



Region of Waterloo

**Maple Grove Road Improvements
Vondrau Drive to Hespeler Road
City of Cambridge
Information Package**

Public Consultation Centre #2

Online Review and Comment Period (www.engagewr.ca)

Monday, June 28, 2021 – Friday, July 30, 2021

What: The Region of Waterloo is undertaking a Municipal Class Environmental Assessment (EA) of Maple Grove Road to determine needed corridor improvements.

Where: Maple Grove Road between Vondrau Drive and Hespeler Road in the City of Cambridge.

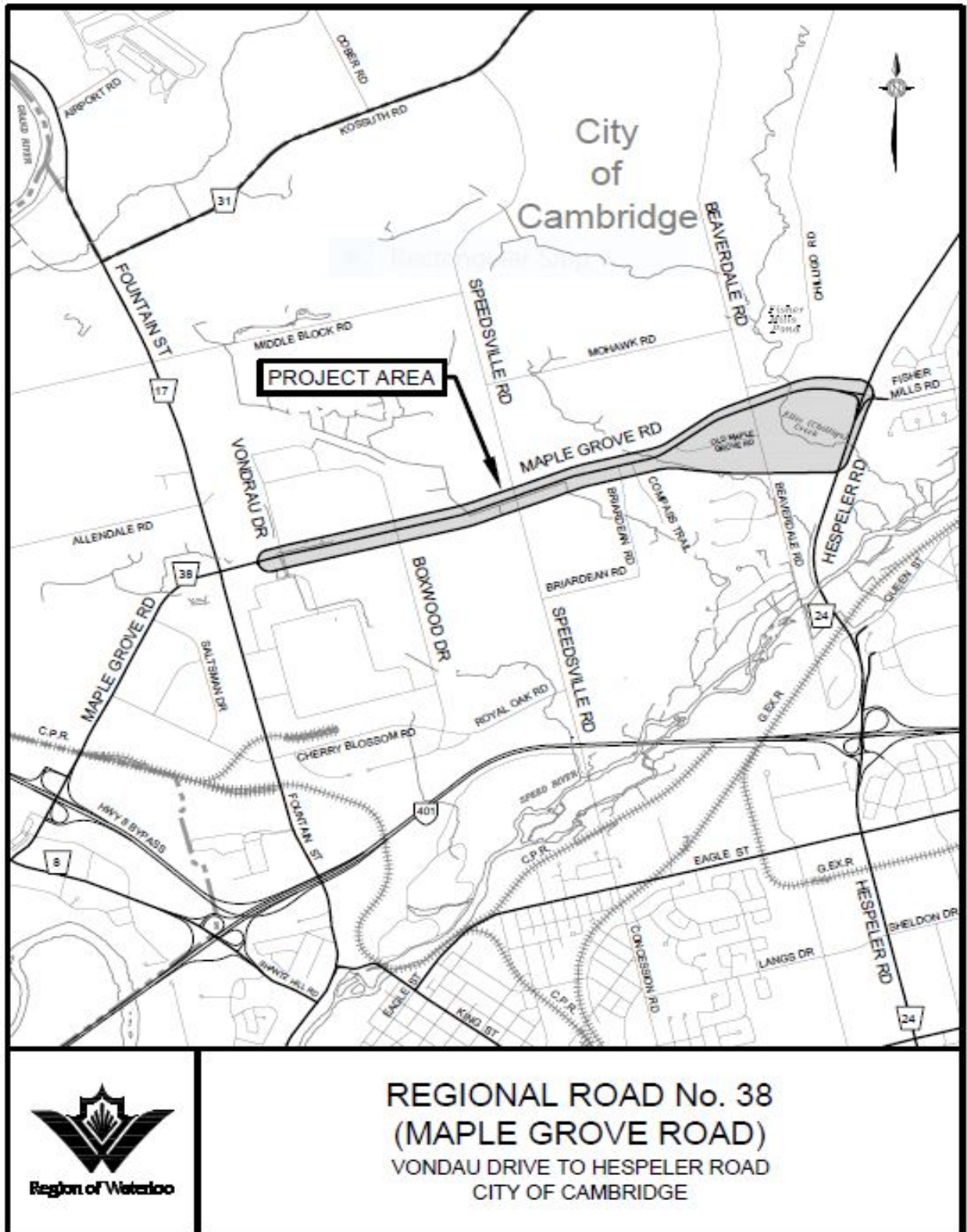
Why: To provide road improvements for traffic growth and transportation network improvements for pedestrians, cyclists, and transit along the corridor.

When: 2023-2028 Construction
(2021 Region Transportation Capital Program)

Who: Region of Waterloo, Project Manager
Justin Armstrong, P. Eng.
Region of Waterloo
Phone: (519) 575-4400 Ext. 3164
Email: JuArmstrong@regionofwaterloo.ca

There is a comment sheet at the back of this package. Please fill it out and share your comments with us.

KEY PLAN



1. Why is the Region considering this project?

The 2018 Regional Transportation Master Plan Update has identified this section of Maple Grove Road for widening from 2 to 4 lanes to provide road improvements for traffic growth and active transportation improvements for pedestrians and cyclists, as well as transit, along the corridor.

Maple Grove Road is a key goods movement corridor and an Emergency Detour Route (EDR) for Highway 401. The proposed widening of Maple Grove Road will accommodate growth in the area and provide an efficient corridor for goods movement.

Currently there are no active transportation facilities within this section of Maple Grove Road and there is some transit use, which started in 2014 (Route 203 iXpress). Adding active transportation facilities and improved transit will provide users more, and better connections to, options along this corridor.

2. Who is directing this project?

The planning and design for this project is being directed by staff from the Region of Waterloo and City of Cambridge, along with Region of Waterloo (Cambridge) Councillor Karl Kiefer and City of Cambridge (Ward 1) Councillor Donna Reid. A representative from the Region's Active Transportation Advisory Committee is also included on the Project Team. The consulting engineering firm IBI Group has been retained by the Region of Waterloo to provide planning and preliminary design services during the planning phase of this project.

3. How is this project being planned?

This project is being planned in accordance with the requirements of the Municipal Class Environmental Assessment (Class EA) process. The Municipal Class EA process is a planning and decision-making process approved under the Environmental Assessment Act that is used by municipalities to plan public infrastructure projects in order that potential environmental impacts are considered before a project is approved. It requires consultation with the public, involved stakeholders, and agencies in consideration of alternatives and their potential impacts on the overall project environment.

This project is being planned as a Schedule C Class EA project, which applies to larger, more complex projects with the potential for significant environmental impacts (natural, social, cultural and economic) and requires multiple opportunities for public input.

The 2018 Regional Transportation Master Plan Update fulfills the requirements of the first two phases of the Maple Grove Road Class EA by: (1) establishing the need and justification for Maple Grove Road Improvements and (2) evaluating alternative methods of addressing corridor needs, including stakeholder consultation.

This study is undertaking Phase 3: Alternatives for the Preferred Solution, which will be followed by Phase 4: The Environmental Study Report documenting the identification of alternative

solutions based on needs and opportunities, evaluation of those alternative solutions in the context of several criteria, and selection of a preferred alternative solution.

4. What is the purpose of this 2nd Public Consultation Centre (PCC)?

The purpose of this 2nd Public Consultation Centre is for the public to provide input on:

- a) The needs and opportunities for improvements on Maple Grove Road;
- b) The alternative solutions considered by the Project Team for Maple Grove Road;
- c) The criteria used to evaluate alternative solutions for improvements; and
- d) The Project Team preferred alternative.

Region and project consultant staff are available both during and after the Online Review and Comment Period. We request that you fill out the Comment Sheet included within this Information Package and either email, fax, or mail it per the contact information provided on the Comment Sheet. Your comments will be considered by the Project Team in conjunction with all other relevant information in recommending a preferred alternative for this project.

5. What has happened since the 1st Public Consultation Centre (PCC)?

Following Public Consultation Centre #1, the Project Team collected and summarized all comments and feedback received. A summary of comments received, complete with responses from the Project Team, are included on both the Regional and EngageWR websites for the Maple Grove Road Improvements Project. The comments will also be summarized in a formal Public Consultation Summary Report, which will be documented in the Environmental Study Report (ESR).

The Project Team finalized the transportation analyses for Maple Grove Road between Vondrau Drive and Hespeler Road and confirmed the proposed intersection types for each intersection along the corridor. A Noise Impact Assessment was also completed for the Maple Grove Road corridor.

The Project Team has evaluated widening alignment, as well as cross-section, alternatives for the widening of Maple Grove Road and has chosen a preferred alternative.

The Project Team met with local businesses on April 8, 2021 to receive feedback on the preferred design alternative.

6. Are active transportation upgrades or road widening being considered?

Yes. Both active transportation upgrades and road widening are being considered in accordance with the following Regional master plans and guidelines.

The 2018 Regional Transportation Master Plan Update has identified the need to widen Maple

Grove Road to four (4) through lanes and add active transportation improvements for pedestrians, and cyclists, as well as transit (i.e. GRT), between Vondrau Drive and Hespeler Road.

Widening is required to address current and future traffic congestion concerns on Maple Grove Road, including planned development in the area.

The Context Sensitive Regional Transportation Corridor Design Guidelines (CDG) is a planning policy document that guides the design of Regional roads. The CDG identifies design parameters for necessary features within the road allowance such as vehicle lanes, active transportation, and boulevards. In accordance with the CDG, Maple Grove Road is identified as a “Community Connector”. Designing Maple Grove Road to support active transportation modes, including walking and cycling, is a fundamental character of this road classification.

The Regional Transportation Master Plan and Corridor Design Guidelines all support complete and continuous active transportation facilities on this section of Maple Grove Road for the full length of this project. Boulevard multi-use paths or sidewalks and cycling facilities on both sides of the road would satisfy that requirement.

7. Who will be responsible for the winter maintenance of new multi-use paths, sidewalks, and/or cycling facilities?

Maintenance of new active transportation facilities along Regional roads is the responsibility of the local municipality (City of Cambridge for this project).

