operational issues on highway 410 mainline and 410NB on-ramp from Courtney Park. The proposed loop on ramp from Courtney Park during the morning peak hour will not operate satisfactorily (continuously dropping speed) and can increase possibilities of having rear end collisions. Therefore, impacts on freeway and ramps should also be given more weightage while evaluating different alternatives.
- Please show design of the new 410NB loop ramp from Courtney Park in the report.

Traffic report:

Traffic from new carpool lot at Courtney Park should be included in the do-nothing and partial interchange scenarios.

- Weaving analysis is carried out based on distance of 750m; however, the distance between the end of the onramp and start of the off-ramp at Derry (painted gore) is only 500m. Please revise the weaving analysis accordingly.
- Weaving analysis shows LOS E in the PM peak hour in between proposed 410 NB on-ramp from Courtney Park and 410NB off-ramp to Derry, which is critical and can cause safety issues.
- The analysis shows long queues on 410 NB off-ramp at Derry for all scenarios during AM peak hour; however, Table 24 shows reduction in the delay at the Derry road ramp terminals by -41% in AM peak. Please explain how the delays are calculated and what factors played important role in delay reduction; even though the traffic volumes remain same (only 410NB on-ramp volume will reduce, but this ramp starts before the east ramp terminal) and no major improvements are recommended on Derry Road as well as on ramp terminals.
- Please show SB exit ramp to Courtney Park on the lane speed diagrams.
- Reduced operating speeds on proposed Highway 410 NB on-ramp during the AM peak will cause safety issue. Probability of having rear end collisions on ramp will increase.
- There is a need to improve operations of 410NB off-ramp terminal at Derry. Please provide recommendations in the report for improvements at the Derry East ramp terminal.

Synchro Files:

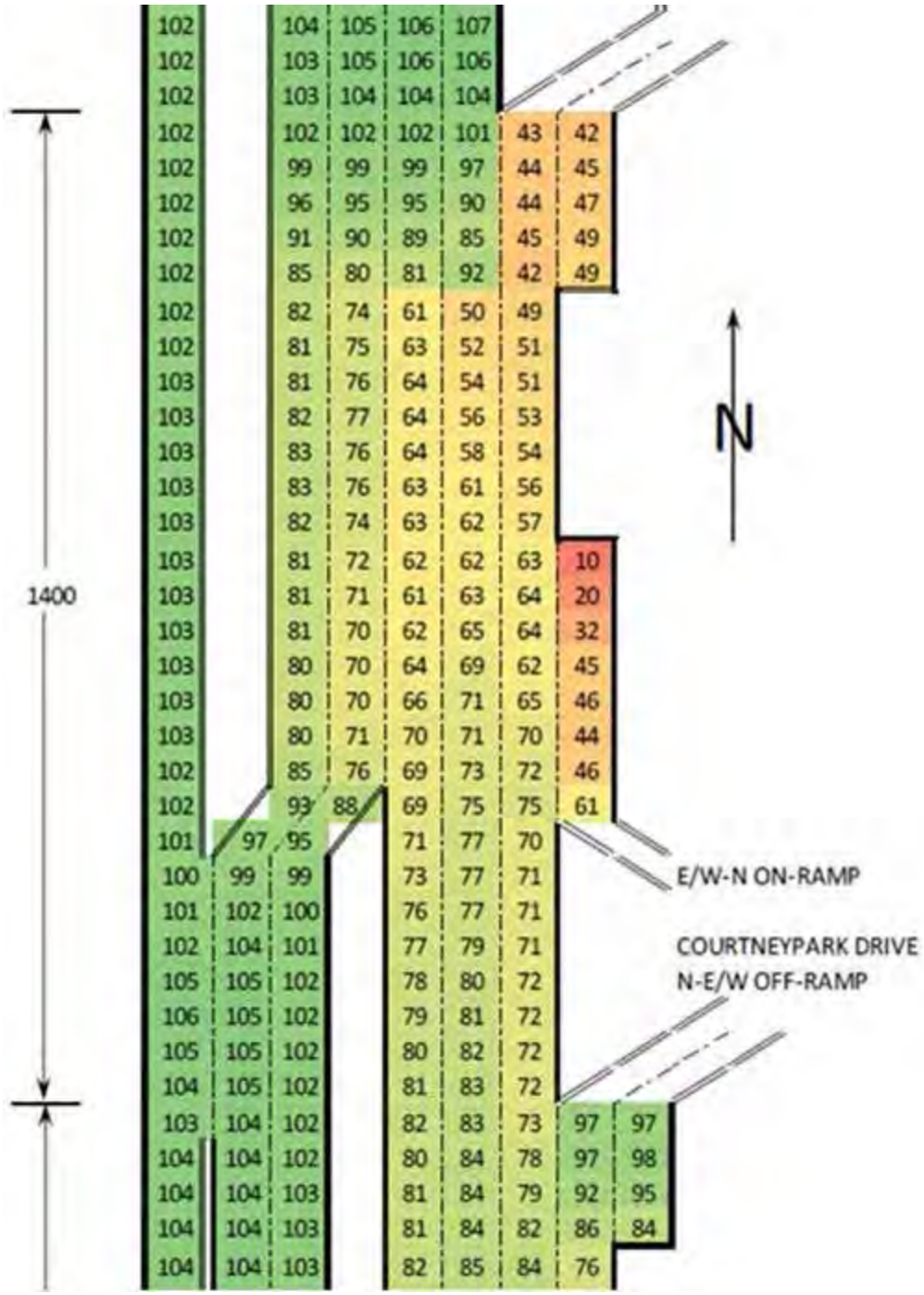
- Please show Carpool lot traffic at Courtney Park in 2031 do-nothing as well as in Partial Interchange Scenarios.
- V/c ratios presented in the reports tables are different than the submitted Synchro files, please correct or submit the correct Synchro files.
- For 2031- 8 lane scenario AM, EBR turn at Courtney Park & Tomken having more than 900 volume, is creating long queue reaching up to the East ramp terminal. Please recommend improvement at the intersection (e.g. EB channelized right turn with axillary acceleration lane) to reduce queue. It is also impacting the traffic from the off-ramp and traffic on EB direction near interchange.
- For 2031- 8 lane scenario AM, WBL turn at Courtney Park and Kennedy intersection (volume WBL >500) is creating long queues reaching up the West Ramp terminal. Please provide recommendations to improve this move (e.g. WB dual left turns at the Kennedy)

**Traffic Planning Comments:**

Comments on Highway 410 mainline operation analysis (Vissim):

- Section 6.2 Freeway Analysis – In all tables differentiate between General Purpose Lane (GPL)- express and GPL-collector

- After the introduction of full interchange (IC) at Courtneypark Drive, there will be net increase in Highway 410 main line travel time (Table 23): Highway 401/403 IC to Courtneypark Drive IC by 8% in collector (GPL?) and Courtneypark Drive to Derry Road by 5% in collector (GPL?). There will no benefit to main line operation. Hence, g and h of Section 9 Conclusion should be modified accordingly.
- Figure below shows Lane by lane speed plot (Figure 18) of full interchange (NB AM peak hour), speed on the E/W-N on ramp speed change lane drops from 61 km/hr. to 10 km/hr., mitigation measure(s ) has not been proposed to address the issue




Thanks

**Kashif Hussain**
Traffic Specialist, Peel-Halton Section
Ministry of Transportation, Central Region Traffic Office
1201 Wilson Avenue, 6th Floor, Downsview
T: (416) 235-5591

---

**From:** Marinelli, Mike (MTO)

**Sent:** August-10-15 9:04 AM
**To:** Hussain, Kashif (MTO); KC, Pramod Kumar (MTO)
**Cc:** Zivkovic, Branko (MTO)
**Subject:** Hwy. 410/Courtneypark Dr Traffic study

Kashif/KC,

I have received the final Traffic Study for your review. The City of Mississauga would like to meet with us in later September to present the findings to senior management. I only have 1 hard copy and 1 digital copy. Please let me know which you would like for your review.

Mike

**Mike Marinelli | Project Manager**
**Ministry of Transportation | Central Region**
Planning and Design – Peel & Halton Section | 4th Floor, Bldg.D
1201 Wilson Avenue | Downsview | ON | M3M 1J8
T: 416-235-4639 | F: 416-235-3576

September 23, 2015
File: 165010564

**Attention: Mike Marinelli, Project Manager**
Ministry of Transportation, Central Region
Planning and Design – Peel & Halton Section
Building D, 4th floor
1201 Wilson Ave
Toronto, ON M3M 1J8

Dear Mike,

**Reference: City of Mississauga – Courtneypark Drive East Class EA & Preliminary Design**
**Draft ESR Submission – Response to Comments**

Thank you for providing MTO's comments on the draft submission of the Environmental Study Report (ESR) for the Courtneypark Drive East Class EA & Preliminary Design (the study) on September 16, 2015. While Stantec and City of Mississauga (the City) appreciate MTO's efforts in reviewing and commenting on both the draft ESR and the final Transportation & Traffic Analysis Report, it will not be possible to address many of MTO's comments on these reports prior to finalizing the ESR.

MTO has been actively consulted throughout the study process. Specifically, MTO was invited to provide formal comments at the following study milestones:

- **Notice of Commencement** – via letters dated November 11, 2013, addressed to Mike Marinelli, Ted Lagakos, and Lou Politano;
- **Public Information Centre #1** – via letter dated June 12, 2014, addressed to Bryan Porter; and,
- **Public Information Centre #2 (Public Information Sessions)** – via letter dated September 12, 2014, addressed to Bryan Porter.

Further, MTO was also consulted in November 2013 during the initial development of the analysis methodology for the Transportation & Traffic Analysis Report, as well as from October 2014 – July 2015 during subsequent discussions between Stantec, the City, and MTO regarding the analysis methodology and draft traffic analysis results. These discussions concluded on July 10, 2015, when MTO approved Stantec's proposed revisions to the analysis parameters and agreed to consider the analysis methodology as final.

