Corporation of the County of Wellington

Roads Committee

Minutes

October 12, 2021
Council Chambers

Present:	Warden Kelly Linton Councillor Andy Lennox (Chair) Councillor Allan Alls Councillor Jeff Duncan Councillor James Seeley
Also Present:	Councillor Campbell Cork Councillor Steve O'Neill
Staff:	Donna Bryce, County Clerk Pasquale Costanzo, Technical Services Supervisor Ken DeHart, County Treasurer Joe de Koning, Construction Manager Brad Hutchinson, Roads Superintendent Don Kudo, County Engineer Angela Peck, Engineering Technician Aldo Salis, Director of Planning and Development Scott Wilson, CAO

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1. Call to Order

At 10:00 am, the Chair called the meeting to order.

2. Declaration of Pecuniary Interest

There were no declarations of pecuniary interest.

3. Roads Financial Statements and Variance Projections as of September 30, 2021

1/8/21

Moved by: Councillor Alls
Seconded by: Councillor Duncan

That the Roads and Engineering Financial Statements and Variance Projections as of September 30, 2021 be approved.

Carried

4. Wellington Road 18 Four-Way Stop - Geddes Street at David Street, Elora

2/8/21

Moved by: Warden Linton
Seconded by: Councillor Seeley

That the County of Wellington take appropriate action, to replace by-law 5648-20 and create a new by-law for the permanent four-way stop at the intersection of Geddes Street (WR18) and David Street in Elora.

Carried

5. 2021 Roads Capital Construction - Project Status

3/8/21

Moved by: Councillor Seeley
Seconded by: Councillor Duncan

That the report titled 2021 Road Capital Construction – Project Status be received for information.

Carried

6. Living Snow Fences Programme

4/8/21

Moved by: Councillor Seeley
Seconded by: Councillor Alls

That the Wellington County Living Snow Fences Programme report be received for information.

Carried

7. Road MAP: Level of Service Condition Criteria

5/8/21

Moved by: Councillor Alls
Seconded by: Councillor Seeley

That the RMAP – Level of Service Condition Criteria memo as outlined in the report be received for information and included as part of the Road Master Action Plan.

Carried

8. CPWA National Public Works Week Award

6/8/21

Moved by: Warden Linton
Seconded by: Councillor Alls

That the report CPWA National Public Works Week Awards be received for information.

Carried

9. Closed Session

7/8/21

Moved by: Councillor Duncan
Seconded by: Councillor Seeley

That the Roads Committee move into a closed meeting for the purposes of considering acquisition or disposition of land by the municipality.

Carried

10. Adjournment

At 10:35 am, the Chair adjourned the meeting until November 9, 2021 or at the call of the Chair.

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Andy Lennox
Chair
Roads Committee

COUNTY OF WELLINGTON

COMMITTEE REPORT

To: Chair and Members of the Roads Committee
From: Ken DeHart, County Treasurer
Date: Tuesday, October 12, 2021
Subject: **Roads Financial Statements and Variance Projections as of September 30, 2021**

Background:

This report is respectfully submitted in accordance with the County's Budget Variance Reporting policy, and provides an updated projection to year-end based on expenditures and revenues to September 30, 2021 for the Roads Division.

Operations across all County departments have continued to be affected by the COVID-19 pandemic and are likely to see financial implications in various ways throughout the remainder of 2021. Impacts specific to COVID-19 are identified where applicable.

Operating

- User fees and charges are at 91% to the end of September, which includes the aggregate fee revenue of approx. $245K.
- Sale of equipment revenue is under budget as additional amounts are still to be received, these funds will be transferred to reserve at that time.
- Salaries, wages and benefits are under budget to date. The amounts include savings due to a vacancy in the Operations Manager position as well as Winter Control salaries that will still have additional expenditures through to the end of the year. Any savings in salaries for Winter Control will contribute to the transfer to or from reserve to net Winter Control to a zero surplus impact. The department has made changes to staffing positions in order to better meet the growing asset management and capital infrastructure needs along with addressing current operational needs. Taking into account the expected changes as well as the vacancy to date, savings of $80,000 to $100,000 is anticipated.
- Supplies, materials and equipment are well below budget to date. The majority of this relates to Winter Control as sand and salt expenditures to date are sitting at $1.6 million of the $3.3 million budgeted amount. Included within the $1.6 million is a season-end adjustment based on updated pricing for materials ($447,000).
- Purchased services are tracking below budget at this time. The majority will still be undertaken through the rest of the year and any variances will depend on road maintenance needs through the fall and early winter months.
- Internal charges are tracking slightly under budget and relate to winter control costs incurred earlier in the year, this is offset by internal recoveries line.
- Insurance and financial expense are high relative to this point in the year; however, the annual insurance payment has been completed; the remaining amount will be expended through payroll as it relates to employee related insurance costs.

- Net operating expenditures for all roads maintenance activities excluding winter control are at 71% expended to the end of September:
    - This includes the full annual contract payment of $560,000 expenditure for road painting under roads safety devices.
    - Parts and fuel under fleet maintenance close to budget to date with no variance anticipated at year-end
    - It is likely that these roads activities will come in close to the budgeted amount.

Winter Control

- There is approximately $3.2 million of winter control budget remaining, although some costs for work done by other municipalities on the County's behalf have yet to be processed. Costs in the previous five years for winter control for the period from October to December have averaged just over $1.9 million, with a high of $2.2 million (inflated to 2021 dollars). Given previous years' experience it is expected that winter control will come in lower than the budgeted amount. Any savings or overages will be transferred to or from the Winter Control reserve, which currently has a balance of $2.8 million.
- Municipal recoveries specific to winter control are under budget (28%) at this point. Additional invoices will be sent later in the year to municipalities for work completed on boundary roads and winter control. The magnitude of the variance (which will be offset by costs), will be dependent on the severity of the weather in the last two months of the year.

The final roads variance will depend on the severity of the weather in the last two months of the year and the extent to which resources are allocated to other service areas in the event of a mild winter.

Capital

Roads Capital began 2021 with a total approved budget of $67,626,700 consisting of 75 projects. To date staff completed and closed nine projects with four more ready to close this month resulting in a net surplus of $551,910 returning to reserve for future use.

The table below accounts for life to date spending, purchase order commitments and closed projects for total available funding of $18,065,931.

Roads Capital	May 31, 2021	Sept 30, 2021
Open Capital at Dec 31, 2020	$ 46,236,700	$ 46,236,700
plus: 2021 Approved Capital budget	$ 22,085,000	$ 22,085,000
plus: 2021 In-Year Budget Adjustments	$ (695,000)	$ 1,660,000
2021 Total Approved Capital budget	$ 67,626,700	$ 69,981,700
less: Previous Years Capital Spending	$ (30,544,735)	$ (30,544,735)
Available Capital Funding for 2021	**$ 37,081,965**	**$ 39,436,965**
2021 Capital Spending to date	$ (3,843,478)	$ (11,766,937)
Open Purchase Orders	$ (11,653,494)	$ (9,052,187)
Closed Projects	$ (275,000)	$ (551,910)
Uncommitted Approved Funding	**$ 21,309,993**	**$ 18,065,931**

Summary of In-Year Budget Adjustments

Projects have gone to tender which resulted in adjustments to the original budgets and scope of work. To date committee and council approved a total of $1.6 million in budget adjustments and includes the addition of $2.4 million in Canada Community Building Fund (CCBF) work. Capital statements reflect the in-year adjustments as summarized below:

Project	Original Budget	Council approved adjustments	Adjusted Budget
WR 32, Culvert C320130 Rehab	$ 450,000	$ 60,000	$ 510,000
WR 18, Bothwich Drain B018105	$ 1,175,000	$ (515,000)	$ 660,000
WR 32, C32114 Rehab	$ 1,100,000	$ (265,000)	$ 835,000
WR 109, Bridges 128, 129 & 141	$ -	$ 1,300,000	$ 1,300,000
WR 109, Mallet River B109129	$ 600,000	(600,000)	$ -
WR 109, Maitland River B109128	$ 550,000	$ (550,000)	$ -
WR 109, Bridge B109141	$ 150,000	$ (150,000)	$ -
WR 18, Fergus to Dufferin Stage 1	$ 2,100,000	$ 780,000	$ 2,880,000
WR 30, WR 39 to WR 86	$ 1,000,000	$ (385,000)	$ 615,000
WR 18 at Betty Line	$ 845,000	$ (845,000)	$ -
WR 18 Intersections	$ 660,000	$ 475,000	$ 1,135,000
WR 22, WR 26 to 300m South of WR 24	$ 2,000,000	$ (130,000)	$ 1,870,000
2021 Pavement Preservation	$ 2,000,000	$ 1,225,000	$ 3,225,000
2021 Various Culvert Needs	$ 200,000	$ 150,000	$ 350,000
2021 Pavement Condition Study	$ 75,000	$ 250,000	$ 325,000
WR 45 Road / Slope @ WR 12	$ 550,000	$ 750,000	$ 1,300,000
WR 25, Wr 52 to Wr 42	$ 7,850,000	$ (700,000)	$ 7,150,000
WR 17, ROW to Floradale Rd	$ -	$ 700,000	$ 700,000
Roads Route Patrol Hardware Upgrade	$ -	$ 110,000	$ 110,000
	$ 21,305,000	**$ 1,660,000**	**$ 22,965,000**

*adjusted budgets that result in 0 have been combined into other projects at time of tender

Project Status Updates

At spring variance, Roads capital statements included 24 projects with zero spending (12 previously approved and 12 new to 2021). Statements now include 17 projects with zero spending summarized below.

Projects with Zero Spending		
	Approved Budget	Number of Projects
Active with no spending	2,000,000	1
PO commitments	435,000	2
Awaiting invoicing	650,000	1
Tender this year	250,000	1
Work as required	100,000	1
Projects by others - billing at year end	800,000	2
Contingent on others	325,000	4
WR 109 Bridge funding for use once study complete	250,000	3
Close	150,000	1
Next year	50,000	1
Totals	**$ 5,010,000**	**17**

Several construction projects are nearing completion, projected to close at year-end. Although more costs are expected, staff anticipate overall savings approaching $1.5 million.

2021 Roads Active Construction	Approved Budget	Actuals to Sept 30/21	Commitments	Remaining Budget
WR46, WR34 to 401	11,939,200	11,864,931	181,853	(107,584)
WR 18 Bridge B18105 Replacement	660,000	415,504	171,799	72,697
WR 16, Culvert 160090 Replacement	800,000	316,549		483,451
WR 18, Fergus to Dufferin	2,880,000	2,368,928	188,405	322,667
WR 30, WR 39 to Wr 86 1.7km	615,000	270,683	213,673	130,644
Hagan's Bridge B00067 Rehab	200,000	153,301	22,153	24,546
2021 Pavement Preservation	3,225,000	1,322,980	1,036,006	866,014
WR 109, Bridges B109128, 109129, 109141	1,300,000	1,181,462	68,827	49,711
WR21, Badley Bridge, B021057	8,000,000	8,075,803		(75,803)
WR 32, Culvert C321140 Replace	835,000	224,785	441,333	168,882
WR 32, Culvert C320130 Liner	510,000	215,884	323,654	(29,538)
Armstrong Bridge B000070 Rehab	1,050,000	755,797	234,560	59,643
WR 18 Intersections	1,135,000	254,287	700,188	180,525
WR 22, WR 26 to 300m s of WR 24	1,870,000	361,212	1,375,147	133,641

Recommendation:

That the Financial Statements and Variance Projections as of September 30, 2021 for the Roads Division be approved.

Respectfully submitted,

Ken DeHart, CPA, CGA
County Treasurer

COUNTY OF WELLINGTON

COMMITTEE REPORT

To: Chair and Members of the Roads Committee
From: Joe de Koning, Manager of Roads
Date: Tuesday, October 12, 2021
Subject: **Wellington Road 18 Four-Way Stop – Geddes Street at David Street, Elora**

Background:

In January 2020, County of Wellington Council approved By-Law 5648-20 temporarily designating a four-way stop in Elora at the intersection of Wellington Road 18 (Geddes Street) and David Street.

Analysis of this intersection through the Roads Master Action Plan has determined that the temporary four-way stop should become permanent.

> Highway Traffic Act
> **Stop signs, erection at intersections**
> **137** In addition to stop signs required at intersections on through highways,
> (a) the council of a municipality may by by-law provide for the erection of stop signs at intersections on highways under its jurisdiction; and
> (b) the Minister may by regulation designate intersections on the King's Highway at which stop signs shall be erected, and every sign so erected shall comply with the regulations of the Ministry. R.S.O. 1990, c. H.8, s. 137; 2002, c. 17, Sched. F, Table.

Recommendation:

That the County of Wellington take appropriate action, to replace bylaw 5648-20 and create a new bylaw for the permanent four-way stop at the intersection of Geddes Street (WR18) and David Street in Elora.

Respectfully submitted,

Joe de Koning, P. Eng.
Manager of Roads

COUNTY OF WELLINGTON

COMMITTEE REPORT

To: Chair and Members of the Roads Committee
From: Joe de Koning, Manager of Roads
Date: Tuesday, October 12, 2021
Subject: **2021 Road Capital Construction – Project Status**

Background:

This report provides the committee with information on the status of 2021 road capital construction projects. The following summary is based on the project status as of September 30th, 2021:

- **Culvert Replacement C160090 WR16 Box culvert replacement**, (Wellington North) – County Roads Staff. Project was completed in June.
- **CW2021-001 Part A WR46 Mill and Pave**,(Puslinch) - Capital Paving. Milling and paving of WR46 from WR34 to Maltby as well as paving overlay of WR37 from Arkell to Milton Boundary.
- **CW2021-001 Part B North Mill and Pave**, (various locations) - The Murray Group. North mill and pave contract.
- **CW2021-001 Part C South Mill and Pave**, (various locations) - Cox Construction. South mill and pave contract.
- **CW2021-002 WR32 C320130 Pipe relining**, (Guelph Eramosa) - Drexler Construction. Directional bore overflow pipe installation with existing pipe relining. Work to be completed this fall.
- **CW2021-007 WR18 Paving/Recycling**, (Centre Wellington) - Cox Construction. Recycling and paving of 8 kilometers of road completed in September.
- **CW2021-008 WR18 Bothwick Drain Bridge Replacement**, (Centre Wellington) - Cox Construction. Project completed in September.
- **CW2021-009 WR18 Beatty Line and Gerrie Intersection Improvements**, (Centre Wellington) - Cox Construction. Installation of traffic signals at both Gerrie and Beatty Line. Project on schedule to be completed by end of October.
- **CW2021-010 WR22 Paving/Recycling,** (Erin) - Cox Construction. Paving and recycling of 2.75km of WR22, with various culvert replacements. Project on schedule to be completed by end of October.
- **CW2021-011 WR30 Paving/Recycling,** (Guelph Eramosa) - Cox Construction. Paving and recycling of 2.0km of WR30. Project on schedule to be completed by middle of October.
- **CW2021-012 WR32 Lake Road Culvert**, (Puslinch) – South Shore Contracting. Project on schedule to be completed by middle of October.
- **CW2021-014 Mallets, Maitland and Sideroad 15 Bridge Rehabilitations**, (Wellington North) – Jarlian Construction. Project was completed on schedule to be completed by middle of September.
- **CW2020-016 Armstrong and Hagans Bridge Rehabilitations**, (Guelph Eramosa) – Marbridge. Project on schedule to be completed by middle of October.
- **CW2021-026 WR109 Micro Surfacing**, (Wellington North) – Duncor. Micro Surfacing 18 km of WR109 from Arthur to Teviotdale. Work was completed in September.

