



Mineral Road, Maitland Drive and Farnham Road Environmental Assessment (EA) Studies

Welcome

Welcome to the second Public Information Centre (PIC) meeting. Please record your attendance and obtain a comment sheet at the registration desk.

Several background reports are available at the Resource Table. Should you have any questions regarding the presentation materials, background reports or any other aspect of the study, please speak to the City or Consultant study team members in attendance.

We encourage your input/feedback on the material being presented on the display boards. Please deposit completed comment sheets in the comment box or mail/ fax/ e-mail to the address at the bottom of the form within the next two weeks.

There is an opportunity at any time during the EA process for interested persons to provide written input. Any comments received will be collected under the *Environmental Assessment Act* and, with the exception of personal information, will become part of the public record.



Introduction

The City of Belleville has initiated Environmental Assessments (EA's) and preliminary design for three projects (Mineral Road, Maitland Drive and Farnham Road) followed by the detailed design of the road improvements and municipal servicing for Mineral Road and Maitland Drive.

These Studies will complete all phases of the Municipal Class EA by establishing the need and justification for the projects, considering all alternatives and proactively involving the public in defining a Recommended Plan for improvements.

These Studies are being completed as a Schedule 'C' undertaking, based on the range of anticipated effects. A final Study Design describing the study process has been available for agency and public comments. It is available at the Resource Table and has been reposted on the City website.



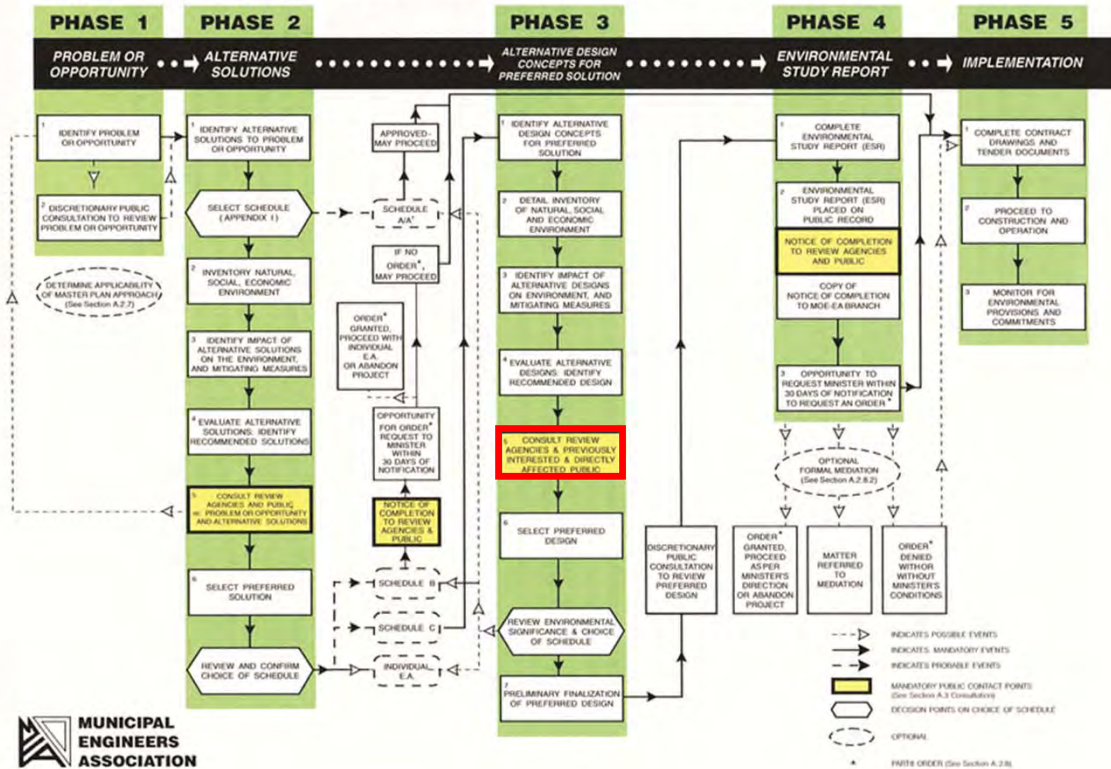
Municipal Class Environmental Assessment (EA) Process

These projects are being undertaken as a Schedule “C” Class EA in accordance with the Municipal Class Environmental Assessment, 2011, a copy of which is available at the Resource Table.

The EA study will culminate in the delivery of an Environmental Study Report (ESR), which is a detailed compilation of all data and reports produced for the project.

If after viewing the exhibits and otherwise participating in this project, and at the conclusion of the process, you still have concerns, you have the right to request the Minister of the Environment to reclassify the project through a Part II Order (or “bump-up”) to an Individual Environmental Assessment.

NOTE: This flow chart is to be read in conjunction with Part A of the Municipal Class EA



Study process is here (PIC #2)



Proposed Traffic By-Law Revisions

The following City of Belleville Traffic By-Law revisions are proposed to be implemented with the reconstruction of Mineral Road and Maitland Drive.

1. 50 km/h Speed Regulation

Currently, Maitland Drive between Highway 62 and Farnham Road is posted as 60 km/h. There are no speed limit signs on Mineral Road which means it is a 50 km/h road. A 50 km/h speed regulation is proposed for both roads to:

- Provide continuity. Maitland Drive between Highway 62 and Sidney Street is 50 km/h.
- Reflect the urbanization of this growing area. Sidewalks will be installed as well as concrete curb and gutter.

2. Parking Restrictions

Currently, Maitland Drive and Mineral Road are rural cross sections with gravel shoulders. With the urban cross section including curb and gutter proposed, “No Parking” restrictions on both sides of both streets are proposed.

3. Roundabout at Maitland Drive / Farnham Road Intersection

A By-Law revision will be required to remove the existing four-way stop at the Farnham Road / Maitland Drive / Moira Lea Court intersection. Yield right-of-way signage will be installed at the roundabout. Traffic in the roundabout has the right-of-way.

Need and Justification - Transportation

The reconstruction of Mineral Road will meet the City's design criteria for a local road and provide municipal servicing for the entire roadway plus access for pedestrians. This need was identified as part of the Cannifton Secondary Planning Area Studies.