It is the City's intention to file the ESR for this study in October 2015. Unfortunately, as several of MTO's most-recent comments pertain to components of the study which have already been

**Reference: City of Mississauga – Courtneypark Drive East Class EA & Preliminary Design**

finalized (and upon which subsequent components of the study are based, such as the evaluation of the Alternative Designs), it will not be possible to address these comments in the final ESR. Similarly, other comments from MTO pertain to the analysis methodology for the Transportation & Traffic Analysis Report, which was considered to be finalized following the discussions earlier this year. Accordingly, neither the analysis methodology nor the resulting reports will be revised in response to those comments.

During the previously-mentioned discussions regarding the traffic analysis methodology, Stantec and the City of Mississauga advised that MTO's requested adjustments to the various model parameters would create "analysis outputs which are inconsistent with traffic observations, effectively resulting in an uncalibrated model operating in a range where output values are the least reliable" (see e-mail from Dana Glofcheskie's e-mail of July 9, 2015). Despite those reservations, Stantec and the City of Mississauga agreed to revise the traffic analysis, and it should be noted that the resulting reports/conclusions are the basis for MTO's comments of September 16, 2015. Please see below for a summary of Stantec's responses:

| # | MTO COMMENT | STANTEC RESPONSE |
|---|---|---|
| 1 | In the evaluation of alternatives matrix within transportation/technical tab, impacts to the capacity, operations and safety on mainline 410 and ramps are not considered as major factor. Alternative 5 is given as preferred option based on the traffic improvement on Courtney Park road and Derry road; however, as per the analysis results, alternative 5 will produce safety as well as operational issues on highway 410 mainline and 410NB on-ramp from Courtney Park. The proposed loop on ramp from Courtney Park during the morning peak hour will not operate satisfactorily (continuously dropping speed) and can increase possibilities of having rear end collisions. Therefore, impacts on freeway and ramps should also be given more weightage while evaluating different alternatives. | Please see body of letter above. |

**Reference: City of Mississauga – Courtneypark Drive East Class EA & Preliminary Design**

| | | |
|---|---|---|
| 2 | Please show design of the new 410NB loop ramp from Courtney Park in the report. | The design for the full interchange at Highway 410 & Courtneypark Drive East that is shown in the draft ESR (see Appendix N) and used as a basis for the model in the Transportation & Traffic Analysis Report was sourced from the Issued for Construction drawings for MTO's ongoing work to improve Highway 410. This applies to the finalized for the E/W-S and S-E/W ramps, as well as the conceptual design for the proposed N-E/W and E/W-N ramps. As noted in Section 8.1.2 of the ESR, further detail is not shown for the proposed N-E/W and E/W-N ramps as part of the preliminary design. Design of the full interchange will be completed during the detailed design for this project. |
| 3 | Traffic from new carpool lot at Courtney Park should be included in the do-nothing and partial interchange scenarios. | The inclusion of the fourth leg of the Highway 410 East Ramp Terminal & Courtneypark Drive East intersection and, accordingly, the traffic from the carpool lot, would have minimal impacts to traffic operations at the intersection. The minor increase in delay at this intersection for the partial interchange scenario would also result in a smaller relative difference compared to the full interchange scenario. |
| 4 | Weaving analysis is carried out based on distance of 750m; however, the distance between the end of the onramp and start of the off-ramp at Derry (painted gore) is only 500m. Please revise the weaving analysis accordingly. | As previously noted in the report, this section is not defined as a weaving segment by HCM methodology. The inapplicability of this analysis means that any revisions would have limited value. |
| 5 | Weaving analysis shows LOS E in the PM peak hour in between proposed 410 NB on-ramp from Courtney Park and 410NB off-ramp to Derry, which is critical and can cause safety issues. | |
| 6 | The analysis shows long queues on 410 NB off-ramp at Derry for all scenarios during AM peak hour; however, Table 24 shows reduction in the delay at the Derry road ramp terminals by -41% in AM peak. Please explain how the delays are calculated and what factors played important role in delay reduction; even though the traffic volumes remain same (only 410NB on-ramp volume will reduce, but this ramp starts before the east ramp terminal) and no major improvements are recommended on Derry Road as well as on ramp terminals. | The delay values presented in Table 24 are based on the delays calculated and output by VISSIM. Although the volumes for the off-ramp from northbound Highway 410 to Derry Road remain unchanged, through volumes on Derry Road are reduced (due to the provision of a full interchange at Highway 410 & Courtneypark Drive East) which allows for adjustments to the signal timing plan and reductions in the overall system delay. |

**Reference: City of Mississauga – Courtneypark Drive East Class EA & Preliminary Design**

| | | |
|---|---|---|
| 7 | Please show SB exit ramp to Courtney Park on the lane speed diagrams. | As noted in Section 8.1.2 of the ESR, the design of the proposed off-ramp from southbound Highway 410 is not included with the preliminary design; it will be completed during detailed design. Accordingly, as the configuration of this ramp has yet to be finalized, it has not been included in the lane-speed diagrams in the Transportation & Traffic Analysis Report. It should also be noted that none of the existing/proposed on-/off-ramps at either the Courtneypark Drive East or Derry Road interchanges with Highway 410 have been included in these diagrams. |
| 8 | Reduced operating speeds on proposed Highway 410 NB on-ramp during the AM peak will cause safety issue. Probability of having rear end collisions on ramp will increase. | As noted in Comment #2 above, the design for the full interchange at Highway 410 & Courtneypark Drive East that is shown in the draft ESR (see Appendix N) and used as a basis for the model in the Transportation & Traffic Analysis Report was sourced from the Issued for Construction drawings for MTO's ongoing work to improve Highway 410. This includes the conceptual design for the proposed E/W-N ramp noted in MTO's comment. Any potential operational issues related to the proposed on-/off-ramps will be examined during detailed design, when the design for the full interchange is completed. |
| 9 | There is a need to improve operations of 410NB off-ramp terminal at Derry. Please provide recommendations in the report for improvements at the Derry East ramp terminal. | The ramp terminal intersections at the Highway 410 & Derry Road interchange are not included in the scope of this study. |
| 10 | Please show Carpool lot traffic at Courtney Park in 2031 do-nothing as well as in Partial Interchange Scenarios. | Please see response to comment #3 above. |
| 11 | V/c ratios presented in the reports tables are different than the submitted Synchro files, please correct or submit the correct Synchro files. | Please clarify which v/c ratios are inconsistent. |
| 12 | For 2031- 8 lane scenario AM, EBR turn at Courtney Park & Tomken having more than 900 volume, is creating long queue reaching up to the East ramp terminal. Please recommend improvement at the intersection (e.g. EB channelized right turn with axillary acceleration lane) to reduce queue. It is also impacting the traffic from the off-ramp and traffic on EB direction near interchange. | Despite the presence of significant property and utility constraints adjacent to each of these intersections, Stantec is investigating the provision of the improvements noted in MTO's comments in order to further improve roadway conditions within the study area, including on Highway 410 and at the Highway 410 & Courtneypark Drive East interchange. |

**Reference: City of Mississauga – Courtneypark Drive East Class EA & Preliminary Design**

| | | |
|---|---|---|
| 13 | For 2031- 8 lane scenario AM, WBL turn at Courtney Park and Kennedy intersection (volume WBL >500) is creating long queues reaching up the West Ramp terminal. Please provide recommendations to improve this move (e.g. WB dual left turns at the Kennedy) | |
| 14 | Section 6.2 Freeway Analysis – In all tables differentiate between General Purpose Lane (GPL)- express and GPL-collector | As shown in the Issued for Construction drawings for MTO's ongoing improvements to Highway 410, the only location within the study area where the collector-express system is proposed is northbound Highway 410, between Highway 401 and Courtneypark Drive East (approximately). Accordingly, as the collector-express system is not present within the majority of the study area (i.e. northbound Highway 410, north of Courtneypark Drive East, and southbound Highway 410 in its entirety), the tables in Section 6.2 of the Transportation & Traffic Analysis Report do not differentiate between collector and express lanes to ensure that the analysis results are clearly presented. |
| 15 | After the introduction of full interchange (IC) at Courtneypark Drive, there will be net increase in Highway 410 main line travel time (Table 23): Highway 401/403 IC to Courtneypark Drive IC by 8% in collector (GPL?) and Courtneypark Drive to Derry Road by 5% in collector (GPL?). There will no benefit to main line operation. Hence, g and h of Section 9 Conclusion should be modified accordingly. | Please refer to the following sections of the Transportation & Traffic Analysis Report for the supporting analysis/results for the conclusions noted in MTO's comment:<br>• Item g) = Section 8.2.3<br>• Item h), sub-item a. = Section 8.2.1<br>• Item h), sub-item b. = Section 8.2.2<br>• Item h), sub-item c. = Section 7.2.3 |
| 16 | Figure below shows Lane by lane speed plot (Figure 18) of full interchange (NB AM peak hour), speed on the E/W-N on ramp speed change lane drops from 61 km/hr. to 10 km/hr., mitigation measure(s ) has not been proposed to address the issue | Stantec's opinion is that the majority of traffic on the on-ramp from Courtneypark Drive East to northbound Highway 410 will likely merge onto the Highway 410 mainline in the beginning/middle portions of the acceleration lane (where travel speeds are higher, as noted in MTO's comment), rather than at the end (where speeds are lower). |

**Reference: City of Mississauga – Courtneypark Drive East Class EA & Preliminary Design**

Please do not hesitate to contact the undersigned should you have any further questions or comments.