- **CW2021-034 Blow and Seal**, (various locations) – Falcon. Blow and Seal crack filling on various Wellington County Roads. Work will be completed in October.
- **T2021-153 WR17 ROW to Floradale Road Paving/Recycling**, (Mapleton) - Cox Construction. Recycling and paving of 1.5 km of road shared with the Region of Waterloo. Work also includes a bridge rehabilitation. Construction will be completed Fall 2021.

2021 Summary

- Construction Costs (approximate) $ 14,000,000.00
- Major Culvert Replacements 2
- Bridge Rehabilitations or Replacements 9
- Road Preservation 60 km
- Road Renewal 14 km
- New Traffic Signals 2

In addition to the 20201 construction project work, carryover projects were also completed during the current construction season:

- **CW2019-007** WR46 Mclean to WR34, (Puslinch) – E&E Seegmiller Limited. Project was completed in June
- **CW2019-036** WR21 Badley Bridge Replacement, (Centre Wellington) – Looby Builders (Dublin) Limited. Bridge works completed in May

Recommendation:

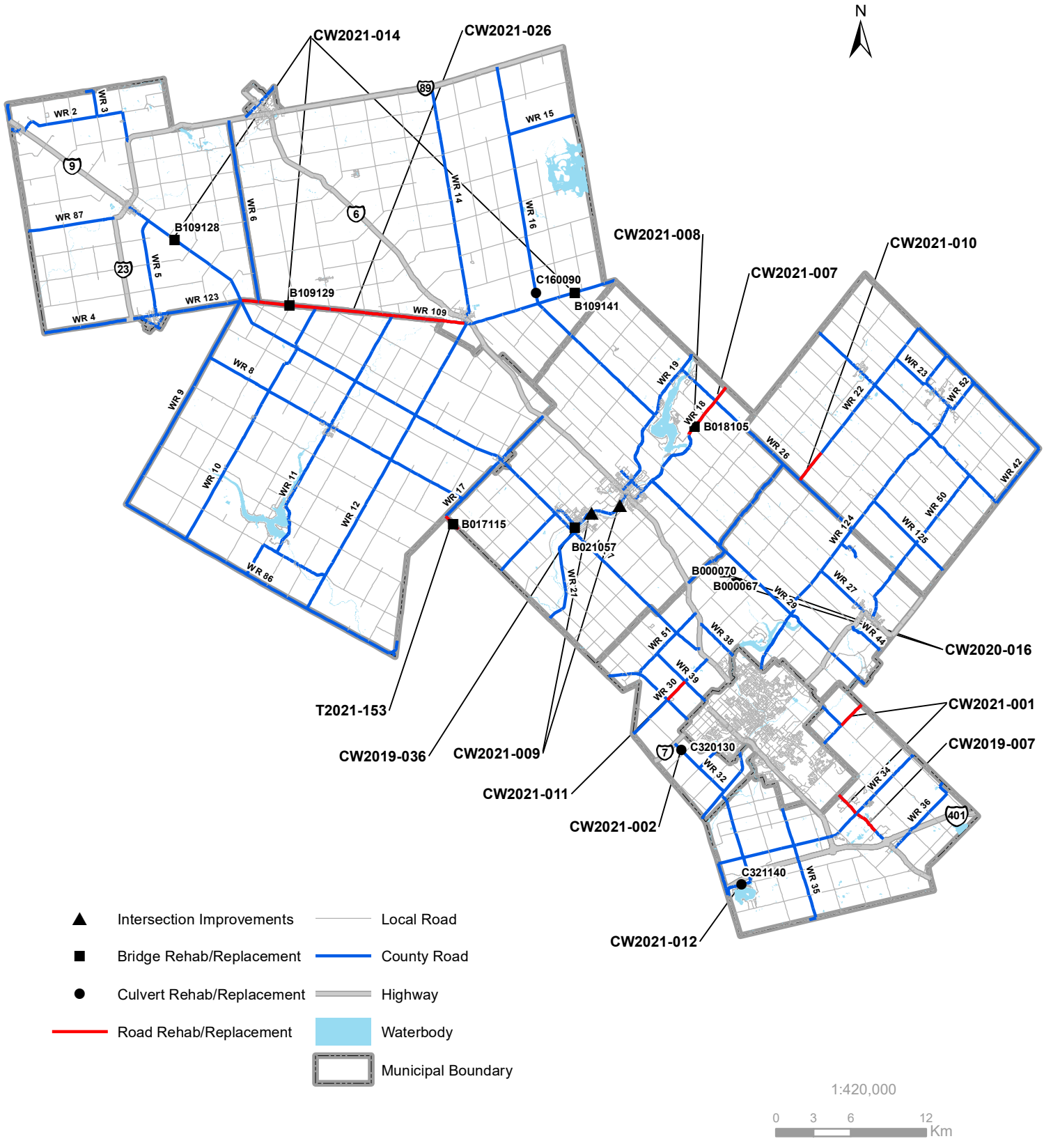
That the report titled “2021 Road Capital Construction – Project Status” be received for information.

Respectfully submitted,

Joe de Koning, P. Eng.
Manager of Roads

Attachment: Construction 2021 Project Map

2021 Road Capital Construction Project Status



COUNTY OF WELLINGTON

COMMITTEE REPORT

To: Chair and Members of the Roads Committee
From: Joe de Koning, Manager of Roads
Date: Tuesday, October 12, 2021
Subject: **Living Snow Fences Programme**

Background:

County Roads staff have worked to standardize the County of Wellington Living Snow Fence Programme. The purpose of this programme is to partner with local corn crop landowners to create living snow fence barriers along the County Road network.

Compensation is calculated to provide an incentive to the landowner with the County gaining a cost neutral alternative to traditional snow fence.

Snow fences increase road safety, reduce winter operating costs and lessen the impact to the environment by reducing salt and fuel usage.

Recommendation:

That the Wellington County Living Snow Fences Programme report be received for information;

Respectfully submitted,

Joe de Koning, P. Eng.
Manager of Roads

Attachment: Living Snow Fences Programme

Living Snow Fences Programme

What is it?

The County of Wellington Living Snow Fence Programme subsidizes the use of traditional snow fence with a crop incentive programme. The County Engineering Services Department is working with local corn crop landowners to create Living Snow Fences. There is evidence of significant cost savings in winter road maintenance, as well as increased road safety and environmental benefits from these natural snow fence barriers to both the community and the farmer.

Frequently Asked Questions (FAQs)

- **How can the County of Wellington help you?**
  - Assist with planning windbreak, and living snow fence projects
  - Corn crop landowners are compensated for keeping the agreed upon area of corn upright throughout the winter
- **Why should I participate in the Living Snow Fences Programme?**
  - You are providing a public service that may improve driver visibility during “white out” winter conditions.
  - You may also help to improve the road surface conditions within the County by minimizing snow drifts and ice, assisting the Roads Department Staff in keeping the roads maintained.
- **How will I be compensated for leaving my crop up throughout the year?**
  - Residents who qualify will receive remuneration from the County of Wellington. For a quote on your property and harvest, please contact the Roads Department.
- **How do I know if I qualify?**
  - To qualify, you must have a property on a Wellington County Road, and are willing and able to leave up a portion of your corn crop (approximately 8-12 rows of corn), or are willing to have trees planted on your property to act as a barrier.