Design Criteria – Mineral Road

Road Class:	Local
Design AADT:	3000 veh/day
Design Truck Percentage:	5-10%
Transit Route:	Potential
Post Speed:	50 km/h
Minimum Horizontal Curve Radius:	130 m
Maximum Superelevation:	4%
Minimum Vertical Curve:	
Crest:	K=24
Sag (headlight control):	K=20
Stopping Sight Distance:	100 m
Urban Alternatives:	
Lane Width:	4.58 m Minor Collector
Parking Aisle Width:	Not Applicable
Rural Alternatives:	
Lane Width:	3.5 m
Other Cross Section Elements:	
Sidewalk Width:	1.5 m (AODA min.)
Boulevard (urban):	1.2 m minimum to 1.8 m desirable
Right-of-way:	20 m (min)
Side Street Day-Lighting Distance Triangles:	6 m
Watermain:	1.8 m minimum/2.1 m desirable depth of cover to top of pipe
Sanitary:	2.7 m minimum depth of cover to top of pipe

Need and Justification - Transportation

The reconstruction of Maitland Drive will meet the City's design criteria for a collector road, extend municipal servicing including sidewalks in the area, and will improve the transportation links within the area. This need was identified as part of the Cannifton Secondary Planning Area Studies.

Design Criteria - Maitland Drive

Road Class:	Collector
Design AADT:	6500 veh/day
Design Truck Percentage:	5-10%
Transit Route:	Potential
Post Speed:	60 km/h – Proposed 50 km/h
Minimum Horizontal Curve Radius:	130 m
Maximum Superelevation:	4%
Minimum Vertical Curve:	
Crest:	K=24
Sag (headlight control):	K=20
Stopping Sight Distance:	100 m
Urban Alternatives:	
Lane Width:	3.75 m Major Collector/4.0 m CTWLTL
Parking Aisle Width:	Not Applicable
CTWLTL*:	4.0 m
Other Cross Section Elements:	
Sidewalk Width:	1.5 m
Boulevard (urban):	0.3 m minimum to 1.8 m desirable
Right-of-way:	26 m to 30m
Side Street Day-Lighting	6 m
Distance Triangles:	
Watermain:	1.8 m minimum/2.1 m desirable depth of cover to top of pipe
Sanitary:	2.7 m minimum depth of cover to top of pipe

* CTWLTL-Continuous Two-Way Left Turn Lane

Need and Justification - Transportation

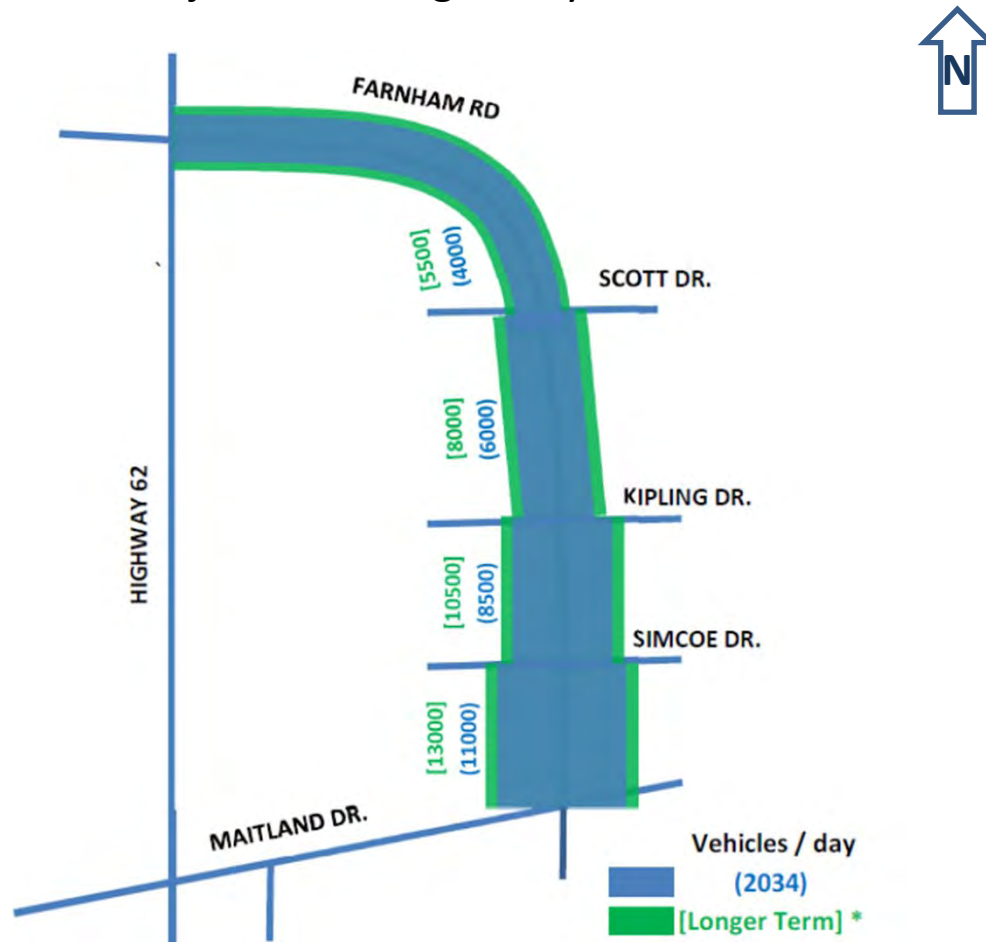
The reconstruction of Farnham Road is required to meet the City's design criteria for a collector road. This need was identified as part of the Cannifton Secondary Planning Area Studies.

Design Criteria – Farnham Road

Road Class:	Collector
Design AADT:	(Maitland to Kipling): 11,000 veh/day (Kipling to Highway 62): 4,000-6,000 veh/day
Design Truck Percentage:	5-10%
Transit Route:	Potential
Post Speed:	60 km/h - rural. Proposed 50 km/h (urban)
Minimum Horizontal Curve Radius:	200 m
Maximum Superelevation:	4%
Minimum Vertical Curve:	
Crest:	K=24
Sag (headlight control):	K=20
Stopping Sight Distance:	100 m
Urban (South of Scott Drive):	
Lane Width:	5.15 m Major Collector
Parking Aisle Width:	Not Applicable
Rural (North of Scott Drive):	
Lane Width:	3.5 m
Shoulder:	1.5 m
Shoulder Treatment:	Paved or Partially Paved
Rounding:	0.5 m
Other Cross Section Elements:	
Paved Shoulder Width (rural):	1.5 m
Sidewalk Width:	1.5 m
Boulevard (urban):	0.3 m minimum to 1.8 m desirable
Right-of-way:	26 m (30 m future 4-lane cross-section)
Side Street Day-Lighting Distance Triangles	6 m
Watermain:	1.8 m minimum depth of cover to top of pipe
Sanitary:	2.7 m minimum depth of cover to top of pipe

Farnham Road Traffic Demands

Projected Average Daily Traffic



* Longer Term growth reflects build out development of Official Plan land use designations (beyond 20 years).