Regards,

**STANTEC CONSULTING LTD.**

Gordon Murray
Senior Project Manger
Phone: (905) 944-7786
gordon.murray@stantec.com

c. Dana Glofcheskie, City of Mississauga
Leslie Green, City of Mississauga
Mike Bradley, Stantec

mjb v:\01650\active\165010564 - courtneypark drive east class ea\correspondence\agencies\mto\let_10564_mto_mmarinelli_draftesr_comment_response_20150921.docx

| | |
|---|---|
| **From:** | Bradley, Michael |
| **To:** | "Hussain, Kashif (MTO)" |
| **Cc:** | "White, Jason (MTO)"; "Stephenson, Bob (MTO)"; "Lai, Joseph (MTO)"; "Saccon, Fabio (MTO)"; "Marinelli, Mike (MTO)"; "KC, Pramod Kumar (MTO)"; "Zivkovic, Branko (MTO)"; "steve.barrett@mississauga.ca"; "Leslie Green (Leslie.Green@mississauga.ca)"; "Dana Glofcheskie (Dana.Glofcheskie@mississauga.ca)"; "steve.ganesh@peelregion.ca"; "Dela Cruz, Gino"; "Damian.Albanese@peelregion.ca"; Kwan, Steven; Murray, Gordon |
| **Subject:** | RE: Courtneypark Drive Class EA - Traffic analysis scenario comparison memo |
| **Date:** | Friday, November 06, 2015 6:52:00 PM |
| **Attachments:** | mem_10564_mto_summary_rev2_20151106.pdf |

Hi Kashif,

Further to the recent teleconference between the City, the Region and MTO, please find attached a revised version of the memo. A summary of the overall system delay for MTO facilities has been added on pages 10 and 11; more specifically, a comparison of delay values between the partial and full interchange scenarios is presented in Table 7.

Please let me know if you have any questions.

Have a good weekend,
- Mike

**Mike Bradley, BSc, EIT**
Engineering Intern
Transportation
Stantec
Phone: (905) 944-7763
mike.bradley@stantec.com



**From:** Bradley, Michael
**Sent:** Thursday, October 15, 2015 3:48 PM
**To:** 'Hussain, Kashif (MTO)'
**Cc:** White, Jason (MTO); Stephenson, Bob (MTO); Lai, Joseph (MTO); Saccon, Fabio (MTO); Marinelli, Mike (MTO); KC, Pramod Kumar (MTO); Zivkovic, Branko (MTO); steve.barrett@mississauga.ca; Leslie Green (Leslie.Green@mississauga.ca); Dana Glofcheskie (Dana.Glofcheskie@mississauga.ca); steve.ganesh@peelregion.ca; Dela Cruz, Gino; Damian.Albanese@peelregion.ca; Kwan, Steven; Murray, Gordon
**Subject:** RE: Courtneypark Drive Class EA - Traffic analysis scenario comparison memo

Hi Kashif,

Please see Stantec's responses below:

- Regarding your first comment - the traffic volumes in Table 1 of the memo are sourced from Stantec's VISSIM model, while the volumes in Figure 6B of the Transportation & Traffic Analysis Report are Stantec's 2031 forecast volumes (which were previously reviewed and approved by MTO). The 2031 forecast volumes were used as an input for the VISSIM model and the difference you've noted is inherent to the way the VISSIM model simulates and processes traffic.

- Regarding your second comment – we've compared the content of Tables 3 and 4 of the memo to the most recent Synchro files (provided to MTO on August 11, 2015), as well as the output in the appendices of the Transportation & Traffic Analysis report. All values

in Table 3 match the Synchro output; however, we've noted 2 minor discrepancies in Table 4, which have been described below and revised in the attached memo:

- at Highway 410 East Terminal / Courtneypark Drive E, the 95th percentile queue for the northbound right-turn movement for the partial interchange scenario has been changed to 11m (from 12m), which removes the colouring from the corresponding cell for the full interchange scenario (i.e. no change between scenarios).

- at Highway 410 East Terminal / Derry Road E, the v/c ratio for the northbound right-turn movement for the partial interchange scenario has been changed to 0.58 (from 0.28), which causes the corresponding cell for the full interchange scenario to change from red to green.

Please let me know if you have any further questions or comments.

Thanks,
- Mike

**Mike Bradley, BSc, EIT**
Engineering Intern
Transportation
Stantec
Phone: (905) 944-7763
mike.bradley@stantec.com



---

**From:** Hussain, Kashif (MTO) [mailto:Kashif.Hussain@ontario.ca]
**Sent:** Thursday, October 15, 2015 12:39 PM
**To:** Bradley, Michael
**Cc:** White, Jason (MTO); Stephenson, Bob (MTO); Lai, Joseph (MTO); Saccon, Fabio (MTO); Marinelli, Mike (MTO); KC, Pramod Kumar (MTO); Zivkovic, Branko (MTO); steve.barrett@mississauga.ca; Leslie Green (Leslie.Green@mississauga.ca); Dana Glofcheskie (Dana.Glofcheskie@mississauga.ca); steve.ganesh@peelregion.ca; Dela Cruz, Gino; Damian.Albanese@peelregion.ca; Kwan, Steven; Murray, Gordon
**Subject:** RE: Courtneypark Drive Class EA - Traffic analysis scenario comparison memo

Hi Mike,

While reviewing the numbers and comparing with the traffic report and Synchro files, we have following comments

- Table 1 Highway 401/403 IC to Courtneypark Dr interchange (Full Interchange option) 5,673+993+3,561 =10,277. According to figure 6B of the report, it is 9,613+987=10,600. Please correct the numbers.

- Some of the numbers in Table 3 and 4 are not matching with the Synchro files which were submitted along with the draft EA. Can you please check and correct them or send us the recent Synchro files used for filling up the tables.

Thanks

Kashif

---

**From:** Bradley, Michael [mailto:Mike.Bradley@stantec.com]
**Sent:** October-15-15 11:26 AM
**To:** Hussain, Kashif (MTO)
**Cc:** White, Jason (MTO); Stephenson, Bob (MTO); Lai, Joseph (MTO); Saccon, Fabio (MTO); Marinelli, Mike (MTO); KC, Pramod Kumar (MTO); Zivkovic, Branko (MTO); steve.barrett@mississauga.ca; Leslie Green (Leslie.Green@mississauga.ca); Dana Glofcheskie (Dana.Glofcheskie@mississauga.ca); steve.ganesh@peelregion.ca; Dela Cruz, Gino; Damian.Albanese@peelregion.ca; Kwan, Steven; Murray, Gordon
**Subject:** RE: Courtneypark Drive Class EA - Traffic analysis scenario comparison memo

Hi Kashif,

Please find attached the revised memo, as requested.

- Mike

**Mike Bradley, BSc, EIT**
Engineering Intern
Transportation
Stantec
Phone: (905) 944-7763
mike.bradley@stantec.com



---

**From:** Hussain, Kashif (MTO) [mailto:Kashif.Hussain@ontario.ca]
**Sent:** Thursday, October 15, 2015 8:16 AM
**To:** Bradley, Michael
**Cc:** Saccon, Fabio (MTO); Marinelli, Mike (MTO); KC, Pramod Kumar (MTO); Zivkovic, Branko (MTO); steve.barrett@mississauga.ca; Leslie Green (Leslie.Green@mississauga.ca); Dana Glofcheskie (Dana.Glofcheskie@mississauga.ca); steve.ganesh@peelregion.ca; Dela Cruz, Gino; Damian.Albanese@peelregion.ca; Kwan, Steven; Murray, Gordon
**Subject:** RE: Courtneypark Drive Class EA - Traffic analysis scenario comparison memo

Hi Mike,
Can you please change the color of decreased performance (dis-benefits) from yellow to red (or light red) as advised in the last teleconference meeting, and send us the revised memo. I am checking the numbers and if there will be any question, I will let you know.
Thanks
Kashif

---

**From:** Bradley, Michael [mailto:Mike.Bradley@stantec.com]
**Sent:** October-14-15 5:17 PM
**To:** Hussain, Kashif (MTO)
**Cc:** Saccon, Fabio (MTO); Marinelli, Mike (MTO); KC, Pramod Kumar (MTO); Zivkovic, Branko (MTO); steve.barrett@mississauga.ca; Leslie Green (Leslie.Green@mississauga.ca); Dana Glofcheskie (Dana.Glofcheskie@mississauga.ca); steve.ganesh@peelregion.ca; Dela Cruz, Gino; Damian.Albanese@peelregion.ca; Kwan, Steven; Murray, Gordon
**Subject:** RE: Courtneypark Drive Class EA - Traffic analysis scenario comparison memo

Hi Kashif,

Please find attached Stantec's finalized memo comparing the Full and Partial Interchange Scenarios from the Courtneypark Drive East Class EA traffic analysis, for MTO's review. Let me know if you have any questions.

Thanks,
- Mike

**Mike Bradley, BSc, EIT**
Engineering Intern
Transportation
Stantec
Phone: (905) 944-7763
mike.bradley@stantec.com



---

**From:** Bradley, Michael
**Sent:** Tuesday, October 06, 2015 5:01 PM
**To:** 'Hussain, Kashif (MTO)'
**Cc:** Saccon, Fabio (MTO); Marinelli, Mike (MTO); KC, Pramod Kumar (MTO); Dana Glofcheskie (Dana.Glofcheskie@mississauga.ca); Leslie Green (Leslie.Green@mississauga.ca); Kwan, Steven; Murray, Gordon; Zivkovic, Branko (MTO)
**Subject:** RE: Courtneypark Drive Class EA - Traffic analysis scenario comparison memo

Hi Kashif,

Thank you for your comments. Regarding points 1, 2, 4, and 5 from your email, we'll include those revisions in the final memo. Regarding point 3, the weaving analysis for the on-ramp from Courtneypark Drive East to northbound Highway 410 from the Transportation & Traffic Analysis Report will be summarized in the text beneath Table 2.

Let me know if you have any other questions.