8. Will the posted speed limit be changed?

Within the study limits, Maple Grove Road is currently posted at 70 km/h for most of the corridor. However, a short section of Maple Grove Road between Boxwood Drive and Beaverdale Road was recently posted at 60 km/h to facilitate a new uncontrolled pedestrian crossing at Compass Trail for GRT users. Speed limits will be further evaluated as part of the detailed design portion of the project.

9. Are noise barriers being considered for this project?

The Region has a Noise Policy used to determine when noise barriers, such as noise berms or walls, would be recommended as part of an upcoming project. Part B of the Region’s Noise Policy applies when a road widening is being considered. For this project, Part B of the Region’s Noise Policy would apply if Maple Grove Road is widened from two to four lanes.

A noise study has been completed following Part B of the Region’s Noise Policy for Maple Grove Road within the project limits assuming a 4-lane road with forecasted traffic volumes in 2036 and 2041. Based on the noise study results, noise attenuation is recommended at the following locations:

- Approximately 50 metres at No. 915 Briardean Road;
- Approximately 35 metres at No. 124 Compass Trail;

- Approximately 50 metres at No. 1905 Maple Grove Road;
- Approximately 35 metres at No. 2120 Maple Grove Road;
- Approximately 35 metres at No. 2140 Maple Grove Road;
- Approximately 35 metres at No. 2140 Maple Grove Road;
- Approximately 75 metres at No. 1905 Beaverdale Road;
- Approximately 70 metres at No. 1825 Beaverdale Road;
- Approximately 55 metres at No. 616 Fisher Mills Road;
- Approximately 30 metres at No. 610 Fisher Mills Road;
- Approximately 60 metres at No. 600 Fisher Mills Road;
- Approximately 95 metres at No. 566 Fisher Mills Road;
- Approximately 110 metres at No. 1840 Beaverdale Road; and
- Approximately 125 metres at No. 355 Fisher Mills Road.

Part C of the Region's Noise Policy could be applied in those areas where noise barriers are not recommended under Part B of the Noise Policy. Under Part C, a noise barrier may be considered under certain circumstances, if property owners are willing to share in the cost of a noise attenuation.

A summary of Parts B and C of the Region's Noise Policy is included (Appendix A).

10. How has the natural environment been considered for this project?

As part of the environmental inventory for the project, an Environment Impact Study (EIS) for the natural environment has been completed. Included within the EIS are: terrestrial surveys, vegetation surveys, breeding bird surveys, nocturnal bird surveys, an anuran call survey, bat habitat assessment, aquatic habitat assessment, and fish community sampling. The review includes areas of concern under the jurisdiction of the Grand River Conservation Authority and includes existing natural features such as Ellis Creek, Middle Creek/Hunsperger Drain, East Creek, and Provincially Significant Wetlands within or adjacent to the Maple Grove Road corridor.

A detailed tree inventory was completed within the study area. The existing trees were assessed for overall health and significance, which will be documented in the Environmental Study Report (ESR) and included in tree protection plans to be acknowledged during the future detailed design phase of the project. Where trees may be impacted or removed, a compensation strategy will be developed as part of the tree management and landscaping design during detailed design. Any vegetation clearing required for the recommended design alternative will occur outside of the seasonal nesting window for birds listed under the Migratory Birds Convention Act.

Information gathered through background review and field investigations, combined with technical input from reviewing agencies, was used to inform the evaluation of alternatives from a

natural environment perspective, as well as determining mitigation strategies to avoid or minimize impacts to natural heritage.

If the recommended design alternative is determined to impact wildlife or their habitat, mitigating measures will be identified in the Environmental Study Report (ESR) to be filed with the Ministry of the Environment, Conservation and Parks (MECP) and addressed during the future detailed design phase of the project.

11. How has the cultural / heritage / archaeological environment been considered for this project?

A Stage 1 Archaeological Assessment was completed in January 2019. The background study determined that thirty-one (31) previously registered archaeological sites are located within one kilometre of the study area. The property inspection determined that parts of the study area exhibit archaeological potential and, if proposed to be impacted, will require Stage 2 Archaeological Assessment by test pit or pedestrian survey, prior to any proposed construction. Archaeological impact will be considered further during the development of detailed design work, prior to the construction of any recommended transportation network improvements associated with the Maple Grove Road corridor.

One (1) site within the Study Area retains Cultural Heritage Value or Interest (CHVI). If this site is impacted by construction, it will require Stage 3 site-specific assessment, in order to more fully identify the character, extent, and significance of any potential archaeological deposits, prior to any proposed construction.

The remainder of the study area, having been subjected to deep soil disturbance events, does not retain archaeological potential based on prior archaeological assessment, in particular for slopes in excess of 20 degrees, and low areas with wet conditions.

A Cultural Heritage Resource Assessment was completed in January 2019. A review of available cultural heritage resource inventories revealed that there are no properties within the study area that are Designated under Part IV of the Ontario Heritage Act for their cultural heritage significance. The City of Cambridge Heritage Properties Register includes seven (7) Non-designated (listed) properties within the study area, which contain a Built Heritage Resource, may have cultural heritage value and be considered for future designation under the Ontario Heritage Act.

No direct impacts to identified cultural heritage resources are anticipated.

Where feasible, the recommended design alternative will be designed in a manner that avoids indirect impacts (i.e. tree removal, grading, and/or property acquisition). Where indirect impacts are anticipated adjacent to identified cultural heritage resources, or within the property parcel of an identified resource which will not directly or significantly impact the identified cultural heritage value of a property, a Heritage Impact Assessment (HIA) may be required by the Region of Waterloo and/or the City of Cambridge prior to construction.

Construction activities and staging should be suitably planned and undertaken to avoid impacts to identified cultural heritage resources. Potential archaeological impacts and mitigation measures for cultural heritage resources will be included in the Environmental Study Report to be filed with the Ministry of the Environment, Conservation and Parks.

12. Are roundabouts recommended for this project?

Roundabout Screenings and Intersection Control Studies were undertaken for all intersections along Maple Grove Road between Vondrau Drive and Hespeler Road. Roundabouts were considered for all major intersections (Vondrau Drive, Boxwood Drive, Speedsville Road, Beaverdale Road, and Hespeler Road). Expanded Traffic Control Signalized Intersections (including dedicated left- and right-turn lanes) were also considered for all major intersections. Detailed traffic analyses and simulation (VISSIM modeling) were undertaken to determine minimum traffic delays, and highest level of service from a traffic operations perspective.

In addition to the required road widening, traffic signal and intersection improvements, new roundabouts at Beaverdale Road and Hespeler Road, and a new signalized intersection at Boxwood Drive (Figure 1) are supported by the transportation analyses. In addition, the ultimate condition recommends a grade-separated flyover at Hespeler Road.

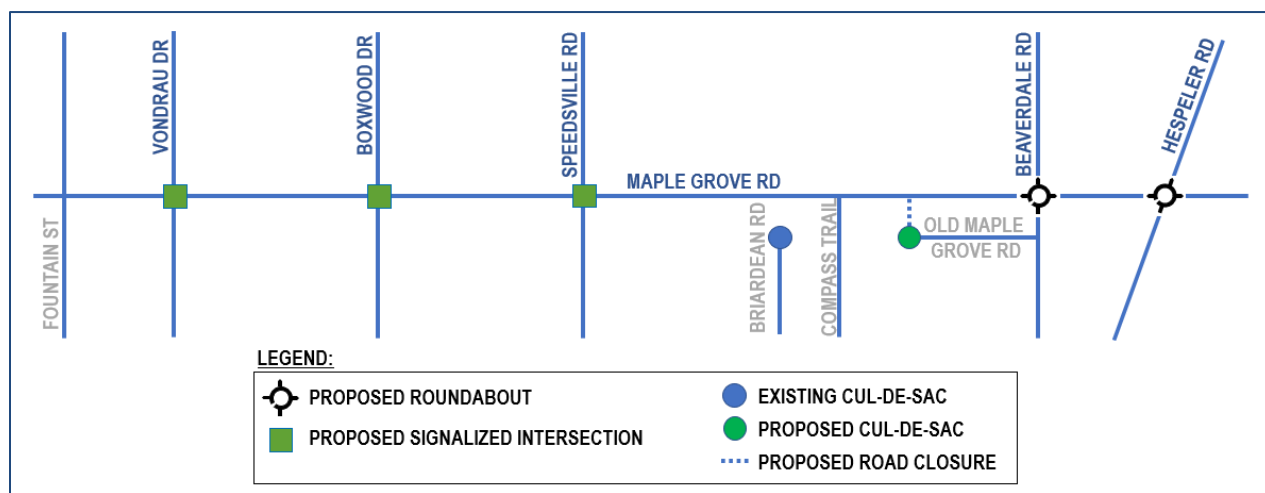


Figure 1. Proposed intersection types for Maple Grove Road.

13. What alternative widening alignments were considered for the widening of Maple Grove Road? How were they evaluated?

In addition to the required Do Nothing alternative, four (4) alternatives were evaluated for the widening of Maple Grove Road from two (2) to four (4) lanes:

- **Concept 1** - Widening equally about the corridor centreline;
- **Concept 2** - Widening to the north;
- **Concept 3** - Widening to the south; and
- **Concept 4** - A hybrid of widening north and south to minimize overall potential impacts.

Widening this section of Maple Grove Road to 4-lanes is common to all alternatives, except the Do Nothing alternative, and satisfies Regional goals.

For the evaluation of alternative widening alignments, the Project Team identified evaluation criteria for each of the alternatives to be compared. The evaluation criteria were: Natural Environment; Socio-Economic Environment; Transportation; and Cost. Each evaluation criteria included specific factors and indicators to determine the impacts / benefits of each alternative.

The Do Nothing alternative was screened out because it does not satisfy Region objectives for the corridor as identified in the 2018 Regional Transportation Plan Update (“Moving Forward”). Specifically, the need to widen the roadway to accommodate future traffic growth and forecasted intersection operational deficiencies, as well as adding active transportation and transit facilities, are not addressed by the Do Nothing alternative.