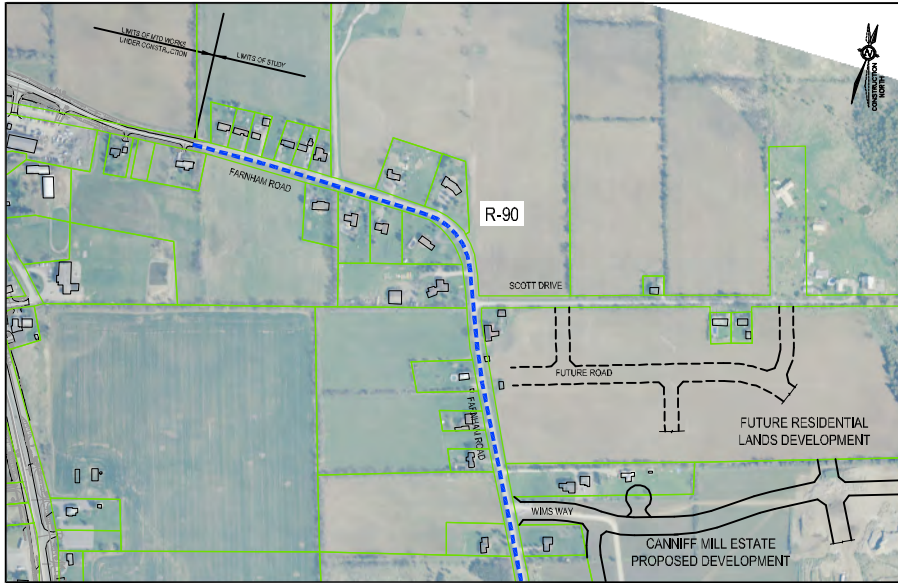
With planned development growth along the corridor, traffic demands within the 20 year planning horizon:

- Are projected to double.
- Will be approaching the capacity of a two lane roadway at Simcoe Drive.
- Will result in moderate delays to side street traffic during peak hours; however, installation of traffic signals would still not be warranted.

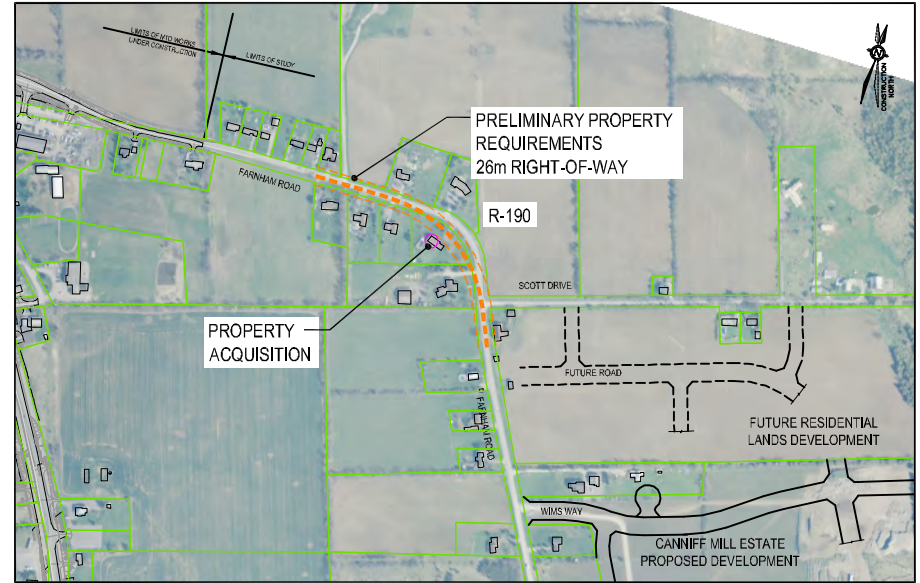
North of Kipling Drive, the proposed 2-lane roadway should still satisfy longer term growth (beyond the 20 year planning horizon).

FARNHAM ROAD ALIGNMENT ALTERNATIVES

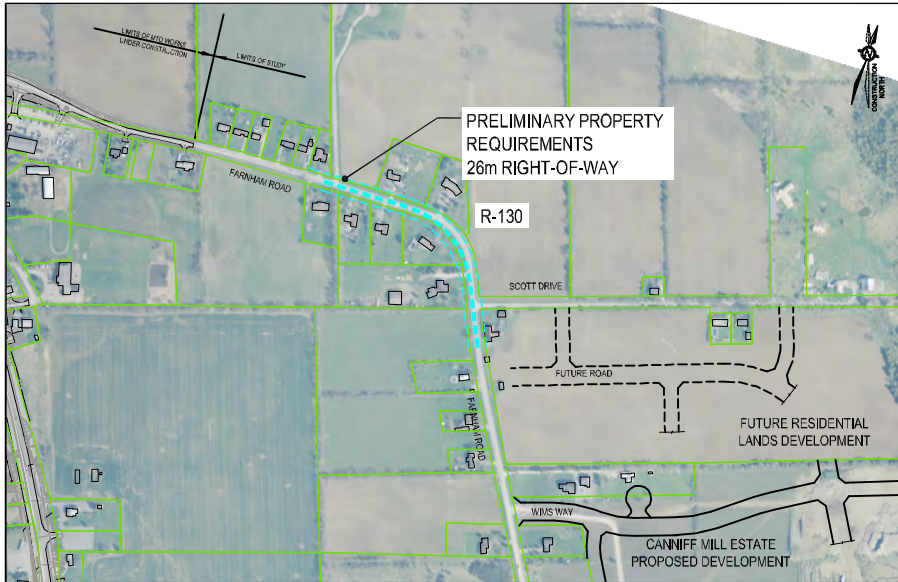
FARNHAM ROAD ALIGNMENT ALTERNATIVE 1
MAINTAIN EXISTING ALIGNMENT - POSTED SPEED 40 km/h