Benefits of Living Snow Fences

- Increased road safety with drift prevention, and improved driver visibility
- Cost savings by reducing winter operations costs
- Lessens the impact on the environment with lower salt and fuel usage

Additional Information

- https://www.wellington.ca/en/discover/livingsnowfences.aspx
- https://www.youtube.com/watch?v=GqM_m5pToqc
- https://www.wellington.ca/en/resident-services/resources/PDS_Minnesota_Extension_-_Living_Snow_Fences.pdf
- https://www.youtube.com/watch?v=mjKcuKARK1M

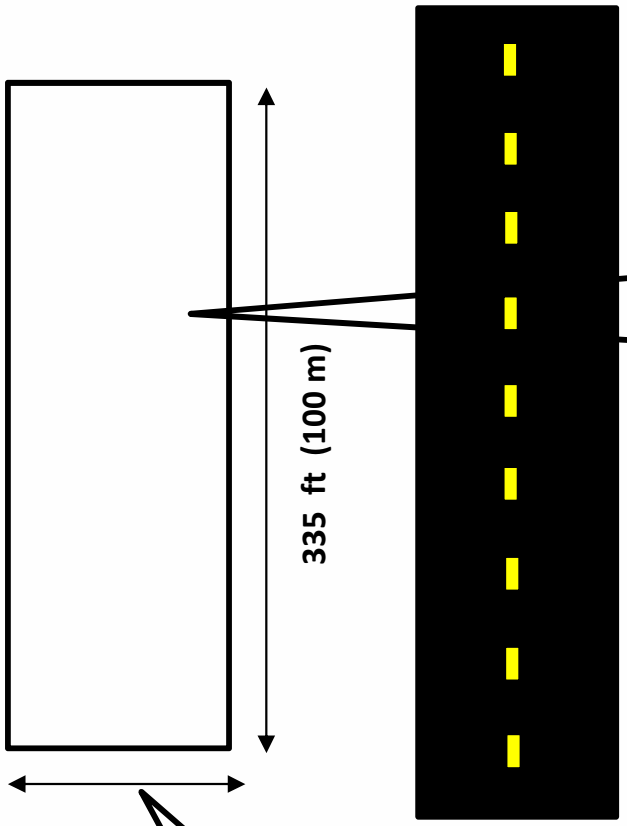
www.wellington.ca |T: 519.821.2090 |F: 519.821.1699

7468 Wellington Road 51
R.R. 5
Guelph, ON N1H 6J2

Living Snow Fences Programme

Paying For Corn Crop in 2021

- **Remuneration calculation based on:**
  - Number of rows required
    - Row Separation
  - Linear length of corn
  - Total Acreage calculation
  - Projected Crop Yield (bu/ac)
    - Corn Price ($/bu)
  - Total Corn Value + 50 %



What's it Worth?

0.23 acres
X 160 bu./ac.
X $8.45 / bu.
=> $310.96 or $3.11/m

30" plant separation
12 rows
= 30 ft or 10 m

Total Area:
30 ft x 335 ft
or
10 m x 100 m
=> 0.23 acres

What We Pay 2021

- Cost + 50 %

Example:
Value of: $310.96 or $3.11/m
We Pay: $466.44 or $4.66/m

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Guelph, ON N1H 6J2

COUNTY OF WELLINGTON

COMMITTEE REPORT

To: Chair and Members of the Roads Committee
From: Don Kudo, County Engineer
Date: Tuesday, October 12, 2021
Subject: **Road MAP: Level of Service Condition Criteria**

Background:

An area of study in the Road Master Action Plan (RMAP) is to review the Level of Service (LOS) condition criteria used by the County and recommend updates that reflect current performance and proposed LOS targets. The criteria is intended to align with the new asset management regulation (O.Reg. 588/17) and inform the County's corporate asset management plan.

The establishment of a LOS Condition Criteria aligns with the vision and goals of the RMAP. Specifically two of the eight goals identify the importance and relevance of establishing Level of Service condition criteria:

- Goal #6: Be Fiscally-Responsible When Making Investment Decisions
- Goal #7: Develop Transparent Policy Tools that Guide Investment Decisions in the Transportation Network

The LOS of a road network is closely connected to the condition of the pavement. The worse the condition of the road, the lower the LOS. The condition of roads is measured by using the Pavement Condition Index (PCI) which takes into account the physical condition of the road (e.g. cracking, potholes). The condition of a road deteriorates over time and during the pavement lifecycle activities such as maintenance, rehabilitation and reconstruction occur to improve the condition of the road.

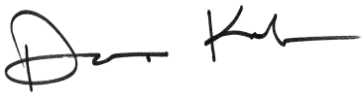
The RMAP memo provides details on a framework to report on the condition of the road network. PCI ratings and categories will help to organize the road network data and help to develop a strategy for maintaining road assets. A system of five condition categories has been proposed and this is consistent with industry standards along with the practices to be adopted by the County and local municipalities. Other factors to be considered when analyzing road assets is the criticality of the road segment, traffic usage and impacts of climate change.

The RMAP – Level of Service Condition Criteria memo will be a useful resource for the County in the future to comply with asset management regulations and will assist staff with future decisions on road improvements throughout the County.

Recommendation:

That the RMAP – Level of Service Condition Criteria memo as outlined in the report be received for information and included as part of the Road Master Action Plan.

Respectfully submitted,



Don Kudo, P. Eng.
County Engineer

Attachment: Memo - RMAP – Level of Service Condition Criteria

Memo

To: Don Kudo, P. Eng., County of Wellington

From: Dennis Kar, Dillon Consulting Limited

cc: Darla Campbell, Dillon Consulting Limited
Kate McNamara, Dillon Consulting Limited
Paul Bumstead, Dillon Consulting Limited

Date: October 4, 2021

Subject: Wellington RMAP – Level of Service Condition Criteria (Phase 6)

Our File: 20-3297

1.0 Introduction and Background

As asset management practices advance in Ontario (in alignment with O.Reg. 588/17), level of service (LOS) is more broadly defined to include the user experience, the design capability of the network to perform its function and the current performance of the road assets.

The purpose of this memo is to review the Level of Service (LOS) condition criteria used in the 2013 County of Wellington Asset Management Plan (2013 AMP) and recommend updates that reflect current performance and proposed LOS targets that align with the new asset management regulation (O.Reg. 588/17). These updates should be applied to both existing and recommended roadway expansions identified in the Road Master Action Plan (RMAP).

Background

In 1999 the Province downloaded over 100 km of road to the County, all of which is approaching the end of its 20 year lifecycle. The County needs to review the current Level of Service condition criteria to determine if it reflects the current targets for performance, and whether the implementation of the asset strategy from the 2013 plan is meeting the desired LOS targets. Any gap between current and target will need to be addressed with consideration of financial capabilities to achieve the proposed LOS.

The establishment of a LOS Condition Criteria aligns with the vision of the RMAP:

"To connect people and goods across the County safely, conveniently, efficiently and sustainably."

Eight corresponding goals are identified to achieve the transportation vision for the County. Two of the eight goals identify the importance and relevance of establishing a Level of Service condition criteria: Goal #6 and Goal #7.

Goal #6: Be Fiscally-Responsible When Making Investment Decisions

Goal #6: *The decision to maintain or expand the County's transportation network will be fiscally-responsible, and consider funding opportunities, lifecycle costing and ability to cost-effectively achieve strategic priorities when prioritizing transportation investments*

The LOS condition criteria will help achieve this goal by defining current and target LOS related to condition. Then conducting a gap analysis between the target LOS condition criteria and the current condition of the each road segment in the network. This information will help to prioritize and schedule roads for condition improvement which can be utilized in the decision-making process to maintain or expand the network.