Thanks,
- Mike

**Mike Bradley, BSc, EIT**
Engineering Intern
Transportation
Stantec
Phone: (905) 944-7763
mike.bradley@stantec.com



---

**From:** Hussain, Kashif (MTO) [mailto:Kashif.Hussain@ontario.ca]
**Sent:** Tuesday, October 06, 2015 3:06 PM
**To:** Bradley, Michael
**Cc:** Saccon, Fabio (MTO); Marinelli, Mike (MTO); KC, Pramod Kumar (MTO); Dana Glofcheskie (Dana.Glofcheskie@mississauga.ca); Leslie Green (Leslie.Green@mississauga.ca); Kwan, Steven; Murray, Gordon; Zivkovic, Branko (MTO)
**Subject:** RE: Courtneypark Drive Class EA - Traffic analysis scenario comparison memo

Hi Bradley,

I have following comments:

- Please add volume data on all the tables.
- We only have express collector on 410NB from 401 to Courtney park, for rest please use GPL and HOV.
- Please let us know where the weaving analysis data will be presented.
- Please show the analysis year (year 2031).
- Please also add Lane Speed Diagrams for SB Direction.

Thanks

Kashif

---

**From:** Bradley, Michael [mailto:Mike.Bradley@stantec.com]
**Sent:** October-06-15 12:09 PM
**To:** Hussain, Kashif (MTO)
**Cc:** Saccon, Fabio (MTO); Marinelli, Mike (MTO); KC, Pramod Kumar (MTO); Dana Glofcheskie (Dana.Glofcheskie@mississauga.ca); Leslie Green (Leslie.Green@mississauga.ca); Kwan, Steven; Murray, Gordon
**Subject:** Courtneypark Drive Class EA - Traffic analysis scenario comparison memo
**Importance:** High

Hi Kashif,

As discussed during our conference call yesterday, see attached draft memo containing the formatting of the various tables, as well as text placeholders indicating the content to be included with the final memo.

Could you please review this document and confirm as soon as possible whether the proposed content is representative of yesterday's discussion and acceptable to MTO?

Please let me know if you have any questions or if you'd like me to clarify anything.

Thanks,
- Mike

**Mike Bradley, BSc, EIT**
Engineering Intern
Transportation
Stantec
Phone: (905) 944-7763
mike.bradley@stantec.com

Stantec

# Memo

| | | | |
|---|---|---|---|
| To: | Kashif Hussain<br>MTO | From: | Steven Kwan<br>Markham, ON |
| File: | 165010564 | Date: | November 6, 2015 |

**Reference:** **Courtneypark Drive East Class EA**
**Full and Partial Interchange Scenario Comparison**

## 1.0 Introduction

This memo has been prepared to summarize and compare the results of the traffic analysis completed in the *Courtneypark Drive East Class EA Transportation and Traffic Analysis Report, July 30, 2015*, between the partial and full interchange scenarios as requested by MTO.

## 2.0 Highway 410 Mainline Operations

The comparison of the Highway 410 mainline analyses for the a.m. peak hour is shown in **Table 1**. For the full interchange scenario, cells which show an improvement from the operations in the partial interchange scenario are highlighted in green, while those that indicate decreased performance are highlighted in red.

**Table 1**
**Highway 410 Mainline Travel Time and Average Speed Comparison**
**Partial vs. Full Interchange, 2031, AM Peak Hour,**

| Direction | Section | Lane | Partial Interchange | | | Full Interchange | | |
|---|---|---|---|---|---|---|---|---|
| | | | Volume | Travel Time | Speed | Volume (vph) | Travel Time (sec.) | Speed (km/h) |
| NB | Highway 401/403 I/C to Courtneypark Drive I/C | GPL[1] | 5,747 | 108.3 | 44 | 5,673 | 116.8 | 41 |
| | | HOV | 984 | 44.0 | 104 | 993 | 44.2 | 103 |
| | | Exp. Coll.[2] | 3,561 | 44.6 | 102 | 3,561 | 44.6 | 102 |
| | Courtneypark Drive I/C to Derry Road I/C | GPL | 7,975 | 80.8 | 64 | 8,885 | 84.8 | 61 |
| | | HOV | 755 | 50.0 | 103 | 803 | 50.5 | 102 |
| SB | Derry Road I/C to Courtneypark Drive I/C | GPL | 6,703 | 55.9 | 91 | 6,786 | 54.0 | 95 |
| | | HOV | 633 | 50.3 | 101 | 634 | 50.3 | 102 |
| | Courtneypark Drive I/C to Highway 401/403 I/C | GPL | 7,196 | 37.1 | 103 | 7,247 | 37.1 | 103 |
| | | HOV | 633 | 37.0 | 103 | 634 | 36.9 | 103 |

*[1] GPL = General Purpose Lane; [2] Exp. Coll. = Express Collector;*
*Green Highlighting = Improvements to MOE Full I/C Scenario;*
*Red Highlighting = Reductions to MOE Full I/C Scenario;*

The comparison of the Highway 410 mainline analyses for the p.m. peak hour is shown in **Table 2**.

**Reference: Courtneypark Drive East Class EA**
**Full and Partial Interchange Scenario Comparison**

**Table 2**
**Highway 410 Mainline Travel Time and Average Speed Comparison**
**Partial vs. Full Interchange, 2031, PM Peak Hour,**

| Direction | Section | Lane | Partial Interchange | | | Full Interchange | | |
|---|---|---|---|---|---|---|---|---|
| | | | Volume | Travel Time | Speed | Volume | Travel Time | Speed |
| NB | Highway 401/403 I/C to Courtneypark Drive I/C | GPL[1] | 6,335 | 46.5 | 98 | 6,340 | 46.4 | 98 |
| | | HOV | 1,020 | 44.4 | 103 | 1,020 | 44.1 | 103 |
| | | Exp. Coll.[2] | 3,692 | 44.6 | 102 | 3,695 | 44.5 | 102 |
| | Courtneypark Drive I/C to Derry Road I/C | GPL | 9,944 | 51.6 | 100 | 10,808 | 53.1 | 97 |
| | | HOV | 779 | 50.5 | 102 | 769 | 50.4 | 102 |
| SB | Derry Road I/C to Courtneypark Drive I/C | GPL | 6,134 | 50.0 | 102 | 6,181 | 49.8 | 103 |
| | | HOV | 665 | 49.8 | 103 | 662 | 49.5 | 103 |
| | Courtneypark Drive I/C to Highway 401/403 I/C | GPL | 7,065 | 36.8 | 104 | 7,123 | 36.8 | 104 |
| | | HOV | 666 | 37.1 | 103 | 659 | 37.1 | 103 |

*[1] GPL = General Purpose Lane; [2] Exp. Coll. = Express Collector;*
*Green Highlighting = Improvements to MOE Full I/C Scenario;*
*Red Highlighting = Reductions to MOE Full I/C Scenario;*

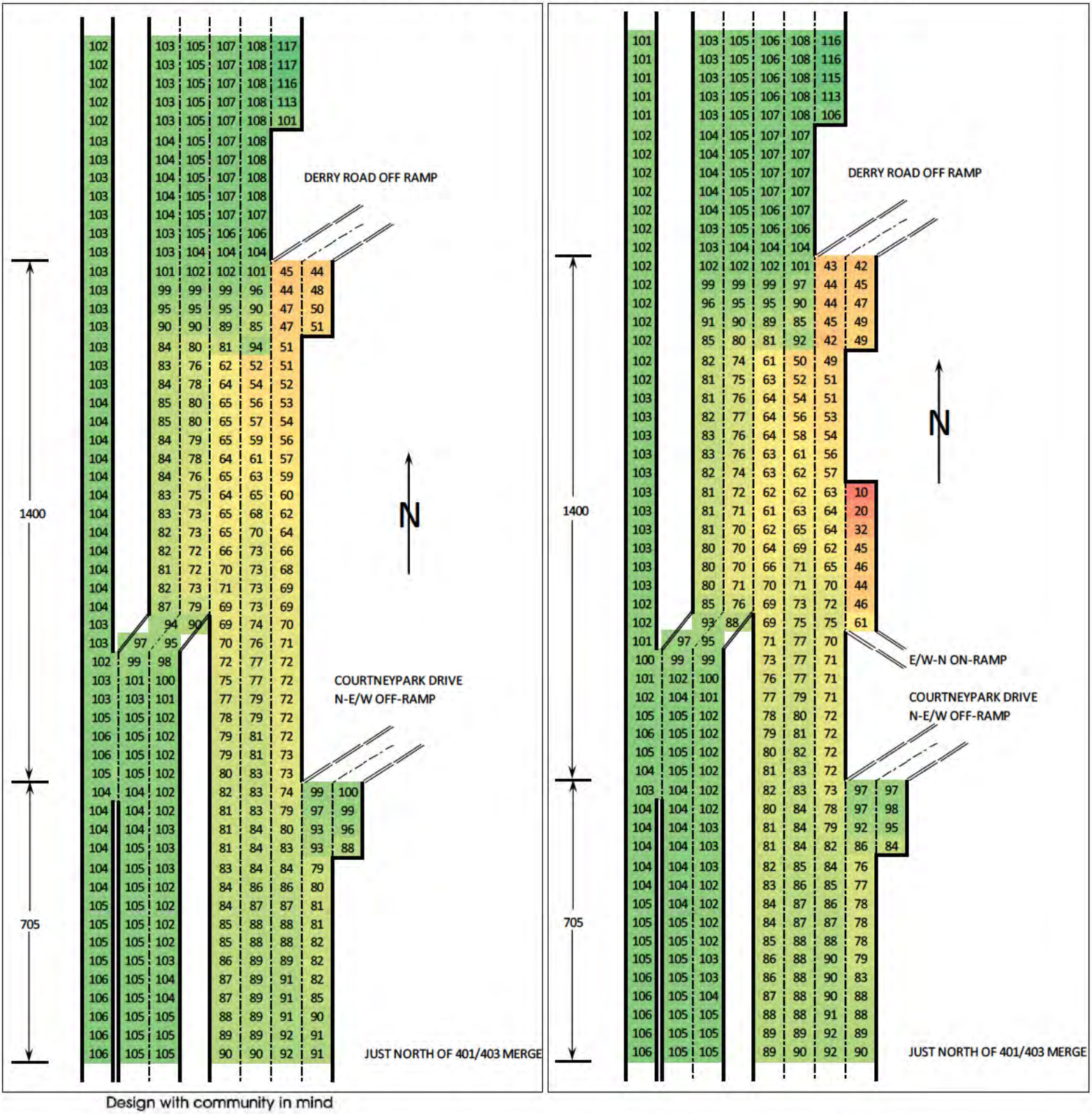
In the northbound direction of Highway 410 in the a.m. peak hour, there would be a modest increase (9 seconds) in the travel time between the Highway 401/Highway 403 interchange to the Courtneypark Drive East interchange and a minor increase (4 seconds) in the travel time between the Courtneypark Drive East interchange and the Derry Road interchange. In the southbound direction, there would be effectively no change in the travel time. In the p.m. peak hour, there would be effectively no change in the travel time in both directions.