The purpose of the Hybrid Widening alternative (Concept 4) was to develop a best case scenario, which is a combination of the other alternatives to minimize overall potential impacts on the environment. By widening in the direction required to minimize potential overall environmental impacts, the Hybrid Widening alternative meets the intention of the Class EA process.

Following Public Consultation Centre #1, the Project Team reviewed public and agency input, as well as the various inventories and identified constraints, in order to finalize the evaluation of the alternatives.

Results of the Project Team evaluation of widening alternatives was tabulated (Appendix B).

14. What cross-section alternatives were considered for Maple Grove Road? How were they evaluated?

Cross-section alternatives (Appendix C) which satisfied the study opportunities for improvement and were evaluated by the Project Team are described below:

- **Do Nothing Alternative** – this alternative would include reconstructing the road in its current 2-lane rural (ditch drainage) cross-section with no active transportation facilities.

- **Alternative A – Widen the Road to 4-lanes with a 5.0m wide Raised Centre Median and Add Multi-use Path (MUP)** – this alternative would widen this section of Maple Grove Road to 4-lanes (divided) and add the following facilities:
 - 3.0 metre wide asphalt multi-use path along both sides;
 - Curb and gutter and a storm drainage system; and
 - Additional street lighting.

- **Alternative B – Widen the Road to 4-lanes with a 5.0m wide Raised Centre Median and Add 1.8m wide Sidewalk and 1.7m Bike Lanes** – this alternative would widen this section of Maple Grove Road to 4-lanes (divided) and add the following facilities:
 - 1.8 metre wide concrete sidewalks along both sides;
 - 1.7 metre wide asphalt roadside bike lanes separated with rollover curb;
 - Curb and gutter and a storm drainage system; and
 - Additional street lighting.

For the evaluation of alternative design cross-sections, the Project Team identified evaluation criteria for each of the alternatives to be compared. The evaluation criteria were: Natural Environment, Socio-Economic Environment; Transportation; and Cost. Each evaluation criteria included specific factors and indicators to determine the impacts / benefits of each alternative.

Results of the Project Team evaluation of alternative design cross-sections was tabulated (Appendix D).

15. What is the Project Team Preferred Alternative?

Based on the evaluation of widening alignment alternatives and alternative design cross-sections, including public and agency input, as well as the various inventories and identified constraints, the Project Team's Preferred Alternative includes the following:

- Widening Alignment Alternative – Concept 4 – Hybrid widening concept to minimize overall environmental impacts.

- Cross-Section Alternative A – Widen the road to four (4) lanes, with raised centre median, and 3.0m Multi-Use Path on both sides.

16. Is any private property required for the Preferred Alternative?

One of the goals of the planning and design process is to minimize the impact on adjacent properties and the need to acquire private property. An initial review of the existing road allowance indicates that along the Maple Grove Road corridor, there are some areas where the existing road right-of-way will need to be widened in order to accommodate required improvements. In addition, there are locations at intersections where an expanded traffic control signalized intersection or a roundabout will require additional parcels of property. Property requirements will be represented through mapping included in the Public Consultation Centre #2 display boards.

The Region may need to obtain temporary access at some locations along the right-of-way limit for construction grading activities, which will be confirmed through future detailed design. In areas where property or temporary access is required, the property owner will be contacted directly by the Region of Waterloo's Land Purchasing Officer. Compensation would be provided at fair market rates based on recent similar area sales. The Region's property acquisition process (Appendix E) will be followed.

17. What is the estimated cost of this project?

The cost of this project will depend on the approved improvement alternative, as well as necessary infrastructure relocations, replacements, utility relocations, and property acquisitions. Funding in the amount of approximately \$58 Million for the improvements on Maple Grove Road is included in the Region's 2021 Transportation Capital Program. Funding includes approximately \$1.0 Million for active transportation facilities (i.e. multi-use pathways).

18. What is the project schedule and what are the next steps for improvements on Maple Grove Road?

The Project Team will review the public comments received from this Public Consultation Centre and use them as input for completion of the Maple Grove Road Class Environmental Assessment.

After consideration of all technical information completed and public input received, the Project Team will present a recommendation to Regional Council in late 2021 or early 2022 for approval of an improvement alternative that best meets the needs of the public while minimizing the overall project impact on the environment.

Pending project approval by Regional Council, detailed design, and utility relocations are scheduled in the 2021 Regional Transportation (10-Year) Capital Program to be completed throughout 2022 and 2023, with construction between 2023 and 2026.

19. How will I receive further notification regarding this project?

Property owners and tenants abutting the project site and members of the public requesting to be included on the Project Contact List through this Public Consultation Centre will receive all forthcoming public correspondence and will be notified of all future meetings.

20. How can I provide my comments?

In order to assist the Project Team in addressing any comments or concerns you might have regarding this project, we ask that you fill out the attached Comment Sheet and email, fax, or mail your comments to the Project Team members listed below, no later than Friday, July 30, 2021 (the end of the Public Consultation Centre #2 online review and comment period).

We thank you for your involvement and should you have any questions or concerns please contact one of the following:

Justin Armstrong, P. Eng.
Senior Project Manager
Region of Waterloo
150 Frederick Street, 6th Floor
Kitchener, ON N2G 4J3
Telephone: 519-575-4400 Ext. 3164
Fax: 519-575-4430
Email: JuArmstrong@regionofwaterloo.ca

John Bayley, P.Eng.
Associate Director, Practice Lead
IBI Group
410 Albert Street, Suite 101
Waterloo, ON N2L 3V3
Telephone: 519-585-2255 Ext. 63220
Email: john.bayley@ibigroup.com

21. How can I view project information following PCC #2?

All of the Public Consultation Centre #2 display materials and other relevant project information, notifications of upcoming meetings, and contact information are available for viewing at the Region of Waterloo municipal office as identified above. Alternatively, you may visit the Region's website at www.regionofwaterloo.ca.

Appendix A

Summary of Region Noise Policy

The Region's Noise Policy is made up of three Parts:

- Part A:** **New development** impacted by existing roads and railways.
- Part B:** **Existing development** impacted by proposed Regional road widenings.
- Part C:** **Existing development** impacted by noise from existing Regional roads.

Since there is no new development proposed, only **Parts B or C** may apply to this project.

The Maple Grove Road Class Environmental Assessment from Vondrau Drive to Hespeler Road is proposing to:

- ✓ **Widen** Maple Grove Road between Vondrau Drive and Hespeler Road – therefore Part B applies.
 - Noise is calculated at a residence **outdoor living area** – typically defined as the backyard or patio within 3 metres of the rear wall of a residential unit.
 - Noise is calculated using a Ministry of the Environment, Conservation and Parks (MECP) model that calculates a 16-hour average noise level for the outdoor living area based on several factors, such as traffic volumes, distance from the outdoor living area to the centre of the road, and elevation differences between the outdoor living area to the centre of the road. The noise level used in the policy is not based on peak levels that may be recorded at a given location/time.

Part B of Region Noise Policy – Road Widening

The Region will consider designing and constructing a noise barrier if:

- ✓ The projected noise level in 10 years is calculated to exceed 65 dBa; or
- ✓ The projected noise level in 10 years is calculated to exceed 60 dBa and increase the existing noise level by 5dBa or more.

By constructing a noise barrier, projected noise is required to be calculated to be reduced to 60 dBa or less and reduced by 5dBa or more.

Part C of Region Noise Policy – No Road Widening – Existing Condition

The Region will consider cost-sharing (50-50) noise barrier design and construction if:

- ✓ A resident raises a noise concern; and

- ✓ Existing noise levels are calculated to exceed 60dBa.

If two-thirds (2/3) of affected property owners representing at least 50% of the property value are in agreement to build a noise barrier, all property owners will be responsible to pay 50% of the noise barrier cost (based on length of wall installed along their property line) with payments charged over a period of ten (10) years (in accordance with Local Improvement Act).

Residents may also decide to take other measures such as installing a privacy fence, air conditioning, and/or window improvements at their own expense.

Appendix B – Project Team Evaluation of Alternative Widening Alignments (Natural Environment)

