#### **EXTRACT FROM COUNCIL MEETING MINUTES OF JUNE 7, 2016**

Item 5, Report No. 26, of the Committee of the Whole (Working Session), which was adopted without amendment by the Council of the City of Vaughan on June 7, 2016.

#### 5 MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT - NOTICE OF COMPLETION RUTHERFORD/CARRVILLE ROAD IMPROVEMENTS - JANE STREET TO YONGE STREET REGION OF YORK WARDS 1 AND 4

The Committee of the Whole (Working Session) recommends:

- 1) That the recommendation contained in the following report of the Deputy City Manager Planning & Growth Management and Director of Development Engineering and Infrastructure Planning, dated June 1, 2016, be approved; and
- 2) That Communication C18, presentation material titled "Great Streets, Building Roads that Build Community", dated June 1, 2016, be received.

#### **Recommendation**

The Deputy City Manager Planning & Growth Management and Director of Development Engineering and Infrastructure Planning, in consultation with the Director of Transportation Services and Parks Forestry and Operations, recommend:

1. THAT the presentation by York Region staff regarding the Municipal Class Environmental Assessment Study for the Rutherford/Carrville Road improvements between Jane Street and Yonge Street be received.

#### Contribution to Sustainability

York Region's Environmental Assessment for Rutherford/Carrville Road between Jane Street and Yonge Street (RCEA) contributes to sustainability by addressing both the short term and long term transportation needs for all road users (pedestrians, cyclists, transit users and motorists). This is consistent with the City's Community Sustainability and Environmental Master Plan – Green Directions Vaughan, which identified the goal of ensuring the City is easy to get around and has a low environmental impact.

#### Economic Impact

There is no immediate economic impact associated with this report.

#### **Communications Plan**

York Region conducted a comprehensive consultation, communication and outreach as part of the RCEA study process. A number of public and stakeholder consultation activities were held to provide opportunities for engagement. These key consultation milestones are outlined below:

#### **EXTRACT FROM COUNCIL MEETING MINUTES OF JUNE 7, 2016**

#### Item 5, CW(WS) Report No. 26 - Page 2

Consultation Event	Date	Location
Notice of Study Commencement	Sep 2009	Richmond Hill Liberal & Vaughan Citizen
		Newspaper
Public Consultation Centre #1	Jun 2010	Roselawn PS, Richmond Hill & Vellore Village
Public Consultation Centre #2	Sep 2011	CC, City of Vaughan
GO Workshop #1	Nov 2011	Forest Run PS, City of Vaughan
Notice of Study Update	Nov 2013	Richmond Hill Liberal & Vaughan Citizen
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Study Update - Open House	Dec 2013	Hillcrest Mall, Richmond Hill
		Vaughan Mills, City of Vaughan
Public Consultation Centre #3 /	Jan 2015	Langstaff SS, Richmond Hill & Maple HS, City
Open House		of Vaughan
Public Consultation Centre #4 /	Sep 2015	Roselawn PS, Richmond Hill & Maple HS, City
Open House		of Vaughan
Notice of Study Completion	March	Richmond Hill Liberal & Vaughan Citizen
	2016	Newspaper

In addition, City staff participated through the formal study process on the Technical Agencies Committee (TAC) and through a series of coordination meetings with York Region and Metrolinx Staff in regards to:

- Grade separation alternatives at Rutherford GO station
- Coordination of Rutherford Road improvements with Rutherford GO Station expansion
- Considerations of community impacts from both Rutherford Road improvements and Rutherford GO Station expansion

#### Purpose

This report is intended to provide an overview of the Municipal Class Environmental Assessment Study for the Rutherford Road improvements and to supplement a presentation from York Region staff on the study process and recommendations.

#### **Background - Analysis and Options**

## Rutherford/Carville Road Corridor is one of the few continuous east-west transportation corridors in the Region

The Rutherford / Carrville Road corridor is an important east-west arterial road in the Region as well as in the City of Vaughan. As one of the few continuous east-west transportation corridors in southern York Region:

- It provides Regional east-west mobility and key connections with north-south road and transit links
- It is a key element of the Transit Priority Network, as it is the only continuous east-west corridor across York Region from the Peel Region boundary to the Durham Region boundary
- It can be considered the "spine" of the Transit Priority Network in southern York Region connecting with the provincial highway network, commuter GO rail services, the Region's Rapid Transit network, other Transit Priority Corridors, and the local municipal road networks
- It intersects three planned Rapid Transit Corridors Jane Street, Dufferin Street and Yonge Street providing important transit connections for residents throughout the region

#### **EXTRACT FROM COUNCIL MEETING MINUTES OF JUNE 7, 2016**

#### Item 5, CW(WS) Report No. 26 - Page 3

# The Region of York initiated a Class EA Study to identify the necessary short and long term transportation needs along the Rutherford/Carrville Road corridor

The purpose of this Municipal Class Environmental Assessment (Class EA) study is to determine specific improvements to the Rutherford/Carrville Road corridor between Jane Street and Yonge Street to address short term and long term transportation needs for pedestrians, cyclists, transit users and motorists.

The Rutherford/Carrville Road Class EA was initiated in 2009. The Region of York retained the engineering firm of HDR to conduct the Rutherford/Carrville Road Class EA under Schedule 'C' of the Municipal Class Environmental Assessment process.

In 2013, phase 1 of the Class EA was revisited to allow the project team to address public and stakeholder feedback, refine the vision for the corridor, incorporate a context sensitive approach, re-examine the need and justification for proposed improvements, and update background data within the study corridor.

The study is now completed and the Notice of Completion for the Class EA (Attachment 1) was issued on March 31, 2016, which placed the associated Environmental Study Report on public record for a 30-calendar day public review period.