The lane speed results from the VISSIM model are compared between the 2031 full and partial interchange scenarios as follows:

- Figure 1 – AM Peak Hour – NB Direction – Partial I/C vs. Full I/C, 2031
- Figure 2 – AM Peak Hour – SB Direction – Partial I/C vs. Full I/C, 2031
- Figure 3 – PM Peak Hour – NB Direction – Partial I/C vs. Full I/C, 2031; and
- Figure 4 – PM Peak Hour – SB Direction – Partial I/C vs. Full I/C, 2031.

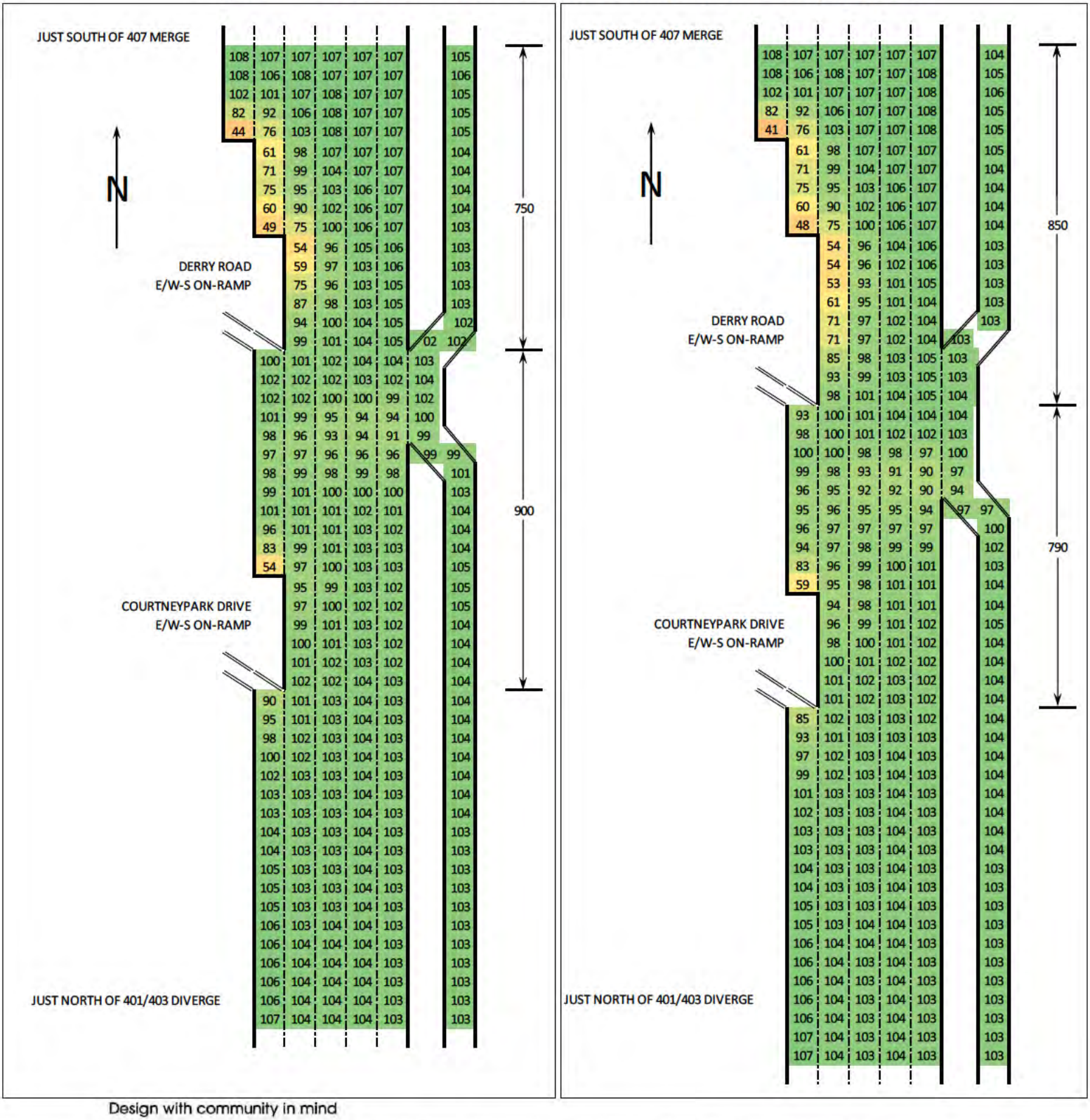
**Reference: Courtneypark Drive East Class EA**
**Full and Partial Interchange Scenario Comparison**

**Figure 1 – AM Peak Hour – NB Direction – Partial I/C (Left) vs. Full I/C (Right), 2031**



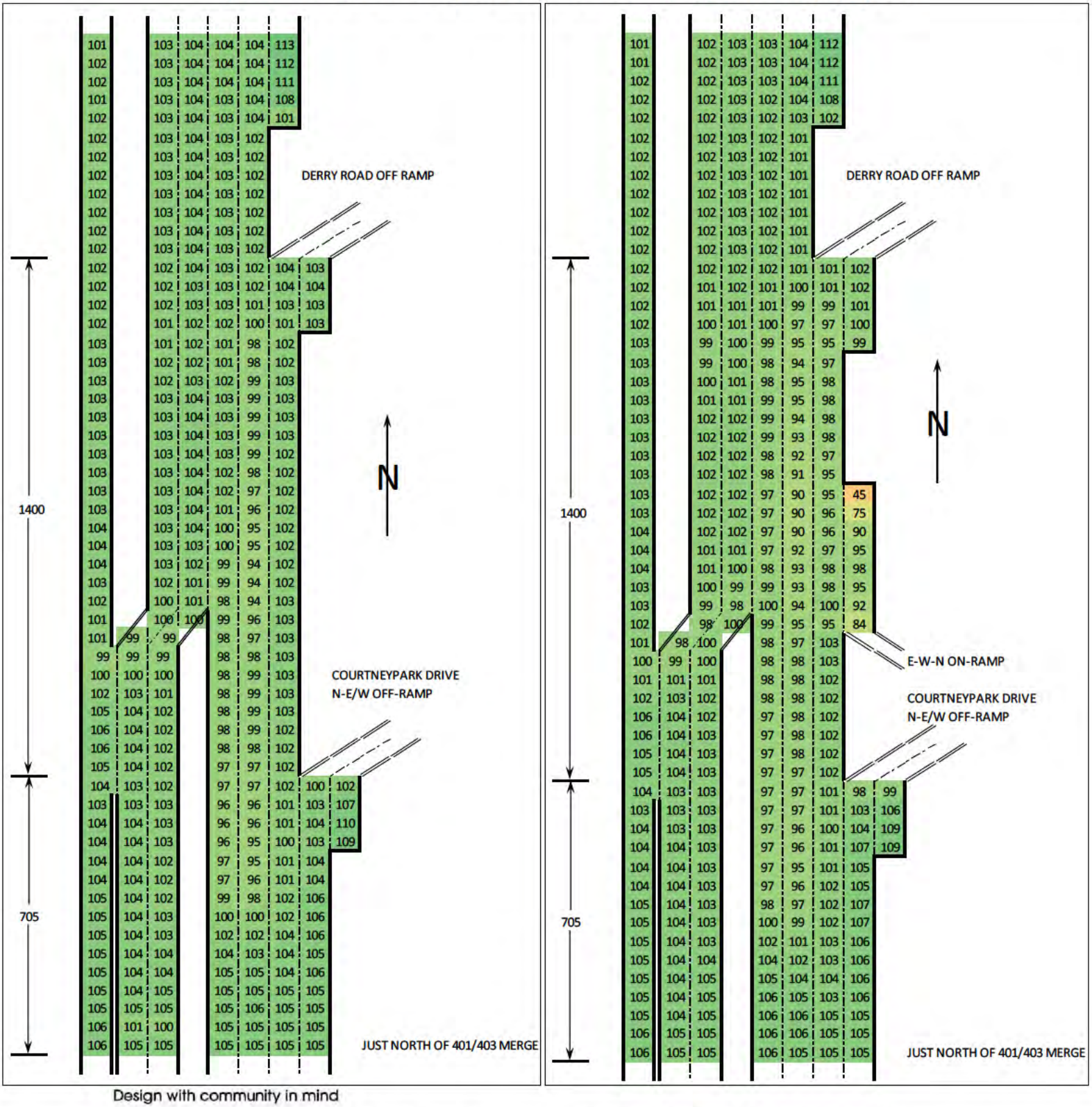
**Reference:** **Courtneypark Drive East Class EA**
**Full and Partial Interchange Scenario Comparison**