Evaluation of Widening Alternatives					
Alternative Design Concept	DO NOTHING “MAINTAIN STATUS QUO”	CONCEPT NO. 1 WIDENING EQUALLY ABOUT EXISTING CENTRELINE	CONCEPT NO. 2 WIDENING TO THE NORTH	CONCEPT NO. 3 WIDENING TO THE SOUTH	CONCEPT NO. 4 MODIFIED “HYBRID WIDENING CONCEPT” TO MINIMIZE OVERALL IMPACTS
Description	This alternative is carried forward for comparative purposes only but is pre-screened out for not satisfying the project Problem/Opportunity Statement. “Do Nothing” assumes that no changes of any kind are made within the corridor.	Balanced widening in the existing corridor from Vondrau Drive to Hespeler Road.	Balanced widening from Vondrau Drive to east of Boxwood Drive, then shifting widening to the north from east of Boxwood Drive (Sta. 4+840) to Beaverville Road, and a balanced widening from there to Hespeler Road.	Balanced widening from Vondrau Drive to east of Boxwood Drive, then shifting widening to the south from east of Boxwood Drive (Sta. 4+840) to Beaverville Road, and a balanced widening from there to Hespeler Road.	Balanced widening from Vondrau Drive to east of Boxwood Drive, then shifting widening to the north from east of Boxwood Drive (Sta. 4+840) to east of Middle Creek (Sta. 5+840). From Sta. 5+840, the widening is typically balanced, as it is in Option 1, and remains there to termination at Hespeler Road.
Natural Environment How might the alternative affect existing trees, vegetation and wildlife?	<ul style="list-style-type: none"> ➤ No impacts on terrestrial habitat are anticipated. ➤ No impact on existing watercourses. Culvert widening is not required. ➤ Existing Provincially Significant Wetland (PSW) is unaffected ➤ No property is required for SWM facilities. ➤ Existing flow regime is maintained. Deficiencies would continue. ➤ Surface water runoff would continue to be untreated. Status quo is maintained. ➤ No impact on wildlife resources. 	<ul style="list-style-type: none"> ➤ 97 Trees and 1,675m² of woodland vegetation are impacted. ➤ 2 Regionally significant Black Walnut Trees are directly impacted. ➤ Floodplain area impacted by transition grading is 51,740m². ➤ Grading impacts adjacent to Hunsperger Drain is 12,400m². ➤ Approximately 3,330m² of Provincially Significant Wetland (PSW) is potentially impacted. ➤ A total of 0.10 ha. of private property is expected to be required for SWM facilities. ➤ Culvert widening on both sides (or full replacement) would be required at Middle Creek east of Boxwood Drive, at Speedsville Road on the Hunsperger Drain, at Middle Creek east of Speedsville Road, and at East Creek. 107m of existing culvert extensions are anticipated. ➤ Has the second highest physical impact on the Hunsperger Drain along the south side of Maple Grove Road. 	<ul style="list-style-type: none"> ➤ 92 Trees and 2,670m² of woodland vegetation are impacted. ➤ Regionally significant Black Walnut Trees are not directly impacted. ➤ Floodplain area impacted by transition grading is 52,240m². ➤ Grading impacts adjacent to Hunsperger Drain is 11,100m². ➤ Approximately 3,990m² of Provincially Significant Wetland (PSW) is potentially impacted. ➤ A total of 0.10 ha. of private property is expected to be required for SWM facilities. ➤ Culvert widening on the north side (or full replacement) would be required at Middle Creek east of Boxwood Drive, at Speedsville Road on the Hunsperger Drain, at Middle Creek east of Speedsville Road, and at East Creek. 115m of existing culvert extensions are anticipated. ➤ Has the second lowest physical impact on the Hunsperger Drain along the south side of Maple Grove Road. 	<ul style="list-style-type: none"> ➤ 105 Trees and 2,560m² of woodland vegetation are impacted. ➤ 2 Regionally significant Black Walnut Trees are directly ➤ Floodplain area impacted by transition grading is 51,670m². ➤ Grading impacts adjacent to Hunsperger Drain is 14,100m². ➤ Approximately 3,600m² of Provincially Significant Wetland (PSW) is potentially impacted. ➤ A total of 0.10 ha. of private property is expected to be required for SWM facilities. ➤ Culvert widening on the south side (or full replacement) would be required at Middle Creek east of Boxwood Drive, at Speedsville Road on the Hunsperger Drain, at Middle Creek east of Speedsville Road, and at East Creek. 106m of existing culvert extensions are anticipated. ➤ Has the greatest impact on the Hunsperger Drain and would require full reconstruction of the municipal drain 	<ul style="list-style-type: none"> ➤ 101 Trees and 2,188m² of woodland vegetation are impacted. ➤ Regionally significant Black Walnut Trees are not directly impacted. ➤ Floodplain area impacted by transition grading is 52,390m². ➤ Grading impacts adjacent to Hunsperger Drain is 11,300m². ➤ Approximately 3,650m² of Provincially Significant Wetland (PSW) is potentially impacted. ➤ A total of 0.10 ha. of private property is expected to be required for SWM facilities. ➤ Culvert widening on the north side of Maple Grove Road at Middle Creek east of Boxwood Drive, at Speedsville Road on the Hunsperger Drain, and at Middle Creek east of Speedsville Road. 111m of existing culvert extensions are anticipated. ➤ Has the least physical impact on the Hunsperger Drain along the south side of Maple Grove Road.
	Does not address the Problem/Opportunity Statement	VERY GOOD	GOOD	GOOD	VERY GOOD

Appendix B – Project Team Evaluation of Alternative Widening Alignments (Socio-Economic Environment)

Evaluation of Widening Alternatives					
Alternative Design Concept	DO NOTHING “MAINTAIN STATUS QUO”	CONCEPT NO. 1 WIDENING EQUALLY ABOUT EXISTING CENTRELINE	CONCEPT NO. 2 WIDENING TO THE NORTH	CONCEPT NO. 3 WIDENING TO THE SOUTH	CONCEPT NO. 4 MODIFIED “HYBRID WIDENING CONCEPT” TO MINIMIZE OVERALL IMPACTS
Description	This alternative is carried forward for comparative purposes only but is pre-screened out for not satisfying the project Problem/Opportunity Statement. “Do Nothing” assumes that no changes of any kind are made within the corridor.	Balanced widening in the existing corridor from Vondrau Drive to Hespeler Road.	Balanced widening from Vondrau Drive to east of Boxwood Drive, then shifting widening to the north from east of Boxwood Drive (Sta. 4+840) to Beaverville Road, and a balanced widening from there to Hespeler Road.	Balanced widening from Vondrau Drive to east of Boxwood Drive, then shifting widening to the south from east of Boxwood Drive (Sta. 4+840) to Beaverville Road, and a balanced widening from there to Hespeler Road.	Balanced widening from Vondrau Drive to east of Boxwood Drive, then shifting widening to the north from east of Boxwood Drive (Sta. 4+840) to east of Middle Creek (Sta. 5+840). From Sta. 5+840, the widening is typically balanced, as it is in Option 1, and remains there to termination at Hespeler Road.
Socio-Economic Environment How might the alternative affect the residential and commercial properties abutting the road (driveways, access, property impacts, noise, air quality, streetscaping / beautification potential and archaeological / heritage resources)?	<ul style="list-style-type: none"> ➤ No direct property impacts. Access challenges would continue to increase as area traffic volumes and delay increase. ➤ No additional property would be required. ➤ Traffic congestion and delay would extend the duration of noise impacts as traffic volumes increase. ➤ No encroachment on areas of Archaeological Potential. ➤ No opportunity for enhanced streetscaping. 	<ul style="list-style-type: none"> ➤ Widening brings traffic closer to buildings and residences, noise levels would increase and as a result may require mitigation or additional property buyouts where resident concerns cannot be mitigated. ➤ Portions of 23 Private Properties would need to be purchased. ➤ 2 properties may require a complete buyout. ➤ Including potential buyouts, the total of potentially impacted property is 2.49 ha. ➤ Approximately 860m total of noise attenuation is expected at various locations along the corridor. ➤ Areas of previously undisturbed right of way or grading encroachment beyond right of way limits must be test pitted or pedestrian surveyed to investigate for archaeological artifacts. ➤ Lands associated with three (3) Built Heritage Resources may be impacted. ➤ Opportunities for enhanced streetscaping. 	<ul style="list-style-type: none"> ➤ Widening brings traffic closer to buildings and residences, noise levels would increase and as a result may require mitigation or additional property buyouts where resident concerns cannot be mitigated. ➤ Portions of 24 Private Properties would need to be purchased. ➤ 2 properties may require a complete buyout. ➤ Including potential buyouts, the total of potentially impacted property is 2.39 ha. ➤ Approximately 860m total of noise attenuation is expected at various locations along the corridor. ➤ Areas of previously undisturbed right of way or grading encroachment beyond right of way limits must be test pitted or pedestrian surveyed to investigate for archaeological artifacts. ➤ Lands associated with three (3) Built Heritage Resources may be impacted. ➤ Opportunities for enhanced streetscaping. 	<ul style="list-style-type: none"> ➤ Widening brings traffic closer to buildings and residences, noise levels would increase and as a result may require mitigation or additional property buyouts where resident concerns cannot be mitigated. ➤ Portions of 29 Private Properties would need to be purchased. ➤ 2 properties may require a complete buyout. ➤ Including potential buyouts, the total of potentially impacted property is 2.76 ha. ➤ Approximately 860m total of noise attenuation is expected at various locations along the corridor. ➤ Areas of previously undisturbed right of way or grading encroachment beyond right of way limits must be test pitted or pedestrian surveyed to investigate for archaeological artifacts. ➤ Lands associated with three (3) Built Heritage Resources may be impacted. ➤ Opportunities for enhanced streetscaping. 	<ul style="list-style-type: none"> ➤ Widening brings traffic closer to buildings and residences, noise levels would increase and as a result may require mitigation or additional property buyouts where resident concerns cannot be mitigated. ➤ Portions of 23 Private Properties would need to be purchased. ➤ 2 properties may require a complete buyout. ➤ Including potential buyouts, the total of potentially impacted property is 2.38 ha. ➤ Approximately 860m total of noise attenuation is expected at various locations along the corridor. ➤ Areas of previously undisturbed right of way or grading encroachment beyond right of way limits must be test pitted or pedestrian surveyed to investigate for archaeological artifacts. ➤ Lands associated with three (3) Built Heritage Resources may be impacted. ➤ Opportunities for enhanced streetscaping.
	Does not address the Problem/Opportunity Statement	GOOD	GOOD	GOOD	VERY GOOD

Appendix B – Project Team Evaluation of Alternative Widening Alignments (Transportation)