Goal #7: Develop Transparent Policy Tools that Guide Investment Decisions in the Transportation Network

Goal #7: *The County will develop open and transparent policy tools and frameworks to guide decision-making to address immediate operational concerns and long-term investment needs of the County's transportation network. These will improve accountability of decisions and priorities made.*

Including LOS condition criteria, as part of the framework to guide decision-making, will broaden the understanding of the required investments in the road network to include maintaining the LOS and consideration of the full lifecycle of roads. There is an impact on both the operating and capital budgets and the implementation of asset management strategies to include full lifecycle of the road infrastructure.

2.0 Review of Current Level of Service and Best Practices

The review of current LOS condition criteria at the County considered the following:

- How road condition was reported in the County's 2013 AMP;
- What new condition information and strategies since the 2013 AMP; and
- What guidance is provided in the County's Strategic Asset Management Policy.

The review of best practices for LOS condition criteria include:

- How pavement condition informs level of service;
- What is required by O.Reg. 588/17 for road LOS; and
- Review of similar communities on how they report on road condition LOS.

Highlights from this review are presented below for each of these topics.

2.1 Current LOS at the County

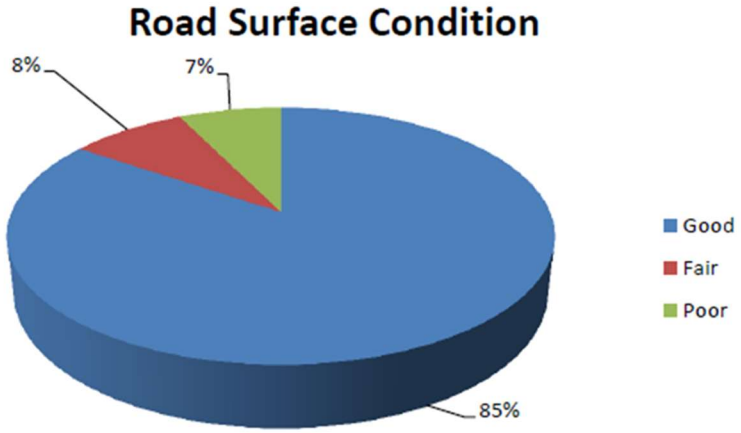
County's 2013 Asset Management Plan

The condition assessment of roads in the County's 2013 Asset Management Plan (AMP) was organized into three rating categories: good, fair and poor.

The plan reported that 85% of the road surface condition was good (greater than 75 PCI), 8% was fair (70 to 75 PCI and requiring capital investment within 5 years), and 7% was poor (less than 70 PCI and needing immediate attention). This is illustrated in **Figure 1**.

The 2013 AMP identified that a PCI of 70 or greater would be suitable, although it was noted in the report that the LOS condition target was not yet adopted by Council.

The asset management strategy is to maintain a PCI of 75 or higher with appropriate maintenance of a road surface until the last five years of the road's lifecycle, at which time the surface would be identified for rehabilitation or renewal within the five-year capital budget.



Condition Assessment	PCI
Good – regular maintenance, no major capital requirements	>75
Fair – capital requirements within 5 years	70-75
Poor – Immediate attention	<70

Figure 1: 2013 Road Surface Condition (excerpt from 2013 AMP)

Since the 2013 AMP

The 2018 condition assessment for roads was reviewed. The assessment uses a four-point scale. The County is moving to a five-point scale in the 2021 AMP, which aligns with the Canadian Infrastructure Report Card and other best practices. The 2021 AMP states the current level of service.

The establishment of target level of service will be set in the future based on recommendations from Roads staff that will be proposed for Council approval. Proposed levels of service will be modelled in CityWide to help staff understand the financial impacts. The requirement in include proposed level of service in the AMP, under O.Reg. 588/17, is July 2025.

In 2021, the County is updating the road needs study with current road surface condition information, and there is a plan to update this on a three-year cycle. It was also noted that the current asset management strategy has a greater focus on more preservation of road surfaces with surface treatment.

Strategic Asset Management Policy (TR-19-05)

The County's Strategic Asset Management Policy (TR-19-05) was adopted in 2019 as required by O.Reg. 588/17. The following are highlights from the policy that specifically references levels of service or transportation:

- Asset management is an integrated approach, involving all County departments, to realize value through the effective management of existing and new assets. The intent is to maximize benefits, reduce risk and **provide acceptable levels of service** to the community in a sustainable manner.
- **Transportation** is a service delivered to the community. The asset group is Transportation Infrastructure which include assets such as roads, bridges, culverts and guide rails.
- One of the key principles in the policy speaks to service delivery. See insert below.

> Service Delivery to Residents - The County will:
>
> - Clearly define **levels of service** that balance community expectations, regulatory requirements, risk, affordability and available resources.
> - Manage assets in order to efficiently and effectively deliver the agreed upon **levels of service**.
> - Continually monitor and review the agreed upon **levels of service** to ensure that they support community and council expectations and other strategic objectives.
> - Ensure transparency and accountability to the community on **service delivery**. This will include regular communications to council and shared information with the public on service performance.
> - Provide opportunities for public engagement where residents and other stakeholders served by the County can provide input into asset management planning through the existing Strategic and Master Planning processes.
> - Comply with all relevant legislation, regulatory and statutory requirements.

2.2 Best Practices for LOS

How Pavement Condition Informs LOS

The level of service of a road network is closely connected to the condition of the pavement. The worse the condition of the road, the lower the level of service. The condition of roads is measured by using the Pavement Condition Index (PCI) which takes into account the physical condition of the road (e.g. cracking, potholes) measured by a visual inspection. A new road is assigned a PCI of 100, and over time, as the road ages and through wear and tear, the PCI number drops to 0, which is the worst possible condition. See **Figure 2** which illustrates how the condition of the road deteriorates over time and the

lifecycle activities recommended: preventative maintenance; maintenance and rehabilitation; and reconstruction.

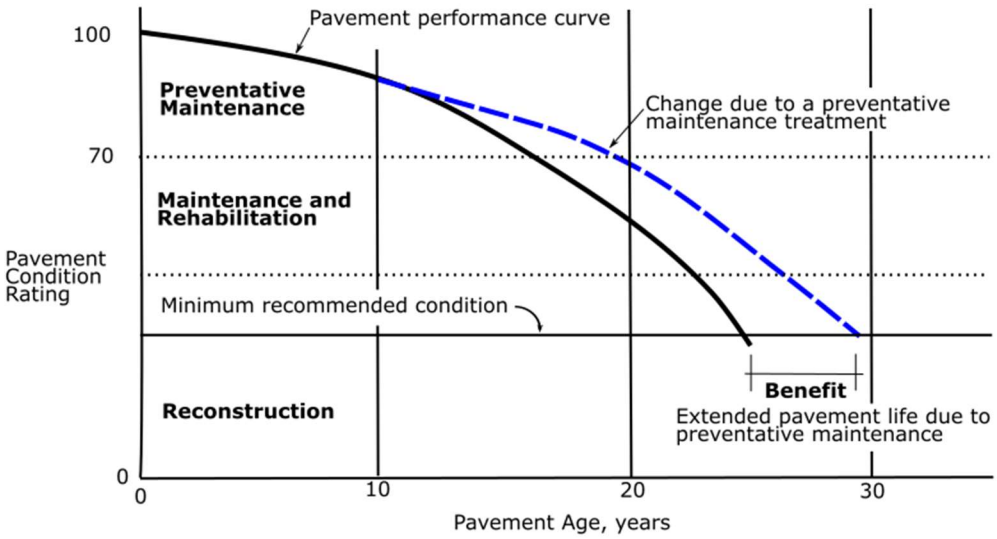


Figure 2: Pavement Condition and Lifecycle Activities

This is a common approach in asset management that reflects the decay of the asset over time. See **Table 1** with PCI ranges and associated condition descriptions (ASTM D6433-90). The last column in presents a recommended 5-point scale for asset management reporting, which aligns with the Canadian Infrastructure Report Card.