**Figure 2 – AM Peak Hour – SB Direction – Partial I/C (Left) vs. Full I/C (Right), 2031**



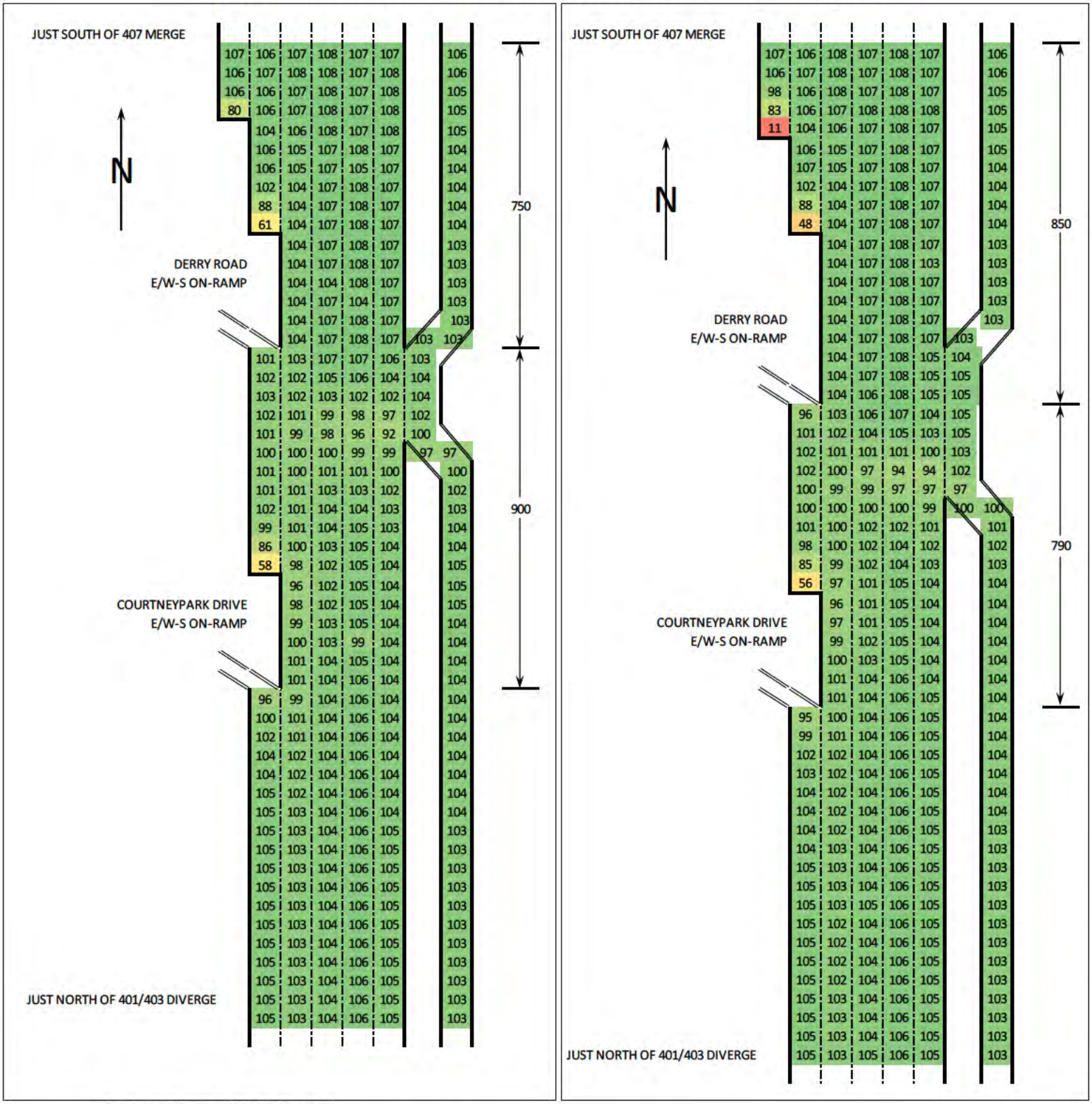
**Reference: Courtneypark Drive East Class EA**
**Full and Partial Interchange Scenario Comparison**

**Figure 3 – PM Peak Hour – NB Direction – Partial I/C (Left) vs. Full I/C (Right), 2031**



**Reference: Courtneypark Drive East Class EA**
**Full and Partial Interchange Scenario Comparison**

**Figure 4 – PM Peak Hour – SB Direction – Partial I/C (Left) vs. Full I/C (Right), 2031**



In the northbound direction in the a.m. peak hour, mainline vehicle speeds are similar between the partial and full interchange scenarios, with some speeds reduced by 5 km/h in the full interchange scenario in the Courtneypark Drive on-ramp merge area. In the p.m. peak hour, some of the speeds in the merge are lower by 9 km/h or less. There are minimal differences between the speeds in the southbound direction in both the a.m. and p.m. peak hours.

MTO had previously identified concerns with vehicle speeds at the end of the Courtneypark Drive on-ramp. Vehicle speeds on Highway 410 northbound in the merge area cycle between fast and slow as a result of the vehicles exiting from Highway 410 to the Derry Road off-ramp under signal control. During the higher speed phase, vehicles from Courtneypark are able to merge with traffic on Highway 410 easily and without the need to use the full length of the merge lane. During the slower speed phases, there are few gaps for merging; and vehicles from Courtneypark use the full extent of the merge lane and at slow speeds (which tends to drive the average speed at the end of the lane downwards). An example of this can also be seen in **Figure 1**.

It should be noted that the operations at the Derry Road off-ramp and resulting queues on Highway 410 are a result of the model parameters required by MTO, and are not consistent with the values measured as part of our study. As a result, we do not think that these results represent the most accurate prediction of future traffic operations.

A weaving analysis was completed on the northbound Highway 410 mainline, between the Courtneypark Drive East and Derry Road interchanges. MTO identified a concern with vehicles merging onto Highway 410 from Courtneypark Drive East and exiting from Highway 410 to Derry Road. As the Courtneypark Drive East on-ramp is not connected to the Derry Road off-ramp by an auxiliary lane, this is not considered a weaving segment by the HCM methodology. However, the weaving analysis was undertaken in order to satisfy MTO's request.

The weaving analysis for the subject weaving segment for the full interchange scenario was completed using HCS+ which applies the methodology of the HCM 2000. The analysis indicated that the weaving segment would operate at LOS C and LOS E, during the a.m. and p.m. peak hours, respectively. No weaving issues were observed in the VISSIM microsimulation animation.

## 3.0 Intersection Operations

The results of the Synchro intersection analysis for the partial and full interchange scenarios are shown for the 2031 horizon year in **Table 3** and **Table 4** for the a.m. and p.m. peak hours, respectively.

**Reference: Courtneypark Drive East Class EA**
**Full and Partial Interchange Scenario Comparison**

**Table 3**
**Intersection Operations Comparison**
**Partial vs. Full Interchange, 2031, AM Peak Hour**

| Intersection | Approach / Movement | | Partial Interchange | | | | | Full Interchange | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Vol[1] | LOS[2] | v/c[3] | Delay[4] | Q[5] | Vol[1] | LOS[2] | v/c[3] | Delay[4] | Q[5] |
| Highway 410 West Terminal/ Courtneypark Drive E | EB | Left | 252 | A | 0.71 | 7 | 30 | 252 | B | 0.78 | 19 | 57 |
| | | Triple Thru | 1,438 | A | 0.31 | < 1 | < 1 | 1,654 | C | 0.52 | 20 | 148 |
| | WB | Triple Thru | 1,019 | A | 0.27 | 2 | 26 | 1,019 | C | 0.44 | 24 | 99 |
| | | Right | 264 | A | 0.24 | 3 | 4 | 312 | D | 0.29 | 52 | 31 |
| | SB | Dual Left | N/A | | | | | 382 | D | 0.60 | 55 | 70 |
| | | Dual Right | N/A | | | | | 442 | D | 0.17 | 47 | 15 |
| | ***Overall Intersection*** | | ***2,973*** | ***A*** | ***0.35*** | ***2*** | - | ***4,061*** | ***C*** | ***0.76*** | ***30*** | - |
| Highway 410 East Terminal/ Courtneypark Drive E | EB | Left | N/A | | | | | 87 | C | 0.29 | 29 | 25 |
| | | Triple Thru | 1,425 | C | 0.68 | 31 | 105 | 1,719 | D | 0.85 | 35 | 133 |
| | | Right | N/A | | | | | 216 | D | 0.14 | 51 | 22 |
| | WB | Left | N/A | | | | | 75 | E | 0.67 | 56 | 30 |
| | | Triple Thru | 621 | C | 0.36 | 26 | 47 | N/A | | | | |
| | | Dual Thru-Thru/Right | N/A | | | | | 621 | B | 0.32 | 19 | 44 |
| | NB | Left | N/A | | | | | 735 | D | 0.82 | 49 | 158 |
| | | Left/Thru | N/A | | | | | 10 | D | 0.84 | 52 | 160 |
| | | Dual Left | 735 | C | 0.52 | 29 | 95 | N/A | | | | |
| | | Dual Right | 814 | C | 0.69 | 34 | 128 | 814 | D | 0.68 | 37 | 113 |
| | SB | Left | N/A | | | | | 5 | A | 0.00 | < 1 | < 1 |
| | | Thru/Right | N/A | | | | | 57 | C | 0.04 | 26 | 10 |
| | ***Overall Intersection*** | | ***3,595*** | ***C*** | ***0.69*** | ***30*** | - | ***4,339*** | ***D*** | ***0.84*** | ***37*** | - |
| Highway 410 West Terminal/ Derry Road E | EB | Triple Thru | 2,027 | B | 0.92 | 14 | 53 | 1,888 | A | 0.69 | 9 | 49 |
| | WB | Triple Thru | 1,251 | C | 0.59 | 22 | 95 | 1,251 | B | 0.47 | 10 | 74 |
| | SB | Dual Left | 1,099 | D | 0.84 | 42 | 179 | 704 | D | 0.76 | 49 | 113 |
| | | Dual Right | 1,007 | D | 0.94 | 53 | 206 | 654 | D | 0.81 | 52 | 113 |
| | ***Overall Intersection*** | | ***5,384*** | ***C*** | ***0.93*** | ***29*** | - | ***4,497*** | ***C*** | ***0.73*** | ***22*** | - |
| Highway 410 East Terminal/ Derry Road E | EB | Triple Thru | 2,656 | F | 1.19 | 114 | 368 | 2,383 | D | 1.01 | 38 | 291 |
| | WB | Triple Thru | 1,152 | B | 0.61 | 12 | 84 | 1,152 | A | 0.57 | 7 | 18 |
| | NB | Dual Left | 584 | C | 0.43 | 29 | 77 | 584 | C | 0.46 | 32 | 81 |
| | | Dual Right | 1,426 | F | 1.28 | 173 | 348 | 1,426 | F | 1.37 | 215 | 363 |
| | ***Overall Intersection*** | | ***5,818*** | ***F*** | ***1.23*** | ***100*** | - | ***5,545*** | ***E*** | ***1.17*** | ***77*** | - |