Evaluation of Widening Alternatives

Alternative Design Concept	DO NOTHING "MAINTAIN STATUS QUO"	CONCEPT NO. 1 WIDENING EQUALLY ABOUT EXISTING CENTRELINE	CONCEPT NO. 2 WIDENING TO THE NORTH	CONCEPT NO. 3 WIDENING TO THE SOUTH	CONCEPT NO. 4 MODIFIED "HYBRID WIDENING CONCEPT" TO MINIMIZE OVERALL IMPACTS
Description	This alternative is carried forward for comparative purposes only but is pre-screened out for not satisfying the project Problem/Opportunity Statement. "Do Nothing" assumes that no changes of any kind are made within the corridor.	Balanced widening in the existing corridor from Vondrau Drive to Hespeler Road.	Balanced widening from Vondrau Drive to east of Boxwood Drive, then shifting widening to the north from east of Boxwood Drive (Sta. 4+840) to Beaverdale Road, and a balanced widening from there to Hespeler Road.	Balanced widening from Vondrau Drive to east of Boxwood Drive, then shifting widening to the south from east of Boxwood Drive (Sta. 4+840) to Beaverdale Road, and a balanced widening from there to Hespeler Road.	Balanced widening from Vondrau Drive to east of Boxwood Drive, then shifting widening to the north from east of Boxwood Drive (Sta. 4+840) to east of Middle Creek (Sta. 5+840). From Sta. 5+840, the widening is typically balanced, as it is in Option 1, and remains there to termination at Hespeler Road.
Transportation How might the alternative serve the expected vehicular, transit, pedestrian, and cycling traffic in terms of travel delay, safety, and emergency access?	<ul style="list-style-type: none"> ➤ The existing Maple Grove Road configuration does not satisfy the requirements for existing and forecasted traffic volumes. Active Transportation facilities are not fully supported by the current roadway. ➤ Existing through lanes with turn lanes at intersections would not handle forecasted traffic volumes to 2036 and 2041. ➤ Existing roadway capacity creates delay to transit service. ➤ The existing roadway configuration would impact response times due to existing and forecasted congestion and delay. ➤ Do Nothing Alternative excludes changes to pedestrian facilities and excludes additional cycling provisions. 	<ul style="list-style-type: none"> ➤ A widened Maple Grove Road including active transportation facilities on both sides would serve the current vehicle, pedestrian, and cycling needs and would agree with the Region of Waterloo Active Transportation Master Plan (ATMP). ➤ Four (4) through traffic lanes, two in each direction, plus turn lanes at intersections would accommodate forecasted traffic volumes to 2036 and 2041. ➤ Additional through traffic lane capacity, as well as potential bus stop enhancements may promote greater transit service efficiency within and through the corridor. ➤ Emergency response times are expected to improve due to overall reductions in delay and congestion because of improved traffic flow and capacity. ➤ Continuous AODA-compliant active transportation facilities on both sides can be accommodated by all concepts, except the "Do Nothing" alternative. 	<ul style="list-style-type: none"> ➤ A widened Maple Grove Road including active transportation facilities on both sides would serve the current vehicle, pedestrian, and cycling needs and would agree with the Region of Waterloo Active Transportation Master Plan (ATMP). ➤ Four (4) through traffic lanes, two in each direction, plus turn lanes at intersections would accommodate forecasted traffic volumes to 2036 and 2041. ➤ Additional through traffic lane capacity, as well as potential bus stop enhancements may promote greater transit service efficiency within and through the corridor. ➤ Emergency response times are expected to improve due to overall reductions in delay and congestion because of improved traffic flow and capacity. ➤ Continuous AODA-compliant active transportation facilities on both sides can be accommodated by all concepts, except the "Do Nothing" alternative. 	<ul style="list-style-type: none"> ➤ A widened Maple Grove Road including active transportation facilities on both sides would serve the current vehicle, pedestrian, and cycling needs and would agree with the Region of Waterloo Active Transportation Master Plan (ATMP). ➤ Four (4) through traffic lanes, two in each direction, plus turn lanes at intersections would accommodate forecasted traffic volumes to 2036 and 2041. ➤ Additional through traffic lane capacity, as well as potential bus stop enhancements may promote greater transit service efficiency within and through the corridor. ➤ Emergency response times are expected to improve due to overall reductions in delay and congestion because of improved traffic flow and capacity. ➤ Continuous AODA-compliant active transportation facilities on both sides can be accommodated by all concepts, except the "Do Nothing" alternative. 	<ul style="list-style-type: none"> ➤ A widened Maple Grove Road including active transportation facilities on both sides would serve the current vehicle, pedestrian, and cycling needs and would agree with the Region of Waterloo Active Transportation Master Plan (ATMP). ➤ Four (4) through traffic lanes, two in each direction, plus turn lanes at intersections would accommodate forecasted traffic volumes to 2036 and 2041. ➤ Additional through traffic lane capacity, as well as potential bus stop enhancements may promote greater transit service efficiency within and through the corridor. ➤ Emergency response times are expected to improve due to overall reductions in delay and congestion because of improved traffic flow and capacity. ➤ Continuous AODA-compliant active transportation facilities on both sides can be accommodated by all concepts, except the "Do Nothing" alternative.
	Does not address the Problem/Opportunity Statement	EXCELLENT	EXCELLENT	EXCELLENT	EXCELLENT

Appendix B – Project Team Evaluation of Alternative Widening Alignments (Cost / Overall)

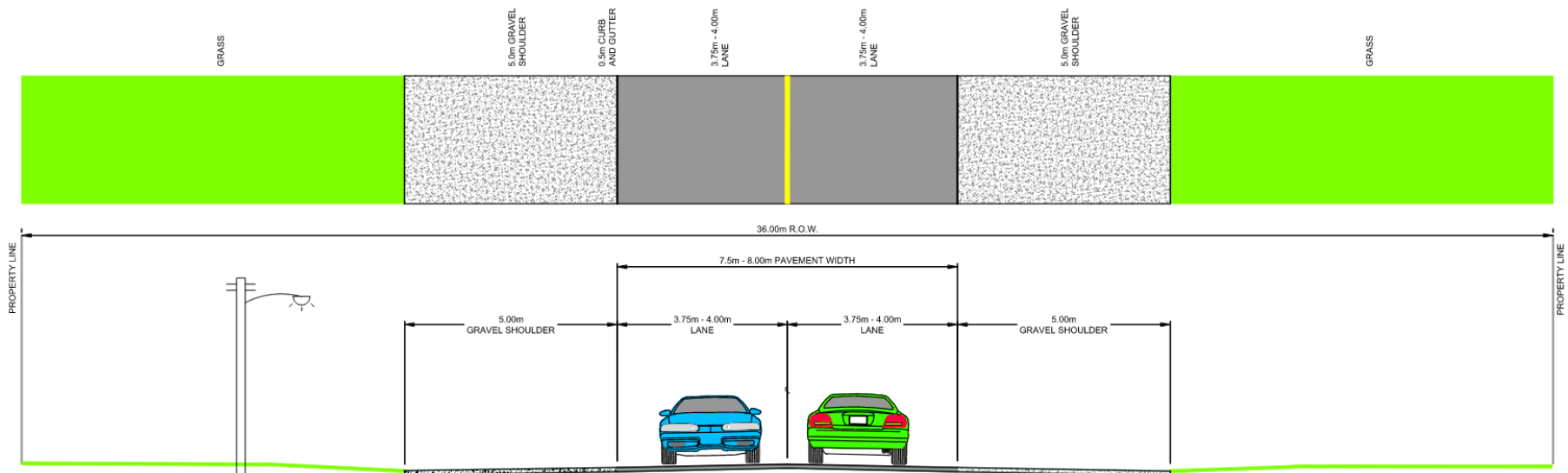
Evaluation of Widening Alternatives

Alternative Design Concept	DO NOTHING "MAINTAIN STATUS QUO"	CONCEPT NO. 1 WIDENING EQUALLY ABOUT EXISTING CENTRELINE	CONCEPT NO. 2 WIDENING TO THE NORTH	CONCEPT NO. 3 WIDENING TO THE SOUTH	CONCEPT NO. 4 MODIFIED "HYBRID WIDENING CONCEPT" TO MINIMIZE OVERALL IMPACTS
Description	This alternative is carried forward for comparative purposes only but is pre-screened out for not satisfying the project Problem/Opportunity Statement. "Do Nothing" assumes that no changes of any kind are made within the corridor.	Balanced widening in the existing corridor from Vondrau Drive to Hespeler Road.	Balanced widening from Vondrau Drive to east of Boxwood Drive, then shifting widening to the north from east of Boxwood Drive (Sta. 4+840) to Beaverdale Road, and a balanced widening from there to Hespeler Road.	Balanced widening from Vondrau Drive to east of Boxwood Drive, then shifting widening to the south from east of Boxwood Drive (Sta. 4+840) to Beaverdale Road, and a balanced widening from there to Hespeler Road.	Balanced widening from Vondrau Drive to east of Boxwood Drive, then shifting widening to the north from east of Boxwood Drive (Sta. 4+840) to east of Middle Creek (Sta. 5+840). From Sta. 5+840, the widening is typically balanced, as it is in Option 1, and remains there to termination at Hespeler Road.
Cost What is the total cost of the alternative, including the cost for road construction, utility and street-lighting relocations, property acquisitions, traffic signal and intersection improvements, and landscaping?	➤ Existing Utilities are unaffected by the "Do Nothing" Alternative.	➤ No significant impacts to existing underground gas lines, watermains, sewers, or communications cables, anticipated other than minor relocations / adjustments. ➤ 47 Hydro poles, 26 Traffic Signal poles and 8 Street Light poles would have to be relocated, for a total estimated cost of \$1.84M for utility relocations. ➤ Preliminary Total Cost Estimate, including the following: <ul style="list-style-type: none"> ○ Property acquisition ○ Road and Drainage Works ○ Signals/Illumination ○ Roadside Protection and Line Markings ○ Bridges & Culvert Extensions and Replacement ○ Active transportation Facilities and Landscaping ○ Engineering ➤ TOTAL (Excl. HST) = \$52.7M (Including Utility Impacts)	➤ No significant impacts to existing underground gas lines, watermains, sewers, or communications cables, anticipated other than minor relocations / adjustments. ➤ 61 Hydro poles, 26 Traffic Signal poles and 10 Street Light poles would have to be relocated, for a total estimated cost of \$2.15M for utility relocations. ➤ Preliminary Total Cost Estimate, including the following: <ul style="list-style-type: none"> ○ Property acquisition ○ Road and Drainage Works ○ Signals/Illumination ○ Roadside Protection and Line Markings ○ Bridges & Culvert Extensions and Replacement ○ Active transportation Facilities and Landscaping ○ Engineering ➤ TOTAL (Excl. HST) = \$52.6M (Including Utility Impacts)	➤ No significant impacts to existing underground gas lines, watermains, sewers, or communications cables, anticipated other than minor relocations / adjustments. ➤ 60 Hydro poles, 26 Traffic Signal poles and 17 Street Light poles would have to be relocated, for a total estimated cost of \$2.23M for utility relocations. ➤ Preliminary Total Cost Estimate, including the following: <ul style="list-style-type: none"> ○ Property acquisition ○ Road and Drainage Works ○ Signals/Illumination ○ Roadside Protection and Line Markings ○ Bridges & Culvert Extensions and Replacement ○ Active transportation Facilities and Landscaping ○ Engineering ➤ TOTAL (Excl. HST) = \$53.7M (Including Utility Impacts)	➤ No significant impacts to existing underground gas lines, watermains, sewers, or communications cables, anticipated other than minor relocations / adjustments. ➤ 46 Hydro poles, 26 Traffic Signal poles and 10 Street Light poles would have to be relocated, for a total estimated cost of \$1.85M for utility relocations. ➤ Preliminary Total Cost Estimate, including the following: <ul style="list-style-type: none"> ○ Property acquisition ○ Road and Drainage Works ○ Signals/Illumination ○ Roadside Protection and Line Markings ○ Bridges & Culvert Extensions and Replacement ○ Active transportation Facilities and Landscaping ○ Engineering ➤ TOTAL (Excl. HST) = \$52.2M (Including Utility Impacts)
	Does not address the Problem/Opportunity Statement	GOOD	GOOD	GOOD	GOOD
OVERALL EVALUATION		GOOD – VERY GOOD (Not Carried Forward)	GOOD – VERY GOOD (Not Carried Forward)	GOOD – VERY GOOD (Not Carried Forward)	VERY GOOD (Carried Forward as Preferred Alternative Widening Concept)