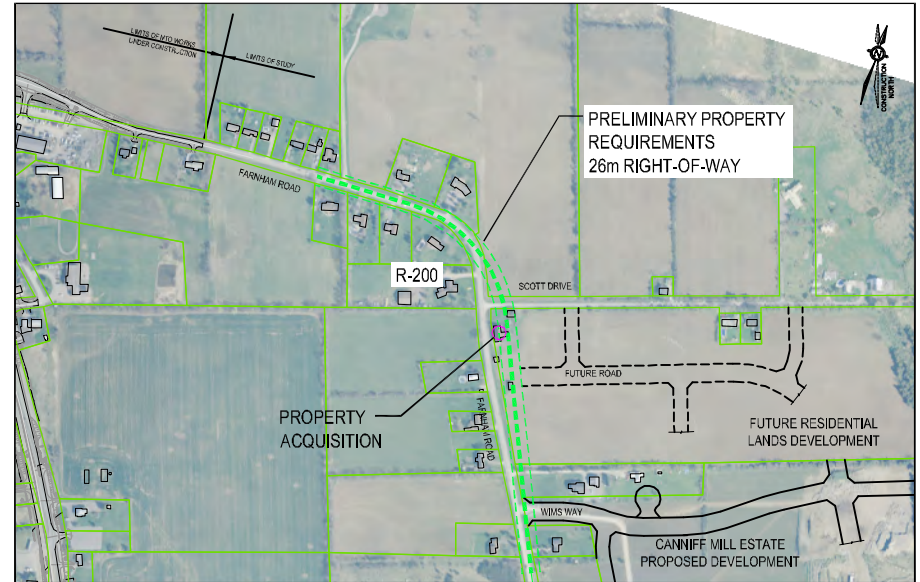
FARNHAM ROAD ALIGNMENT ALTERNATIVE 2
R-190 RADII - POSTED SPEED 60 km/h



FARNHAM ROAD ALIGNMENT ALTERNATIVE 3
R-130 RADII - POSTED SPEED 50 km/h



FARNHAM ROAD ALIGNMENT ALTERNATIVE 4
R-200 RADII - POSTED SPEED 60 km/h



Summary of Evaluation of Farnham Road Alignment Alternatives

Alignment Alternatives				
	Alternative 1: Existing Alignment (40 km/h)	Alternative 2: R-130 Radii (50 km/h)	Alternative 3: R- 190 Radii (60 km/h)	Alternative 4: R- 200 Radii (60 km/h)
Transportation				
Collision Potential	x	x	✓	✓
Available Sight Distance	x	-	-	✓
Horizontal Alignment	x	x	-	✓
Design Consistency	x	-	✓	✓
Natural Environment				
Potential effect to Species at Risk (SAR)	✓	✓	✓	x
Social Environment				
Cultural Heritage Resource - (Barn at 57 Scott Drive)	✓	✓	✓	x
Property Impacts				
158 Farnham Road	✓	x	x	✓
57 Scott Drive (Barn)	✓	✓	✓	x
Cost				
Capital Cost	-	-	-	-
Life Cycle Cost	-	-	-	-
Recommendation	x	x	x	✓ Carried Forward

Legend:

Relative comparison:



Good (best performance/ no impact)



Poor (lower performance /impact)



Fair (equal)



158 Farnham Road



57 Scott Drive

Summary of Evaluation of Intersection Alternatives

Maitland Drive/Farnham Road

CRITERION	Alternative 1 Signalized Conventional Intersection	Alternative 2 Roundabout
Transportation – Traffic Operations	-	✓ Capacity Increased 35%
Transportation - Safety	-	✓ 75% Reduction in crash* potential
Natural Environment	-	-
Social Environment	-	-
Property Impacts	-	-
Cost	-	-
RECOMMENDATION		✓ Carried Forward

Legend:

	✓	x	-
Relative comparison:	Good (best performance/ no impact)	Poor (lower performance /impact)	Fair (equal)

* Resulting in injury.

Summary of Evaluation of Farnham Road Cross Section Alternatives

Maitland Drive to Kipling Drive

Cross Section Alternatives (South Section)			
	Alternative 1: 2-lane	Alternative 2: 4-Lane	Alternative 3: 2-lane (protection for 4-lane)
Transportation			
Accommodates Pedestrians	✓	✓	✓
Accommodate Lighting and Utilities	✓	✓	✓
Required for Current Planning Horizon Traffic Demands	✓	x	✓
Accommodates Longer Term Traffic Demands	x	✓	✓
Natural Environment			
Impact on Trees	✓	x	✓
Social Environment			
Pedestrian Safety (i.e. illumination)	✓	✓	✓
Property Impacts			
Residential Property Required	✓	x	✓
Commercial Property Required	✓	x	✓
Cost			
Capital Cost	✓	x	✓
Life Cycle Cost	✓	x	-
Utility Relocation	✓	x	✓
Recommendation	✓ Carried Forward	x	✓ (Long Term Property Protection)

Legend:

	✓	x	-
Relative comparison:	Good (best performance/ no impact)	Poor (lower performance /impact)	Fair (equal)

Summary of Evaluation of Farnham Road Cross Section Alternatives

Kipling Drive to Scott Drive

Cross Section Alternatives (North Section)			
	Alternative 1: 2-lane	Alternative 2: 4-Lane	Alternative 3: 2- lane (protection for 4-lane)
Transportation			
Accommodates Pedestrians	✓	✓	✓
Accommodates Lighting and Utilities	✓	✓	✓
Required for Current Planning Horizon Traffic Demands	✓	x	✓
Required to Accommodate Longer Term Traffic Demands	✓	x	x
Natural Environment			
Pipelines	✓	x	-
Social Environment			
Impact to commercial business	-	-	-
Property Impacts			
Property Requirements	✓	x	✓
Cost			
Capital Cost	✓	x	✓
Life Cycle Cost	✓	x	-
Utility Relocation	✓	x	✓
Recommendation	✓ Carried Forward	x	x

Legend:

Relative comparison:

✓
Good (best performance/ no impact)

x
Poor (lower performance /impact)

-
Fair (equal)

Summary of Evaluation of Farnham Road Cross Section Alternatives

North of Scott Drive

Cross Section Alternatives (North Section)			
	Alternative 1: 2-lane	Alternative 2: 4-Lane	Alternative 3: 2- lane (protection for 4-lane)
Transportation			
Accommodates Pedestrians	✓	✓	✓
Accommodates Lighting and Utilities	✓	✓	✓
Required for Current Planning Horizon Traffic Demands	✓	x	✓
Required to Accommodate Longer Term Traffic Demands	✓	x	x
Natural Environment			
Pipelines	✓	x	-
Social Environment			
Impact to commercial business	-	-	-
Property Impacts			
Property Requirements	✓	x	✓
Cost			
Capital Cost	✓	x	✓
Life Cycle Cost	✓	x	-
Utility Relocation	✓	x	✓
Recommendation	✓ Carried Forward	x	x

Legend:

Relative comparison:

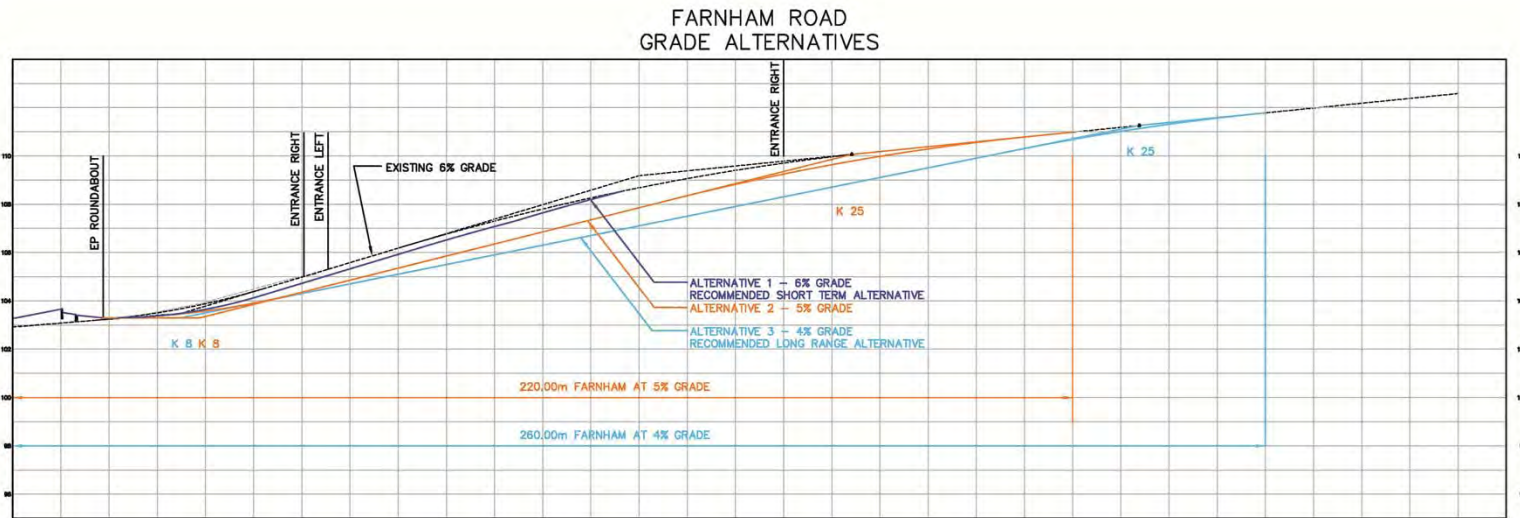
✓
Good (best performance/ no impact)

x
Poor (lower performance /impact)

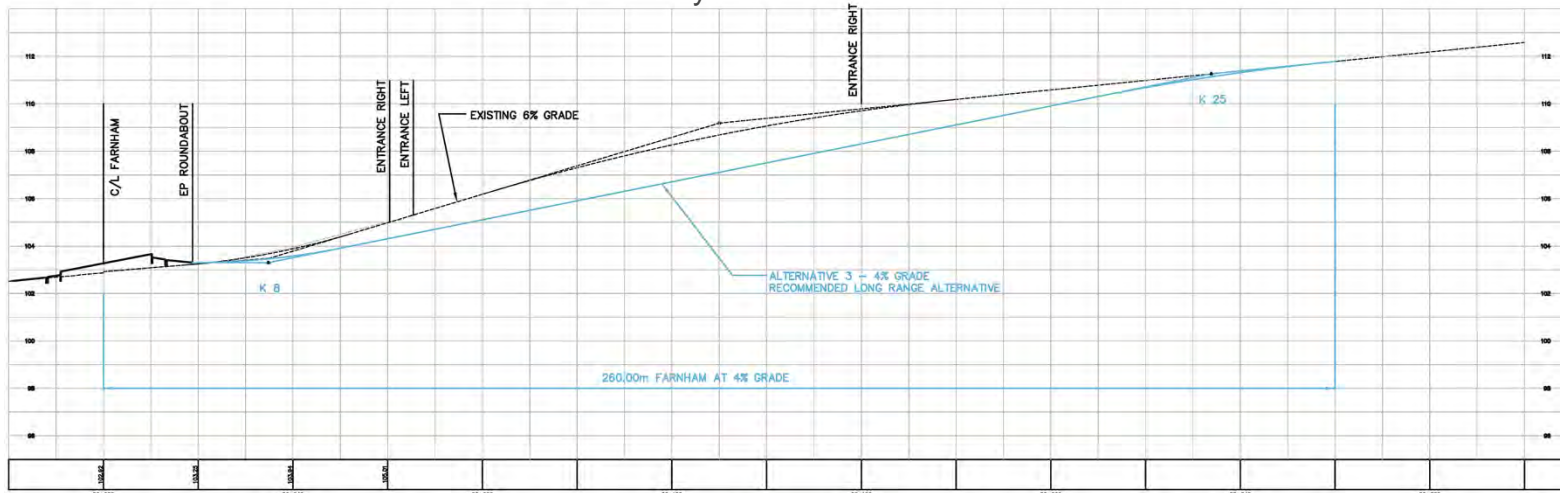
-
Fair (equal)

