	Date:	August 15, 2023	File: 121149		
BluePlan	To:	Courtenay Hoytfox			
		Township of Puslinch			
	From: Project:	Matt Scott			
		Puslinch Roads Management Plan			
	Subject:	Response to Council Comments on RMP			
TECHNICAL MEMO	-				

This memo has been prepared by GM BluePlan Engineering Limited (GMBP) to summarize the responses to Council comments on the August 8, 2023 draft of the Roads Management Plan (RMP) for the Township of Puslinch (Township.

Some gravel roads are narrower than the paved roads. What concerns would there be if these gravel roads were paved assuming the appropriate drainage and subgrade is provided and projected AADT would still support current width of gravel road?

Assuming that appropriate drainage and subgrade is present to support the hard-surfacing of an existing gravel road, the concerns with hard-surfacing a Township road at a width that is less than the current Township standard (7.0 m) would relate to the potential for increased frequency of collisions and reduced service life.

As outlined in Chapter 1 – Design Philosophy of the Geometric Design Guide for Canadian Road (Transportation Association of Canada, 2017), there is no such thing as "absolute safety". A well-designed road provides an acceptable balance of service, cost, environmental impact and level of safety to all of its users (Section 1.1.3). While we recognize that the same design choices may have different outcomes at different locations, guidelines are generally based on prevailing and predicable vehicle performance, road user behaviour and performance, as well as current technologies. Providing a paved road width that is narrower than the Township standard as part of an upgrade, such as hard-surfacing an existing gravel road, may reduce the predictability of driving habits than would be expected on other Township roads. This could lead to increased incidents of vehicle collisions or vehicles leaving the roadway, especially as we would expect the AADT on a road to increase once it is converted to a hard-surfaced road.

In terms of service life, we note that paved surfaces with lanes below the minimum Township standard would put more traffic loading closer to the edge of the paved surface. With narrow/non-existent shoulders, we would expect to see increased edge cracking and loss of support for the pavement at the edge, leading to premature failure. Farm machinery would also be required to navigate closer to the edge of the pavement and may be required to be on or over the road centreline when using the road surface.

The warrant for additional signage should be reviewed.

-p.204 re "The Grant Agreement from the Federation of Canadian Municipalities indicates that costs are eligible from January 5, 2022 to September 30, 2023"; what is the amount of the total costs that can be covered?

As provided by Township staff:

\$50,000 is the total maximum funding that is available under the program. The Township was approved for the maximum amount available of \$50,000.

-p.212 shouldn't the total centerline kms for each table match?

Table 1 totals 179.1 km and Table 2 totals 179.0 km. The difference is attributed to rounding between two categories versus three.



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-p.221 re "We anticipate that increasing the asphalt thickness to 95 mm"; if we are getting 20 years life why do we need to do this?

The intent of this comment was to convey that the number of maintenance activities that can be completed on a single-lift asphalt road is generally minimal. Providing a double-lift asphalt thickness would allow for more opportunities to complete maintenance activities with the goal of getting all roads to a service life of 20 years, and not the average; however, as noted in the preceding paragraph on p.221 of the Council Agenda (page 13 of the RMP), this would assume that the "bottom-up" deficiencies have been addressed.

-p.230 conversions of gravel roads to paved roads; re "Should Council consider this practice, the next steps would involve the development of a program that may include a by-law, financing options, Petition form, user guide and relevant background information for Council approval."; can't support this process at this time.

If this practice is not endorsed by Council, it can be removed from the RMP.

-p. 257 table 25; does limiting to 50kph still allow for consideration of other areas such as Hume Road, Maltby Road?

The Traffic Calming Study process is designed to address requests from roads in urban centres and hamlets only as the process works best in a neighbourhood context. For rural roads, where properties are more dispersed, the request could be dealt with through the Speed Limit and Community Safety Zone Policy and considered for a speed limit change first. As part of that process, the Township could still consider rural traffic calming measures, as defined in the Traffic Calming Toolbox, if needed to support the speed limit change or to address situations where speed limit modification is not recommended. But the public Traffic Calming Study process is not intended to apply the same way. It should also be noted that not all traffic calming measures are appropriate in rural areas, particularly vertical deflection measures.

-p.260 re "Figure 3 illustrates the process for responding to resident-initiated requests for traffic calming on Township roads primarily in Hamlet Areas and Urban Centres defined on Schedule A7 (Puslinch) of the Wellington County Official Plan."; does this rule out considering most of the roads in the Township where the majority of the complaints originate?

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-p. 270 re "This policy will apply to requests received for speed limit changes on Township roads. The Township should consider conducting a comprehensive speed limit review for all roads under its jurisdiction to minimize the number of such requests."; What would be the criteria used to evaluate appropriateness of current speed limits and recommendations for change?

The criteria would be those defined in the Transportation Association of Canada Canadian Guidelines for Establishing Posted Speed Limits.



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-p. 270 re "The Township will not entertain requests for speed limit reductions on roads outside the Hamlet Areas and Urban Centres shown on Schedule A7 (Puslinch) of the Wellington County Official Plan solely to address concerns expressed by residents about the perceived safety of walking on the side or shoulder of the roadway."; what would trigger consideration?

Any request substantiated by another concern on the Community Traffic Issue Reporting Form would trigger consideration. This includes speeding, collision concerns, vehicle volumes, and cut-through traffic.

-p. 285 re "• It is recommended that annual roads capital funding for road rehabilitation be approximately \$2.7M based on the Road Condition Assessment indicating that the total 10 Year Road Capital Needs are \$27.1M."; how does this compare to our current 10 year budget for road rehab?