Appendix C – Alternative Design Cross-Sections

Do Nothing Alternative

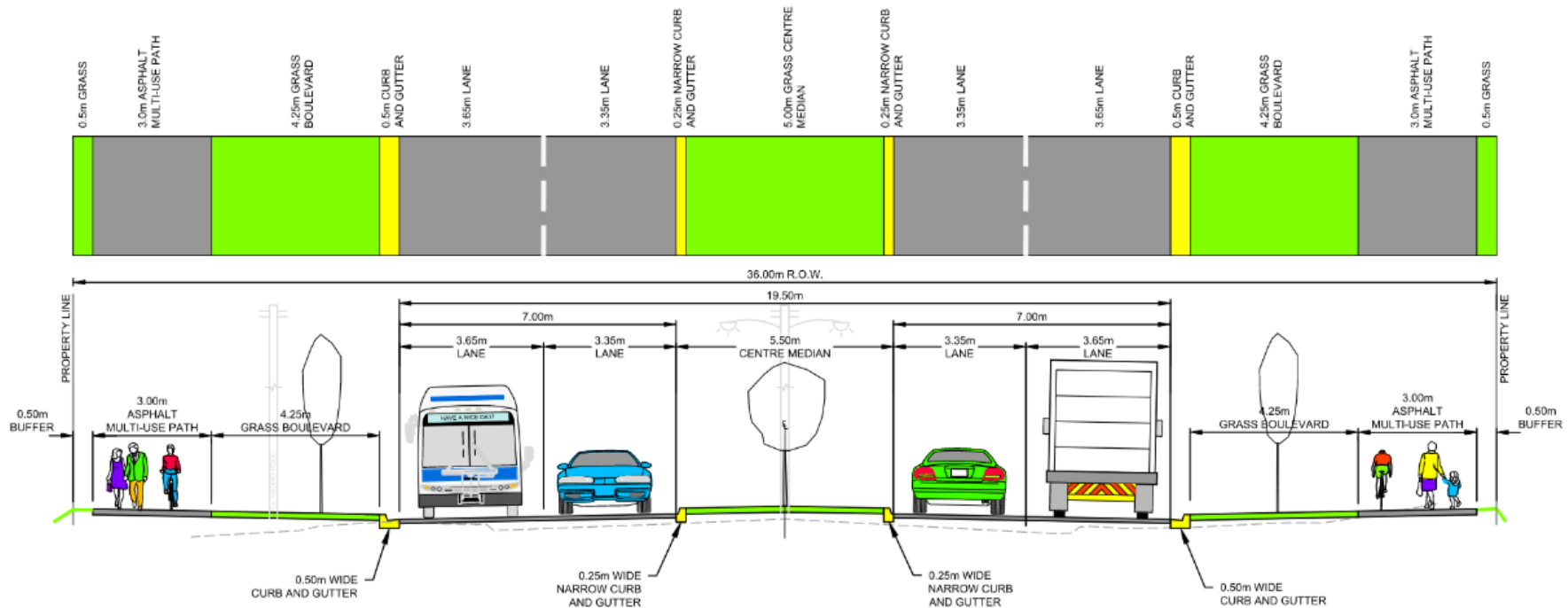
Do Nothing Alternative (Existing Conditions)



Appendix C – Alternative Design Cross-Sections

Design Alternative A - Widen the Road to 4-lanes with a 5.0m wide Raised Centre Median and Add Multi-use Path (MUP)

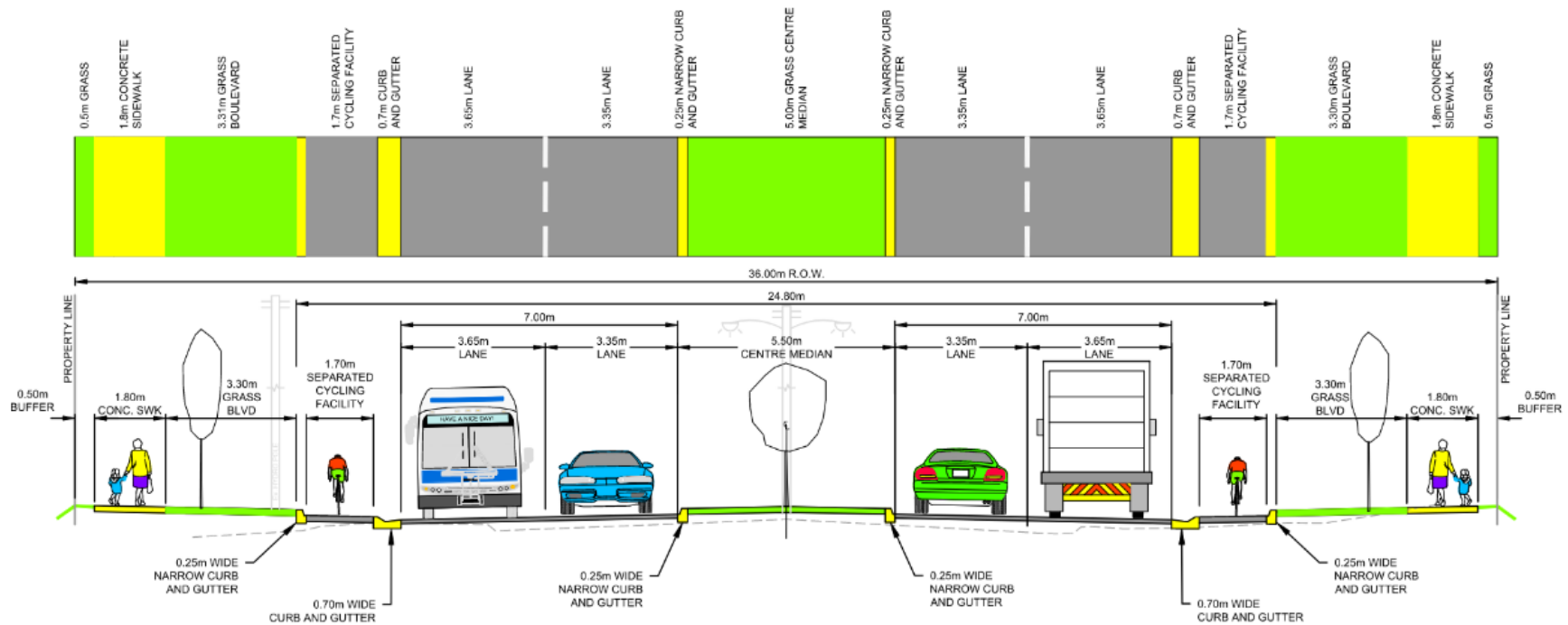
Design Alternative A - Raised Centre Median with Multi-Use-Path



Appendix C – Alternative Design Cross-Sections

Design Alternative B - Widen the Road to 4-lanes with a 5.0m wide Raised Centre Median and Add 1.8m wide Sidewalk and 1.7m Bike Lanes

Design Alternative B - Raised Centre Median with Concrete Sidewalk and a Separated Cycling Facility



Appendix D – Project Team Evaluation of Alternative Design Cross-Sections (Natural Environment)

ALTERNATIVE DESIGN CONCEPT	“Do Nothing” ALTERNATIVE Retain Roadway Cross-Section in its Current Configuration	ALTERNATIVE A Widen the Road to 4-Lanes with Raised Centre Median, and 3.0m Multi-Use Path on both sides	ALTERNATIVE B Widen the Road to 4-Lanes with Raised Centre Median, 1.8m concrete sidewalks, and 1.7m separated roadside bike lanes with rollover curb
Description	Reconstruction of the road in its current 2-lane rural (ditch drainage) cross-section with no active transportation facilities.	<ul style="list-style-type: none"> • 5.0m raised median with concrete barrier curbs and narrow gutter; • 0.6m curb and gutter, and a storm drainage system; • 3.0m asphalt multi-use path; and, • Additional street lighting. 	<ul style="list-style-type: none"> • 5.0m raised median with concrete barrier curbs and narrow gutter; • 0.6m curb and gutter, and a storm drainage system; • 1.8m concrete sidewalks; • 1.7m separated roadside bike lanes with rollover curb; and, • Additional street lighting.
<p>Natural Environment</p> <p>How might the alternative affect existing trees, vegetation, wildlife, watercourses, etc.?</p>	<ul style="list-style-type: none"> ➤ No changes to existing conditions. ➤ No removal of existing trees required. ➤ No widening of pavement; therefore, less roadway width for terrestrial wildlife crossing. ➤ Roadside ditches remain, providing infiltration of stormwater. ➤ Maintaining existing road capacity will lead to additional delay and queuing. 	<ul style="list-style-type: none"> ➤ Roadside ditches are filled in, removing benefits of sediment removal from storm water runoff. ➤ Increased storm water runoff can be mitigated with stormwater management techniques. ➤ Opportunity for tree planting in boulevard. ➤ Median provides opportunity for installing measures to capture/ infiltrate stormwater. ➤ Wider roadway increases potential for wildlife mortality. ➤ Minor encroachment into wetland and municipal drain between Hunsperger Drain crossing east of Boxwood Drive and Middle Creek east of Speedsville Road. ➤ Least total pavement area for active transportation requiring winter maintenance and de-icing. (6.0m²/m of roadway) 	<ul style="list-style-type: none"> ➤ Roadside ditches are filled in, removing benefits of sediment removal from storm water runoff. ➤ Increased storm water runoff can be mitigated with stormwater management techniques. ➤ Opportunity for tree planting in boulevard. ➤ Median provides opportunity for installing measures to capture/ infiltrate stormwater. ➤ Wider roadway increases potential for wildlife mortality. ➤ Minor encroachment into wetland and municipal drain between Hunsperger Drain crossing east of Boxwood Drive and Middle Creek east of Speedsville Road. Mid-range total pavement area for active transportation requiring winter maintenance and de-icing. (7.0m²/m or roadway) 17% more pavement area to maintain in comparison with Multi-use Path alternative.
RATING	EXCELLENT	VERY GOOD	GOOD