Farnham Road Future Profile Lowering Alternatives

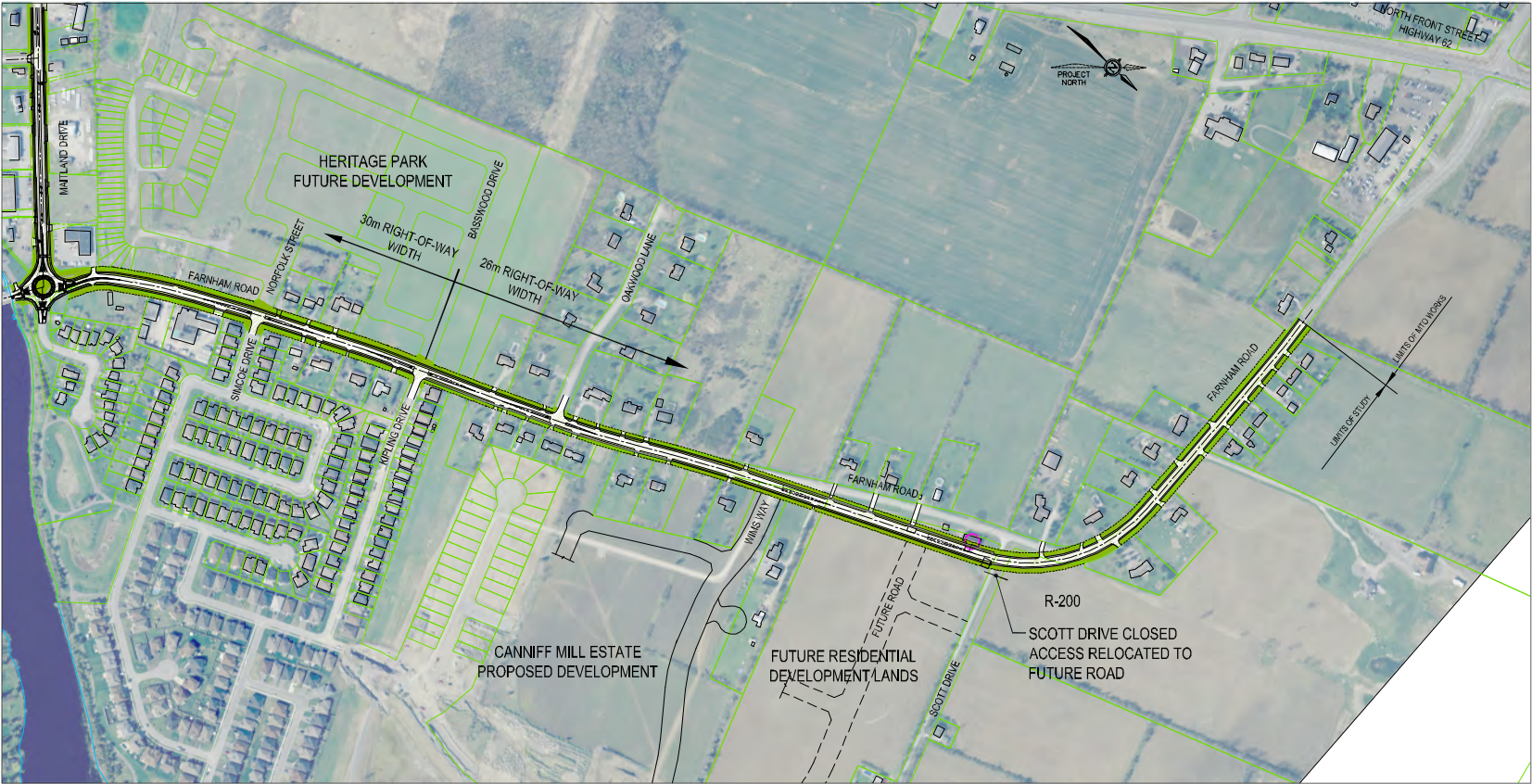
The study team has recommended to flatten the gradient on Farnham Road to improve safety during winter conditions. Future municipal service constructed should be buried to accommodate the longer range design for a 4% approach gradient.



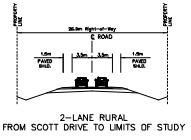
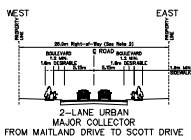
Technically Preferred Grade Alternative



PRELIMINARY TECHNICALLY PREFERRED ALTERNATIVE
FARNHAM ROAD



- Legend
- Existing Property Fabric (See Note 1)
 - Preliminary Property Requirements
 - Impacted Property



- Note
1. This map is a high-level planning project. It is based on City of Seattle's 2015 Strategic Transportation Study and does not include detailed engineering or design requirements. It is for informational purposes only.
 2. This map shows the Road to 2015. The Road to 2035 is shown in light blue. Property parcels are shown in light grey.

Farnham Road Implementation

The Farnham Road Technically Preferred Alternative defines the future proposed roadway that will be integrated into the Land Use Plan as approved by the City's Official Plan and being implemented in subdivisions being developed. The roadway improvements identified in the EA reflect a long range vision. Establishing this plan early allows developers to have certainty in the location and width of the road right-of-way; confirm intersection locations; and identifies the future vertical roadway alignment so municipal services can be planned. The EA establishes a blueprint for this long range plan even though construction will be phased over a number of years and build-out may not occur for decades.

Phase 1: Maitland Drive to Kipling Drive

The key recommendations include:

- EA has prioritized works: Maitland Drive to Kipling Drive (first phase) and Kipling Drive to Highway 62 (second phase)
- Timing subject to funding and pace of development
- Plan is to establish right-of-way and roadway plan to facilitate developers
- Future capital budgets will establish delivery dates
- Expectation: Phase 1 will be in 5-10 year horizon

Phase 2: Kipling Drive to Highway 62

- City of Belleville may implement in segments
- Realignment section may coincide with construction of municipal services; may be timed with site plan approval and dedication of land to the City
- Should pavement conditions require asset preservation the City may resurface Phase 2 portions as a holding strategy until property is available for realignment
- Expectation: viewed as 10 or more years, dependent upon development.

Farnham Road – Master Plan

An Environmental Assessment (EA) was initiated by the City of Belleville in 2014 for three (3) individual roadway projects (Mineral Road, Maitland Drive and Farnham Road). The planning was completed in parallel for these projects because of the close proximity of the three roads.

Based on the timelines for delivery of the Farnham Road project, the City has decided to postpone the Municipal Class EA Phase 3 and 4 activities for Farnham Road and this roadway project will be considered a Master Planning component of the study. This approach will support adjacent land use development. Based on this decision, the EA will differentiate the two studies as:

1. Mineral Road and Maitland Drive will be completed as a Schedule “C” EA study, concluding with Phase 4 of the Municipal Class EA process and an Environmental Study Report (ESR). It will include detail design and construction of the municipal servicing (watermains, sanitary and storm sewers) and will be constructed in 2016.
2. Farnham Road will be completed as a Master Plan study and will conclude with Phase 2 of the Municipal Class EA process. The ESR will be completed for the Farnham Road Project at a later date and the opportunity for Part II orders will come at that time for this project.