## Under the Class EA, the study corridor was divided into four distinct segments based on their characteristics

The Study Area and Study Corridor are shown in Attachment 2. The study corridor extends from Jane Street to Yonge Street and totals 8.3 kilometers in length. In recognition of the existing and future characteristics along Rutherford Road, the corridor was divided into four distinct segments under the Class EA. The segments are as follow:

Segment A: Jane Street to Keele Street, City of Vaughan Segment B: Keele Street to Dufferin Street, City of Vaughan Segment C: Dufferin Street to Bathurst Street, City of Vaughan Segment D: Bathurst Street to Yonge Street, Town of Richmond Hill

The Region's 2016 – 10 Year Roads and Transit Capital Construction Program identifies the timing of the planned road improvements along Rutherford Road as follows:

- Segment A: Jane Street to Keele Street in 2019
- Segment B: Keele Street to Dufferin Street in 2020
- Segment C: Dufferin Street to Bathurst Street in 2022

## The recommendations of the Class EA support the development of transit, cycling and pedestrian facilities

Planning alternatives were evaluated based on the ability of the alternative to address the problem statement, including impacts to the natural, social, economic and cultural environments and impacts on transportation. The first step in the evaluation was to identify the alternative solutions that determined the preferred travel lane alternative option. The preferred travel lane alternative option was then carried forward for evaluation of the cycling facility, pedestrian facility and streetscaping and landscaping opportunities.

Based on the assessment and evaluation of the planning alternatives, the preferred recommended planning solutions for Rutherford Road between Jane Street to Bathurst Street consist of:

#### EXTRACT FROM COUNCIL MEETING MINUTES OF JUNE 7, 2016

#### Item 5, CW(WS) Report No. 26 - Page 4

- Travel Demand Management (TDM)
- Transportation Systems Management (TSM)
- Lane widening for HOV / transit priority
- · Off-street cycle track with physical buffer on either side
- Sidewalk on either side and planting and furnishing zone on either side

#### Rutherford Road underpass (road crosses under rail) was recommended at the existing atgrade crossing of Rutherford Road and the Barrie GO Line

At the existing at-grade crossing of Rutherford Road at the Barrie GO Line, five alternative solutions were considered:

- Option 1 Maintain At-Grade Crossing with 6-Lane Rutherford Road Platform
- Option 2 Overpass Rutherford Road crosses over rail tracks
- Option 3 Underpass Rutherford Road crosses under rail tracks
- Option 4 Hybrid: Modify both rail and road Rutherford Road crosses over lowered rail tracks
- Option 5 Hybrid: Modify both rail and road -Rutherford Road crosses under raised rail tracks

Based on an evaluation of the options, it is being recommended in the Class EA that the existing at-grade crossing of Rutherford Road and the Barrie GO Line be replaced with a grade separated underpass option (road crosses under rail) as described in Attachment 3. A number of focused meetings were held amongst the Region, City and Metrolinx to discuss the design of this grade separation and to coordinate the implementation of the road and station works.

Alternative road design concepts have also been developed through the Class EA with consideration for the key constraints and opportunities of each segment, varying right-of-way widths, landscaping opportunities, and property impacts. Based on the existing conditions and constraints, and through consultation with key stakeholders, a high-level screening of several alternatives was completed. Only alternatives which were not screened out through the high-level exercise were formally developed and evaluated.

The formal evaluation resulted in the selection of a preferred design concept for each segment based on impacts to the natural, social, economic and cultural environments and impacts on transportation. The preferred alternative design cross-sections are included in the Executive Summary of the Class EA ESR attached to this report in Attachment 3.

# Comments from City Staff were provided to the Region and were considered by the Region in the Final ESR

Staff from various City departments attended the TAC meetings and provided input that guided the study in developing recommended alternative. The key areas of staff focus included:

- Property impacts along corridor
- Cultural Heritage impacts
- Access consolidation along corridor
- Community impacts associated with the proposed Rutherford Road and GO rail grade separation
- Pedestrian and cycling facilities considerations
- Communication coordination

#### EXTRACT FROM COUNCIL MEETING MINUTES OF JUNE 7, 2016

#### Item 5, CW(WS) Report No. 26 – Page 5

The draft ESR was reviewed by various City department staff and comments were provided to the study team, which were considered and incorporated into the final ESR. Accordingly, staff is generally satisfied with the findings and recommendations of the Rutherford/Carrville Corridor Class EA ESR.

## Coordination efforts with the York Region, Metrolinx, and City of Vaughan will continue into the detailed design and implementation stages

Realizing the benefits of coordinating the road improvements with the Rutherford GO station expansion, monthly coordination meetings were carried out throughout the EA process. Such coordination meetings with York Region, Metrolinx, and City of Vaughan continue into the detailed design and implementation stages.

The York Region staff presentation will focus on the background, development and process of the Class EA, the recommended plan, consultation milestones, additional consultation in the community, and next steps.

#### Relationship to Term of Council Service Excellence Strategy Map (2014-2018)

This report is consistent with the Term of Council Service Excellence Strategy objectives to:

- Develop transit, cycling and pedestrian options to get around the City
- Improve municipal road network
- Invest, renew and manage infrastructure and assets
- Continue to ensure the safety and well-being of citizens, and
- Continue to cultivate an environmentally sustainable City

#### **Regional Implications**

Rutherford Road is under the jurisdiction of the Region of York and is a key element of the Region's Transit Priority Network.

#### Conclusion

It is recommended that the presentation by York Region staff regarding the Municipal Class Environmental Assessment Study for the Rutherford/Carrville Road improvements between Jane Street and Yonge Street be received. City staff will continue to participate in the detailed design phase of the Rutherford/Carrville Road works to ensure City interests are addressed. In addition, the City's Corporate Communication Staff will continue to work with York Region and Metrolinx Staff on a coordinated communication strategy as the study progresses to the implementation stage.

#### **Attachments**

- 1. Notice of Completion
- 2. Study Area and Study Corridor
- 3. Rutherford/Carrville Road Municipal Class Environmental Assessment Executive Summary

#### Report prepared by:

Winnie Lai, Transportation Project Manager, ext. 8192 Selma Hubjer, Manager, Transportation Planning, ext. 8674

(A copy of the attachments referred to in the foregoing have been forwarded to each Member of Council and a copy thereof is also on file in the office of the City Clerk.)

