*[1] Vol = Volume (vph); [2] LOS = Level of Service; [3] v/c = Volume to Capacity Ratio; [4] Delay in Seconds; [5] 95th Percentile Queue in Metres;*

**Reference: Courtneypark Drive East Class EA**
**Full and Partial Interchange Scenario Comparison**

**Table 4**
**Intersection Operations Comparison**
**Partial vs. Full Interchange, 2031, PM Peak Hour**

| Intersection | Approach / Movement | | Partial Interchange | | | | | Full Interchange | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Vol[1] | LOS[2] | v/c[3] | Delay[4] | Q[5] | Vol[1] | LOS[2] | v/c[3] | Delay[4] | Q[5] |
| Highway 410 West Terminal/ Courtneypark Drive E | EB | Left | 358 | C | 0.84 | 26 | 103 | 358 | C | 0.71 | 30 | 108 |
| | | Triple Thru | 596 | A | 0.14 | < 1 | < 1 | 864 | A | 0.25 | 4 | 21 |
| | WB | Triple Thru | 1,933 | A | 0.58 | 4 | 72 | 1,933 | D | 0.84 | 49 | 192 |
| | | Right | 603 | A | 0.50 | 3 | 8 | 613 | E | 0.57 | 72 | 124 |
| | SB | Dual Left | N/A | | | | | 73 | E | 0.32 | 64 | 18 |
| | | Dual Right | N/A | | | | | 255 | E | 0.09 | 60 | 15 |
| | ***Overall Intersection*** | | ***3,490*** | ***A*** | ***0.63*** | ***5*** | ***-*** | ***4,096*** | ***D*** | ***0.74*** | ***42*** | ***-*** |
| Highway 410 East Terminal/ Courtneypark Drive E | EB | Left | N/A | | | | | 9 | D | 0.17 | 51 | 7 |
| | | Triple Thru | 617 | A | 0.22 | 3 | 8 | 681 | D | 0.61 | 48 | 68 |
| | | Right | N/A | | | | | 268 | E | 0.18 | 76 | 24 |
| | WB | Left | N/A | | | | | 685 | D | 0.95 | 43 | 156 |
| | | Triple Thru | 2,267 | A | 0.69 | 6 | 59 | N/A | | | | |
| | | Dual Thru-Thru/Right | N/A | | | | | 2,267 | C | 0.74 | 34 | 183 |
| | NB | Left | N/A | | | | | 258 | E | 0.72 | 58 | 80 |
| | | Left/Thru | N/A | | | | | 79 | D | 0.62 | 50 | 76 |
| | | Dual Left | 258 | D | 0.51 | 53 | 49 | N/A | | | | |
| | | Dual Right | 180 | D | 0.09 | 46 | 11 | 180 | D | 0.09 | 40 | 11 |
| | SB | Left | N/A | | | | | 5 | A | 0.00 | < 1 | < 1 |
| | | Thru/Right | N/A | | | | | 100 | D | 0.22 | 43 | 39 |
| | ***Overall Intersection*** | | ***3,322*** | ***B*** | ***0.65*** | ***11*** | ***-*** | ***4,532*** | ***D*** | ***0.90*** | ***42*** | ***-*** |
| Highway 410 West Terminal/ Derry Road E | EB | Triple Thru | 1,755 | A | 0.56 | 7 | 54 | 1,460 | B | 0.42 | 18 | 135 |
| | WB | Triple Thru | 2,771 | B | 0.88 | 12 | 169 | 2,771 | A | 0.79 | 9 | 131 |
| | SB | Dual Left | 343 | D | 0.45 | 45 | 57 | 204 | D | 0.38 | 52 | 38 |
| | | Dual Right | 569 | E | 0.90 | 67 | 118 | 370 | E | 0.82 | 67 | 76 |
| | ***Overall Intersection*** | | ***5,438*** | ***B*** | ***0.88*** | ***18*** | ***-*** | ***4,805*** | ***B*** | ***0.80*** | ***18*** | ***-*** |
| Highway 410 East Terminal/ Derry Road E | EB | Triple Thru | 1,201 | C | 0.46 | 30 | 101 | 1,062 | A | 0.40 | 5 | 21 |
| | WB | Triple Thru | 2,641 | C | 0.99 | 25 | 107 | 2,641 | B | 0.98 | 15 | 139 |
| | NB | Dual Left | 941 | E | 0.93 | 62 | 178 | 941 | E | 0.95 | 66 | 182 |
| | | Dual Right | 446 | D | 0.58 | 43 | 71 | 446 | D | 0.54 | 43 | 64 |
| | ***Overall Intersection*** | | ***5,229*** | ***C*** | ***0.97*** | ***34*** | ***-*** | ***5,090*** | ***C*** | ***0.97*** | ***25*** | ***-*** |

*[1] Vol = Volume (vph); [2] LOS = Level of Service; [3] v/c = Volume to Capacity Ratio; [4] Delay in Seconds; [5] 95th Percentile Queue in Metres;*

In general, traffic operations at the Derry Road ramp terminals improve while the operations at the Courtneypark Drive ramp terminals deteriorate. There are also opportunities to further optimize signal timings depending on what movements need to be prioritized.

A summary of the intersection total delay at each of the Study Area intersections based on the Synchro analysis with the exception of the Courtneypark Drive and Derry Road ramp terminals is

shown in **Table 5** and **Table 6** for the a.m. and p.m. peak hours, respectively. The intersections included in this delay tabulation are:

- Kennedy Road at Courtneypark Drive;
- Tomken Road at Courtneypark Drive;
- Shawson Road/Ordan Drive (West) at Courtneypark Drive;
- Vipond Drive at Courtneypark Drive;
- Ordan Drive (East) at Courtneypark Drive;
- Dixie Road at Courtneypark Drive;
- Kennedy Road at Derry Road;
- Tomken Road at Derry Road; and
- Dixie Road at Derry Road.

**Table 5**
**Arterial Road Intersection Delay (Hours)**
**Partial vs. Full Interchange, 2031, AM Peak Hour**

| Road Corridor | Partial Interchange | Full Interchange | Difference |
|---|---|---|---|
| Courtneypark Drive | 177.5 | 240.1 | *+62.6 (+35%)* |
| Derry Road | 383.2 | 296.9 | *-86.3 (-23%)* |
| ***Total*** | ***560.7*** | ***537.0*** | ***-23.7 (-4%)*** |

**Table 6**
**Arterial Road Intersection Delay (Hours)**
**Partial vs. Full Interchange, PM Peak Hour**

| Road Corridor | Partial Interchange | Full Interchange | Difference |
|---|---|---|---|
| Courtneypark Drive | 284.7 | 392.1 | *+107.4 (+38%)* |
| Derry Road | 551.4 | 389.1 | *162.3 (-29%)* |
| ***Total*** | ***836.1*** | ***781.2*** | ***-54.9 (-7%)*** |

In both peak hours, the Courtneypark Drive corridor experiences an increase in total delay while the Derry Road corridor experiences a decrease in total delay. These values combined result in a net decrease in total delay. This comparison with the Courtneypark Drive and Derry Road ramp terminals included as shown in *Transportation and Traffic Analysis Report*, also results in a net decrease in total delay.

The system delay output from the VISSIM microsimulation model was compared between the partial and full interchange alternatives. The total system delay for a given peak hour is the combined delay (including stopped delay) of all active and arrived vehicles in the network during that period. This value is a network performance evaluation parameter output by the VISSIM model. The model also evaluates delay for any "nodes" (i.e. intersections, for the purposes of this study) based on the vehicles located within the boundaries of the node, as well as the links 100m beyond the node area. In the analysis performed for this study, the East and West Ramp Terminal intersections of the Courtneypark Drive East and Derry Road East intersections were evaluated as nodes. To calculate the mainline and ramp delay values shown below in Table 7, the node delay output for each ramp

terminal intersection was subtracted from the overall system delay value. Therefore, by definition, the remaining delay within the system is the delay experienced by vehicles outside of the node evaluation areas, i.e. the Highway 410 mainline and on/off ramps. A summary of this comparison is shown in **Table 7**.

**Table 7**
**Partial versus Full Interchange Comparison**
**Total Microsimulation Model System Delay**

| Road Corridor | Total Delay (Hours) | | | |
|---|---|---|---|---|
| | AM Peak Hour | | PM Peak Hour | |
| | Partial | Full | Partial | Full |
| ***Mainline and Ramp Delays*** | ***361*** | ***329*** | ***57*** | ***23*** |
| | ***-32*** | | ***-34*** | |
| | ***-9%*** | | ***-60%*** | |
| Courtneypark Drive E (Highway 410 East & West Terminals) | 35 | 55 | 27 | 56 |
| | +20 | | +29 | |
| Derry Road (Highway 410 East & West Terminals) | 171 | 110 | 98 | 75 |
| | -61 | | -23 | |
| ***Total Ramp Terminal Delay*** | ***206*** | ***165*** | ***125*** | ***131*** |
| | ***-41*** | | ***+6*** | |
| | ***-20%*** | | ***+5%*** | |
| ***Total System Delay*** | ***567*** | ***494*** | ***182*** | ***154*** |
| | ***-73*** | | ***-28*** | |
| | ***-13%*** | | ***-15%*** | |

Overall the total system delay within the VISSIM microsimulation model is reduced by 13% and 15% in the a.m. and p.m. peak hours, respectively, when comparing the partial and full interchange scenarios. While the increases in travel time on the mainline would result in slightly longer delays, these are offset by the delay reductions on the ramps outside of the node evaluation areas.

The complete analysis and resulting conclusions can be located in the *Transportation and Traffic Analysis Report*, Section 8.0 and Section 9.0, respectively.