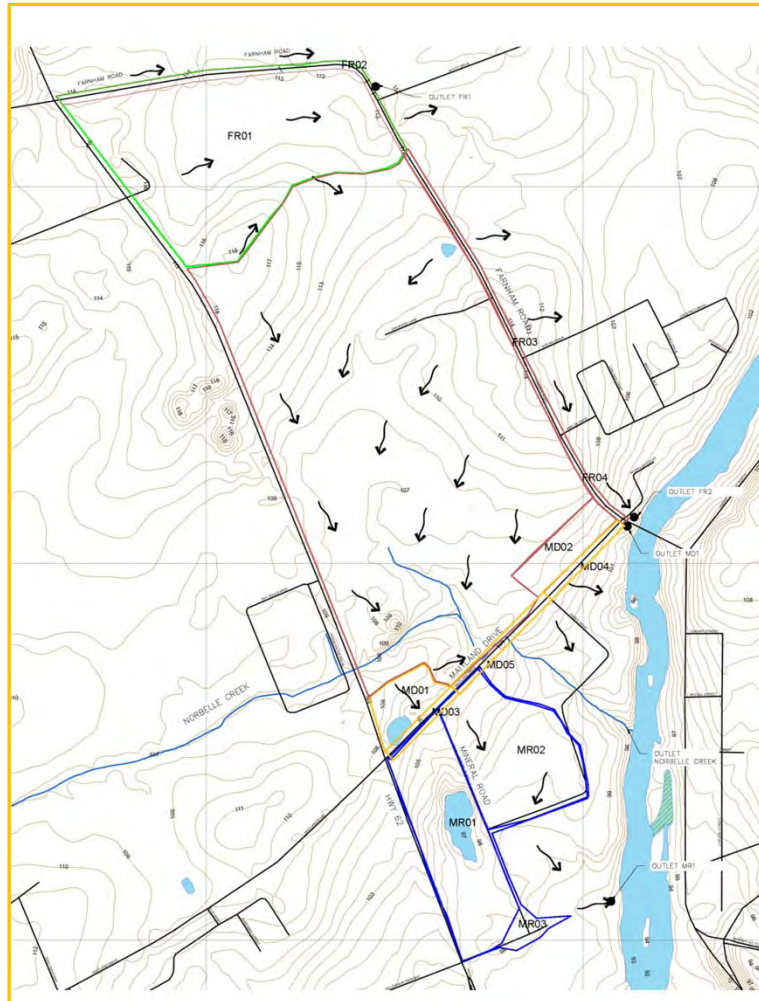
The Master Planning of Farnham Road is being completed following Section A.2.7 of the Municipal Class EA (amended 2011).

Mineral Road/Maitland Drive Municipal Servicing

- A preliminary survey questionnaire has been distributed to property owners on Mineral Road and Maitland Drive.
- Comments were requested to confirm the location and size of sanitary and water service connections to adjacent properties.
- All properties will be provided with a service connection to their property line in the upcoming 2015 contract to avoid future road cuts.
- Adjacent properties can utilize municipal service connections in the future.
- The design is now based on the questionnaire results from winter 2014/2015.

Stormwater Management

- Stormwater Management will comply with the requirements of the Bay of Quinte Remedial Action Plan.
- Stormwater will be treated for Quality Control to Enhanced Level of Treatment, in accordance with MOE requirements.
- Storm drainage on Mineral Road will be conveyed to a proposed stormwater management pond on the northeast quadrant of the intersection of Mineral Road and Millennium Drive. This pond is proposed to be located within lands that are presently in Bell's property (Outlet MR1).
- Storm runoff from Maitland Drive and Farnham Road will be treated by specially designed oil/grit separators (Outlets FR2 and MD1).
- Storm runoff from the remainder of Maitland Drive outlets at Norbelle Creek. This runoff will be treated with an oil/grit separator.



Summary of Evaluation of Mineral Road Cross Section Alternatives

Alternative 1 2-lane urban Minor collector ✓	Alternative 2 2-lane urban Local	Alternative 3 2-lane semi-urban	Alternative 4 Two way left turn lane
-------------------------------------------------------	----------------------------------------	------------------------------------	--------------------------------------------

The TPA for Mineral Road recommends that the City carry forward **Alternative 1: 2-Lane Urban Minor Collector**.

The rationale for this recommendation is:

- Growth in the area supports the traffic demand for the urban collector
- Pedestrian linkages to and from the industrial/residential properties to the north and the commercial development to the south warrant a sidewalk connection
- The east side sidewalk provides greater safety at the Mineral Road/ Millennium intersection (for roadway crossings)
- The design includes a flattening of the profile to allow major storm events to directly flow to the outlet without crossing private lands
- This cross section minimizes property requirements from adjacent land owners

Summary of Evaluation of Maitland Drive Cross Section Alternatives

Alternative 1 2-lane urban Major Collector	Alternative 2 2-lane semi-urban	Alternative 3 Continuous two way left turn lane (CTWLTL) ✓
--------------------------------------------------	------------------------------------	---------------------------------------------------------------------

The TPA for Maitland Drive recommends that the City carry forward **Alternative 3: 3-Lane Major Collector** with a continuous two-way left turn lane (CTWLTL). The rationale for this recommendation is:

- High traffic demand associated with growth in the area
- High traffic demand associated with this roadway providing a linkage to a crossing of the Moira River
- High driveway density warrants turn lane to accommodate left turns (improved traffic operation and safety of entrances)
- Wider roadway platform and sidewalks support movement of vulnerable roadway users

Oversized Vehicles through roundabout

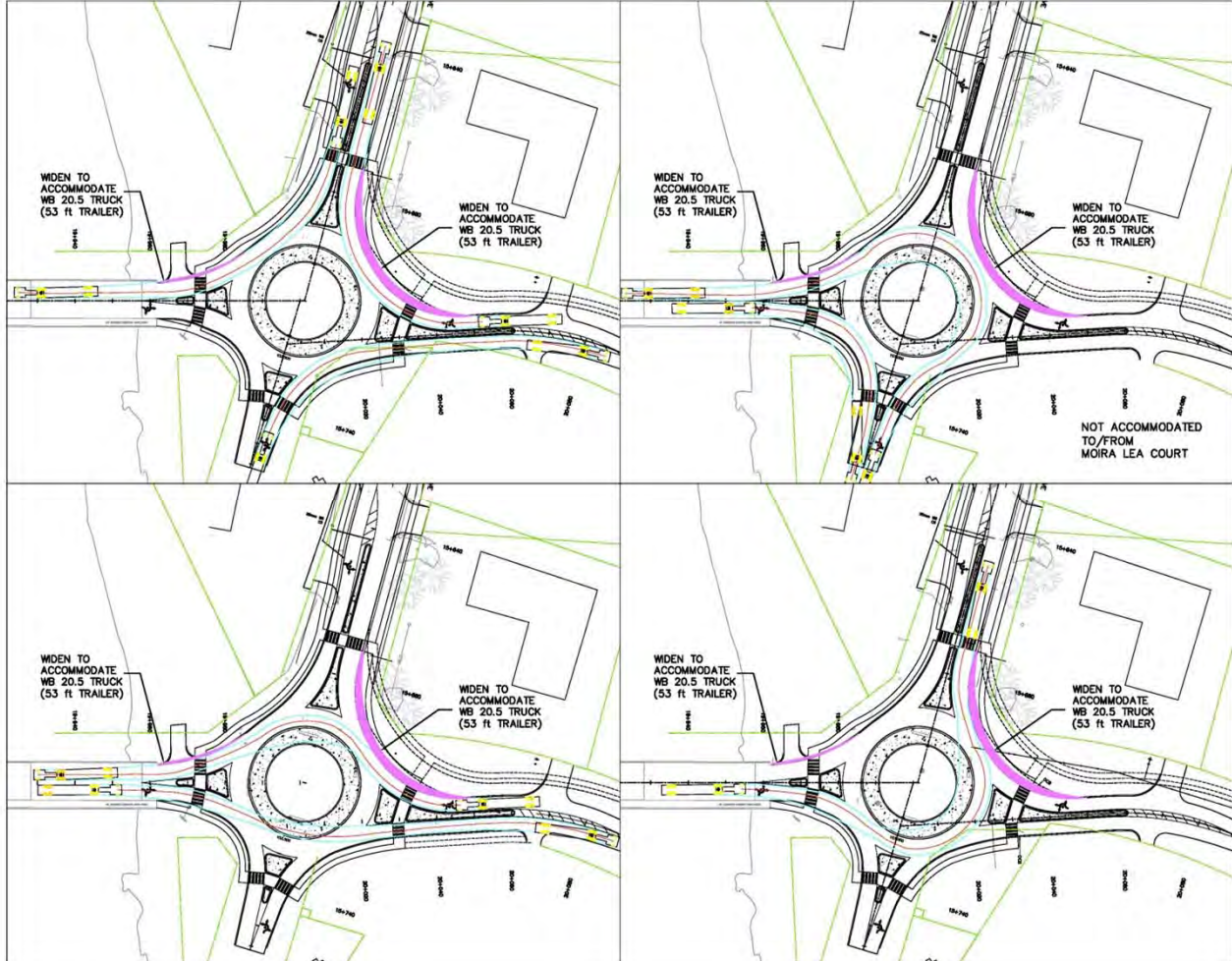
BTE investigated accommodating oversized vehicles (greater than a 53 ft trailer) through the roundabout.