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York Region



GREAT STREETS Building Roads that Build Community































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#### COMMITTEE OF THE WHOLE (WORKING SESSION) JUNE 1, 2016

#### MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT - NOTICE OF COMPLETION RUTHERFORD/CARRVILLE ROAD IMPROVEMENTS - JANE STREET TO YONGE STREET REGION OF YORK WARDS 1 AND 4

#### **Recommendation**

The Deputy City Manager Planning & Growth Management and Director of Development Engineering and Infrastructure Planning, in consultation with the Director of Transportation Services and Parks Forestry and Operations, recommend:

1. THAT the presentation by York Region staff regarding the Municipal Class Environmental Assessment Study for the Rutherford/Carrville Road improvements between Jane Street and Yonge Street be received.

#### **Contribution to Sustainability**

York Region's Environmental Assessment for Rutherford/Carrville Road between Jane Street and Yonge Street (RCEA) contributes to sustainability by addressing both the short term and long term transportation needs for all road users (pedestrians, cyclists, transit users and motorists). This is consistent with the City's Community Sustainability and Environmental Master Plan – Green Directions Vaughan, which identified the goal of ensuring the City is easy to get around and has a low environmental impact.

#### **Economic Impact**

There is no immediate economic impact associated with this report.

#### Communications Plan

York Region conducted a comprehensive consultation, communication and outreach as part of the RCEA study process. A number of public and stakeholder consultation activities were held to provide opportunities for engagement. These key consultation milestones are outlined below:

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In 2013, phase 1 of the Class EA was revisited to allow the project team to address public and stakeholder feedback, refine the vision for the corridor, incorporate a context sensitive approach, re-examine the need and justification for proposed improvements, and update background data within the study corridor.

The study is now completed and the Notice of Completion for the Class EA (Attachment 1) was issued on March 31, 2016, which placed the associated Environmental Study Report on public record for a 30-calendar day public review period.

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The formal evaluation resulted in the selection of a preferred design concept for each segment based on impacts to the natural, social, economic and cultural environments and impacts on transportation. The preferred alternative design cross-sections are included in the Executive Summary of the Class EA ESR attached to this report in Attachment 3.

# Comments from City Staff were provided to the Region and were considered by the Region in the Final ESR

Staff from various City departments attended the TAC meetings and provided input that guided the study in developing recommended alternative. The key areas of staff focus included:

- Property impacts along corridor
- Cultural Heritage impacts
- Access consolidation along corridor
- Community impacts associated with the proposed Rutherford Road and GO rail grade separation
- Pedestrian and cycling facilities considerations
- Communication coordination

The draft ESR was reviewed by various City department staff and comments were provided to the study team, which were considered and incorporated into the final ESR. Accordingly, staff is generally satisfied with the findings and recommendations of the Rutherford/Carrville Corridor Class EA ESR.

# Coordination efforts with the York Region, Metrolinx, and City of Vaughan will continue into the detailed design and implementation stages

Realizing the benefits of coordinating the road improvements with the Rutherford GO station expansion, monthly coordination meetings were carried out throughout the EA process. Such coordination meetings with York Region, Metrolinx, and City of Vaughan continue into the detailed design and implementation stages.

The York Region staff presentation will focus on the background, development and process of the Class EA, the recommended plan, consultation milestones, additional consultation in the community, and next steps.

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#### **Regional Implications**

Rutherford Road is under the jurisdiction of the Region of York and is a key element of the Region's Transit Priority Network.

#### **Conclusion**

It is recommended that the presentation by York Region staff regarding the Municipal Class Environmental Assessment Study for the Rutherford/Carrville Road improvements between Jane Street and Yonge Street be received. City staff will continue to participate in the detailed design phase of the Rutherford/Carrville Road works to ensure City interests are addressed. In addition, the City's Corporate Communication Staff will continue to work with York Region and Metrolinx Staff on a coordinated communication strategy as the study progresses to the implementation stage.

#### **Attachments**

- 1. Notice of Completion
- 2. Study Area and Study Corridor
- 3. Rutherford/Carrville Road Municipal Class Environmental Assessment Executive Summary

#### Report prepared by:

Winnie Lai, Transportation Project Manager, ext. 8192 Selma Hubjer, Manager, Transportation Planning, ext. 8674

Respectfully submitted,

JOHN MACKENZIE Deputy City Manager, Planning & Growth Management ANDREW PEARCE Director, Development Engineering and Infrastructure Planning

#### **ATTACHMENT 1**

Carrville Roa

Study Area Municipal Boundary Regional Roads

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#### The Regional Municipality of York NOTICE OF COMPLETION MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT STUDY

Rutherford/Carrville Road

between Jane Street and Yonge Street in the City of Vaughan and Town of Richmond Hill

The Regional Municipality of York has completed a Schedule C, Municipal Class Environmental Assessment (EA) Study of road improvements to Rutherford/Carrville Road between Jane Street and Yonge Street in the City of Vaughan and Town of Richmond Hill. The planned improvements to the road will help manage traffic resulting from continued growth and will benefit motorists, public transit riders, cyclists and pedestrians.

The EA Study identified the following recommended solutions for Rutherford/Carrville Road:

- Widening from the existing four lanes to six lanes between Jane Street and Yonge Street for High Occupancy Vehicles (HOV) and transit
- Construction of pedestrian and cycling facilities
- The construction of an underpass crossing of the GO Rail line
- Culvert crossings and landscaped medians

York Region intends to proceed with design and construction of the project following completion of the Class EA. An Environmental Study Report (ESR) documenting the study process, consultations and the recommended plan has been prepared.