Appendix D – Project Team Evaluation of Alternative Design Cross-Sections (Socio-Economic Environment)

ALTERNATIVE DESIGN CONCEPT	“Do Nothing” ALTERNATIVE Retain Roadway Cross-Section in its Current Configuration	ALTERNATIVE A Widen the Road to 4-Lanes with Raised Centre Median, and 3.0m Multi-Use Path on both sides	ALTERNATIVE B Widen the Road to 4-Lanes with Raised Centre Median, 1.8m concrete sidewalks, and 1.7m separated roadside bike lanes with rollover curb
Description	Reconstruction of the road in its current 2-lane rural (ditch drainage) cross-section with no active transportation facilities.	<ul style="list-style-type: none"> • 5.0m raised median with concrete barrier curbs and narrow gutter; • 0.6m curb and gutter, and a storm drainage system; • 3.0m asphalt multi-use path; and, • Additional street lighting. 	<ul style="list-style-type: none"> • 5.0m raised median with concrete barrier curbs and narrow gutter; • 0.6m curb and gutter, and a storm drainage system; • 1.8m concrete sidewalks; • 1.7m separated roadside bike lanes with rollover curb; and, • Additional street lighting.
<p>Socio-Economic Environment</p> <p>How might the alternative impact archaeological and cultural heritage resources, properties abutting the road (driveways, access), and streetscaping / landscape potential?</p>	<ul style="list-style-type: none"> ➢ No anticipated archaeological or cultural heritage impacts. ➢ No property acquisition required. ➢ No improvements for pedestrians, cyclists, or other recreational activities. ➢ Maintains current access to adjacent neighbourhoods, but increasing congestion exacerbates access concerns over time. ➢ Increasing traffic congestion (delay and queueing) leads to poorer relative air quality. 	<ul style="list-style-type: none"> ➢ No anticipated archaeological or cultural heritage impacts. ➢ Community benefits from new pedestrian and cycling facilities. ➢ Multi-use path provides additional comfort level for recreational cyclists and separation from vehicular traffic. ➢ Relieves traffic congestion facilitating better access to businesses and adjacent neighbourhoods. ➢ Less traffic congestion leads to better relative air quality. ➢ Cross-section does not influence property impact, noise, or air quality; widening does. ➢ Greatest amount of remaining boulevard space available for landscaping and streetscaping. 	<ul style="list-style-type: none"> ➢ No anticipated archaeological or cultural heritage impacts. ➢ Community benefits from new pedestrian and cycling facilities. ➢ Separated facilities provide additional comfort level for pedestrians and cyclists. ➢ Transit vehicles may interfere with cycling activities when patrons are boarding and alighting at the roadside. ➢ Relieves traffic congestion facilitating better access to businesses and adjacent neighbourhoods. ➢ Less traffic congestion leads to better relative air quality. ➢ Cross-section does not influence property impact, noise, or air quality; widening does. ➢ Very little remaining boulevard space available for landscaping and streetscaping.
RATING	FAIR	VERY GOOD	VERY GOOD

Appendix D – Project Team Evaluation of Alternative Design Cross-Sections (Transportation)

ALTERNATIVE DESIGN CONCEPT	“Do Nothing” ALTERNATIVE Retain Roadway Cross-Section in its Current Configuration	ALTERNATIVE A Widen the Road to 4-Lanes with Raised Centre Median, and 3.0m Multi-Use Path on both sides	ALTERNATIVE B Widen the Road to 4-Lanes with Raised Centre Median, 1.8m concrete sidewalks, and 1.7m separated roadside bike lanes with rollover curb
Description	Reconstruction of the road in its current 2-lane rural (ditch drainage) cross-section with no active transportation facilities.	<ul style="list-style-type: none"> • 5.0m raised median with concrete barrier curbs and narrow gutter; • 0.6m curb and gutter, and a storm drainage system; • 3.0m asphalt multi-use path; and, • Additional street lighting. 	<ul style="list-style-type: none"> • 5.0m raised median with concrete barrier curbs and narrow gutter; • 0.6m curb and gutter, and a storm drainage system; • 1.8m concrete sidewalks; • 1.7m separated roadside bike lanes with rollover curb; and, • Additional street lighting.
<p>Transportation</p> <p>How might the alternative serve the expected vehicular, transit, pedestrian, and cycling traffic?</p>	<ul style="list-style-type: none"> ➤ Does not satisfy the Region’s Transportation Master Plan with respect to vehicular, pedestrian, or cycling facilities. ➤ Does not provide adequate capacity for vehicular traffic. ➤ Does not improve conditions for Emergency Services, Heavy Trucks, and Transit Vehicles. ➤ Does not improved conditions for cyclists or pedestrians. 	<ul style="list-style-type: none"> ➤ Addresses the Region’s Transportation Master Plan with respect to vehicular, pedestrian, and cycling facilities. ➤ Addresses future traffic capacity needs of the corridor. ➤ Reduces congestion and improves conditions for Emergency Services, Heavy Trucks, and Transit Vehicles. ➤ Provides separation of pedestrians and cyclists from vehicular traffic. ➤ Pedestrian and cyclist conflicts may occur. ➤ Addresses transit’s concerns regarding on road conflicts with cyclist during boarding and alighting activities. ➤ Raised centre median provides physical separation of bi-directional traffic, reducing collisions. ➤ Raised centre median provides potential refuge for pedestrians crossing the road mid-block. ➤ Lowest Transportation Operations/Maintenance requirements. 	<ul style="list-style-type: none"> ➤ Addresses the Region’s Transportation Master Plan with respect to vehicular, pedestrian, and cycling facilities. ➤ Addresses future traffic capacity needs of the corridor. ➤ Reduces congestion and improves conditions for Emergency Services, Heavy Trucks, and Transit Vehicles. ➤ Sidewalk provides separation pedestrians from cyclists and vehicular traffic. ➤ Some separation is provided for cyclists from vehicular traffic. ➤ Transit has concerns with conflicts between cyclists and boarding and alighting activities at the roadside. ➤ Separated bike lane provides some separation from vehicular traffic, but buses stop in these lanes. ➤ Raised centre median provides physical separation of bi-directional traffic, reducing collisions. ➤ Raised centre median provides potential refuge for pedestrians crossing the road mid-block. ➤ 2nd Lowest Transportation Operations/Maintenance requirements.
How easily could the alternative be operated and maintained, including snow removal?		<ul style="list-style-type: none"> ➤ 3.0m wide pathway can be maintained with pickup truck and plow and allows access for utility vehicles. Can be cleared adequately with single pass and entirely with two-way pass. 	<ul style="list-style-type: none"> ➤ Two facilities require additional maintenance time and expenditure. Curb separated cycle lane has proven challenging to adequately clear for winter use.
RATING	POOR	VERY GOOD	VERY GOOD

Appendix D – Project Team Evaluation of Alternative Design Cross-Sections (Cost/Overall)

ALTERNATIVE DESIGN CONCEPT	“Do Nothing” ALTERNATIVE Retain Roadway Cross-Section in its Current Configuration	ALTERNATIVE A Widen the Road to 4-Lanes with Raised Centre Median, and 3.0m Multi-Use Path on both sides	ALTERNATIVE B Widen the Road to 4-Lanes with Raised Centre Median, 1.8m concrete sidewalks, and 1.7m separated roadside bike lanes with rollover curb
Description	Reconstruction of the road in its current 2-lane rural (ditch drainage) cross-section with no active transportation facilities.	<ul style="list-style-type: none"> • 5.0m raised median with concrete barrier curbs and narrow gutter; • 0.6m curb and gutter, and a storm drainage system; • 3.0m asphalt multi-use path; and, • Additional street lighting. 	<ul style="list-style-type: none"> • 5.0m raised median with concrete barrier curbs and narrow gutter; • 0.6m curb and gutter, and a storm drainage system; • 1.8m concrete sidewalks; • 1.7m separated roadside bike lanes with rollover curb; and, • Additional street lighting.
<p>Cost</p> <p>What is the expected total cost of the alternative, including the cost for road construction, utility and street lighting relocations, property acquisitions, traffic signal improvements, and landscaping?</p>	<ul style="list-style-type: none"> ➢ Do Nothing has no direct Capital Cost. ➢ Increased costs for movement of goods and services as congestion increases. ➢ No change to maintenance costs for road, pedestrian/ cycling facilities, or landscaping. ➢ Increased traffic over fewer travel lanes increases frequency of required maintenance. ➢ Increased traffic volume increases congestion and may lead to increased accident frequency due to gap reduction. 	<ul style="list-style-type: none"> ➢ Cross-section unit cost is \$2,100/m. (excl. utility relocation costs – see widening alternative concept evaluation – Table 1) ➢ Reduced costs for movement of goods and services as congestion decreases. ➢ Increased maintenance costs for road, pedestrian/ cycling facilities, and landscaping. 	<ul style="list-style-type: none"> ➢ Cross-section unit cost is \$2,200/m. (excl. utility relocation costs – see widening alternative concept evaluation – Table 1) ➢ Reduced costs for movement of goods and services as congestion decreases. ➢ Increased maintenance costs for road, pedestrian/cycling facilities, and landscaping.
RATING	FAIR	VERY GOOD	GOOD
OVERALL EVALUATION	FAIR	VERY GOOD	GOOD
OVERALL RANKING	3	1	2
TECHNICALLY PREFERRED DESIGN			
JUSTIFICATION	<p>Not Carried Forward</p> <p>Does not address Problem/Opportunity Statement</p>	<p>Carried Forward as the preferred cross-section design alternative.</p> <p>Greatest potential for Natural Environment, Social Environment, Transportation, and Cost benefits.</p> <p>Greatest overall boulevard area available for landscaping, snow storage, and stormwater management.</p> <p>Least area requiring winter maintenance and de-icing adjacent to watercourses.</p> <p>Least potential conflict between users and transit buses at, or near, transit stops.</p> <p>Lowest expected capital (construction) and operating (maintenance) cost of active transportation alternatives.</p> <p>Least impact on existing utilities.</p>	<p>Not Carried Forward</p> <p>2nd most potential for Natural Environment, Social Environment, Transportation, and Cost benefits.</p> <p>2nd most overall boulevard area available for landscaping, snow storage, and stormwater management.</p> <p>2nd least area requiring winter maintenance and de-icing adjacent to watercourses.</p> <p>Greater potential for conflict between users at, or near, transit vehicle stops than Alternative 1.</p> <p>2nd Lowest expected capital (construction) and operating (maintenance) cost of active transportation alternatives.</p> <p>2nd least impact on existing utilities.</p>