As provided by Township staff:

\$9,783,610 from 2023 to 2032 or an average of \$978,361 per year. This was based on the Pavement Condition Index (PCI) updates completed in 2016 (with an assumption that the PCI will decrease by 2 points per year). This was also based on the service level policy established as part of the 2019 Asset Management Plan – ie. that Class 3 roads be rehabilitated or reconstructed at a PCI of 65. Class 4 and Class 5 roads be rehabilitated or reconstructed at a PCI of 65. Class 4 and Class 5 roads be rehabilitated or reconstructed at a PCI of 60. The 2024 capital budget and forecast will be updated based on Appendix K of the Roads Management Plan which provides the time of need and priority ratings for the Township's road rehabilitation schedule as well as cost estimates for each road rehabilitation project.

-p.420 register; Council over the past few years have received delegations, letters regarding speeding on roads such as Concession 4, Victoria Road, Hume Road as well as upgrading gravel roads such as Concession 11. These should be put in the register

Provided this methodology is accepted by Council, we can provide a digital copy of the register for its use moving forward and populate with the comments/responses to date.

If there are 51.1km of gravel roads in the township, we are budgeting \$80,000 per year for half of the roads – which equates to 25.5km/year or \$3,137.25 per kilometer.

If we proceed with recommendation of thickness of 57mm, it is anticipated that additional granular may be able to be stretched to 3 years. This recommendation is estimated at \$15-20K per kilometer. Therefore if there are 51.1km of gravel road – divide by 3 (apply to one third of gravel roads each year as opposed to half) that equates to 17.03km multiplied by \$15-20K for a total budget required each year \$255,499 - \$340,600.

Wanting to check if this calculation is correct?

That appears to be correct; however, as noted at the end of Section 4.4, the purpose of these cost estimates was for a comparative analysis of a typical 1 km section of road for various surfacing options. Applied to a large portion of the Township's gravel road network, we would anticipate that efficiencies can be realized.

Another way this could be approached is to consider that that the volume of gravel that \$80,000 can procure was estimated by the project team to equate to 25 mm thick across half of the Township's gravel road network. To get to the recommended thickness, 57mm / 25 mm = 2.28, and 2.28 x \$80,000 = \$182,000.

We would recommend that further discussions occur with Township staff to formalize Township staffing and equipment requirements prior to increasing the budget.



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Section 7 – Table 24 – Of the top 5 priority roads identified in the table, when are those projects scheduled for replacement in our asset management plan and do replacement costs coincide with expected costs from this plan?

As provided by Township staff:

The estimated costs outlined in the 2023 capital budget and forecast is based on the estimated costs determined through recent engineering assessments or as estimated in the 2019 Asset Management Plan. The timing of the road works in the 2023 capital budget and forecast are based on the 2016 Pavement Condition Index updates (with an assumption that the PCI will decrease by 2 points per year). As outlined in Section 7 of the Roads Management Plan, as no site-specific considerations have been considered, these estimates should be considered with an accuracy of \pm 40%. The 2024 capital budget and forecast will be updated based on Appendix K of the Roads Management Plan which provides the time of need and priority ratings for the Township's road rehabilitation schedule as well as cost estimates for each road rehabilitation project.

Roads Management Plan						2023 Capital Budget and Forecast		
Asset ID	Street Name	From Street	To Street	Estimated Cost	Priority Rating	Year	Amount	Comments
4	Gore Road	Sideroad 20 South	Valens Road	\$983,000	101.4	2025	\$295,490	Boundary Road with Hamilton
139	Watson Road South	Hume Road	Maltby Road East	\$1,009,000	99.9	2024	\$231,455	
6	Gore Road	Concession 7	Lennon Road	\$362,000	84.5	2025	\$100,674	Boundary Road with Hamilton
5	Gore Road	Valens Road	Concession 7	\$576,000	80.4	2025	\$173,056	Boundary Road with Hamilton
37	Concession 2A	Concession 2	Concession 7	\$117,000	78.5	N/A	N/A	Gravel Road

\$3,047,000

\$800,675

Why are speed humps not appropriate on roads that have a speed limit greater than 50km/hr

Speed humps can generate significant vertical deflection depending on the rate of speed of the passing vehicle. At speeds above 50 km/h (such as those typically seen on urban and rural arterial roads) this vertical deflection can contribute to loss of vehicle control. Speed humps are considered appropriate on local and collector roads, where posted speed limits and operating speeds are typically equal to or less than 50 km/h.

Report recommends annual roads capital funding for road rehabilitation to be aprox. 2.7 million per year over the next 10 years. What does our current capital forecast have budgeted for the next 10 years?

As provided by Township staff:

\$9,783,610 from 2023 to 2032 or an average of \$978,361 per year. This was based on the Pavement Condition Index (PCI) updates completed in 2016 (with an assumption that the PCI will decrease by 2 points per year). This was also based on the service level policy established as part of the 2019 Asset Management Plan – ie. that Class 3 roads be rehabilitated or reconstructed at a PCI of 65. Class 4 and Class 5 roads be rehabilitated or reconstructed at a PCI of 65. Class 4 and Class 5 roads be rehabilitated or reconstructed at a PCI of 60. The 2024 capital budget and forecast will be updated based on Appendix K of the Roads Management Plan which provides the time of need and priority ratings for the Township's road rehabilitation schedule as well as cost estimates for each road rehabilitation project.

END OF MEMO