This Notice of Completion places the ESR on public re- can be downloaded from the York Region website at <b>yo</b>	cord for a 30-calendar day public review period. The ESR <b>rk.ca/ea</b> or <b>rutherfordcarrville.ca</b> and a copy is available	at the following locations during normal business hours:
The Regional Municipality of York	Vaughan Public Library	The City of Vaughan
Clerk's Department 17250 Yonge Street Newmarket, ON L3Y 6Z1	Pleasant Ridge Library 300 Pleasant Ridge Avenue Vaughan, ON L4J9B3	Clerk's Department, City Hall, Level 100, 2141 Major Mackenzie Drive Vaughan, ON L6A 171
Richmond Hill Public Library	The Town of Richmond Hill	
1 Atkinson Street Richmond Hill, ON L4C 0H5	Clerk's Department 225 East Beaver Creek Road Richmond Hill, ON L4B 3P4	
We invite you to read the report and direct written comments to:	If concerns cannot be resolved through discussions with York Region, a person may request the Minister	Copies of any Part II Order request must also be sent to:
Colin Wong, P.Eng. Project Manager, Transportation Services The Regional Municipality of York 17250 Yonge Street, Box 147	of the Environment and Climate Change issue a Part II Order for this project. A Part II Order request must be received by the Minister at the address below no later than Monday, May 2, 2016.	The Regional Municipality of York Clerk's Department 17250 Yonge Street, Newmarket, ON L3Y 6Z1
Newmarket, ON L3Y 6Z1 Phone: 1-877-464-9675 ext. 76119 Email: roads.ea@york.ca	The Honourable Glen Murray Minister of Environment and Climate Change 77 Wellesley Street West, 11th Floor, Ferguson Block Toronto, ON M7A 2T5	Director, Environmental Approvals Branch Ministry of the Environment and Climate Change 135 St. Clair Ave West, 1st Floor Toronto, ON M4V 1P5
Accessible formats of materials are available	upon request. This notice was issued Thursday, March 3	1, 2016.
Personal information submitted (e.g., name, address and and the Municipal Freedom of Information and Protection	d phone number) is collected, maintained and disclosed ur n of Privacy Act for transparency and consultation purpose	nder the authority of the <i>Environmental Assessment Act</i> s. Personal information you submit will become part of a

Pe and arency ar on of Privacy Act for trar public record that is available to the general public, unless you request that your personal information remain confidential.

Wayne Emmerson York Region Chairman and CEO		Daniel Kostopoulos, P.Eng. Commissioner, Transportation Services
GREAT STREETS Building Roads that Build Community	f 🗾 in.	York Region

#### ATTACHMENT 2





ATTACHMENT 3



Schedule 'C' Environmental Assessment for Rutherford/Carrville Road between Jane Street and Yonge Street, City of Vaughan and Town of Richmond Hill

### **Environmental Study Report**

Regional Municipality of York

March 2016





# **Executive Summary**

## Introduction

The Regional Municipality of York (York Region) retained HDR to conduct the Rutherford/Carrville Road Municipal Class Environmental Assessment (EA) between Jane Street and Yonge Street, in the City of Vaughan and the Town of Richmond Hill. The study was carried out as a Schedule 'C' undertaking in accordance with the Municipal Engineers Association, *Municipal Class Environmental Assessment (October 2000, as amended in 2007 and 2011)*.

The Rutherford/Carrville Road EA was initiated in 2009. In 2013 Phase 1 of the EA was revisited to allow the project team to address public and stakeholder feedback, refine the vision for the corridor, incorporate a context sensitive approach and re-examine the need and justification for proposed improvements, and update background data within the study corridor.

### Background

The Rutherford/Carrville Road/16th Avenue corridor is a key element of the Transit Priority Network, as it is the only continuous east-west corridor across York Region from the Peel Region boundary to the Durham Region boundary. It can be considered the "spine" of the Transit Priority Network in southern York Region connecting with the provincial highway network, commuter GO rail services, the Region's Rapid Transit network, other Transit Priority Corridors, and the local municipal road networks. The corridor between Jane Street and Yonge Street will be intersected by three Rapid Transit Corridors - Jane Street, Dufferin Street and Yonge Street.

The Region's **2016 – 10 Year Roads and Transit Capital Construction Program**, identifies the following works in the study corridor:

- Road work improvements from Jane Street to Keele Street in 2019
- Road work improvements from Keele Street to Dufferin Street in 2020
- Road work improvements from Dufferin Street to Bathurst Street in 2022
- Road work improvements from Bathurst Street to Yonge Street in 2025
- Road work improvements along Bathurst Street at Rutherford Road in 2020 and 2021

### **Study Purpose**

The purpose of the Class EA study is to determine specific improvements to the Rutherford/Carrville Road corridor from Jane Street to Yonge Street, and to address short term and long term transportation needs for pedestrians, cyclists, transit users and motorists. The corridor is 8.3km in length.

The focus of the study is the Rutherford/Carrville Road corridor from Jane Street to Yonge Street referred to as the study corridor as shown in **Exhibit A**. A broader Study Area including Major Mackenzie Drive to the north and Highway 7 to the south was defined to ensure that the analysis for need for improvements to the study corridor considers existing and planned development and opportunities for other transportation improvements in this broader area.



Exhibit A: Study Area and Study Corridor

The study corridor was divided into four distinct segments, Segment A thru Segment D, for analysis based on existing and future characteristics, as different solutions may be warranted for each segment. A summary of key characteristics by segment is provided below:

Segment A	Jane Street to Keele Street
	A mix of residential, commercial and industrial land uses:
	A mix of high, medium and low density dwellings:
	<ul> <li>A bridge crossing the CN Rail Yard:</li> </ul>
	Heavy congestion during the AM and PM peak:
	<ul> <li>Forecasted growth and intensification at Jane and Rutherford:</li> </ul>
	<ul> <li>3 water crossings: and</li> </ul>
	<ul> <li>Falls within the jurisdiction of the City of Vaughan</li> </ul>
Segment B	Keele Street to Dufferin Street
	A mix of residential, commercial and industrial land uses;
	<ul> <li>Forecasted growth and intensification at the Carrville District Centre, at Dufferin and Rutherford;</li> </ul>
	<ul> <li>Heavy congestion during the AM and PM peak;</li> </ul>
	Minimal number of properties that front onto the corridor:
	<ul> <li>Some land within the Oak Ridges Moraine and Green Belt Plan area:</li> </ul>
	<ul> <li>GO Rail Station and existing at-grade rail crossing:</li> </ul>
	<ul> <li>2 water crossings: and</li> </ul>
	<ul> <li>Falls within the jurisdiction of the City of Vaughan.</li> </ul>
Segment C	Dufferin Street to Bathurst Street
	Low density residential and commercial developments:
	<ul> <li>Undeveloped, natural lands;</li> </ul>
	<ul> <li>Forecasted growth and intensification at the Carrville District Centre, at Dufferin and Rutherford.</li> </ul>
	<ul> <li>Minimal number of properties that front onto the corridor.</li> </ul>
	<ul> <li>Some land within the Oak Ridges Moraine and Green Belt Plan area:</li> </ul>
	<ul> <li>3 water crossings; and</li> </ul>

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Falls within the jurisdiction of the City of Vaughan.