Table 1: Pavement Condition Index Description Groups (ASTM D6433-90)

Pavement Condition Index (PCI)	ASTM Condition Description	Recommended 5-point scale
100 to 86	Good	Very Good
85 to 71	Satisfactory	Good
70 to 56	Fair	Fair
55 to 41	Poor	Poor
40 to 26	Very Poor	Very Poor
25 to 11	Serious	Very Poor
10 to 0	Failed	Very Poor

According to Report SP-024 published in August 1989 by the Ministry of Transportation (Manual for condition rating of flexible pavements – Distress manifestations), there are eight categories for flexible pavement rating as presented in **Table 2**. Pavement Condition Rating (PCR) is an assessment of overall

pavement performance, both functionally and structurally. It is derived from serviceability based on evaluation of pavement riding comfort and of pavement surface distresses.

Table 2: Description of Pavement Condition Rating (MTO SP-024)

Pavement Condition Rating	Description of Pavement	Rideability Description
90 to 100	Excellent condition with few cracks	Excellent with few areas of slight distortion
75 to 90	Good condition with frequent very slight or slight cracking	Good with few slightly rough and uneven sections
65 to 75	Fairly good condition with slight cracking, slight or very slight dishing and a few areas of slight alligatoring	Fairly good with intermittent rough and uneven sections
50 to 65	Fair condition with intermittent moderate and frequent slight cracking, and with intermittent slight or moderate alligatoring and dishing	Fair and surface is slightly rough and uneven
40 to 50	Poor to fair condition with frequent moderate cracking and dishing, and intermittent moderate alligatoring	Poor to fair and surface is moderately rough and uneven
30 to 40	Poor to fair condition with frequent moderate alligatoring and extensive moderate cracking and dishing	Poor to fair and surface is moderately rough and uneven
20 to 30	Poor condition with moderate alligatoring and extensive severe cracking and dishing	Poor and the surface is very rough and uneven
0 to 20	Poor to very poor condition with extensive sever cracking, alligatoring and dishing	Poor and surface is very rough and uneven

The comparison of the condition rating categories is presented in **Figure 3**.

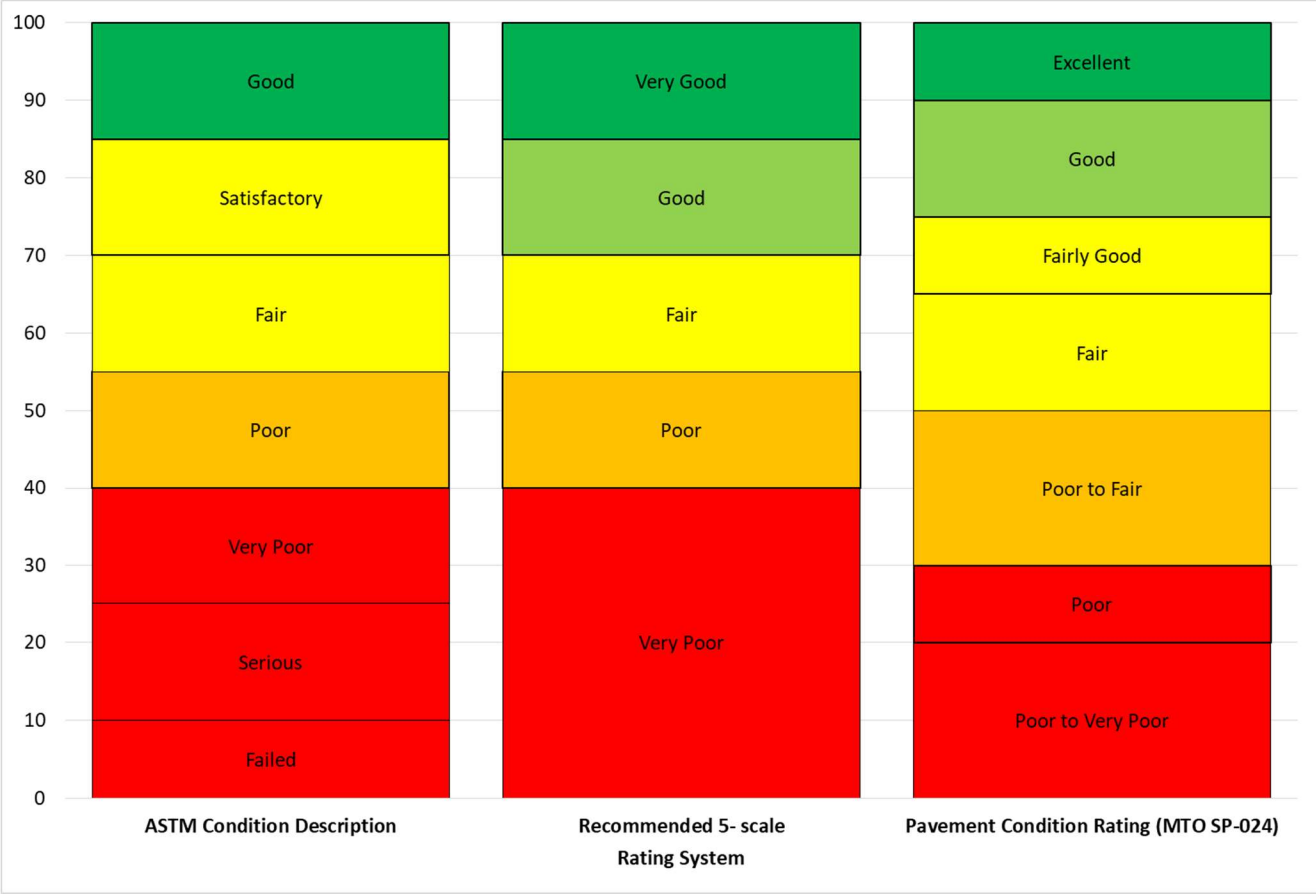


Figure 3: Comparison of the Condition Rating Categories

2.3 What is Required by O.Reg. 588/17

The new asset management regulation (O.Reg. 588/17 Asset Management Planning for Municipal Infrastructure) identifies levels of service as a requirement for reporting on the current service provided as well as the target level in the future. Levels of Service (LOS) description is required from the customer LOS as well as the technical LOS perspective, as well as the reporting on performance of the assets. This is illustrated in **Figure 4**.

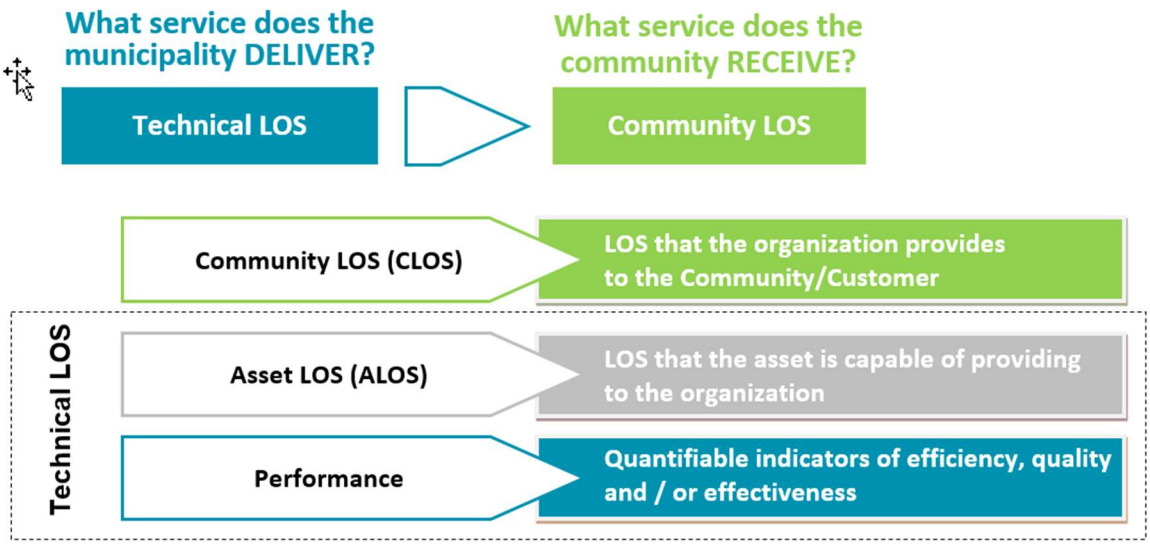


Figure 4: Levels of Service (O.Reg. 588/17 and Alignment with ISO55000)

The regulation is prescriptive on the minimum reporting on levels of service for core assets. For roads, the regulation identifies the reporting requirements stated in the regulations for scope and quality. **Table 3** illustrates highlights from the regulation.