1. The forecast existing and future traffic volume of oversized trucks (greater than a 53 ft trailer) through the intersection is below 1 vehicle per hour (vph). Based on MTO's Geometric Design Manual Section E.5.3 "If the number of oversized type exceeds 1 vph and turning volumes exceeds 100 vph then the oversized design vehicle should be given consideration". Based on this provincial guideline, this would not warrant designing for this vehicle type at this roundabout.
2. The large turning radius of an oversized truck requires additional widening of both the roundabout and the Putnam Bridge. The inscribed diameter of the roundabout would increase from 40 m to 45 m (or larger), while roads would have to be widened.

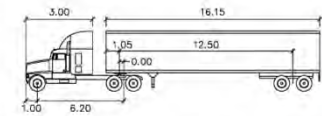
Conclusions and Recommendations

The roundabout at Farnham Road and Maitland Drive will not include a recommendation for accommodating oversized trucks. Applications to the City for any oversized vehicle routes should direct oversize trucks to avoid the roundabout and use Highway 62 instead. The roundabout design has been finalized since PIC #1 to accommodate a heavy truck (WB 20.5) vehicle with a 53 ft trailer as illustrated on the next exhibit.

Oversized Vehicles through roundabout



DESIGN VEHICLE



WB 20.5	meter		
Tractor Width	: 2.60	Lock to Lock Time	: 6.0
Trailer Width	: 2.60	Steering Angle	: 28.3
Tractor Track	: 2.60	Articulating Angle	: 70.0
Trailer Track	: 2.60		

LEGEND

- PROPOSED WIDENING FOR HEAVY TRUCK WHEEL TRACKING BASED ON COMMENTS RECEIVED AT PIC 1.
- CENTER OF HEAVY TRUCK TRACKING
- OUTSIDE EDGE OF WHEEL PATH OF HEAVY TRUCK TRACKING

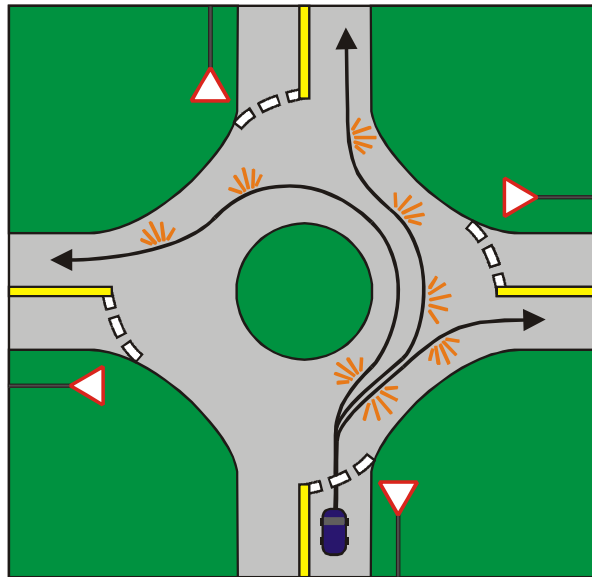
Roundabout Driving Tips

- ✓ Slow down as you approach the roundabout.
- ✓ View direction signage to plan exit leg of roundabout.
- ✓ Choose the correct entry lane (viewing pavement markings and signage).
- ✓ Watch and yield to pedestrians crossing the roadway when approaching or exiting a roundabout.
- ✓ Traffic in the roundabout has the right-of-way (treat roundabout as a one way street).
- ✓ Do not stop within roundabout.
- ✓ Give large vehicles extra space to manoeuver.
- ✓ Avoid passing other vehicles in the roundabout.
- ✓ Always signal your exit.



Position and Signalling within the Roundabout

Single Lane Roundabout



1. Drivers must signal to turn right
2. Drivers must signal to exit the roundabout
3. Drivers must signal to change lanes and should check their rear view mirror and blind spot.
4. When travelling past two or more exits on the roundabout drivers can use a courtesy left hand signal.

Advantages of a Roundabout

Advantages of the roundabout alternative for the intersection site include:

- Increased safety with reduced collision severity
- Roundabouts are a traffic calming feature that will slow traffic
- Improves traffic operations with minimal traffic delays
- Establishes a distinctive character
- Roundabout will accommodate pedestrian movements to/from the existing trail along the Moira River
- Economic studies support that roundabouts generally provide benefits for local businesses

Schedule

Following this meeting we will:

- Finalize the Recommended Plans
- File the Environmental Study Report (ESR) – Fall 2015

How can you remain involved in the Study?

- Request that your name/e-mail be added to the mailing list
- Provide a completed comment sheet
- Contact the City's representative or the consultant at any time

Any of our representatives that are present can assist you with the above activities.

Thank you for your participation in tonight's meeting. Your input into this study is valuable and appreciated. Please provide your completed comment form on or before **October 2, 2015**. All information is collected in accordance with the *Freedom of Information and Privacy Act*.