#### Bathurst Street to Yonge Street

- An established residential neighbourhood of low to medium density dwellings;
- Grassy medians;
- Many mature trees;
- Houses and driveways fronting onto the road;
- Possible intensification at Yonge and Carrville/16th Avenue;
- Schools and heritage properties;
- 1 water crossing; and
- Falls within the jurisdiction of the Town of Richmond Hill.

### Needs Assessment

Segment D

The needs assessment involves the identification and evaluation of existing and future needs of the transportation network with respect to accommodating all users (pedestrians, cyclists, transit, motorists, and goods movement), network capacity, traffic safety and design and operation. The purpose of the Needs Assessment is to identify and define existing and future capacity, safety, and operational needs along Rutherford/Carrville Road between Jane Street and Yonge Street for all road users.

### **Transportation Needs**

A summary of transportation needs in the Rutherford/Carrville Road corridor is summarized below:

Autos	Rutherford Road is the only east-west road crossing the Barrie GO line between Major Mackenzie Drive and Langstaff Road. It is also the only east-west road crossing the CN Macmillan Yard between north of Rutherford Road and Highway 7. It presently has significant capacity deficiencies particularly between Jane Street and Dufferin Street. Operations at all intersections with north-south regional arterial roads have over- capacity movements during the AM and PM peak periods. Signal timing improvements will not be enough to mitigate congestion and delays. There are storage length deficiencies at all the major arterial intersections and some minor intersections. Planned development and future population and employment growth in the study area will continue to increase congestion along Rutherford/Carrville Road and result in further deterioration of intersection operations.
Pedestrians	There are gaps in the sidewalks network along Rutherford/Carrville Road, especially between Keele Street and Bathurst Street. In addition, midblock pedestrian crossing opportunities are limited on Carrville Road. There is high pedestrian activity at key nodes, particularly at Yonge Street, Bathurst Street, Peter Rupert Avenue and Barrhill Road (adjacent to GO Station), and Keele Street. There is a clear need to improve the existing sidewalk network – and this need was confirmed through the public consultation program.
Cyclists	The study corridor is a high traffic volume and high speed corridor without any dedicated cycling facilities. As such, cyclists have been observed to ride on sidewalks. There is the need to provide dedicated facilities to improve the comfort, safety and attractiveness of cycling – and this was confirmed through the public consultation program.
Transit	Transit operating speeds are often slower than automobile traffic, and thus transit does not provide a strong alternative to the automobile. As a Transit Priority Corridor, there is the need to improve the competitiveness of transit on Rutherford/Carrville Road by reducing travel delays and increasing transit service reliability.
Goods Movement	At current demand levels, there are needs to reduce delays in the more congested western segment of the corridor where truck volumes are higher.
Rutherford GO Station	There is significant congestion at Rutherford GO Station for pedestrians, cyclists, transit users and drivers. Further, there are opportunities to improve safety and traffic operations, which are particularly affected by the at-grade rail crossing.



**Grade** Separation Based on existing automobile and train volumes, existing delays for transit and motorists at the crossing, and safety and operational concerns related to pedestrians and cyclists at the level crossing, there is a clear need for a grade separation at the Barrie GO line.

The analysis of future needs and opportunities further reinforces the need for improvements to Rutherford/Carrville Road to accommodate all road users – pedestrians, cyclists, transit riders, motorists, and goods movement.

### **Operational and Geometric Needs**

After identifying the overall horizontal alignment and vertical profile elements for the homogeneous posted speed limit sections of Rutherford/Carrville Road, several sections were identified where profile improvements may be appropriate. The existing horizontal alignment characteristics of this section of Rutherford/Carrville Road are acceptable, with the smallest existing radius being 1000 m. There are several sections of Rutherford Road which may benefit from vertical profile improvements based on current design standards.

To better understand the existing conditions, stopping sight distance was reviewed for the entire study corridor based on the topographic survey. Stopping sight distance is achieved at most locations throughout the corridor, although five specific vertical curves were identified as not meeting current design standards.

## **Problem and Opportunity Statement**

Transportation improvements are necessary to improve capacity, network connectivity, quality of service and mobility for pedestrians, cyclists, transit users and motorists along the Rutherford/Carrville Road corridor, and to address long term travel demands which are projected to exceed existing capacity. More specifically, improvements are required to:

- Transform Rutherford/Carrville Road into a multimodal corridor and complete street that is accessible to all users;
- Provide a continuous sidewalk, and improve connections, amenities, landscaping, and urban design features along the corridor and at key pedestrian nodes;
- Provide continuous cycling facilities along Rutherford/Carrville Road, since it is part of the Regional cycling network;
- Improve the efficiency of transit service based on future demand by reviewing opportunities to
  reduce transit delays buses experience in the congested segment of the corridor and at major
  intersections throughout the corridor;
- Increase capacity and improve level of service for motorists driving on Rutherford/Carrville Road;
- Increase capacity and improve level of service for goods movement (i.e. trucks) using Rutherford/Carrville Road;
- Improve streetscaping as articulated in Towards Great Regional Streets;
- Protect and enhance existing neighbourhoods, natural and cultural features and promote sustainable future communities;
- Recognize the Rutherford GO Station as a key interchange and improve access for pedestrians, cyclists, transit users and drivers; and
- Improve safety and traffic operations at the existing at-grade rail crossing at Rutherford GO Station.