November 11, 2015
File: 165010564

**Attention: [Agency Contact Name & Address]**

Dear [Agency Contact Name],

**Reference: Courtneypark Drive East, from Kennedy Road to Dixie Road**
**Municipal Class Environmental Assessment Study & Preliminary Design**
**Notice of Study Completion & Submission of Environmental Study Report**

Stantec Consulting, on behalf of the City of Mississauga (the City) and Region of Peel, has completed a Class Environmental Assessment (Class EA) study, including Preliminary Design, for Courtneypark Drive East, between Kennedy Road and Dixie Road (see Figure 1). The study was carried out in accordance with the planning and design process for Schedule 'C' projects, as outlined in the "Municipal Class Environmental Assessment" document (October 2000, amended in 2011), which is approved under the Ontario Environmental Assessment Act.

An Environmental Study Report (ESR) has been completed to document the planning and decision-making process that was undertaken for this study, including the analysis of alternative solutions/design concepts, public consultation, identified environmental concerns, and proposed mitigation measures. A Notice of Study Completion is now being issued to announce the completion of this Class EA and to invite interested stakeholders to review the ESR.

The ESR will be placed on the public record for a 30-day review period, beginning **Monday, November 16, 2015** and ending **Tuesday, December 15, 2015**. Additional details are provided on the enclosed Notice of Study Completion.

If you have questions or comments regarding the study and/or the ESR during the review period, please contact the City's Project Manager, Dana Glofcheskie (see contact information on enclosed notice). If concerns regarding this study cannot be resolved in discussion with the City, a person or party may request that the Minister of the Environment and Climate Change make an order for the project to comply with Part II of the Environmental Assessment Act (referred to as a Part II Order). Requests for a Part II Order must be received by the Minister, at the address below, by **December 15, 2015**. A copy of the request must also be sent to the City's Project Manager. If no requests are received by **December 15, 2015**, the City intends to proceed with detailed design and construction, as outlined in the ESR.

**Reference: Courtneypark Drive East, from Kennedy Road to Dixie Road**
**Municipal Class Environmental Assessment Study & Preliminary Design**
**Notice of Study Completion & Submission of Environmental Study Report**

Regards,

**STANTEC CONSULTING LTD.**

Gordon Murray, P.Eng.
Senior Project Manager
Phone: (905) 944-7786
gordon.murray@stantec.com

c. Dana Glofcheskie, P.Eng., City of Mississauga

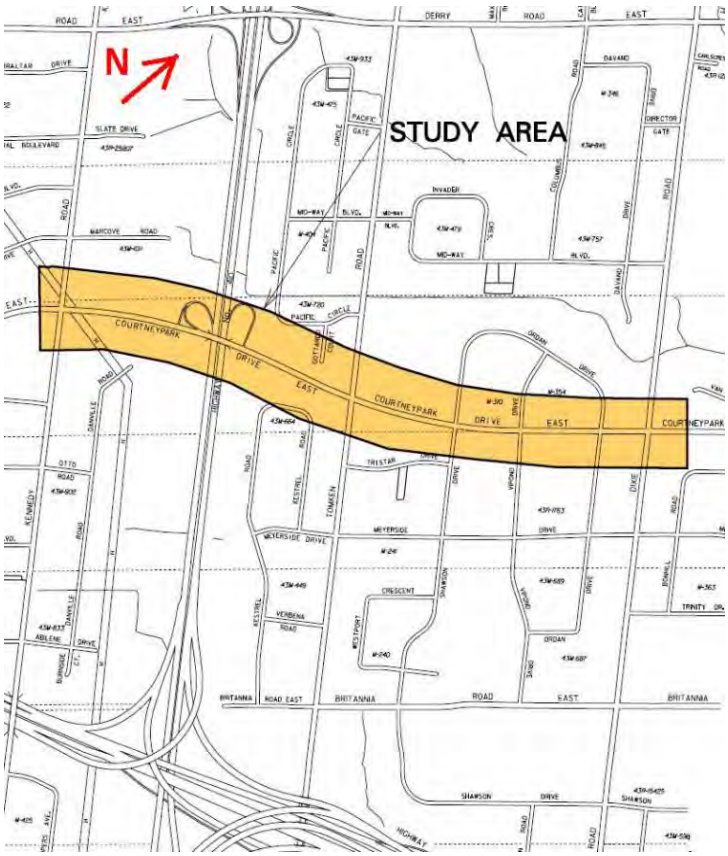
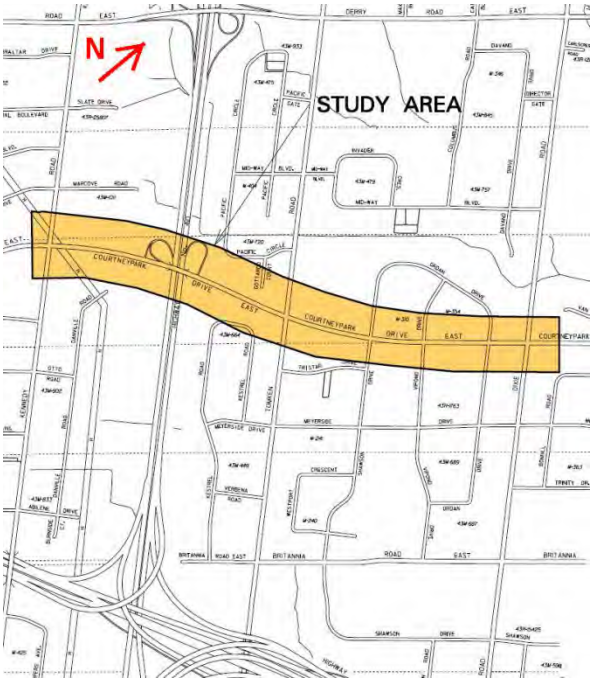



**Figure 1: Study Area**

# CITY OF MISSISSAUGA
# NOTICE OF STUDY COMPLETION
## Municipal Class Environmental Assessment Study for Courtneypark Drive East

**THE STUDY:**
In partnership with the Region of Peel, the City of Mississauga has completed a Class Environmental Assessment (Class EA) study, including Preliminary Design, for Courtneypark Drive East, between Kennedy Road and Dixie Road (see map). In light of current roadway conditions, the intent of this study was to address network demand challenges, identify/address safety concerns, accommodate active transportation measures, and rehabilitate the pavement surface. The overall impact of such improvements on the social, cultural, and natural environments was also analyzed, including potential impacts to adjacent properties along the road.




**THE PROCESS:**
The study was carried out in accordance with the planning and design process for Schedule 'C' projects, as outlined in the "*Municipal Class Environmental Assessment*" document (October 2000, amended in 2011), which is approved under the Ontario *Environmental Assessment Act*. The Class EA process includes public and agency consultation, an evaluation of alternative solutions and alternative design concepts, an assessment of potential impacts associated with the proposed improvements, and development of measures to mitigate.

A Notice of Study Commencement was issued on November 13, 2013, Public Information Centre #1 was held on June 26, 2014, and Public Information Sessions (in lieu of Public Information Centre #2) were held between September 29 and October 3, 2014. Following the Public Information Sessions, the Preferred Alternative Design was reviewed in light of the comments received and modified as required. The resulting Preferred Alternative Design for Courtneypark Drive East, between Kennedy Road and Dixie Road, generally consists of the following:

- widening from 4 to 6 through lanes, by adding 1 lane in each direction;
- construction of a new 1.5 m sidewalk and 3.5 m multi-use trail;
- improvements at various intersections, including new turning and transit lanes;
- upgrading the partial interchange with Highway 410 to a full movement interchange (per MTO's approved 2010 Transportation Environmental Study Report).

A copy of all study materials and documents can be accessed via: http://www.mississauga.ca/portal/residents/courtneyparkdriveeastassessment

**ENVIRONMENTAL STUDY REPORT:**
The Environmental Study Report (ESR) has been prepared to document the planning and decision-making process that was followed during this study. By this notice, the ESR is being placed on the public record for a 30-day review period beginning on November 16, 2015, in accordance with the Municipal Class EA requirements. The ESR is available for review at the following locations:

**The City of Mississauga**
**City Clerk's Office**
300 City Centre Dr
Mississauga, ON L5B 3C1
Monday-Friday, 8:30am-4:30pm

**The Region of Peel**
**Clerk's Division**
10 Peel Centre Dr
Brampton, ON L6T 4B9
Monday-Friday, 8:30am-4:30pm

**Courtneypark Library**
730 Courtneypark Dr W
Mississauga, ON L5W 1L9
Monday-Friday, 8:00am-9:00pm

If you have questions or comments regarding the study and/or the ESR, please contact the City of Mississauga's Project Manager, Dana Glofcheskie, P.Eng. (see contact information below). If concerns regarding this study cannot be resolved in discussion with the City of Mississauga, a person or party may request that the Minister of the Environment and Climate Change make an order for the project to comply with Part II of the Environmental Assessment Act (referred to as a Part II Order). Requests for a Part II Order must be received by the Minister, at the address below, by December 15, 2015. A copy of the request must also be sent to the City of Mississauga's Project Manager. If no requests are received by December 15, 2015, the City of Mississauga intends to proceed with detailed design and construction as outlined in the ESR.

**City of Mississauga Project Manager**
**Dana Glofcheskie, P.Eng., Transportation Project Engineer**
City of Mississauga
201 City Centre Dr, Suite 800
Mississauga, ON L5B 2T4
dana.glofcheskie@mississauga.ca

**Minister of the Environment and Climate Change**
**The Honourable Glen Murray**
Ministry of the Environment and Climate Change
77 Wellesley St W
11th floor, Ferguson Block
Toronto, ON M7A 2T5

Personal information is collected under the authority of the Environmental Assessment Act and will be used in the assessment process. With exception of personal information, all comments shall become part of the public record. Questions about this collection should be directed to the City of Mississauga Project Manager listed in this notice. This notice was first issued on November 12, 2015.