Table 3: Levels of Service for Roads (excerpt from O.Reg. 588/17)

Service Attribute	Community Levels of Service (qualitative descriptions)	Technical Levels of Service (technical metrics)
Scope	Description, which may include maps, of the road network in the municipality and its level of connectivity.	Number of lane-kilometres of each of arterial roads, collector roads and local roads as a proportion of square kilometres of land area of the municipality.
Quality	Description or images that illustrate the different levels of road class pavement condition.	1. For paved roads in the municipality, the average pavement condition index value. 2. For unpaved roads in the municipality, the average surface condition (e.g. excellent, good, fair or poor).

2.4 Review of Similar Communities

How are similar communities addressing level of service for roads? With the implementation of the new regulation, and the extension to July 2022 to meet the requirements for core infrastructure, there was limited information available for review.

Information from three communities was available:

- City of Waterloo;
- United Counties of Leeds and Grenville (UCLG); and
- Town of Tecumseh.

These communities were chosen based on their similar geographic profiles (e.g. mix of rural and urban) or were located nearby, or both. Table 4 provides a comparison of the condition rating of the peer communities with the County.

Table 4: Comparison of Condition Ratings with Similar Communities

Condition Rating	Waterloo	UCLG	Tecumseh	Wellington[1]
1 – Very Good	81 to 100	90 to 100	90 to 100	-
2 – Good	61 to 80	80 to 90	75 to 90	**Greater than 75**
3 – Fair	41 to 60	60 to 80	65 to 75	**70 to 75**
4 – Poor	21 to 40	40 to 60	50 to 65	**Less than 70**
5 – Very Poor	0 to 20	0 to 40	Below 50	-

NOTE[1]: County of Wellington 2013 AMP used a three point condition rating system. In the 2018 pavement condition evaluation, a four point condition rating system was used. The current draft 2021 AMP uses a five point condition rating system. Local municipalities are proposing to use the same five point condition rating system

Highlight from the Town of Tecumseh

From the Road Needs Study 2019 for the Town of Tecumseh, their proposed 5-year maintenance/ rehabilitation program is based on the following:

- Reconstruction works for pavements with a PCI rating less than 45;
- Rehabilitation works such as resurfacing for pavements with ratings from 45 to 55; and
- Maintenance such as crack sealing for pavements with a PCI rating from 55 to 70.

The recommended maintenance program is projected to result in a weighted average PCI rating of 75 in 5 years, which is a slight decline from the current weighted average PCI rating of 77. The resulting level of service still exceeds the Town's objective of maintaining an average PCI of 70, as identified in the Town's Asset Management Plan.

Highlight from United Counties of Leeds and Grenville (UCLF)

In the 2018 AMP for UCLG, the average condition of the road network was reported to be 76 PCI, an overall Fair rating (Condition Category 3). In addition to the overall average condition, UCLG also assigned an importance level to each road and then reported on the condition of roads based on their importance score. The purpose for considering importance is to identify higher priorities for

improvement (i.e. higher importance = higher priority). See **Figure 5** for the condition of roads reported by length of road lanes and importance.

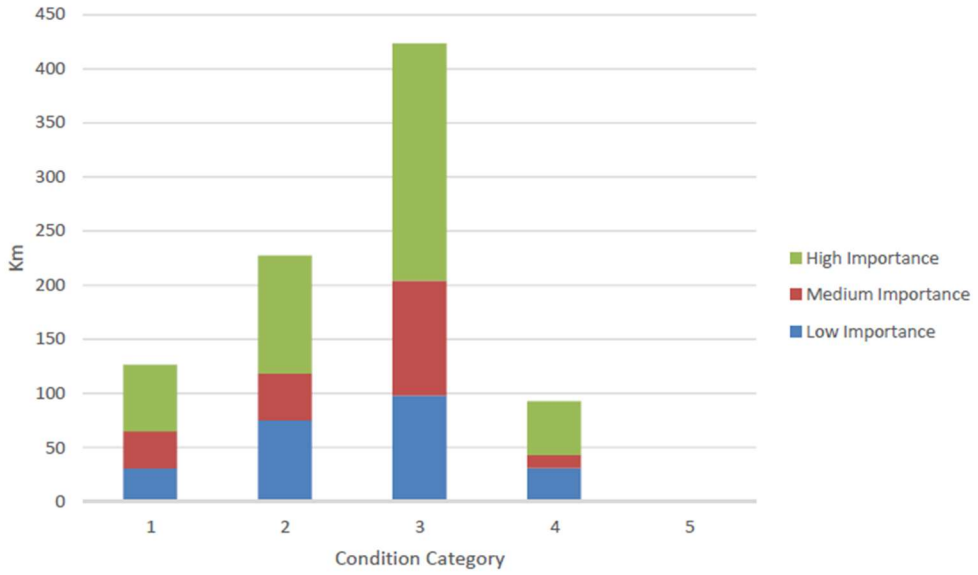


Figure 5: Condition of Roads (km and Importance) - United Counties of Leeds and Grenville

2.5 Conclusion

The review of best practices and levels of service identified opportunities to advance asset management principles and align future asset management plans with LOS condition requirements of O.Reg. 588/17.

There is limited information available from comparator municipalities on how condition LOS is being reported and what target LOS are being set. As municipalities in Ontario advance their asset management practices to align with O.Reg. 588/17, this information will become more readily available.

Further discussion and recommendations are presented in the next section.

3.0 Discussion and Recommendations

3.1 Consider Current Condition of Road in Modelling

Transportation assessment identifies problems in the network – capacity, safety, speed. The assessment assumes that the road condition is adequate to the role and function (i.e. planning level of service of 1,200 vehicles per lane assumes good pavement condition). Layering in information about the current condition of the road could provide a more realistic assessment of current operations. For example, if the current capacity problem is tied to poor road condition, then the priority is to improve the condition of the road to regain the capacity LOS of the road. Impacts on travel speed would show up when the PCI < 50 on a segment of road.

RECOMMENDATION-1: Any roads that currently have PCI < 50 should be assessed with a lower capacity in network modelling and identified as a constraint until the condition of the road is improved.

3.2 Condition Rating Categories

Condition rating categories provide a framework to report to Council and the public on the current condition of the road network. The selection of which PCI ratings constitute "very good" or "good", and what makes up "poor" and "very poor" is at the municipality's discretion. These "buckets" help to organize the network and to report, as well as to identify, the strategy for maintaining the assets going forward. Five condition categories align with the Canadian Infrastructure Report Card and have been adopted as a best practice in analysis and reporting. See **Table 5** for recommended condition descriptions that align with the ASTM categories and the MTO categories.