## Public, Agency and First Nation Consultation

Public input is an important part of the Rutherford/Carrville Road Class EA and a number of public and stakeholder consultation activities were held to provide opportunities for engagement. An overview of the key consultation milestones are provided as follows:

Consultation Event	Date
Notice of Study Commencement	December 2009
Public Consultation Centre #1	June 2010
Public Consultation Centre #2	September 2011
GO Workshop #1	November 2011
Notice of Study Update	November 2013
Study Update - Open House	December 2013
Public Consultation Centre #3 / Open House	January 2015
Public Consultation Centre #4 / Open House	September 2015
Notice of Study Completion	March 2016

Public outreach was conducted using a variety of methods to solicit feedback, including: advertisements in local newspapers, direct mail, email notifications, project website updates, York Region media releases, social media outreach via Twitter and Facebook, roadside signage, pop-up information centres at shopping centres, community festivals and at Rutherford GO Station, distribution of study postcards and greeting cards promoting online surveys and an online open house, and meetings and public consultation centres/open houses.

As part of the EA process a Technical Advisory Committee (TAC) was formed. In addition to members of the TAC, a list of stakeholders, including federal departments, provincial ministries, municipalities and agencies, utilities, and adjacent landowners, were contacted for information and comments o provide input on the study. Agency consultation consisted of letters, emails, phone calls, exchanges of information, and meetings. Individual meetings with agencies were also held throughout the project.

First Nations representatives were included in the mailing list for the project, and were contacted via study notices throughout the study (including Notice of Commencement, Notice of Study Update, Notice of Public Information Centres and Open Houses, and Notice of Completion). The mailing list was updated to add additional First Nations Representatives or update their contact information as requested throughout the study.

## Alternative Solutions

Alternative solutions are different means of addressing the problem. The following alternative solutions were considered:

- Do Nothing
- Travel Demand Management (TDM)
- Transportation Systems Management (TSM)
- Convert Lane for HOV and Transit
- Widen for HOV and Transit
- Cyclist Facilities
- Pedestrian Facilities

Cross-section alternatives were developed by further refining the alternative solution options into travel / vehicle lane alternatives, and cyclist, pedestrian, and boulevard treatments as follows:

Travel/Vehicle Lane Alternatives		Active Transportation Facility and Boulevard Treatment Alternatives	
1	Do Nothing(Maintain existing conditions without improvement/changes)	A	On-Street Conventional Cycle Lane, one in each direction, with sidewalk on either side
2	Base Case(Maintain existing four general purpose travel lanes + TDM +TSM)	в	On-Street Cycle Lane with Painted Buffer Zone, one in each direction, with sidewalk on either side

- FX
- Base Case + Lane Conversion for HOV/Transit Priority
   Base Case + Lane Widening for HOV/Transit Priority
   Multi-Use Path on either side
   Multi-Use Path on the other side

The planning alternatives were evaluated based on the ability of the alternative to address the problem statement, including impacts to the natural, social, economic and cultural environments and impacts on transportation. The first step in the evaluation was to identify the Alternative Solution Option that determined the preferred travel lane alternative option. The preferred travel lane alternative option was then carried forward for evaluation of the cycling facility, pedestrian facility and streetscaping and landscaping opportunities.

Based on the assessment and evaluation of the planning alternatives, the preferred recommended planning solutions by segment are as follows:

#### Rutherford Road:

Jane Street to Bathurst Street

Option 4c which consists of the Base Case (TDM + TSM) plus lane widening for HOV / transit priority, off-street cycle track with physical buffer on either side, sidewalk on either side and planting and furnishing zone on either side.



Carrville Road (short-term): Bathurst Street to Yonge Street Option 2c – Base Case (TDM and TSM), off-street cycle track with physical buffer on either side, sidewalk on either side, and planting and furnishing zone on either side.



**Carrville Road (long-term):** Bathurst Street to Yonge Street Option 4c - Base Case (TDM +TSM) + Lane Widening for HOV / Transit Priority, off-street cycle track with physical buffer on either side, sidewalk on either side, and planting and furnishing zone on either side.



At the existing at-grade crossing of Rutherford Road at the Barrie GO Line, five alternative solutions were considered:

- Option 1 Maintain At-Grade Crossing with 6-Lane Road Platform
- Option 2 Overpass Rutherford Road crosses over rail tracks
- **Option 3** Underpass Rutherford Road crosses under rail tracks
- Option 4 Hybrid: Modify both rail and road Rutherford Road crosses over lowered rail tracks
- **Option 5** Hybrid: Modify both rail and road -Rutherford Road crosses under raised rail tracks

Based on the assessment and evaluation of these five alternative solutions, two (2) recommended alternative solutions were carried forward for further assessment, and the remaining three (3) alternative solutions were screened out as follows:

#	Option	Screening	Rationale
1	Maintain At-Grade Crossing with 6-Lane Road Platform	Not Recommended	Does not address congestion and safety concerns at the crossing
2	Create an overpass – Rutherford Road crosses over rail tracks	Recommended for Further Consideration	Cost-effective and environmentally sensitive approach to addressing congestion and safety concerns at the crossing
3	Create an underpass – Rutherford Road crosses under rail tracks	Recommended for Further Consideration	Approach to addressing congestion and safety concerns at the crossing that minimizes impacts to surrounding properties and pedestrian and cyclist access to the Station
4	Hybrid – Modify both rail and road – Rutherford Road crosses over lowered rail tracks	Not Recommended	Expensive approach requiring complex construction staging of vehicular and rail traffic to achieve little marginal benefit over standard overpass
5	Hybrid – Modify both rail and road – Rutherford Road crosses under raised rail tracks	Not Recommended	Expensive approach requiring complex construction staging of vehicular and rail traffic to achieve little marginal benefit over standard underpass

Therefore, **Option 2** (Overpass - Rutherford Road crosses over rail tracks) and **Option 3** (Underpass - Rutherford Road crosses under rail tracks) were carried forward for further analysis and evaluation.