Appendix E

Property Acquisition Process Information Sheet

The following information is provided as a general overview of the property acquisition process and is not legal advice. Further, the steps, timing, and processes can vary depending on the individual circumstances of each case.

Once the Class Environmental Assessment is complete and the Environmental Study Report outlining the Recommended Design Concept has been approved, the property acquisition process and the efforts of Regional Real Estate staff will focus on preparation for acquiring the required lands to implement the approved design. Regional staff cannot make fundamental amendments or changes to the approved design concept.

Property Impact Plans

After the project has been approved and as it approaches final design, the project planners will generate drawings and sketches indicating what lands and interests need to be acquired from each affected property to undertake the project. These drawing are referred to as Property Impact Plans (PIP).

Initial Owner Contact by Regional Real Estate Staff

Once the PIPs are finalized and available, Regional Real Estate staff will retain an independent appraiser to provide preliminary valuations of the land requirements and their effect on the value of the property. As this process nears completion Real Estate staff will contact the affected property owner/s by telephone and mail to introduce themselves and set-up initial meetings to discuss the project, appraisals, and proposed acquisitions.

Initial Meetings

The initial meeting is attended by the project engineer and the assigned real estate staff person to brief the owner on the project, what part of their lands are to be acquired or will be affected, what work will be undertaken, when, with what equipment, etc. and to answer any questions. The primary purpose of the meeting is to listen to the owner and identify issues, concerns, effects of the proposed acquisition on remaining lands and businesses that can be feasibly mitigated and/or compensated, and how the remaining property may be restored. These discussions may require additional meetings. The goal of staff is to work with the owner to reach mutually agreeable solutions.

Goal – Fair and Equitable Settlement for All Parties

The goal is always to reach a fair and equitable agreement for both the property owner and the Region. Such an agreement will provide compensation for the fair market value of the lands and address the project impacts (such as repairing or replacing landscaping, fencing, paving, etc.) such that the property owner will receive the value of the lands acquired and the restoration of their remaining property to the condition it was prior to the Project.

The initial meetings will form the basis of an initial offer of settlement or agreement of purchase and sale for the required lands or interests.

Steps Toward Offer of Settlement or Agreement of Purchase and Sale

The general steps toward such an offer are as follows:

- 1) the Region will obtain an independent appraisal of the fair market value of the lands and interests to be acquired, and an appraisal of any effect on the value of the rest of the property resulting from the acquisition of the required lands and interests;
- 2) compensation will be estimated and/or works to minimize other effects will be defined and agreed to by the property owner and the Region;
- 3) reasonable costs of the owner will be included in any compensation settlement;
- 4) an offer with a purchase price and any other compensation or works in lieu of compensation will be submitted to the property owner for consideration; and
- 5) an Agreement will be finalized with any additional discussion, valuations, etc. as may be required.

Depending on the amount of compensation, agreements may require the approval of Council. The approval is undertaken in Closed Session which is not open to the public to ensure a level of confidentiality.

Expropriation

Due to the time constraints of these projects, it is the practice of the Region to commence the expropriation process in parallel with the negotiation process to ensure that lands and interests are acquired in time for commencement of the Project. Typically, over 90% of all required lands and interests are acquired through the negotiation process. Even after lands and interests have been acquired through expropriation an agreement on compensation can be reached through negotiation, this is usually referred to as a 'settlement agreement'.

Put simply, an expropriation is the transfer of lands or an easement to a governmental authority for reasonable compensation, including payment of fair market value for the transferred lands, without the consent of the property owner being required. In the case of expropriations by municipalities such as the Region of Waterloo, the process set out in the Ontario *Expropriations Act* must be followed to ensure that the rights of the property owners provided under that *Act* are protected.

For information on the expropriation process, please refer to 'Expropriation Information Sheet'.

The following information is provided as a general overview of the expropriation process and is not legal advice. For complete information, reference should be made to the Ontario *Expropriations Act* as well as the more detailed information in the Notices provided under that *Act*.

Expropriation Information Sheet

What is Expropriation?

Governmental authorities such as municipalities, school boards, and the provincial and federal governments undertake many projects which require them to obtain land from private property owners. In the case of the Regional Municipality of Waterloo, projects such as the construction or improvement of Regional Roads sometimes require the purchase of land from private property owners. In many cases, the Region of Waterloo only needs a small portion of the private property owner's lands or an easement for related purposes such as utilities, although in certain instances, entire properties are required.

Usually the governmental authority is able to buy the land required for a project through a negotiated process with the affected property owners. Sometimes, however, the expropriation process must be used in order to ensure that the land is obtained within a specific timeline. Put simply, an expropriation is the transfer of lands or an easement to a governmental authority for reasonable compensation, including payment of fair market value for the transferred lands, without the consent of the property owner being required. In the case of expropriations by municipalities such as the Region of Waterloo, the process set out in the Ontario **Expropriations Act** must be followed to ensure that the rights of the property owners provided under that *Act* are protected.

Important Note: The Region of Waterloo tries in all instances to obtain lands needed for its projects through a negotiated agreement on mutually acceptable terms. Sometimes, the Region of Waterloo will start the expropriation process while negotiations are underway. This dual approach is necessary to ensure that the Region of Waterloo will have possession of all of the lands needed to start a construction project on schedule. However, it is important to note that Regional staff continues to make every effort to reach a negotiated purchase of the required lands on mutually agreeable terms while the expropriation process is ongoing. If agreement is reached, expropriation proceedings can be discontinued and the land transferred to the Region of Waterloo in exchange for payment of the agreed-upon compensation.

What is the process of the Region of Waterloo under the Expropriations Act?

- Regional Council considers a request to begin an application under the **Expropriations Act** to obtain land and/or an easement for a specific Regional project. No decision is made at this meeting to expropriate the land. This step is simply direction for the Region of Waterloo to provide a "Notice of Application for Approval to Expropriate" to affected property owners that the process has started to seek approval to expropriate the land.
- As stated in the Notice, affected property owners have 30 days to request a Hearing to consider whether the requested expropriation is "fair, sound and reasonably necessary in the

achievement of the objectives” of the Region of Waterloo. This Hearing is conducted by a provincially-appointed Inquiry Officer. Prior to the Hearing, the Region of Waterloo must serve the property owner with a Notice setting out its reasons or grounds for the proposed expropriation. **Compensation for lands is not determined at this Hearing.** The Inquiry Officer can order the Region of Waterloo to pay the property owner up to \$200.00 as compensation for the property owner’s costs in participating in this Hearing, regardless of the outcome of the Hearing.

- If a Hearing is held, a written report is provided by the Inquiry Officer to the property owner and the Region of Waterloo. Council must consider the Report within 90 days of receiving it. The Report is not binding on Council and Council may or may not accept the findings of the Report. After consideration of the Report, Council may or may not approve the expropriation of the land or grant approval with modifications. A property owner may wish to make written and/or verbal submissions to Council at the time that it is considering the Report.
- If no Hearing is requested by the property owner, then Council may approve the expropriation of the land after expiry of a 30 day period following service of the Notice of Application for Approval to Expropriate.
- If Council approves the expropriation then, within 3 months of this approval, the Region of Waterloo must register a Plan at the Land Registry Office that describes the expropriated lands. The registration of this Plan automatically transfers title of the lands to the Region of Waterloo, instead of by a Deed signed by the property owner.
- Within 30 days of registration of the Plan, the Region of Waterloo must serve a Notice of Expropriation on the affected property owner advising of the expropriation. Within 30 days of this Notice, the property owner may serve the Region of Waterloo with a Notice of Election selecting the valuation date under the *Expropriations Act* for calculation of the compensation.
- In order to obtain possession of the expropriated lands, the Region of Waterloo must also serve a Notice of Possession setting out the date that possession of the land is required by the Region of Waterloo. This date has to be 3 months or more from the date that this Notice of Possession is served on the affected property owner.
- Within 3 months of registration of the Plan, the Region of Waterloo must provide the affected property owner with payment for the full amount of the appraised fair market value of the expropriated land or easement and a copy of the appraisal report on which the value is based. If the property owner disagrees with this amount, and/or claims other compensation and/or costs under the *Expropriations Act*, the compensation and/or costs matter may be referred to a provincially-appointed Board of Negotiation in an effort to reach a mediated settlement and/or an appeal may be made to the Ontario Municipal Board (OMB) for a decision. In any event, the Region of Waterloo continues in its efforts to reach a negotiated settlement with the affected property owner prior to the OMB making a decision.