Table 5: Recommended Condition Categories

Pavement Condition Index (PCI)	Recommended 5-Point Scale
100 to 86	Very Good
85 to 71	Good
70 to 56	Fair
55 to 41	Poor
40 to 0	Very Poor

When looking at a short term horizon, five years out, the five point scale can help to prioritize road segments for condition improvement and how you can take care of some things projected to be poor to move up your average number. (Roads in poor condition now will degrade faster than roads in good condition.)

RECOMMENDATION-2: Expand number of condition categories (to 5) to assist in lifecycle planning and project prioritization.

NOTE: A five point scale is used in the current draft 2021 AMP. Other local municipalities are proposing to use the same five point scale.

3.3 Minimum LOS Reporting (O.Reg. 588/17)

The regulation requires reporting on the scope and quality of the road network for Level of Service. As presented in Table 3 in the earlier section, the technical LOS for quality is:

- Average pavement condition index value for the paved roads in the municipality.
- For unpaved roads, reporting is required for the average surface condition (e.g. excellent, good, fair or poor)

RECOMMENDATION-3: Meet the minimum LOS reporting requirements as required by O.Reg. 588/17 for scope and quality.

3.4 Importance of Roads within the Network

A more advanced approach is to identify categories of roads such as importance (or criticality factor) for roads and to report on the average within each category. For example, a municipality could identify roads with a higher volume to be of higher importance and establish a target LOS that is higher for those roads, than for roads that have less traffic. This is the "greater public benefit" approach. This could align (but not in all cases) with the class of road, where arterial roads would have higher traffic counts and rural and urban roads would be less.

The class of road could be divided into sub-categories with ranking of importance within each. For example, which roads (and routes) are most important to the community? In this example, roads near a hospital, near a school, emergency detour routes, etc. may be ranked higher. See example from UCLG in **Figure 5** (earlier section) which presents a breakdown of the length of pipe (km) by importance and condition. This helps with prioritization of roads for condition improvement.

RECOMMENDATION-4: Consider importance of roads within the network in prioritizing lifecycle activities. Report on the average condition of each category of importance, as well as the overall average of paved and unpaved as per Recommendation-1.

3.5 Traffic Usage of the Road

Other ways to measure the service level for a road network could be to consider the usage of the road such as:

- Speed (match higher speed with better condition);
- Higher volume (match higher Average Annual Daily Traffic (AADT) with better condition); and
- Traffic usage (e.g. agricultural or truck traffic).

With an understanding of current and projected traffic in the road network, road sections with high priority usage as noted above could be set with a better average condition of those sections of the network.

This alignment with usage and community experience delivers a higher level of service in areas of the network where the users will notice and appreciate the investment to maintain higher level of service (i.e. condition of the road).

Other usage such as heavy truck traffic cause greater wear and tear on the roads. Part of the lifecycle strategy could be to rebuild these high traffic areas with more robust roadways that can withstand and wear more "gracefully", providing a higher level of service with less additional maintenance on the roadway.

Specialty vehicles such as agricultural vehicles or cart and buggy can impact not only the main section of the roadway but also the shoulders of the roadway. Regular use of gravel shoulders by horse and buggy can cause rutting in the shoulders and loss of granulars.

Also, horseback riding or specialty vehicles such as ATVs or other off-road vehicles can cause specific wear on the shoulders and on the paved surfaces. Special considerations may be required to accommodate cycling traffic.

RECOMMENDATION-5: Consider traffic usage of the roadway in establishing the target LOS for each section of the network and incorporate traffic usage in the prioritization of lifecycle activities to meet the LOS.

3.6 Surface Type (Paved vs Gravel)

Another strategy employed by rural municipalities is to consider the lifecycle approach of roads and to develop a plan to prioritize the conversion of gravel to paved surfaces or paved surface to gravel (as an interim strategy until adequate funding can be secured for a road rebuild).

RECOMMENDATION-6: Consider the option of converting surface type for road sections to gravel for roads that are near the end of their useful life when the road has lower traffic usage, even as a temporary measure until funding can be secured for road rebuild.

3.7 Consider Climate Change Impacts on the Roads

Increasing summer temperatures due to climate change can increase the rutting in asphalt paved surfaces, as well as increased stormwater and flooding in the spring due to faster snow melts can play havoc with the road base, especially if another freeze thaw cycle follows the melt.

RECOMMENDATION-7: Consider climate change impacts on the road network, both in terms of short-term impacts on LOS (e.g. when flooding occurs) and long-term impacts on road condition LOS (e.g. increasing free thaw cycles).

COUNTY OF WELLINGTON

COMMITTEE REPORT

To: Chair and Members of the Roads Committee
From: Don Kudo, P. Eng., County Engineer
Date: Tuesday, October 12, 2021
Subject: **CPWA National Public Works Week Awards**

Background:

Each year the Canadian Public Works Association (CPWA) hosts an awards contest to recognize municipalities in Canada for their National Public Works Week (NPWW) programmes and events. A panel of CPWA evaluators chooses winning entries based on criteria that include public outreach, education, staff involvement, political involvement, events held and creativity. The County was notified on as the winner of the Community over 100,000 population category and the official announcement will be made at the PWX Plus Conference this week.

The Engineering Services Department hosted a number of events during NPWW that included the livestreamed unveiling of a commemorative plaque and gateway sculpture feature at the newly constructed Badley Bridge and two virtual presentations to Grade 6 classes focusing on the County's new organics diversion programme. As COVID 19 conditions required most events to go virtual, staff focused on using traditional and non-traditional media and unique tools to celebrate NPWW. Promotions included an electronic billboard, bumper stickers, video, masks, print advertising, posters, postcards, website, social media posts, and radio ads. The department also participated in an Ontario Public Works Association panel event and staff were featured along with other public works professionals from across the Province.

Recognition of department staff was a key focus of NPWW to thank the County's Roads and Solid Waste Services staff for their daily work and efforts in providing the community with essential services during the pandemic.

Recommendation:

That the report "CPWA National Public Works Week Awards" be received for information.

Respectfully submitted,

Don Kudo, P. Eng.
County Engineer

Attachment – CPWA Letter

CANADIAN PUBLIC WORKS ASSOCIATION
123 Slater Street, Suite 700
Ottawa, ON K1P 5H2
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fax 202-408-9542
www.apwa.net/cpwa

August 6, 2021

Mr. Don Kudo
County Engineer
County of Wellington
74 Woolwich Street
Guelph, ON
N1H 3T9

Dear Mr. Kudo:

On behalf of the CPWA Board of Directors, I am pleased to inform you that the County of Wellington has been selected to receive the 2021 CPWA National Public Works Week (NPWW) award for a community of 100,000 or more. CPWA is pleased to recognize the fantastic effort put forth by the County of Wellington to promote public works during NPWW this year. Congratulations on your outstanding work and this well-deserved award!

The official announcement of these awards will be made virtually at the CPWA Keynote and Awards at PWX Plus on Tuesday, October 12, 2021. Notification to all municipalities who entered the 2021 CPWA NPWW Awards Contest will not be made until after the official announcement on October 12. Following the official announcement, a representative from the CPWA Board of Directors will be pleased to present your municipality with an engraved plaque at a council meeting or event of your choice, recognizing the County of Wellington as a winner of the 2021 CPWA NPWW Awards Contest. Anne Jackson, APWA Director of Sustainability & Canadian Government Affairs, will be in touch with you via email to coordinate details for the presentation.

Again, congratulations and thank you for your hard work during National Public Works Week and throughout the year! We hope the County of Wellington will celebrate NPWW again next year during the week of May 15-21, 2022. We look forward to your future involvement in the NPWW Proclamation Campaign and CPWA NPWW Awards Contest.

Yours sincerely,

Patricia M. Podoborozny, CET
President

Scott D. Grayson, CAE
CEO