## **Design Alternatives**

To address the varying characteristics of the Rutherford/Carrville Road corridor and recommendations carried forward from the alternative solutions, alternative design concepts were developed for each segment of the corridor. Alternative design concepts have been developed considering the key constraints and opportunities for each segment and vary by right-of-way width, landscaping opportunities, and amount of property required. Based on the existing conditions and constraints, and through consultation with key stakeholders, a high-level screening of several alternatives was completed. Only alternatives which were not screened out through the high-level exercise were formally developed and evaluated. The formal evaluation resulted in the selection of a preferred design concept for each segment based on impacts to the natural, social, economic and cultural environments and impacts on transportation. The preferred alternative design cross-sections are as follows:







## **Preferred Design**

The preferred design for Rutherford/Carrville Road was chosen after consideration of transportation service for all road users (pedestrians, cyclists, transit, motorists, goods movement) and impacts to the environment, community impacts, cultural heritage impacts, safety, aesthetics, drainage, driveway access, property requirements, and capital construction and maintenance costs. The preferred design is one that best met the goals of the project and balanced the transportation service benefits with the anticipated impacts. The preferred design was selected, developed, and refined through extensive consultation with agencies, stakeholders and the public.

### Roadway

The preferred design generally consists of widening the existing Rutherford Road to six lanes to accommodate HOV/transit priority lanes, sidewalks on both sides adjacent to off-road/one-way cycle tracks on both sides, transit bus pads and shelters, boulevards, grading, and a landscaped median where sufficient space is available. Where there are opportunities, the existing right-of-way is proposed to be widened, generally up to the designated 43 m right-of-way for Rutherford/Carrville Road. In constrained



sections, one-way multi-use pathways replace the sidewalk and cycle track and no landscaped median is provided.

For Carrville Road, the interim (short term) design consists of maintaining the existing four lanes and landscaped median, and adding a cycle track between the existing sidewalk and the vehicle travel lanes. In the long-term (ultimate scenario), a narrower landscaped median is proposed to accommodate six travel lanes and minimize property impacts.

At the proposed Rutherford Road underpass at the Barrie GO line rail crossing, Rutherford Road is realigned to the north.

### **Transit/HOV Facilities**

The design of all transit facilities was carried out in coordination with YRT. All existing bus stop locations are maintained and no additional stops are proposed as part of the preferred design. To minimize pavement width, property requirements and pedestrian crossing distances, the preferred design generally excludes bus bays with the exception of the stops located at the GO station entrance. Nearside stops are recommended throughout most of the corridor, which is generally consistent with their existing locations. However, far-side stops are proposed in the eastbound direction at Keele Street and Westburne Drive.

A key objective of the design was to provide well-integrated and convenient pedestrian access to Rutherford GO station from on-street stops (i.e. minimize grade change and distance, provide highly visible crosswalk areas).

### **Active Transportation**

Continuous sidewalks of 1.5 m width are included in the preferred design, on both sides of Rutherford/Carrville Road. The proposed cycle tracks will have a minimum 1.5 m width as they will be adjacent to the sidewalk. A greater width (2.0m) is desired to allow for cyclist passing, but it is not practical due to property constraints. A 0.3 m warning strip between the sidewalk and cycle track may be accommodated as space permits.

In general, the cycle track and sidewalk are proposed to be located beside each other, with the sidewalk on the outside (closer to the property line) and cycle track on the inside (closer to vehicle travel lanes). They will be situated towards the outside of the Rutherford/Carrville right-of-way to maximize landscaping opportunities in the boulevard, between the active transportation facilities and the splash strip/curb. A 0.5 m grading buffer has been included between the edge of sidewalk and right-of-way line. Along the corridor, there are specific locations where right-of-way constraints or watercourses require the minimization of the platform width of Rutherford/Carrville Road. At those locations, boulevard widths are minimized and cycle tracks and sidewalks are combined into multi-use paths, with a 3.0 m width (reduced to 2.4 m width for short segments along highly constrained locations).

Connections to two existing trails east of the GO Rail tracks on the north and south side of the proposed underpass will be provided via a proposed north-south pedestrian structure across Rutherford Road.

Where other existing trails intersect Rutherford/Carrville Road, connections are to be provided to the proposed cycle track and sidewalk.

### Intersection Design, Traffic Signals and Illumination

York Region is currently assessing cycle track treatment at intersections as part of a separate, ongoing study. The design of cycling facilities developed as part of the Rutherford/Carrville EA is based on OTM Book 18 – Cycling Facilities, however during detailed design the cycle track treatment at intersections will be subject to the findings of York Region's separate study in coordination with York Region's Active Transportation group.



When Carville Road is ultimately widened to 6 lanes in the long term, traffic signals should be installed at Ayr Road and Plaisance Road considering future increases in pedestrian traffic, increased crossing distances for pedestrians and the safety risk associated with unsignalized left-turn movements.

Future intersections are proposed at Caldari Road Extension east of Jane Street and at a future northsouth street west of Yonge Street. The location of these two intersections and configuration will be determined through future studies.

Rutherford/Carrville Road currently has satisfactory illumination; the same level of illumination is proposed for the widening of Rutherford/Carrville Road. Existing traffic signals and streetlights will be relocated as required as part of the undertaking. All signalized intersections will meet Accessibility for Ontarians with Disabilities (AODA) standards, and where signalized intersections are being re-built, York Region will include audible pedestrian signals.

### **Streetscaping and Landscaping**

The preferred design includes the addition of a 5.0 m landscaped centre median and boulevard street trees; between Thomas Cook Avenue and Bathurst Street no landscaped median is proposed due to right-of-way constraints. The underpass design does not include a landscaped centre median.

In the short term, the existing landscaped median along Carrville Road between Bathurst Street and Yonge Street (as wide as 9 metres in some sections) will be maintained, and in the long term the landscaped median will be reduced to 5 m to accommodate widening for HOV/Transit lanes while minimizing property impacts.

### **Geotechnical and Pavement**

Based on the recommendations of the geotechnical investigation, existing soils have a low bearing capacity and do not support open-foot structures, shallow foundations are required for stream crossings, and deep foundations are required for GO rail grade separation.

General recommendations for reconstruction or rehabilitation of Rutherford/Carrville Road are provided and are to be confirmed during detailed design by a geotechnical engineer:

- Rehabilitation from Jane Street to Greenock Drive, and from Dufferin Street to Yonge Street
- $\circ$   $\;$  Full Reconstruction from Greenock Drive to Dufferin Street

### **Drainage and Stormwater**

The proposed roadway corridor improvements will maintain an urban roadway cross-section. Rural portions of the roadway corridor will be converted to an urban cross-section which includes concrete curb and gutter and a sub-surface drainage system. The existing storm sewer systems are proposed to be retained to the extent possible, with relocated catch basins and lead extensions to accommodate the road widening. Overall, the existing drainage patterns and locations will not be altered with the proposed roadway improvements. It is expected that the quantity of runoff from the paved section of the roadway will result in a very minor increase in overall runoff. This is due in part to the number of watercourse/drainage systems which traverse the corridor, allowing the increased runoff to be distributed over a very broad area. Consequently, specific techniques to reduce the quantity and rate of runoff are not recommended within the study limits. At the GO rail grade separation, flows will be re-directed around the underpass, but the overall drainage patterns remain the same.

### Culverts

In coordination with the technical specialists, Ministry of Natural Resources and Forestry (MNRF) and Toronto and Region Conservation Authority (TRCA), the project team has considered key factors affecting the design of each watercourse crossing. Recommendations are summarized in the table below. The size, structure and location of each culvert have been determined based on an assessment of all

pertinent considerations, with the aim of improving the conditions at each crossing and addressing existing deficiencies. Since existing soils have a low bearing capacity and do not support open-foot structures, it is recommended that closed-bottom structures such as closed concrete box culverts be used. Culvert sizes account for embedment.

Watercourse	Approach
1	No impacts are anticipated; no corridor improvements in this location.
2	Culvert extension (approx. 4.2 m) to the north side only is required to accommodate roadway improvements.
2A	Culvert Replacement proposed based on condition assessment of existing culvert. Proposed culvert is 2.1 m high by 3.0 m wide closed bottom pre-cast concrete box culvert, with proposed hydraulic opening of 1.8 m x 3.0 m. Proposed culvert to be located approximately 8 m west of the existing culvert to allow for construction in the dry, with potential for habitat restoration on the south side of Rutherford Road. The channel will require a 13 m realignment at the inlet and a 10 m realignment at the outlet to tie back into the existing watercourse.
3	Culvert Replacement proposed based on condition assessment of existing culvert. Proposed culvert is a 3.0 m high x 5.0 m wide closed bottom cast-in-place concrete box culvert, with proposed hydraulic opening of 2.7 m x 5.0 m. Proposed culvert to be located approximately 10 m west of the existing culvert to allow for construction in the dry, with potential for habitat restoration on the south side of Rutherford Road. The channel will require a 3 m realignment at the inlet and a 17 m realignment at the outlet to tie back into the existing watercourse.
4	Opportunity to use Retained Soil Systems on both sides of the culvert to avoid need for any extension of the culvert has been identified.
4A	Culvert 4A will collect drainage from Culvert 4B and together be re-directed around the proposed roadway underpass.
4B	The drainage catchment contributing to crossing 4B will be re-directed to Culvert 4A as a result of the conflict with the proposed underpass across the Go Rail Line.
4C	Culvert 4C will be re-directed around the proposed roadway underpass.
5	No impacts to Culvert 5 are anticipated.
6	Opportunity to use Retained Soil Systems on both sides of the culvert to avoid need for any extension of the culvert has been identified.
7	Opportunity to use Retained Soil Systems on south side of the culvert only to avoid need for any extension of the culvert has been identified.
8	Rehabilitation of existing culvert proposed. Extensions to existing culvert structure not expected to be required to accommodate roadway widening works.

### **CN Bridge Structure**

As the structure appears in good condition overall, replacement is not warranted. There is potential for widening on either side of the bridge crossing the CN Rail line. The proposed widening approach consists of widening both decks with Canadian Prestressed Concrete Institute (CPCI) Girders. This approach addresses the objectives including minimized disruption to CN train operations by working from above to install new CPCI girders with partial depth precast slabs.

### **Rutherford GO Crossing**

At the existing at-grade crossing of the GO Barrie-Bradford rail line, an underpass is proposed to take Rutherford Road beneath the existing railway. A two span ballasted deck railway bridge supported on caisson abutments and pier is recommended. A closed bottom underpass with cast-in-place slab with watertight joints is recommended to minimize the need for long-term water pumping. In addition to watertight joints, the bottom slab may be anchored to the ground with tie down soil anchors to withstand groundwater pressure.



During construction of the underpass, a four lane detour road will be in operation. The detour road will be located parallel to and to the south of existing Rutherford Road. Opportunities to minimize potential impacts from the underpass design, temporary detour road and other potential construction impacts, will be reviewed further during detailed design in consultation with Metrolinx.

## **Environmental Effects and Mitigation**

Anticipated impacts to the natural, social/economic and cultural environments together with proposed mitigation measures were identified to address the implementation of the preliminary design. Socioeconomic impacts considered property requirements, noise, archaeology, built heritage and cultural landscape impacts. Natural environment impacts include consideration of surface water, groundwater, fisheries and aquatic habitat, vegetation and vegetation communities, wildlife and wildlife habitat, soil removal and contaminants, and air quality. In general, impacts associated with the proposed Rutherford/Carrville Road improvements are minor in nature and can be mitigated. Although the GO Rail underpass is a technically complex undertaking, impacts can also be mitigated. Details of environmental effects and mitigation are provided in **Section 7.2** of the ESR.

## **Timing of Implementation and Future Commitments**

Timing of improvements is to be confirmed during detailed design. Construction timing is anticipated to follow the timing outlined in the Region's 2016 10-year Roads and Transit Capital Construction Program. For Carrville Road, two alternative designs are recommended. A short term solution was developed in the interim and maintains the existing number of lanes and adds a cycle track adjacent to the existing sidewalk. The long term solution was developed for the ultimate scenario which includes road widening to six lanes for HOV/transit, reduction of centre landscaped median and cycle track adjacent to sidewalk. The ESR identifies specific items to be reviewed and confirmed during detailed design. Some of these commitments will address specific concerns raised by property owners and review agencies during the EA process and are provided in **Section 8.2** of the ESR.